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Servicio de Apoyo a la Investigación

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UNIVERSIDAD PABLO DE OLAVIDE SEVILLA

Metodología

El presente Boletín de Producción científica está destinado a la difusión mensual de la producción científica de los investigadores de la Universidad Pablo de Olavide, en Web of Science, Scopus y Dialnet. No obstante, este primer boletín es trimestral.

La Biblioteca/CRAI de la UPO, como apoyo a la investigación de la comunidad universitaria del Personal Docente e Investigador, elabora este producto para la visibilidad de la Universidad con relación a su producción científica.

Los datos se obtienen de la colección de la Web of Science, de la base de datos referencial Scopus (Elsevier) y de la base de datos Dialnet.

El listado de las referencias bibliográficas junto a sus resúmenes, que suponen el resultado de la producción científica institucional mensual, ha sido elaborado a partir de la búsqueda en las diferentes bases de datos, utilizando para ello estrategias de búsqueda avanzada.

1. Web of Science

Estrategia de búsqueda avanzada:
OG=(Universidad Pablo de Olavide)
Índices=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI
Período de tiempo=Año hasta la fecha

2. Scopus

Estrategia de búsqueda avanzada:
((AF-ID (*"CSIC-JA-UPO-USE - Centro Andaluz de Biologia Molecular y Medicina Regenerativa CABIMER" 60012334*))) OR ((AF-ID (*"Universidad Pablo de Olavide" 60030114*) OR AF-ID (*"CSIC-JA-UPO - Centro Andaluz de Biología del Desarrollo CABD" 60103756*))) AND (LIMIT-TO (PUBYEAR , *2020*)

3. Dialnet

Para obtener la producción científica de se ha seguido un procedimiento para la importación de ficheros al Gestor de Referencias Bibliográficas (Zotero).

Una vez obtenidos todas las referencias de las publicaciones se ha generado la bibliografía con Zotero.

Publicaciones

ABATAL, M., RUIZ-SALVADOR, A.R. y HERNÁNDEZ, N.C., 2020. A DFT-based simulated annealing method for the optimization of global energy in zeolite framework systems: Application to natrolite, chabazite and clinoptilolite. *Microporous and Mesoporous Materials*, vol. 294. DOI 10.1016/j.micromeso.2019.109885

Modeling zeolites structure including strongly interaction extra-framework species by using DFT is still a difficult task now a day. To face this problem, we have introduced here a simulated annealing (SA) method to obtain global minimum energies. This approximation has been applied to describing the structure of free common zeolites. Basically, the SA idea is to perform a molecular dynamics (MD) by increasing the temperature steps by steps to overcome local energy minima, after that, by subsequent energy optimization it is possible to move to a different local minimum. This procedure was done up to the temperatures of 300 and 400 K. MD, as well as, geometry optimization were carried out in a periodic framework and dispersion corrected Density Functional Theory (DFT) calculations using VASP. The results show that it seems to be very important to accomplish SA calculation in order to obtain an adequate global minimum, reducing the energy of the system up to 0.072 [Formula presented]. The impact on computing interaction energies with adsorbed molecules is high, with large implications in predicting adsorption, separation, ion-exchange and catalytic properties. Our results are in good agreement with known experimental and theoretical literature. © 2019 Elsevier Inc.

AGRAMUNT, L.F., BERBEL-PINEDA, J.M., CAPOBIANCO-URIARTE, M.M. y CASADO-BELMONTE, M.P., 2020. Review on the Relationship of Absorptive Capacity with Interorganizational Networks and the Internationalization Process. *Complexity*, vol. 2020. DOI 10.1155/2020/7604579

There is evidence about the international competitiveness of Small and Medium Enterprises having a close relationship with their absorptive capacity and internationalization networking, and for that reason, it is relevant to find out the main trends in this field of knowledge. The objective of this study is to provide a bibliometric analysis of the status of the existing research in the field to recognize main topics and help identify research gaps. This study was done through a review of 1,710 documents published about this relationship from the Scopus and Web of Science databases (1994-2018), using as processing software application that employs two combinations of terms associated with Boolean operators. This was taken into account in order to optimize the accuracy of the search and to facilitate large data capture. The results show that these studies are in a period of high production and concentrated in a few countries and researchers' networks in the United States, the People's Republic of China, and some European countries. Moreover, the trend words used by researchers are those which link absorptive capacity with networking, open innovation, and firm performance. © 2020 L. F. Agramunt et al.

AGUAYO ARRABAL, N., 2019. The Meeting of Disciplines in Translator Training: Mapping the Official Catalogue of Double Degrees in Translation and Interpreting in Spain. *Hermeneus*, no. 21, pp. 7-51. ISSN 1139-7489. DOI 10.24197/her.21.2019.7-51.

The examination of interdisciplinarity in the Translation and Interpreting (TI) training offer in Spain has lead us to closely analyse Joint Degrees within the European Higher Education Area (EHEA). These programmes have become the primary focus of the present article since they are conceived as one of the tool of Bologna Process (1999) that may presumably introduce interdisciplinarity in Higher Education, while also promoting collaboration among different disciplines (Russell, Dolnicar and Ayoub, 2008: 590). With this purpose in mind, in this paper we will address the creation and analysis of our corpus of study (named DOBTI, Double Degrees in Translation and Interpreting) consisting of the official catalogue of Double Degrees in TI delivered in Spanish public and private universities. Hence, the aim of this corpus is to elaborate a map of Double Degrees in TI in Spain in order to better acknowledge the current training programmes that foster the cooperation between TI and other disciplines, given the scarcity of studies conducted on this topic, despite being considered nowadays a key subject of interest and debate in the academic community (Moron, 2013; Ortega, 2017).

AGUILAR, A.C., SOTO, F. de, FERREIRA, M.N., PAPAVASSILIOU, J., RODRÍGUEZ-QUINTERO, J. y ZAFEIROPOULOS, S., 2020. Gluon propagator and three-gluon vertex with dynamical quarks. *European Physical Journal C*, vol. 80, no. 2. DOI 10.1140/epjc/s10052-020-7741-0

We present a detailed analysis of the kinetic and mass terms associated with the Landau gauge gluon propagator in the presence of dynamical quarks, and a comprehensive dynamical study of certain special kinematic limits of the three-gluon vertex. Our approach capitalizes on results from recent lattice simulations with (2 + 1) domain wall fermions, a novel nonlinear treatment of the gluon mass equation, and the nonperturbative reconstruction of the longitudinal three-gluon vertex from its fundamental Slavnov–Taylor identities. Particular emphasis is placed on the persistence of the suppression displayed by certain combinations of the vertex form factors at intermediate and low momenta, already known from numerous pure Yang–Mills studies. One of our central findings is that the inclusion of dynamical quarks moderates the intensity of this phenomenon only mildly, leaving the asymptotic low-momentum behavior unaltered, but displaces the characteristic “zero crossing” deeper into the infrared region. In addition, the effect of the three-gluon vertex is explored at the level of the effective gauge coupling, whose size is considerably reduced with respect to its counterpart obtained from the ghost-gluon vertex. The main upshot of the above considerations is the further confirmation of the tightly interwoven dynamics between the two- and three-point sectors of QCD.

AGUILERA, E., DÍAZ-GAONA, C., GARCÍA-LAUREANO, R., REYES-PALOMO, C., GUZMÁN, G.I., ORTOLANI, L., SÁNCHEZ-RODRÍGUEZ, M. y RODRÍGUEZ-ESTÉVEZ, V., 2020. Agroecology for adaptation to climate change and resource depletion in the Mediterranean region. A review. *Agricultural Systems*, vol. 181. DOI 10.1016/j.agsy.2020.102809

Mediterranean agriculture has coevolved with harsh environments and changing climate conditions over millennia, generating an extremely rich heritage of traditional knowledge; however, it is particularly threatened by climate change, including a higher than average warming and more frequent extreme climate events. The vulnerability is enhanced by the other components of global change affecting the Mediterranean basin, including biodiversity loss, freshwater overuse, disrupted nutrient cycles, soil degradation and altered fire regimes, in a context of high population density, water scarcity, high dependence on biomass and energy imports, and the prevalence of highly specialized, low diversity agroecosystems. Due to the need to create resilience to these interconnected threats, systemic adaptation measures are urgently needed. This review shows that this systemic approach can be provided by agroecology, which offers a holistic framework enabling the recovery and assessment of traditional knowledge and the cocreation of new local knowledge for enhancing resilience. It also highlights the role of the reconnection of food production and consumption, associated with the recovery of the locally-adapted, largely plant-based Mediterranean diet. Three types of complementary adaptation strategies for crop production are identified: (i) Biodiversity management to spread out risks and reduce pest damage; (ii) Increasing soil organic matter, e.g. with cover crops or crop varieties with higher residue and root production; (iii) Reducing fossil fuel dependence by avoiding synthetic chemicals, increasing efficiency and using renewable energy. Livestock adaptation strategies identified include: (i) management of extensive herds, including practices such as transhumance; (ii) diversification, use of local breeds and change of species; (iii) pasture and forage management, focusing on adjusting stocking rates to prevent abandonment and intensification, agroforestry, and fire management through grazing. Public policies must be set to tailor these strategies to each specific local situation with the involvement of all stakeholders and to establish or reinforce networks allowing knowledge exchange. © 2020 Elsevier Ltd

ALARCÓN CABRERA, C., 2020. Sumisión y libertad: Dewey, Freud, Fromm. En: Las fronteras de los derechos humanos: Problemas, Discusión y Soluciones, *Las fronteras de los derechos humanos: Problemas, Discusión y Soluciones* [en línea]. S.l.: Dykinson S. L., pp. 31-52. ISBN 978-84-13-24656-7. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7303209.

ALBARRÁN, P., HIDALGO-HIDALGO, M. y ITURBE-ORMAETXE, I., 2020. Education and adult health: Is there a causal effect? *Social Science and Medicine*, vol. 249. DOI 10.1016/j.socscimed.2020.112830

Many studies find a strong positive correlation between education and adult health. A subtler question is whether this correlation can be interpreted as a causal relationship. We combine multi-country data from two cross-sections of the

European Union Statistics on Income and Living Conditions (EU-SILC) survey and use exogenous variation in compulsory years of schooling across countries and cohorts induced by compulsory schooling laws. We find no causal effect of education on any of our several health measures. This finding is extremely robust to different changes in our main specification and holds using other databases. We discuss different explanations for our results. © 2020 Elsevier Ltd

ALCAIDE LOZANO, V., FACHELLI, S. y LOPEZ-ROLDAN, P., 2019. The Typological Paragon: A Methodological Proposal of Mixed Designs. *BMS-Bulletin of Sociological Methodology-Bulletin de Methodologie Sociologique*, vol. 141, no. 1, pp. 64-84. ISSN 0759-1063. DOI 10.1177/0759106318813293.

This article presents a reflection and a methodological proposal on the use of the typological paragon in mixed sequential designs. The paragon is defined as the average or individual profile of a particular cluster that is obtained through multivariate techniques (correspondences analysis and cluster analysis). Here we propose four applications of the typological paragon: first, as a descriptive element, which aims to account for the content; second, as an element of sampling; third, as a link or connecting element between databases with the aim of facilitating matching; and finally, as an element that allows the convergence of results. Two studies provide the empirical basis of this innovative procedure and show the practical implementation of the four uses of paragon. The first deals with the analysis of the social stratification of households in Argentina (Fachelli, 2009). The second focuses on the study and identification of employment trajectories and their mutual influence with social capital in Spain and Catalonia (Alcaide, 2013). The four uses of the paragon that derive from both investigations allow us to reflect on the potentialities and limitations of the proposed model, the typological paragon.

ALCALÁ DEL OLMO, M.J. y GUTIÉRREZ-SÁNCHEZ, J.D., 2020. El Desarrollo Sostenible como Reto Pedagógico de la Universidad del Siglo XXI. En: Anduli: revista andaluza de ciencias sociales, *Anduli: revista andaluza de ciencias sociales*, no. 19, pp. 59-80. ISSN 1696-0270.

Currently, international organizations involved in education assign to universities the social responsibility of designing interdisciplinary approaches to the study of majorglobal challenges. These global challenges,including sustainability, educational inclusion and development cooperation, presentan opportunity for seeking synergies thatwill make the study of these challenges areality in the classrooms of higher educationcenters. The objective of this work is to investigate the opportunities and barriers universities face for undertaking such missions.The methodology consists, in the first place,of constructing a theoretical framework thatallows for establishing relationships withineducation for studying sustainability, inclusion, poverty and mobility. The second partdeals with the technique of service learningand environmentalization of the universitycurriculum. We address the latter at a conceptual level as well as from

perceptions ofuniversity teachers based on a qualitativestudy done by the Faculty of Education ofthe University of Malaga. The conclusionsreveal the relationship between an education that ensures social and environmentaljustice, in addition to the difficulties of working towards sustainability due to the lack oftraining of university teaching staff

ALEGRE, P., BARRERA, J. y CARRIAZO, A., 2019. A Closed Form for Slant Submanifolds of Generalized Sasakian Space Forms. *Mathematics*, vol. 7, no. 12. DOI 10.3390/math7121238.

The Maslov form is a closed form for a Lagrangian submanifold of C-m, and it is a conformal form if and only if M satisfies the equality case of a natural inequality between the norm of the mean curvature and the scalar curvature, and it happens if and only if the second fundamental form satisfies a certain relation. In a previous paper we presented a natural inequality between the norm of the mean curvature and the scalar curvature of slant submanifolds of generalized Sasakian space forms, characterizing the equality case by certain expression of the second fundamental form. In this paper, first, we present an adapted form for slant submanifolds of a generalized Sasakian space form, similar to the Maslov form, that is always closed. And, in the equality case, we studied under which circumstances the given closed form is also conformal.

ALGARÍN, E.B., VÁZQUEZ-FERNÁNDEZ, M.J. y SARASOLA FERNÁNDEZ, A., 2020. Analysis of the Sociability of Older People in Urban Environments. *Studies in Systems, Decision and Control*, vol. 208, pp. 305-313. DOI 10.1007/978-3-030-18593-0_23

This chapter aims to review the importance for older people of using, accessing and occupying spaces in the city. Based on data collected through research carried out in the City of Seville and published in various formats, the differences in the use of spaces according to the age of the population, the deficits that these spaces show, and their relationship with the situation of dependency on older people are shown. This work establishes a direct relationship between the social integration of older people, with the degree of participation in the society in which they find themselves, and therefore, with the use and access to the different spaces of sociability, which is definitely where they exercise this social participation. In relation to the data obtained, we provide conclusions and guidelines that may be of interest to technicians, researchers, land planners and those who can decide on policies that modify the urban space. © 2020, Springer Nature Switzerland AG.

ALMBJAR, M., 2020. Not a nine-to-five kind of job: The function and influence of the secretary of the peasant estate in the Swedish Riksdag in the Age of Liberty 1720-1772. *Historisk Tidskrift*, vol. 140, no. 1, pp. 3-30. ISSN 0345-469X.

Previous research has deemed the secretary of the peasant estate in the Swedish Riksdag

of the Age of Liberty an important figure. Yet, historians have not scrutinized the secretaries, their function, or their influence over the peasantry. This article examines the incumbents, their ability to guide the peasant estate and vice versa, and their political and bureaucratic function in the Age of Liberty. The results have bearing on discussions about the peasantry's political influence in the early modern era, on the significance of parties in the Age of Liberty, and on the relationship between bureaucracy and politics within the early modern Diet. The results show that most of the secretaries had ties to the Council of the Realm, with education in and experience of legal and administrative matters. Secretaries were meant to control the peasantry but cannot be exclusively understood as an instrument for oppression or a facilitator of political mobilization; they served both purposes at the same time, although the emphasis varied over time and between issues. The results thus emphasize the complexity of political interaction in early modern Sweden. Additionally, the changing function and role of the secretary was very much caused by party struggle. Parties are, therefore, key in understanding the peasantry's political influence and position in the Age of Liberty. Lastly, the article reveals a rapid bureaucratization of the peasantry's political activities from the 1750s onwards. The chancery expanded manifold and diversified its tasks. This process played an important role in the peasantry's political mobilization towards the end of the period but has previously been largely unacknowledged. Thus, the article's results contribute to a vast, important, but generally understudied research field. Bureaucratization and specialization processes in politics are not only of relevance for the study of the peasantry and the Age of Liberty, but for the study of political history in Sweden and the world at large.

ÁLVAREZ DEL CUBILLO, A.Á., ESTHER CARRIZOSA, PIERRE-HENRI CIALTI, GÓMEZ GORDILLO, R. y HERNÁNDEZ, M., Luisa Martín, 2020. La ordenación legal del tiempo de trabajo: estructura de la negociación colectiva: regulación convencional de la vigencia y duración de las cláusulas tiempo de trabajo. En: La regulación legal y convencional del tiempo de trabajo, *La regulación legal y convencional del tiempo de trabajo* [en línea]. S.l.: Lefebvre-El Derecho, S. A, pp. 13-64. ISBN 978-84-17985-60-8. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7277675.

ÁLVAREZ, F.M., MUÑOZ, J.A.S., CORCHADO, E., LORA, A.T. y QUINTIÁN, H., 2020. Preface. *Advances in Intelligent Systems and Computing*, vol. 950, pp. v-vi. DOI 10.1007/s00224-015-9652-2

ALVAREZ GARCIA, C., 2019. Post-Editing Practice in Specialized Translation Training. *Caracteres-Estudios Culturales y Críticos de la Esfera Digital*, vol. 8, no. 2, pp. 67-91. ISSN 2254-4496.

The impact of new technologies in the translation industry has produced an ongoing debate in recent decades, especially regarding to certain tools that are becoming more prevalent. A particularly controversial issue relates to machine translation post-editing (MTPE), and that has fostered an interest in analyzing the applicability of MTPE in translator training. A literature review on the different

IT tools that are being used in the translation industry has been conducted in order to design a collaborative post-editing project to be carried out in specialized translation training. The most relevant results presented in this paper show, on one hand, an improvement in various competences useful for translation and, on the other hand, that the project was well received by the participant students.

ALVAREZ MEDINA, J., MANONELLES MARQUETA, P., GRAO-CRUCES, A., OLIETE BLANCO, E., MURILLO LORENTE, V. y NUVIALA NUVIALA, A., 2019. Effectiveness of a school-based doping prevention programme in Spanish adolescents. *Journal of Human Sport and Exercise*, vol. 14, no. 4, pp. 813-820. ISSN 1988-5202. DOI 10.14198/jhse.2019.144.10.

The purpose of the study is to assess the effectiveness of a school-based programme to improve knowledge, attitudes and beliefs about doping. 540 adolescents (aged 12-13 years old, 50% boys) took part, from eight Spanish schools. Three hundred and thirteen of these were in the experimental group and the rest formed a control group. Six sessions were held, based on international recommendations, during the Physical Education classes, and were assessed with the Questionnaire on the Anti-doping Intervention programme. The principal results showed that the knowledge, attitudes and beliefs about doping improved in the experimental group compared to the control group, for the whole of the questionnaire ($p<.001$, Eta(2) =.03) and specifically for the factors Concept ($p<.001$, Eta(2)=.004), Utility ($p<.01$, Eta(2)=.02) and Sport and doping ($p<.01$, Eta(2)=.01). But there were no benefits observed in the factors Methods and Origin of the behaviour. In conclusion, school-based programmes may be useful for improving knowledge, attitudes and beliefs about doping among adolescents.

ALVAREZ MEDINA, J., MURILLO LORENTE, Víctor, CASTERAD SERAL, J. y NUVIALA NUVIALA, A., 2020. Validación de la escala del proceso enseñanza de la técnica deportiva por pares en la educación superior (ETEPES). En: Retos: nuevas tendencias en educación física, deporte y recreación, *Retos-Nuevas Tendencias en Educación Física Deporte y Recreación*, no. 37, pp. 284-290. ISSN 1579-1726.

The guidelines of the European Higher Education Area indicate that education should favor the acquisition of skills and their subsequent transfer. For this it is necessary to teach participatory teaching models that favor autonomous and reflective learning. Youneed to build tools to evaluate that process. The objective of this research is to validate a scale that allows reflecting on the process ofteaching-learning by peers of the sports technique in the Degree of Science of Physical Activity and Sports. The participants in this studywere a total of 276 students. A descriptive analysis of the items was made, exploratory factor analysis, confirmatory factor analysis,factorial invariance calculation and validity THESts. The final result was a valid and reliable instrument, with 6 dimensions and 21 items thatallowed obtaining information about the teaching-learning process by pairs of the technical-tactical models of sports.

ALVAREZ MEDINA, J., MURILLO LORENTE, Victor, CASTERAD SERAL, J. y NUVIALA NUVIALA, A., 2020. Validation of the scale of the process of teaching sports technique by peers in higher education (ETEPES). *Retos-Nuevas Tendencias en Educación Física Deporte y Recreación*, no. 37, pp. 284-290. ISSN 1579-1726.

The guidelines of the European Higher Education Area indicate that education should favor the acquisition of skills and their subsequent transfer. For this it is necessary to teach participatory teaching models that favor autonomous and reflective learning. You need to build tools to evaluate that process. The objective of this research is to validate a scale that allows reflecting on the process of teaching-learning by peers of the sports technique in the Degree of Science of Physical Activity and Sports. The participants in this study were a total of 276 students. A descriptive analysis of the items was made, exploratory factor analysis, confirmatory factor analysis, factorial invariance calculation and validity tests. The final result was a valid and reliable instrument, with 6 dimensions and 21 items that allowed obtaining information about the teaching-learning process by pairs of the technical-tactical models of sports.

ÁLVAREZ-QUILÓN, A., TERRÓN-BAUTISTA, J., DELGADO-SAINZ, I., SERRANO-BENÍTEZ, A., ROMERO-GRANADOS, R., MARTÍNEZ-GARCÍA, P.M., JIMENO-GONZÁLEZ, S., BERNAL-LOZANO, C., QUINTERO, C., GARCÍA-QUINTANILLA, L. y CORTÉS-LEDESMA, F., 2020. Endogenous topoisomerase II-mediated DNA breaks drive thymic cancer predisposition linked to ATM deficiency. *Nature Communications*, vol. 11, no. 1. DOI 10.1038/s41467-020-14638-w

The ATM kinase is a master regulator of the DNA damage response to double-strand breaks (DSBs) and a well-established tumour suppressor whose loss is the cause of the neurodegenerative and cancer-prone syndrome Ataxia-Telangiectasia (A-T). A-T patients and Atm−/− mouse models are particularly predisposed to develop lymphoid cancers derived from deficient repair of RAG-induced DSBs during V(D)J recombination. Here, we unexpectedly find that specifically disturbing the repair of DSBs produced by DNA topoisomerase II (TOP2) by genetically removing the highly specialised repair enzyme TDP2 increases the incidence of thymic tumours in Atm−/− mice. Furthermore, we find that TOP2 strongly colocalizes with RAG, both genome-wide and at V(D)J recombination sites, resulting in an increased endogenous chromosomal fragility of these regions. Thus, our findings demonstrate a strong causal relationship between endogenous TOP2-induced DSBs and cancer development, confirming these lesions as major drivers of ATM-deficient lymphoid malignancies, and potentially other conditions and cancer types. © 2020, The Author(s).

ALVES, S., JENIFFER, F. y GERALDES, P., 2019. Microteaching for interactional

challenges in Non-verbal communication in education. *Voz y Escritura-Revista de Estudios Literarios*, no. 28, pp. 39-44. ISSN 1315-8392.

Microteaching according to researchers was conceived as a tool for instructional evaluation instead of focus on nonverbal aspects of behavior. But, due to its salience visual aspects, the nonverbal component has gained overwhelming prominence in nonverbal research. It's worth mentioning that, with microteaching sessions, teachers can receive feedback on how to improve their conduct in their teaching and in their interactions with students.

ANDRADA, A.V., ALGARÍN, E.B. y SÁNCHEZ-SERRANO, J.L.S., 2020. Mourning Protocols in Nursing Homes. *Studies in Systems, Decision and Control*, vol. 208, pp. 3-16. DOI 10.1007/978-3-030-18593-0_1

This research discusses the topic of mourning in the nursing home environment and how the existence or non-existence of a mourning protocol can modify or not the quality of the work in this sector. To demonstrate it we have surveyed 58 nursing home workers of different ages, from different locations and with different specialities. © 2020, Springer Nature Switzerland AG.

ANDRADA, A.V., SANCHEZ, J.J. y SÁNCHEZ-SERRANO, J.L.S., 2020. Gender Violence and New Technologies. *Studies in Systems, Decision and Control*, vol. 208, pp. 375-390. DOI 10.1007/978-3-030-18593-0_28

This research discusses the topic of New Technologies and how they can affect gender violence. We have focused our investigation on Social Networks as they are the most popular contact methods between the younger generations. To analyse how they could affect or not affect our relationships we have surveyed eight hundred and eighty-five people, separating them by their age and sex, with the aim of analysing how these factors affect the results. © 2020, Springer Nature Switzerland AG.

ARDITTO, L., CAMBRA-FIERRO, J., OLAVARRIA, A. y VAZQUEZ-CARRASCO, R., [sin fecha]. Relevance of salespeople profiles: an analysis in an emerging economy. *Marketing Intelligence & Planning*, ISSN 0263-4503. DOI 10.1108/MIP-04-2019-0230.

Purpose The purpose of this paper is to analyze the impact of the salespeople profile (i.e., effort, commitment and creativity) - and its degree of market orientation (MO) - on the success of new product launch and sales outcomes. An emerging economy context is taken as a reference. Design/methodology/approach A structural equations model is proposed. The data are based on a sample of retail sector sales managers in Peru. Findings The results indicate that salespeople effort, creativity and degree of MO influence overall sales performance. Salespeople commitment, however, does not have a significant impact. These antecedents are helpful when attempting to understand both the potential success of a new product and sales

outcomes. Originality/value There is no evidence to date of studies that simultaneously assess the impact of seller profiles and degree of MO on new product launch success and sales outcomes. This paper breaks new ground in analyzing this phenomenon in the context of an emerging economy. The findings are of general interest both for sales force management and for companies interested in familiarizing themselves with the peculiarities of emerging economies and the potential need to adapt policies to these specific realities.

ARDITTO, L., CAMBRA-FIERRO, J.J., FUENTES-BLASCO, M., JARABA, A.O. y VÁZQUEZ-CARRASCO, R., 2020. "How does customer perception of salespeople influence the relationship? A study in an emerging economy". *Journal of Retailing and Consumer Services*, vol. 54. DOI 10.1016/j.jretconser.2019.101952

Sales and sales force management is a complex activity that largely determines a company's commercial success. Customer perception of the salespeople in terms of expertise, trust, interaction, and risk can drive the establishment of long-lasting ties, making customer portfolio management profitable in the long-term. Yet to date, while much work has been done on company-customer relational issues, very few studies have taken customer perception of salespeople as their reference. Moreover, most existing studies have taken western countries and developed economies as their reference of analysis. The present study, in contrast, provides an analysis of an emerging economy context, Peru. Using a sample of more than 400 consumers and structural equations analysis, this article presents a model based on the Social Exchange Theory. The final part of the study presents the theoretical discussion together with key implications and recommendations for management. © 2019 Elsevier Ltd

ASIM, K.M., MOUSTAFA, S.S.R., NIAZ, I.A., ELAWADI, E.A., IQBAL, T. y MARTINEZ-ALVAREZ, F., 2020. Seismicity analysis and machine learning models for short-term low magnitude seismic activity predictions in Cyprus. *Soil Dynamics and Earthquake Engineering*, vol. 130. ISSN 0267-7261. DOI 10.1016/j.soildyn.2019.105932.

Effective management and planning for the sustainable development of urban regions requires a wide range of up-to-date and impartial information. This study focusses on earthquake catalog-based seismicity analysis for Cyprus region. It is followed by computation of seismic features and short-term prediction of seismic activity using machine learning techniques. Earthquake catalog is investigated temporally and noisy data is removed. Sixty seismic features were then computed based upon cleaned earthquake catalog to express the internal seismic state of the region. These seismic features are then modeled using machine learning techniques with the corresponding seismic activity. Three machine learning algorithms, namely Artificial Neural Networks, Support Vector Machines and Random Forests, are employed for seismic activity prediction. The framework is designed to obtain five days-ahead, one week-ahead, ten days-ahead and fifteen days-ahead

predictions for moment magnitude thresholds of 3.0, 3.5, 4.0 and 4.5. Based on the Matthews correlation coefficient (MCC), the predictions obtained using the Random Forest were found to be the most accurate for magnitude thresholds of 3.0 and 3.5 across all the prediction periods. Similarly, the predictions obtained using the Support Vector Machine outperformed other techniques for magnitude thresholds of 4.0 and 4.5.

AZOR, A., DIAS DA SILVA, I., GOMEZ BARREIRO, J., GONZALEZ-CLAVIJO, E., MARTINEZ CATALAN, J.R., SIMANCAS, J.F., MARTINEZ POYATOS, D., PEREZ-CACERES, I., GONZALEZ LODEIRO, F., EXPOSITO, I., CASAS, J.M., CLARIANA, P., GARCIA-SANSEGUNDO, J. y MARGALEF, A., 2019. Deformation and Structure. En: QUESADA, C AND OLIVEIRA, JT (ed.), *Geology of Iberia: A Geodynamic Approach*. S.l.: s.n., Regional Geology Reviews, pp. 307-348. ISBN 978-3-030-10519-8.

The Variscan deformation in the Iberian Massif is related to the large-scale plate tectonic scenario that drove to the destruction of the Rheic and other intervening oceans, to finally form the Pangea Supercontinent. The Northern Iberian Massif structure consists in an East-vergent orogenic wedge developed at the footwall of a rootless oceanic suture. The collisional architecture of this wedge has been strongly modified by extensional tectonics in the hinterland and orocline formation affecting the whole domain. The Southwestern Iberian Massif transect contains two orogenic sutures cropping out at both boundaries of the OMZ and shows a general transpressive character of the whole collisional evolution, as well as an Early Carboniferous transtensional/extensional stage that gave way to flysch sedimentation, voluminous bimodal magmatism and oblique left-lateral extensional shearing.

BAENA, D., CANTERO, J.L., FUENTEMILLA, L. y ATIENZA, M., 2020. Weakly encoded memories due to acute sleep restriction can be rescued after one night of recovery sleep. *Scientific Reports*, vol. 10, no. 1. DOI 10.1038/s41598-020-58496-4

Sleep is thought to play a complementary role in human memory processing: sleep loss impairs the formation of new memories during the following awake period and, conversely, normal sleep promotes the strengthening of the already encoded memories. However, whether sleep can strengthen deteriorated memories caused by insufficient sleep remains unknown. Here, we showed that sleep restriction in a group of participants caused a reduction in the stability of EEG activity patterns across multiple encoding of the same event during awake, compared with a group of participants that got a full night’s sleep. The decrease of neural stability patterns in the sleep-restricted group was associated with higher slow oscillation-spindle coupling during a subsequent night of normal sleep duration, thereby suggesting the instantiation of restorative neural mechanisms adaptively supporting cognition and memory. Importantly, upon awaking, the two groups of participants showed equivalent retrieval accuracy supported by subtle differences in the reinstatement of encoding-related activity: it was longer lasting in sleep-restricted individuals

than in controls. In addition, sustained reinstatement over time was associated with increased coupling between spindles and slow oscillations. Taken together, these results suggest that the strength of prior encoding might be an important moderator of memory consolidation during sleep. Supporting this view, spindles nesting in the slow oscillation increased the probability of correct recognition only for weakly encoded memories. Current results demonstrate the benefit that a full night's sleep can induce to impaired memory traces caused by an inadequate amount of sleep. © 2020, The Author(s).

BAGHI, M., DELAVAR, M.R., YADEGARI, E., PEYMANI, M., POZO, D., NASR-ESFAHANI, M.H. y GHAEDI, K., 2020. Modified level of miR-376a is associated with Parkinson's disease. *Journal of Cellular and Molecular Medicine*, vol. 24, no. 4, pp. 2622-2634. ISSN 1582-1838. DOI 10.1111/jcmm.14979.

Parkinson's disease (PD) is a frequent progressive neurodegenerative disorder. Impaired mitochondrial function is a major feature of sporadic PD. Some susceptibility or causative genes detected in PD are strongly associated with mitochondrial dysfunction including PGC1 alpha, TFAM and GSK3 beta. microRNAs (miRNAs) are non-coding RNAs whose altered levels are proven in disparate PD models and human brains. Therefore, the aim of this study was to detect modulations of miRs upstream of PGC1 alpha, TFAM and GSK3 beta in association with PD onset and progress. In this study, a total of 33 PD subjects and 25 healthy volunteers were recruited. Candidate miRNA (miR-376a) was selected through target prediction tools and literature survey. Chronic and acute in vitro PD models were created by MPP+-intoxicated SHSY5Y cells. The levels of miR-376a and aforementioned genes were assessed by RT-qPCR. The expression of target genes was decreased in chronic model while there were dramatically up-regulated levels of those genes in acute model of PD. miR-376a was strongly altered in both acute and chronic PD models as well as PBMCs of PD patients. Our results also showed overexpression of PGC1 alpha, and TFAM in PBMCs is inversely correlated with down-regulation of miR-376a, suggesting that miR-376a possibly has an impact on PD pathogenesis through regulation of these genes which are involved in mitochondrial function. miR-376a expression in PD-derived PBMCs was also correlated with disease severity and may serve as a potential biomarker for PD diagnosis. This is the first study showing altered levels of miR-376a in PD models and PBMCs, suggesting the probable role of this miRNA in PD pathogenesis. The present study also proposed TFAM and PGC1 alpha as target genes of miR-376a for the first time, through which it possibly can exert its impact on PD pathogenesis.

BARBERO, J.L., MARTÍNEZ, J.A. y MORENO, A.M., 2020. Should Declining Firms Be Aggressive During the Retrenchment Process? *Journal of Management*, vol. 46, no. 5, pp. 694-725. DOI 10.1177/0149206318811563

In this study, we test the effects of retrenchment aggressiveness on turnaround performance. Using the downward-spiral, threat–rigidity, and survivor syndrome

perspectives, we hypothesize the direct effects of the two dimensions of aggressiveness—time aggressiveness and volume aggressiveness—on turnaround performance. We also examine the moderation effect of time aggressiveness on the relationship between volume aggressiveness and turnaround performance. We use data on a sample of declining firms collected from the Compustat North America database and use a matched-pair sample of 494 surviving and nonsurviving firms between the years 1990 and 2010. Our results show that time aggressiveness has a positive effect on turnaround performance, whereas volume aggressiveness has a negative effect. We also find that time aggressiveness positively moderates the negative relationship between volume aggressiveness and turnaround performance. We contribute to the scant but critical literature indicating the importance of time in a turnaround setting and to the long-held discussion of retrenchment as a cause of turnaround or a consequence of decline.

BARRAL MUÑOZ, A., PRADOS VELASCO, M.J. y HURTADO RODRIGUEZ, C., 2020. Evolución de la erosión estimada (USLE) y procesos de Naturbanización en el entorno de los Parques Nacionales de Doñana y Sierra Nevada (España). En: Cuadernos geográficos de la Universidad de Granada, *Cuadernos geográficos de la Universidad de Granada*, vol. 59, no. 1, pp. 196-223. ISSN 0210-5462. 10.30827/cuadgeo.v59i1.8752

This article analyzes the different incidence that estimated soil erosion shows in the areas of socioeconomic influence of the national parks of Doñana and Sierra Nevada within the framework of Naturbanization processes. The naturbanization indicates the capacity of attraction of population and economic activities towards the areas of socioeconomic influence of protected spaces thanks to the recognition of their environmental and landscape values.The data processing methodology is established with a Geographic Information System to carry out the diachronic study of the estimated values of erosion provided by the Junta de Andalucía for the entire Autonomous Community. Applying this methodology to the river basins of El Partido and the river Trevélez is intended to contribute to a better understanding of the existing causal or empowering relationships between climatic factors, human activities and erosive processes. A statistical analysis of the published raster erosion estimation maps and the variables used for their calculation between 2003 and 2014 has been carried out. The relevance of plant uses and coverages as key variables to explain the distribution of mean values of erosion in both basins has been established. In the Trevélez river basin the evolution of estimated erosion rates has shown a greater parallel with the erosivity of rain, while in the stream of El Partido it has been the changes of land uses that determine this evolution to a greater extent.

BARRENA, E., CANCA, D., ORTEGA, F.A. y PIEDRA-DE-LA-CUADRA, R., 2020. Solidarity behaviour for optimizing the waste selective collection. *International Journal of Sustainable Development and Planning*, vol. 15, no. 2, pp. 133-140. DOI 10.18280/ijsdp.150202

The problem of managing selective collection of waste using containers inside historic city centres can be performed in three sequential phases: First, locating containers along the streets; then, determining the minimum fleet size required to perform all collecting services; and finally, identifying the optimal collection routes. Obviously, the result of the first phase highly influences the procedure since this will determine the decisions to be taken for the subsequent phases. This paper is focused on the first phase. Facility-customer distances, the size of container groups and the cost of installing those containers in specific sites along the streets are parameters to be considered when designing the collecting system. Additionally, we assume that customers are willing to have a solidarity behaviour, which consists of using a container assigned to them within a pre-established proximity radius, although the assigned container may not be necessarily the closest to their residence. For this scenario, a more efficient deployment of containers for selective collection of urban solid waste can be obtained. To illustrate the performance of the developed methodology, a computational experience has been carried out on a network with randomized data based on a zone belonging to city of Seville (Spain).

BARRIENTOS MORENO, M., WELLINGER, R.E. y PRADO VELASCO, F., 2020. *Papel de la reducción de histonas en la protección de los telómeros durante la pre-senescencia* [en línea]. S.l.: s.n. Disponible en: https://dialnet.unirioja.es/servlet/tesis?codigo=259927.

Los telómeros son estructuras nucleoproteícas cuya función principal es evitar que los extremos de los cromosomas sean reconocidos como roturas en el ADN y sean procesados por las maquinarias de checkpoints y reparación, dando lugar a paradas en el ciclo celular y reordenamientos genómicos. Debido a la replicación semiconservativa de los telómeros, estos se acortan tras cada ciclo de replicación. Para evitarlo, las células expresan una transcriptasa reversa, la telomerasa, que extiende las repeticiones teloméricas, y mantiene la longitud de los telómeros. A pesar de que los telómeros evitan que lo extremos sean considerados como DSBs, muchas de las proteínas implicadas en su homeostasis son proteínas de las propias maquinarias de checkpoints y reparación. Por ello, las células regulan la unión y actividad de dichas proteínas, que son esenciales para el mantenimiento de los telómeros y evitan la activación involuntaria de la respuesta de daños en el ADN. Un ejemplo son las proteínas Mec1 y Tel1, homólogos en Saccharomyces cerevisiae de los genes supresores de tumores ATR y ATM, respectivamente. Mec1 y Tel1 son las principales quinasas de los checkpoint de daños en el ADN, con papeles específicos y redundantes en muchos procesos relacionados con la integridad genómica, como la señalización de DSBs. Además poseen funciones específicas en los telómeros, ya que Tel1 es fundamental en el reclutamiento de la telomerasa a telómeros cortos, apoyada por Mec1.La expresión de la telomerasa es reprimida en muchos tejidos de organismos multicelulares. Esto produce a una erosión continua de los telómeros que conduce a un arresto irreversible del ciclo celular, conocido como senescencia replicativa y considerado como un mecanismo de supresión de tumores. Específicamente, Mec1 transduce la señal que activa la senescencia en células carentes de telomerasa cuando los telómeros alcanzan una longitud crítica. Sin embargo, una entrada prematura en senescencia

puede afectar a la homeostasis de los tejidos, por lo que las células están dotadas con mecanismos para mantener su estado proliferativo con telómeros cortos. En esta respuesta destacan los genes ATM y ATR, los cuales previenen la formación de fusiones teloméricas durante la pre-senescencia, evitando la subsiguiente inestabilidad genética asociada a ciclos de rotura-fusión-puente. A pesar de la importancia de entender cómo la inestabilidad genética se acumula en ausencia de estos dos genes, los mecanismos mediante los cuales ATR y ATM llevan a cabo este papel de protección telomérica apenas se conocen.En esta tesis demostramos que las T-TFs en células mec1? tel1? pueden ser suprimidas induciendo una reducción en los niveles celulares de histonas. Esta supresión, junto con el hecho de que Mec1 es necesario para reducir los niveles de histonas en células pre-senescentes tlc1?, las cuales tienen telómeros protegidos, sugiere que la acumulación de T-TFs en células mec1? tel1? es debida en parte a su incapacidad de inducir una reducción de histonas. Además, vemos que la ausencia de Mec1 y Tel1 aumenta considerablemente la reparación de DSBs por NHEJ, lo que también podría contribuir a la alta frecuencia de T-TFs en las células mec1? tel1?. Sin embargo, la reducción de histonas no previene las fusiones teloméricas inhibiendo NHEJ, que de hecho también aumenta al reducir los niveles de histonas. Por el contrario, la reducción de histonas previene las fusiones teloméricas facilitando el procesamiento recombinacional de los telómeros desprotegidos a través de un mecanismo independiente de Rad51. Este mecanismo de recombinación es diferente de los principales mecanismos de HR que facilitan la elongación de telómeros críticamente cortos durante la pre-senescencia o que amplifican los elementos subteloméricos Y´ en las células supervivientes, los cuales no requieren niveles de histonas reducidos y son altamente dependientes de Rad51.

BASTIDA, F., ELDRIDGE, D.J., ABADES, S., ALFARO, F.D., GALLARDO, A., GARCÍA-VELÁZQUEZ, L., GARCÍA, C., HART, S.C., PÉREZ, C.A., SANTOS, F., TRIVEDI, P., WILLIAMS, M.A. y DELGADO-BAQUERIZO, M., 2020. Climatic vulnerabilities and ecological preferences of soil invertebrates across biomes. *Molecular Ecology*, vol. 29, no. 4, pp. 752-761. DOI 10.1111/mec.15299

Unlike plants and vertebrates, the ecological preferences, and potential vulnerabilities of soil invertebrates to environmental change, remain poorly understood in terrestrial ecosystems globally. We conducted a cross-biome survey including 83 locations across six continents to advance our understanding of the ecological preferences and vulnerabilities of the diversity of dominant and functionally important soil invertebrate taxa, including nematodes, arachnids and rotifers. The diversity of invertebrates was analyzed through amplicon sequencing. Vegetation and climate drove the diversity and dominant taxa of soil invertebrates. Our results suggest that declines in forest cover and plant diversity, and reductions in plant production associated with increases in aridity, can result in reductions of the diversity of soil invertebrates in a drier and more managed world. We further developed global atlases of the diversity of these important soil invertebrates, which were cross-validated using an independent database. Our study advances the current knowledge of the ecological preferences and vulnerabilities of the diversity and presence of functionally important soil invertebrates in soils from across the

globe. This information is fundamental for improving and prioritizing conservation efforts of soil genetic resources and management policies. © 2019 John Wiley & Sons Ltd

BECERRA, J., ORTIZ, P., ZADERENKO, A.P. y KARAPANAGIOTIS, I., 2020. Assessment of nanoparticles/nanocomposites to inhibit micro-algal fouling on limestone façades. *Building Research and Information*, vol. 48, no. 2, pp. 180-190. DOI 10.1080/09613218.2019.1609233

This study conducted a comparison between biocide treatments based on nanoparticles of silver, copper, ZnO, TiO2 and silver/ TiO2 nanocomposites to analyse their capability to inhibit microalgal fouling on stone buildings. Biofouling is one of the main alterations on stone façades, causes degradation of their constituent materials and interferes with their aesthetic values. The proposed treatments were tested on a limestone from the historic quarry of Estepa (Spain), widely used as construction material in the South of Spain. The applicability of the treatments was evaluated by colorimetry. The biocidal effectiveness of the nanoparticles was studied on stone surfaces by multispectral imaging, digital image analysis and optical coherence tomography. This is a low-cost and efficient protocol to validate biocidal treatments for limestone monuments, and our results demonstrate the potential of silver and ZnO nanoparticles as a protective treatment for stone façades. The results have implications for practitioners working on historic buildings. © 2019, © 2019 Informa UK Limited, trading as Taylor & Francis Group.

BELLO REGUERA, G. y AZAOVAGH DE LA ROSA, A., 2020. La humanidad como criterio normativo en la obra de Judith Butler. En: Agora: Papeles de filosofía, *Agora: Papeles de filosofía*, vol. 39, no. 1, pp. 81-98. ISSN 0211-6642. 10.15304/ag.39.1.5479

Este artículo aborda la contextualización de la ética de Butler en un marco teórico que da por supuesta la perspectiva deconstructiva y que, por su parte, es reconstruido de acuerdo a dos criterios, las nociones de “matriz disciplinal” y de “paradigma”. Mediante ellas se trata de proporcionar un sistema de conceptos o categorías usuales en la teoría ética en general, pero redefinidas en términos butlerianos.

BENÍTEZ-JIMÉNEZ, A., FALCES-PRIETO, M. y GARCÍA-RAMOS, A., 2020. Jump performance after different friendly matches played on consecutive days. *Revista Internacional de Medicina y Ciencias de la Actividad Fisica y del Deporte*, vol. 20, no. 77, pp. 185-196. DOI 10.15366/rimcafd2020.77.012

The aims of the study were to determine the change in countermovement jump (CMJ) after three friendly matches played on consecutive days, and to evaluate if there is a significant correlation between the changes observed in CMJ height with

respect to the minutes played and the rate of perceived exertion (RPE) values. The CMJ height of 22 young male soccer players (age: 16.6±0.8 years) was determined in 5 occasions: pre-trip, pre-game 1, pre-game 2, pre-game 3, and post-trip. The results showed a reduction in jump height when compared to the pre-trip (P<0,001; effect size ≥ 1.47), while the change in jump height was not significantly correlated with the minutes played r=-0.02; P=0.464) nor with the RPE values (r=0.15; P=0.249). The succession of football matches promotes a decrease in jump height that is not related to the minutes played nor to the RPE values.

BERDUGO, M., DELGADO-BAQUERIZO, M., SOLIVERES, S., HERNANDEZ-CLEMENTE, R., ZHAO, Y., GAITAN, J.J., GROSS, N., SAIZ, H., MAIRE, V., LEHMAN, A., RILLIG, M.C., SOLE, R.V. y MAESTRE, F.T., 2020. Global ecosystem thresholds driven by aridity. *Science*, vol. 367, no. 6479, pp. 787+. ISSN 0036-8075. DOI 10.1126/science.aay5958.

Aridity, which is increasing worldwide because of climate change, affects the structure and functioning of dryland ecosystems. Whether aridification leads to gradual (versus abrupt) and systemic (versus specific) ecosystem changes is largely unknown. We investigated how 20 structural and functional ecosystem attributes respond to aridity in global drylands. Aridification led to systemic and abrupt changes in multiple ecosystem attributes. These changes occurred sequentially in three phases characterized by abrupt decays in plant productivity, soil fertility, and plant cover and richness at aridity values of 0.54, 0.7, and 0.8, respectively. More than 20% of the terrestrial surface will cross one or several of these thresholds by 2100, which calls for immediate actions to minimize the negative impacts of aridification on essential ecosystem services for the more than 2 billion people living in drylands.

BERENGUEL HERNÁNDEZ, A.M., CRUZ, M. de la, ALCÁZAR-FABRA, M., PRIETO-RODRÍGUEZ, A., SÁNCHEZ-CUESTA, A., MARTIN, J., TORMO, J.R., RODRÍGUEZ-AGUILERA, J.C., CORTÉS-RODRÍGUEZ, A.B., NAVAS, P., REYES, F., VICENTE, F., GENILLOUD, O. y SANTOS-OCAÑA, C., 2020. Design of High-Throughput Screening of Natural Extracts to Identify Molecules Bypassing Primary Coenzyme Q Deficiency in Saccharomyces cerevisiae. *SLAS Discovery*, vol. 25, no. 3, pp. 299-309. DOI 10.1177/2472555219877185

Coenzyme Q10 (CoQ10) deficiency syndrome is a rare disease included in the family of mitochondrial diseases, which is a heterogeneous group of genetic disorders characterized by defective energy production. CoQ10 biosynthesis in humans requires at least 11 gene products acting in a multiprotein complex within mitochondria. The high-throughput screening (HTS) method based on the stabilization of the CoQ biosynthesis complex (Q-synthome) produced by the COQ8 gene overexpression is proven here to be a successful method for identifying new molecules from natural extracts that are able to bypass the CoQ6 deficiency in yeast mutant cells. The main features of the new approach are the

combination of two yeast targets defective in genes with different functions on CoQ6 biosynthesis to secure the versatility of the molecule identified, the use of glycerol as a nonfermentable carbon source providing a wide growth window, and the stringent conditions required to mark an extract as positive. The application of this pilot approach to a representative subset of 1200 samples of the Library of Natural Products of Fundación MEDINA resulted in the finding of nine positive extracts. The fractionation of three of the nine extracts allowed the identification of five molecules; two of them are present in molecule databases of natural extracts and three are nondescribed molecules. The use of this screening method opens the possibility of discovering molecules with CoQ10-bypassing action useful as therapeutic agents to fight against mitochondrial diseases in human patients. © 2019 Society for Laboratory Automation and Screening.

BERICAT, E., CAMARERO, M. y JIMENEZ-RODRIGO, M.L., 2019. Towards a System of Indices on the Quality of European Societies (SIQES). En: BERICAT, E AND JIMENEZ, RODRIGO, ML (ed.), *Quality of European Societies: A Compilation of Composite Indicators*. S.l.: s.n., Social Indicators Research Series, pp. 1-26. ISBN 978-3-030-05023-8.

BERICAT, E. y MARTIN-GIMENO, R., 2020. The societal quality of southern European Mediterranean countries. *Revista Española de Sociología*, vol. 29, no. 1, SI, pp. 49-69. ISSN 1578-2824. DOI 10.22325/fes/res.2020.04.

On the basis of extensive empirical data that the 72 focused composite indicators, making up the System of Indices on the Quality of European Societies (SIQES), provide on the 28 EU Member States, this paper analyses the societal quality of the Southern European Mediterranean countries, namely, Spain, Italy, Portugal and Greece, from a holistic, multidimensional and comparative perspective. First and foremost, it indicates the position of these Mediterranean countries in the European societal quality rankings. Secondly, after confirming that, in accordance with the Five Europes Typology, the Mediterranean countries form a distinctive cluster, it includes an analysis of their social characteristics, comparing them with those of the other four clusters. Thirdly, on the basis of the 14 societal quality domains included in the system, it offers a diagnosis by contrasting the societal quality of the Southern European Mediterranean countries with that of the rest of the EU Member States. This structural diagnosis, endogenous as well exogenous, offers a panoramic view of great importance to both social researchers and policymakers.

BERMÚDEZ-ORIA, A., RODRÍGUEZ-GUTIÉRREZ, G., FERNÁNDEZ-PRIOR, Á., KNICKER, H. y FERNÁNDEZ-BOLAÑOS, J., 2020. Confirmation by solid-state NMR spectroscopy of a strong complex phenol-dietary fiber with retention of antioxidant activity in vitro. *Food Hydrocolloids*, vol. 102. DOI 10.1016/j.foodhyd.2019.105584

The aim of this study was to prepare a complex between the olive phenolic compounds,

hydroxytyrosol (HT), 3,4-dihydroxyphenylglycol (DHPG) and their mixture, with the soluble and insoluble dietary fiber of apple cell wall. A strong interaction between phenols and the apple cell wall occurred during the drying phase and it was confirmed by ultraviolet–visible spectrometry, Fourier transform infrared spectrometry, differential scanning calorimetry, thermogravimetry and especially by solid-state 13C NMR spectroscopy. The antiradical activity by DPPH, ABTS and ORAC assays confirmed that the simple phenolic HT/DHPG maintained in part their antioxidant activity after complexation with the apple cell wall. In addition, the HT/DHPG-soluble and insoluble fractions obtained after simulated gastrointestinal fluids retained this antioxidant activity. These complexes may be protected from absorption during gastrointestinal transit to reach the colon. In the case of the soluble dietary fiber, an enzymatic treatment, in a simulation of hydrolysis by colonic microflora, released oligomers with potential antioxidant activity from this complex. Therefore, the intake of HT/DHPG bound to the fiber of apple cell wall could provide many of the health benefits associated with dietary fiber, and be fermented by gut bacteria to contribute to a healthy antioxidant environment. © 2019 Elsevier Ltd

BERMUDO, S., HIGUITA, R.A. y RADA, J., 2020. Domination in hexagonal chains. *Applied Mathematics and Computation*, vol. 369. DOI 10.1016/j.amc.2019.124817

In this paper we give bounds for the domination number in hexagonal chains and the exact value of this parameter for some particular hexagonal chains. We also find the hexagonal chains with minimum and maximum domination number, among all hexagonal chains with a fixed number of hexagons. © 2019

BERMUDO, S., KÓRUS, P. y NÁPOLES VALDÉS, J.E., 2020. On q-Hermite–Hadamard inequalities for general convex functions. *Acta Mathematica Hungarica*, DOI 10.1007/s10474-020-01025-6

The Hermite–Hadamard inequality was first considered for convexfunctions and has been studied extensively. Recently, many extensions weregiven with the use of general convex functions. In this paper we present somevariants of the Hermite–Hadamard inequality for general convex functions in thecontext of q-calculus. From our theorems, we deduce some recent results in thetopic. © 2020, Akadémiai Kiadó, Budapest, Hungary.

BERMUDO, S., NAPOLES, J.E. y RADA, J., 2020. Extremal trees for the Randic index with given domination number. *Applied Mathematics And Computation*, vol. 375. ISSN 0096-3003. DOI 10.1016/j.amc.2020.125122.

The Randic index is the topological index most widely used in applications for chemistry and pharmacology. It is defined for a graph G with vertex set V(G) and edge set E(G) as R(G) = Sigma(uv is an element of E(G)) 1/root deg(u)deg(v), where deg

(u) and deg (v) denote the degrees of the vertices u, v is an element of V(G). In this paper we find upper and lower bounds of the Randic index of trees in terms of the order and the domination number. The extremal trees are characterized. (C) 2020 Elsevier Inc. All rights reserved.

BERNÁ, G. y ROMERO-GOMEZ, M., 2020. The role of nutrition in non-alcoholic fatty liver disease: Pathophysiology and management. *Liver International*, vol. 40, no. S1, pp. 102-108. DOI 10.1111/liv.14360

A healthy diet together with physical activity could induce weight loss and control the progression of non-alcoholic fatty liver disease (NAFLD). However, the composition of diet has not been clearly established. Macronutrients such as saturated fatty acids (SFA), trans-fats, simple sugars and animal proteins have a harmful effect on the liver. On the other hand, monounsaturated fats (MUFAs), polyunsaturated (PUFAs) omega-3-fats, plant-based proteins and dietary fibres are considered to be beneficial to the liver. The impact of specific micronutrients is less well-known. Nutrients are part of the food we eat. Food makes up our meals, which compose our dietary patterns. Non-alcoholic fatty liver disease patients usually follow Western diets which are rich in soda, frozen junk food, juice, red meat, lard, processed meats, whole fat dairy foods, fatty snack foods, take-away foods, cakes and biscuits and poor in cereals, whole grains, fruit, vegetables, extra virgin olive oil (EVOO) and fish. On the other hand, the Mediterranean diet (MD) is beneficial for NAFLD even when it is iso-caloric or there are no changes in body weight. A new approach, called 'nutritional geometry' considers the importance of integrating nutrition, animals and the environment. The goal of this approach is to combine nutrients and foods in a model to understand how food components interact to regulate the properties of diets affecting health and disease. The use of algorithms developed by artificial intelligence (AI) to create a personalized diet for patients can provide customized nutritional counselling to prevent and treat NAFLD. © 2020 John Wiley & Sons A/S. Published by John Wiley & Sons Ltd

BERRAL, F.J., ZAMBRANO, P., PAREJA, J.L., BERNA, G., MARTIN, F., BLANCO, M. y CACERES, O., 2020. Nutritional Intervention in Patients With Fibromyalgia Improved Their Intestinal Permeability, Symptoms and Quality of Life. *Clinical and Experimental Rheumatology*, vol. 38, no. 1, 123, pp. S122. ISSN 0392-856X.

BERRAL, F.J., ZAMBRANO, P., PAREJA, J.L., MARTIN, F., FEDRIANI, E., CACERES, O. y BLANCO, M., 2020. Using Euclidean Geometry to Improve Fibromyalgia Diagnosis. *Clinical and Experimental Rheumatology*, vol. 38, no. 1, 123, pp. S122. ISSN 0392-856X.

BLANCO SÁNCHEZ, M.J., 2020. Repensando la justa causa de exclusión del socio. Reflexión en los ordenamientos jurídicos español y chileno. En: La Ley mercantil, *La Ley mercantil*, no. 66, pp. 4- 0. ISSN 2341-4537.

El presente trabajo pretende analizar la institución de exclusión de socios en el marco de la sociedad de responsabilidad limitada. Seguimos una estructura en dos bloques claramente diferenciados, el primero en Derecho español, el segundo en Derecho chileno. Es objetivo primordial de este trabajo hacer una valoración crítica del modelo de causas de exclusión legales y repensar la posibilidad de una cláusula exclusión genérica por justos motivos.

BLASCO, V., PINTO, F.M., GONZALEZ-RAVINA, C., SANTAMARIA-LOPEZ, E., CANDENAS, L. y FERNANDEZ-SANCHEZ, M., 2020. Tachykinins and Kisspeptins in the Regulation of Human Male Fertility. *Journal of Clinical Medicine*, vol. 9, no. 1. DOI 10.3390/jcm9010113.

Infertility is a global disease affecting one out of six couples of reproductive age in the world, with a male factor involved in half the cases. There is still much to know about the regulation of human male fertility and thus we decided to focus on two peptide families that seem to play a key role in this function: tachykinins and kisspeptins. With this aim, we conducted an exhaustive review in order to describe the role of tachykinins and kisspeptins in human fertility and their possible implications in infertility etiopathogenesis. Many advances have been made to elucidate the roles of these two families in infertility, and multiple animal species have been studied, including humans. All of this knowledge could lead to new advances in male infertility diagnosis and treatment, but further research is needed to clarify all the implications of tachykinins and kisspeptins in fertility.

BLÁZQUEZ CARABALLO, A., MONTERRUBIO ASENSIO, P. y JIMÉNEZ-ALFARO HACHA, B., 2020. Diabetes tipo II y microbiota ¿existe relación? En: MoleQla: revista de Ciencias de la Universidad Pablo de Olavide, *MoleQla: revista de Ciencias de la Universidad Pablo de Olavide*, no. 37, pp. 3- 0. ISSN 2173-0903.

La diabetes miellitus es un trastorno metabólico cada vez más común. En concreto la diabetes tipo II está relacionada con la obesidad, de manera que el incremento de la población obesa está causando también un incremento de lapoblación que padece diabetes, lo que hace necesario entender el mecanismo por el que se produce.Este tipo está causadopor una resistencia a insulina por parte de las células. Esta resistencia parece estar asociada a TFN-? que causa cambios enel receptor de insulina, pudiendo establecer así una relación entre el sistema inmune y la diabetes. Se ha demostrado que lamicrobiota está relacionada también con nuestro sistema inmune, por lo que la diabetes tipo II puede estar asociada a lamicrobiota que poseemos. En esta revisión analizamos dos factores característicos de la microbiota de los pacientes condiabetes tipo II: el LPS y los SCFAs para entender la relación entre la microbiota y el desarrollo de la resistencia a insulina

BOUHALA, Z., MÁRQUEZ-RODRÍGUEZ, J., CHAKRI, K., SAMRAOUI, F., EL-

SEREHY, H.A., FERRERAS-ROMERO, M. y SAMRAOUI, B., 2020. The life history of the Ibero-Maghrebian endemic Oligoneuriopsis skhounate Dakki and Guidicelli (Ephemeroptera: Oligoneuriidae). *Limnologica*, vol. 81. DOI 10.1016/j.limno.2020.125761

As an essential component of lotic habitats, aquatic insects have commonly been used as bio-indicators of the ecological integrity of lotic habitats. However, recent large-scale declines have given rise to concerns about freshwater ecosystems functioning correctly. During three consecutive years, we surveyed Wadi Cherf, Upper Seybouse, Algeria, and employed the size-frequency distribution of head capsule width to sketch the life history of Oligoneuriopsis skhounate, an Ibero-Maghrebian endemic mayfly, whose distribution and ecology are not so well-known known. O. skhounate exhibited a seasonal univoltine summer cycle with growth and development taking place during the warmest period of the year (late spring to early autumn). The absence of nymphs during winter and the presence of last instar nymphs from July to November suggested a lengthy egg diapause, following the aestivo-autumnal emergence and reproduction. The study also raises the issue of freshwater biodiversity conservation in North Africa by highlighting the case of O. skhounate, acting as an indicator species of important but vulnerable aquatic ecosystems. © 2020 Elsevier GmbH

BUENO, S., GALLEGO, M.D. y NOYES, J., 2020. Uses and gratifications on augmented reality games: An examination of pokémon go. *Applied Sciences*, vol. 10, no. 5. DOI 10.3390/app10051644

Users are attracted by augmented reality games to fulfil their needs. Two objectives are proposed: (1) to research the motivations of those using augmented reality mobile games; (2) to define a structural model based on Uses and Gratifications Theory for the adoption of augmented reality mobile games. The present study examines the case of Pokémon Go. The model is composed of eight constructs: enjoyment, fantasy, escapism, social interaction, social presence, achievement, self-presentation and continuance intention. The SEM model was empirically assessed based on 1183 responses from Pokémon Go users around the world. Results clearly confirmed the positive influence of almost all the proposed constructs on continuance intention for Pokémon Go. First, these findings may be helpful for the online gaming industry in identifying the game functions that retain more gamers and improve the user experience. Second, the online gaming industry might use these results in order to classify those players with behaviours that favour the use of online games. © 2020 by authors.

CABALLERO ARTIGAS, H.L., 2019. Lorca, universal playwright. Studies on the translation of his theatre on the occasion of the 20th anniversary of his birth. *Confluencia-Revista Hispanica de Cultura y Literatura*, vol. 35, no. 1, pp. 163-164. ISSN 0888-6091.

CAMACHO, P., 2019. Returning to “Ezuversity”: Feminism and Emancipation in the

Letters of Ezra Pound to Forgotten Modernist Iris Barry, 1916-1917. *Atlantis-Journal of the Spanish Association of Anglo-American Studies*, vol. 41, no. 2, pp. 105-121. ISSN 0210-6124. DOI 10.28914/Atlantis-2019-41.2.05.

At the beginning of the twentieth century, many young male and female poets attended "Ezuversity," that is, Ezra Pound's programme through which he educated them on the art of reading and writing. This study focuses on the case of Iris Barry (1895-1969), the English poet, novelist, film critic and forgotten modernist pioneer, to whom Pound sent a series of letters at the beginning of the twentieth century encouraging her to emancipate herself and avoid marriage. It also analyses "The Ezra Pound Period," a text written by Barry and published in the Bookman in 1931, which serves as a response to the poet's letters and instruction. The aim of this article is to contribute to feminist modernist studies by rescuing Barry from oblivion and by highlighting Pound's promotion and support of many women writers who would later play a significant role in literary modernism.

CAMARERO, M., 2019a. Quality of Life. En: BERICAT, E AND JIMENEZRODRIGO, ML (ed.), *Quality of European Societies: A Compilation of Composite Indicators*. S.l.: s.n., Social Indicators Research Series, pp. 51-74. ISBN 978-3-030-05023-8.

CAMARERO, M., 2019b. Social and Political Participation. En: BERICAT, E AND JIMENEZRODRIGO, ML (ed.), *Quality of European Societies: A Compilation of Composite Indicators*. S.l.: s.n., Social Indicators Research Series, pp. 93-109. ISBN 978-3-030-05023-8.

CAMPANI, G. y TERRON-CARO, T., 2019. Editorial. *Collectivus-Revista de Ciencias Sociales*, vol. 6, no. 2, pp. 9-12. ISSN 2382-4018. DOI 10.15648/Coll.2.2019.1.

CAMPO TEJEDOR, A. del, 2019. The climatic theory and the Andalusian temperament: around the controversy of national characters. *Journal of Iberian and Latin American Research*, vol. 25, no. 2, pp. 177-191. ISSN 1326-0219. DOI 10.1080/13260219.2019.1684547.

The historical-cultural study on the social construction of the image of the Andalusian between fourteenth and seventeenth centuries shows that the ancient temperament theory and the climatic zones theory were used to stereotype the inhabitant of the South negatively and brand them as a malicious, false and libidinous trickster. However, the flexibility of these theories also allowed a praiseworthy interpretation of the Andalusian temperament. Thus, the regional-national stereotype was developed from the beginning in a bipolar key, as a result of a tension between the Castilian-centric infamous labeling and the patriotic counter-theory from the south. In addition, there were also ambiguous stories that simultaneously welcomed both approaches.

CANAS, E., ESTEVEZ, E., LEON-MORENO, C. y MUSITU, G., 2020. Loneliness, Family Communication, and School Adjustment in a Sample of Cybervictimized Adolescents. *International Journal of Environmental Research and Public*

Health, vol. 17, no. 1. ISSN 1661-7827. DOI 10.3390/ijerph17010335.

The objective of this study was to compare individual, family, and social variables, such as the perception of loneliness, family communication, and school adjustment in a sample of 2399 Andalusian (Spanish) adolescents aged 12 to 18 (M = 14.63, SD = 1.91) suffering from cybervictimization (low, moderate, and high). The results show that adolescents suffering from high cybervictimization report more loneliness, more problematic communication with both parents, and worse school adjustment than the rest of the groups. Regarding gender, differences are observed in open communication with the mother and in the dimensions of school adjustment, being more favorable for girls. However, there were no significant differences between girls and boys in the loneliness variable. The interaction effects indicate, on the one hand, that female severe cybervictims present more avoidant communication with the mother than the other groups, and, on the other hand, that male cybervictims of all three groups and female severe cybervictims have lower academic competence than the group of female low cybervictims, followed by female moderate cybervictims. These data support the idea that, depending on its intensity and duration, cybervictimization affects girls and boys differently in terms of individual, family, and social variables.

CARAVACA SÁNCHEZ, F. y D. GARCÍA, M., 2020. Alcohol, otras Drogas y Salud Mental en Población Femenina Penitenciaria. En: Anuario de psicología jurídica, *Anuario de psicología jurídica*, no. 30, pp. 47-53. ISSN 1133-0740.

Previous research carried out at international level has shown a high prevalence of the use of alcohol and other drugs and mental disorders among females deprived of their liberty. However, it is not common to find studies that analysethe association between both aspects. The sample of the current study consisted of 143 women deprived of libertyin two prisons in the Region of Murcia, who voluntarily completed a questionnaire that included information ondemographics, prison, alcohol and other drug use prior to and during prison (adapted from the ASSIST questionnaire),as well as depression, anxiety, and stress in prison (using the DASS- 21 questionnaire). The inmaTHES who reporteddepression, anxiety, and stress showed a higher prevalence of alcohol and other drug use compared to those who didnot, and regression analysis showed statistically significant associations.

CARAVACA SÁNCHEZ, F., IGNATYEV, Y. y MUNDT, A.P., 2020. The revolving prison door: Factors associated with repeat incarcerations in Spain. *Journal of Forensic and Legal Medicine*, vol. 72. DOI 10.1016/j.jflm.2020.101947

Aim of the present study was to test for the relationship of mental disorders, substance use, criminal and treatment variables with reincarceration. A sample of 2484 men from eight prisons in Spain participated. Logistic regression analyses with the number of incarcerations as dependent variable and mental disorders, drug use and treatment characteristics as independent variables were calculated. Odds ratios were calculated for prisoners with repeat incarcerations using the group for

the first time in prison as reference category. Close to half of the participants was incarcerated for the second time or more (45.5%). Repeat incarceration was associated with older age (OR: 0.97, 95% CI: 0.96–0.98), Spanish nationals (OR: 1.79, 95% CI: 1.41–2.28), unemployment (OR: 1.47, 95% CI: 1.21–1.78), property offense (OR: 2.13, 95% CI: 1.73–2.62), being sentenced (OR: 1.61, 95% CI: 1.27–2.04) disciplinary infractions (OR: 1.79, 95% CI: 1.46–2.20) and cannabis use (OR: 1.80, 95% CI: 1.44–2.27), heroin use (OR: 1.48, 95% CI: 1.07–2.04), and the use of tranquilizers without prescription (OR: 1.58, 95% CI: 1.19–2.11) during imprisonment. Repeat incarceration was not associated with self-reported mental disorders using multivariate regression, but with mental health (OR: 1.44, 95% CI: 1.11–1.88) and drug use treatments (OR: 1.42, 95% 1.14–1.78) during imprisonment. This research suggests that mental health and substance use treatments in prison were typically provided to prisoners with repeat incarcerations who more likely commit disciplinary offenses such as drug use during imprisonment. © 2020 Elsevier Ltd and Faculty of Forensic and Legal Medicine

CARAVACA-SANCHEZ, F. y GARCIA-JARILLO, M., 2020. Use of alcohol and other drugs and mental health in imprisoned female population. *Anuario de Psicologia Juridica*, vol. 30, no. 1, pp. 47-53. ISSN 1133-0740. DOI 10.5093/apj2019a15.

Previous research carried out at international level has shown a high prevalence of the use of alcohol and other drugs and mental disorders among females deprived of their liberty. However, it is not common to find studies that analyse the association between both aspects. The sample of the current study consisted of 143 women deprived of liberty in two prisons in the Region of Murcia, who voluntarily completed a questionnaire that included information on demographics, prison, alcohol and other drug use prior to and during prison (adapted from the ASSIST questionnaire), as well as depression, anxiety, and stress in prison (using the DASS- 21 questionnaire). The inmates who reported depression, anxiety, and stress showed a higher prevalence of alcohol and other drug use compared to those who did not, and regression analysis showed statistically significant associations.

CARDENAS-RODRIGUEZ, R. y ORTEGA-DE-MORA, F., 2019. Transmission of Family Reproductive Work to Migrant Women. Vulnerability, Violence and Invisibility in Domestic Work. *Collectivus-Revista de Ciencias Sociales*, vol. 6, no. 2, pp. 105-119. ISSN 2382-4018. DOI 10.15648/Coll.2.2019.7.

The increasing incorporation of migrant women in the labor market and, specifically, in the care sector, justifies the need to analyze the repercussions of the transmission of family reproductive work to migrant women, studying the violation of rights that occur before and during its incorporation into the labor market. For this, a bibliographic review of the latest advances in the subject has been carried out, using as descriptors “migrants”, “women”, “care chain”, among others. This article demonstrates, through the latest existing data, the invisibility, exclusion and discrimination suffered by migrant women in the Global Care Chain.

CARMONA-LAVADO, A., GOPALAKRISHNAN, S. y ZHANG, H., 2020. Product radicalness and firm performance in B2B marketing: A moderated mediation model. *Industrial Marketing Management*, vol. 85, pp. 58-68. DOI 10.1016/j.indmarman.2019.08.013

There has been ambiguity and controversy in establishing the links between the introduction of radical innovations and firm performance. While radical innovations create customer value and grow product sales, they are also fraught with uncertainty due to customer resistance to innovative products and significant costs associated with commercialization. This research aims to explain the contrarian findings between radical innovations and firm performance in a business-to-business (B2B) context by examining two mediating variables – new product advantage and customer unfamiliarity. Using a multi-informant approach, the authors collected survey data from a sample of 170 Spanish B2B firms engaged in new product development, provided by 357 managers. The authors find that, while new product advantage positively mediates the relationship between product radicalness and firm performance, customer unfamiliarity has a negative mediation effect on this relationship. Furthermore, the authors examine the moderated mediation effect by industry type, manufacturing vs. service, and find that it moderates the mediation of customer unfamiliarity: The negative impact of product radicalness on customer unfamiliarity is greater for manufacturing firms than for service firms. With these findings, the authors discuss implications for development and marketing of radical innovations and how those implications facilitate firm performance in the B2B context. © 2019 Elsevier Inc.

CARPENTER, J., GONZALEZ MEDINA, M., HUETE GARCIA, M.A. y DE GREGORIO HURTADO, S., [sin fecha]. Variegated Europeanization and urban policy: Dynamics of policy transfer in France, Italy, Spain and the UK. *European Urban and Regional Studies*, ISSN 0969-7764. DOI 10.1177/0969776419898508.

This paper explores the dynamics of urban policy transfer in the European Union (EU), critically examining the process of Europeanization in relation to urban issues. The paper takes a comparative approach, analysing the evolution of urban policy and Europeanization in four member states: France, Italy, Spain and the UK from the 1990s up to the current Cohesion Policy period (2014-2020). Using an analytical framework based on three dimensions of Europeanization (direction, object and impact), we examine the extent to which urban policies are moving towards an integrated approach to sustainable urban development, as supported by the EU. The paper highlights the contradictions between processes of convergence through Europeanization, and path-dependent systems and trajectories that forge alternative paths. In doing so, it advances wider debates on the impact of Europeanization in a neo-liberal context by arguing that member states more likely to be affected by Europeanization are those most impacted by national austerity measures. A process of `variegated Europeanization' is

proposed to capture the differential practices taking place within the EU with regard to the circulation of the EU's approach to urban policy.

CARUSO FONTÁN, M.V., 2020. ¿Sólo Sí es Sí?: La reforma de los delitos contra la libertad e indemnidad sexual. En: Diario La Ley, *Diario La Ley*, no. 9594, pp. 2-0. ISSN 1989-6913.

Desde el acaecimiento del mediático caso de «La Manada» se cierne sobre la Legislación penal la amenaza de una nueva reforma de los delitos contra la libertad e indemnidad sexuales que se sumaría a las ya acaecidas en 1999, 2003, 2010 y 2015. El lema con el que se reclama dicha reforma desde múltiples sectores reza «solo si es si». En este trabajo se cuestiona la urgencia de esta reforma y las razones que se utilizan para defenderla.

CASIMIRO-SORIGUER, C.S., RUBIO, A., JIMENEZ, J. y PÉREZ-PULIDO, A.J., 2020. Ancient evolutionary signals of protein-coding sequences allow the discovery of new genes in the Drosophila melanogaster genome. *BMC Genomics*, vol. 21, no. 1. DOI 10.1186/s12864-020-6632-y

Background: The current growth in DNA sequencing techniques makes of genome annotation a crucial task in the genomic era. Traditional gene finders focus on protein-coding sequences, but they are far from being exhaustive. The number of this kind of genes continuously increases due to new experimental data and development of improved bioinformatics algorithms. Results: In this context, AnABlast represents a novel in silico strategy, based on the accumulation of short evolutionary signals identified by protein sequence alignments of low score. This strategy potentially highlights protein-coding regions in genomic sequences regardless of traditional homology or translation signatures. Here, we analyze the evolutionary information that the accumulation of these short signals encloses. Using the Drosophila melanogaster genome, we stablish optimal parameters for the accurate gene prediction with AnABlast and show that this new strategy significantly contributes to add genes, exons and pseudogenes regions, yet to be discovered in both already annotated and new genomes. Conclusions: AnABlast can be freely used to analyze genomic regions of whole genomes where it contributes to complete the previous annotation. © 2020 The Author(s).

CASTILLO RUBIO, J.M., 2019. The collaciones of Renaissance Seville: urban space and neighbourhood dynamics in Santa Catalina and Santa Lucia, 1554. *Chronica Nova*, no. 45, pp. 223-257. ISSN 0210-9611.

This paper has as its objective to analyze, in urban terms, the census of two Sevillian collaciones -neighbourhoods-, Santa Catalina and Santa Lucia, prepared on the occasion of the moneda forera collection in 1554. As part of a further research, it also aims to increase the knowledge of the local network in mid-sixteenth century Seville, and to applied some methodological developments concerning the use of

this type of source for Historical Demography and Urban History obtained in this research.

CASTRO-CHONG, A., QIU, W., BASTOS, J., TCHAMBA YIMGA, N., GARCÍA-RODRÍGUEZ, R., IDÍGORAS, J., ANTA, J.A., AERNOUTS, T. y OSKAM, G., 2020. Impact of the implementation of a mesoscopic TiO2 film from a low-temperature method on the performance and degradation of hybrid perovskite solar cells. *Solar Energy*, vol. 201, pp. 836-845. DOI 10.1016/j.solener.2020.03.041

High efficiencies of over 20% have been reported in the literature for both planar and mesoscopic hybrid perovskite solar cells, and the preferred configuration for scale-up and commercialization is still a matter of debate. The mesoscopic configuration generally requires a high-temperature processing step, which limits applications and makes the process less cost-effective. We have used low-temperature (LT) processing (≤120 °C) to fabricate high-efficiency planar and mesoscopic TiO2-based hybrid perovskite solar cells with comparable performance, highlighted by a champion LT mesoscopic solar cell with 16.2% efficiency. Photovoltaic efficiencies of 14–16% have been achieved for a mesoporous film thickness ranging from 120 to 480 nm by fine-tuning the precursor solution chemistry. The presence of the LT mesoporous layer improves the preservation of performance under conditions of relative humidity of 60%, especially under illumination. Impedance spectroscopy illustrates a similarity of the locus and kinetics of the recombination processes for both configurations. However, inductive loops usually related to ion migration are observed showing different characteristics between both configurations, pointing to the previously suggested correlation between ion migration and degradation. These results suggest that the beneficial role of a mesoporous TiO2 layer might be the stabilization of harmful defects at the perovskite/electron extraction layer interface, and indicate that interface engineering is critical to achieving improved long-term performance. © 2020 International Solar Energy Society

CASU, B., DI PIETRO, F. y TRUJILLO-PONCE, A., 2019. Liquidity Creation and Bank Capital. *Journal of Financial Services Research*, vol. 56, no. 3, pp. 307-340. ISSN 0920-8550. DOI 10.1007/s10693-018-0304-y.

This paper aims to evaluate the relationship between capital and liquidity creation following the implementation of the Basel III rules. These regulatory measures target both increased capital ratios and a reduction of banks' maturity transformation risk, which could result in excessive constraints on bank liquidity creation, thereby negatively affecting economic growth. Using a simultaneous equation model, we find a bi-causal negative relationship, which suggests that banks may reduce liquidity creation as capital increases; and when liquidity creation increases, banks reduce capital ratios. Our results therefore imply a trade-off between financial stability (higher capital, reduced risk) and economic growth (liquidity creation).

CEACERO, C.J., DIAZ-HERNANDEZ, J.L., CAMPO, A.D. del y NAVARRO-CERRILLO, R.M., 2020. Soil rock fragment is stronger driver of spatio-temporal soil water dynamics and efficiency of water use than cultural management in holm oak plantations. *Soil & Tillage Research*, vol. 197. ISSN 0167-1987. DOI 10.1016/j.still.2019.104495.

Water is the main component in the conservation and functioning of Mediterranean ecosystems. There is a trade-off between plant water use during establishment and soil water conservation. Rock fragments and cultural management are two key factors affecting soil water dynamics on forest establishment. In this work, we studied the interactions of different cultural management techniques (tillage, herbicide and mulching) with soil rock fragment content (soil gravel) and their effects on the spatio-temporal water dynamics and efficiency of water use in Mediterranean forest plantations. Soil water content (SWC, l/m(3)), soil water depletion rate (k) and water use efficiency (WUE, mu mol CO2/mol H2O) were monitored along a two-year period in a holm oak reforestation. The results show that SWC and its spatio-temporal dynamics were defined by a significant interaction between the cultural management techniques and the rock fragment content. Cultural management techniques had weak effects on SWC when compared to the control treatment, although significant differences were found. The soil rock fragment content accounted for most of the variability in SWC; and soils with a content below 5% had higher water contents. The cultural treatments showed some influence on water behaviour under SWC more limited conditions, that is, when rock fragment contents was higher than 15% and/or in summer periods. Finally, SWC was also a limiting factor for the WUE of holm oak seedlings, being the WUE values higher when the soil water supply was more restricted. The maximum WUE was reached at a rock fragment content in the soil profile of 17%, combined with mulch treatment, during dry summer conditions. Thus, the interaction between the rock fragment content and cultural management is a key element in trade-offs between water conservation and plant water-use objectives in Mediterranean forest restoration strategies.

CEBALLOS, M., NUNEZ, J. y TENORIO, A.F., 2020. Algorithm to compute minimal matrix representation of nilpotent lie algebras. *International Journal of Computer Mathematics*, vol. 97, no. 1-2, SI, pp. 275-293. ISSN 0020-7160. DOI 10.1080/00207160.2018.1557639.

As it is well-known there exist matrix representations of any given finite-dimensional complex Lie algebra. More concretely, such representations can be obtained by means of an isomorphic matrix Lie algebra consisting of upper-triangular square matrices. However, there is no general information about the minimal order for the matrices involved in such representations. In this way, our main goal is to revisit, debug and implement an algorithm which provides the minimal order for matrix representations of any finite-dimensional nilpotent Lie algebra from its law, as well as returning a matrix representative of such an algebra by using the minimal order previously computed. In order to show the applicability of this procedure, we have computed minimal representative for each nilpotent Lie

algebra of dimensions 6 and 7 and we have also obtained the representation of some families with an arbitrary dimension.

CHARISI, V., GOMEZ, E., MIER, G., MERINO, L. y GOMEZ, R., 2020. Child-Robot Collaborative Problem-Solving and the Importance of Child's Voluntary Interaction: A Developmental Perspective. *Frontiers in Robotics and AI*, vol. 7. DOI 10.3389/frobt.2020.00015

The emergence and development of cognitive strategies for the transition from exploratory actions towards intentional problem-solving in children is a key question for the understanding of the development of human cognition. Researchers in developmental psychology have studied cognitive strategies and have highlighted the catalytic role of the social environment. However, it is not yet adequately understood how this capacity emerges and develops in biological systems when they perform a problem-solving task in collaboration with a robotic social agent. This paper presents an empirical study in a human-robot interaction (HRI) setting which investigates children's problem-solving from a developmental perspective. In order to theoretically conceptualize children's developmental process of problem-solving in HRI context, we use principles based on the intuitive theory and we take into consideration existing research on executive functions with a focus on inhibitory control. We considered the paradigm of the Tower of Hanoi and we conducted an HRI behavioral experiment to evaluate task performance. We designed two types of robot interventions, "voluntary" and "turn-taking"—manipulating exclusively the timing of the intervention. Our results indicate that the children who participated in the voluntary interaction setting showed a better performance in the problem solving activity during the evaluation session despite their large variability in the frequency of self-initiated interactions with the robot. Additionally, we present a detailed description of the problem-solving trajectory for a representative single case-study, which reveals specific developmental patterns in the context of the specific task. Implications and future work are discussed regarding the development of intelligent robotic systems that allow child-initiated interaction as well as targeted and not constant robot interventions.

CHIROSA-CANAVATE, L., RUBIO-MONDEJAR, J.A. y GARRUES-IRURZUN, J., [sin fecha]. Business schools and the Spanish business elite since the mid-twentieth century. *Business History*, ISSN 0007-6791. DOI 10.1080/00076791.2020.1726893.

Literature has emphasized the key role of business schools in spreading US management in Europe after the Second World War but has not found how to quantify its impact on the business systems. With such purpose, this article examines the relations between the pioneer Spanish business schools and the national corporate elite. By combining an institutional approach and social networks analysis, it shows the incidence of business schools on the board of directors of the largest

Spanish firms during the second half of the 20th century, and explains their role as centers for business elite reproduction.

COBO-VUILLEUMIER, N. y GAUTHIER, B.R., 2020. Time for a paradigm shift in treating type 1 diabetes mellitus: coupling inflammation to islet regeneration. *Metabolism-Clinical and Experimental*, vol. 104. ISSN 0026-0495. DOI 10.1016/j.metabol.2020.154137.

Type 1 diabetes mellitus (T1DM) is an autoimmune disease that targets the destruction of islet beta-cells resulting in insulin deficiency, hyperglycemia and death if untreated. Despite advances in medical devices and longer-acting insulin, there is still no robust therapy to substitute and protect beta-cells that are lost in T1DM. Attempts to refrain from the autoimmune attack have failed to achieve glycemic control in patients highlighting the necessity for a paradigm shift in T1DM treatment. Paradoxically, beta-cells are present in T1DM patients indicating a disturbed equilibrium between the immune attack and beta-cell regeneration reminiscent of unresolved wound healing that under normal circumstances progression towards an anti-inflammatory milieu promotes regeneration. Thus, the ultimate T1DM therapy should concomitantly restore immune self-tolerance and replenish the beta-cell mass similar to wound healing. Recently the agonistic activation of the nuclear receptor LRH-1/NR5A2 was shown to induce immune self-tolerance, increase beta-cell survival and promote regeneration through a mechanism of alpha-to-beta cell phenotypic switch. This trans-regeneration process appears to be facilitated by a pancreatic anti-inflammatory environment induced by LRH-1/NR5A2 activation. Herein, we review the literature on the role of LRH1/NR5A2 in immunity and islet physiology and propose that a cross-talk between these cellular compartments is mandatory to achieve therapeutic benefits. (C) 2020 The Authors. Published by Elsevier Inc.

COLOM-PIELLA, G., 2019. A New Debt Burden for Spain's Defence Planning. *RUSI Journal*, vol. 164, no. 7, pp. 32-41. ISSN 0307-1847. DOI 10.1080/03071847.2019.1700685.

At 0.92% of GDP in 2019 and with the expectation that this figure will remain frozen until 2022, Spain's defence budget is, proportionally, the second-lowest of the NATO countries obliged to meet the 2% target. However, (sic)12.9 billion has just been committed to replace older weaponry and ensure work for the country's defence industry. With a public debt that hinders military planning and no budgetary stability to guarantee the financing and maintenance of weapons and equipment, Spain risks fielding inoperative armed forces incapable of either contributing to collective security or satisfying the country's defence needs. Guillem Colom-Piella explores the current situation and its potential implications.

CONDE-PARRILLA, M.-A., 2020. "Portals of Discovery": Historical Allusions in Joyce's Portrait. *Estudios Irlandeses*, no. 15, pp. 13-24. ISSN 1699-311X. DOI

10.24162/EI2020-9296.

The Irish context informs the process of composition of A Portrait of the Artist as a Young Man and Joyce's use of historical allusions is an essential literary device when recontextualising the novel in its original cultural dynamics. Varied in form and elusive to the eye, allusions function as textual signs that introduce multiple layers of contextual meaning, unveiling the main characters' contradictions and the workings of coercive ideologies. Joycean allusions thus act as metonymic portmanteau signs; they become the true "portals" of discovery of a less apparent portrait: that of Ireland as a British colony.

CONTRERAS, I., [sin fecha]. A review of the literature on DEA models under common set of weights. *Journal of Modelling in Management*, ISSN 1746-5664. DOI 10.1108/JM2-02-2019-0043.

Purpose Data envelopment analysis (DEA) is a mathematical method for the evaluation of the relative efficiency of a set of alternatives, which produces multiple outputs by consuming multiple inputs. Each unit is evaluated on the basis of the weighted output over the weighted input ratio with a free selection of weights and is allowed to select its own weighting scheme for both inputs and outputs so that the individual evaluation is optimized. However, several situations can be found in which the variability between weighting profiles is unsuitable. In those cases, it seems more appropriate to consider a common vector of weights. The purpose of this paper is to include a systematic revision of the existing literature regarding the procedures to determine a common set of weights (CSW) in the DEA context. The contributions are classified with respect to the methodology and to the main aim of the procedure. The discussion and findings of this paper provide insights into future research on the topic. Design/methodology/approach This paper includes a systematic revision of the existing literature about the procedures to determine a CSW in the DEA context. The contributions are classified with respect to the methodology and to the main aim of the procedure. Findings The discussion and findings of the literature review might insights into future research on the topic. Originality/value This papers revise the state of the art on the topic of models with CSW in DEA methodology and propose a systematic classification of the contributions with respect to several criteria. The paper would be useful for both theoretical and practical future research on the topic.

CORDERO RAMOS, N. y BARROSO PAVÍA, R., 2020. Tratamiento de la prostitución/trabajo sexual en Sevilla: ¿protección o vulneración de los derechos de las trabajadoras sexuales? En: Derechos humanos desde la interdisciplinariedad en ciencias sociales y humanidades, *Derechos humanos desde la interdisciplinariedad en ciencias sociales y humanidades* [en línea]. S.l.: Dykinson S. L., pp. 50-64. ISBN 978-84-13-24651-2. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7302187.

CORREIA PERES COSTA, J.C., FLORIANO, B., BASCÓN VILLEGAS, I.M.,

RODRÍGUEZ-RUIZ, J.P., POSADA-IZQUIERDO, G.D., ZURERA, G. y PÉREZ-RODRÍGUEZ, F., 2020. Study of the microbiological quality, prevalence of foodborne pathogens and product shelf-life of Gilthead sea bream (Sparus aurata) and Sea bass (Dicentrarchus labrax) from aquaculture in estuarine ecosystems of Andalusia (Spain). *Food Microbiology*, vol. 90. DOI 10.1016/j.fm.2020.103498

This study was aimed at characterizing microbiologically Gilthead sea bream (Sparus aurata) and Sea bass (Dicentrarchus labrax) produced in two estuarine ecosystems in Andalusia (Spain): the estuary of the river Guadalquivir (La Puebla del Río, Sevilla) (A), and the estuary of the river Guadiana (Ayamonte, Huelva) (B). The collected fish individuals and water were analysed for hygiene indicator microorganisms and pathogens. The statistical analysis of results revealed that microbial counts for the different microbiological parameters were not statistically different for fish type. On the contrary, considering anatomic part, viscera showed significantly higher concentrations for Enterobacteriaceae, total coliforms and for Staphylococcus spp. coagulase +. Furthermore, location A showed in water and fish higher levels for lactic acid bacteria, aerobic mesophilic bacteria, Enterobacteriaceae, total coliforms and Staphylococcus spp. coagulase +. Neither Listeria monocytogenes, nor Salmonella spp. were detected, though Vibrio parahaemolyticus was identified, molecularly, in estuarine water in location B. The predictive analysis demonstrated that the initial microbiological quality could have an impact on product shelf-life, being longer for location B, with better microbiological quality. Results stress the relevance of preventing the microbiological contamination of water in estuary production systems in order to assure the quality and safety of Gilthead sea bream and Sea bass. © 2020 Elsevier Ltd

CORTÉS COPETE, J.M., 2020. Itálica, la patria del emperador Adriano. En: Andalucía en la historia, *Andalucía en la historia*, no. 67, pp. 60-65. ISSN 1695-1956.

A mediados del s. II d. C., cuando los barcos remontaban el Guadalquivir buscando el puerto de Híspalis, sus pasajeros podían admirar, pocas millas más arriba, una de las maravillas del Imperio: la Colonia Elia Augusta Itálica. Sobre los collados en los que se había construido, sobresalía un magnífico templo, sin igual en la provincia, casi sin parangón en el Imperio. Con más de veinte metros de altura, aquel fabuloso templo italicense, hecho de mármol, recordaba a ñps navegantes que aquella era la fabulosa patria del emperador Adriano, de aquel que « había llegado al más alto grado de piedad hacia los dioses e hizo todio por la felicidad de sus súbditos» como afirmó el historiador Pausanias. Apenas veinte años antes, nada de aquella maravilla existía.

COSTA JUNIOR, C.J., GARCIA-CINTADO, A.C. y USABIAGA, C., 2020. Fiscal Adjustments and the Shadow Economy in an Emerging Market. *Macroeconomic Dynamics*, DOI 10.1017/S1365100519000828

We build an open-economy dynamic stochastic general equilibrium (DSGE) model that

allows us to: (i) derive a time series for labor informality in Brazil spanning the period 2004-2018, whose evolution is consistent with the behavior of the main series provided by Pesquisa Nacional por Amostra de Domicílios (PNAD); (ii) run dynamic simulations showing that, in the presence of a large informal labor market (around 50% of the total labor force), expenditure-cutting measures lead, at worst, to mild short-run recessions in the formal sector and are likely to foster public debt sustainability. Likewise, adjustments through some kinds of distortionary taxation, mainly the corporate tax, and to a lesser extent, the consumption tax, also seem to improve both public debt dynamics and fiscal collection without a significant cost in terms of output. Thus, in countries with large informal economies experiencing fiscal woes, expenditure-based consolidations, as well as some sorts of tax-based adjustments, should be relied upon. © Cambridge University Press 2020.

COUREL-IBANEZ, J., MARTINEZ-CAVA, A., HERNANDEZ-BELMONTE, A., GONZALEZ-BADILLO, J.J. y PALLARES, J.G., 2020. Technical Note on the Reliability of the PowerLift App for Velocity-Based Resistance Training Purposes: Response. *Annals of Biomedical Engineering*, vol. 48, no. 1, pp. 6-8. ISSN 0090-6964. DOI 10.1007/s10439-019-02305-1.

CREUS-MUNCUNILL, J., BADILLOS-RODRIGUEZ, R., GARCIA-FORN, M., MASANA, M., GARCIA-DIAZ BARRIGA, G., GUISADO-CORCOLL, A., ALBERCH, J., MALAGELADA, C., DELGADO-GARCIA, J.M., GRUART, A. y PEREZ-NAVARRO, E., 2019. Increased translation as a novel pathogenic mechanism in Huntington's disease. *Brain*, vol. 142, no. 10, pp. 3158-3175. ISSN 0006-8950. DOI 10.1093/brain/awz230.

Huntington's disease is a neurodegenerative disorder caused by a CAG repeat expansion in exon 1 of the huntingtin gene. Striatal projection neurons are mainly affected, leading to motor symptoms, but molecular mechanisms involved in their vulnerability are not fully characterized. Here, we show that eIF4E binding protein (4E-BP), a protein that inhibits translation, is inactivated in Huntington's disease striatum by increased phosphorylation. Accordingly, we detected aberrant de novo protein synthesis. Proteomic characterization indicates that translation specifically affects sets of proteins as we observed upregulation of ribosomal and oxidative phosphorylation proteins and downregulation of proteins related to neuronal structure and function. Interestingly, treatment with the translation inhibitor 4EGI-1 prevented R6/1 mice motor deficits, although corticostriatal long-term depression was not markedly changed in behaving animals. At the molecular level, injection of 4EGI-1 normalized protein synthesis and ribosomal content in R6/1 mouse striatum. In conclusion, our results indicate that dysregulation of protein synthesis is involved in mutant huntingtin-induced striatal neuron dysfunction.

CRUZ MOYA, O., 2020. De "lobos solitarios" a "carpas africanas": estrategias de despersonalización en las metáforas empleadas por el discurso periodístico en

torno a los refugiados. En: Tonos digital: Revista de estudios filológicos, *Tonos digital: Revista de estudios filológicos*, no. 38, pp. 9- 0. ISSN 1577-6921.

In this paper we analyse themetaphors referred to refugees in Spanishnewspapers during 2015. The newsbelongstothe DIPUREcorpus,devotedto the study of public discourse on refugees in Spain. Using theclassification of metaphors into source and target domains, we sort out thesamples and interpret them pointing at depersonalisation as the main socio-semiotic category.

CRUZADA, S.M., RUIZ-BALLESTEROS, E. y CAMPO TEJEDOR, A. del, 2019. Deception in practice Hunting and bullfighting entanglements in southern Spain. *HAU-Journal of Ethnographic Theory*, vol. 9, no. 3, pp. 514-528. ISSN 2575-1433. DOI 10.1086/706804.

Deception is a recurrent strategy deployed in the relations between human beings, between humans and animals, and even between animals, and is normally analyzed from a perspective that emphasizes its discursive nature and certain of its ontological, epistemological and axiological effects. According to this orthodox view, deception falsifies, distorts, and conceals reality; it thus equates to a lie and is consequently devalued by it. An analysis of two ethnographic contexts of human-animal relations in southern Spain-partridge hunting and bullfighting-allows us to go beyond such a univocal and simple notion of deception. Through our analysis we wish to problematize and reconceptualize that notion, in a way that considers it as a practice and even as a resource; as a form of knowledge that fosters interaction and the generation of singular frameworks of experience, in which reality, the product of that deception, is lived-paradoxically-in terms of truth.

CUENCA MARTAGÓN, A., 2020. Ibuprofen versus prostaglandins synthesis. En: MoleQla: revista de Ciencias de la Universidad Pablo de Olavide, *MoleQla: revista de Ciencias de la Universidad Pablo de Olavide*, no. 36, pp. 8- 0. ISSN 2173-0903.

Enzymes are special proteins that catalyse most of biological processes in our body. Their activity is governed by Michaelis-Menten mechanism which defines different parameters. Some of the enzymes can increase or decrease their activityin presence of specific molecules, as inhibitors. This article discusses, in particular, the characterization of prostaglandinsformation enzymes and the effect of ibuprofen as an inhibitor of enzymes related to prostaglandins synthesis ascyclooxygenases (COX)

CUETOS, A., MORILLO, N. y MARTĹNEZ-HAYA, B., 2020. Coadsorption of Counterionic Colloids at Fluid Interfaces: A Coarse-Grained Simulation Study of Gibbs Monolayers. *Langmuir*, vol. 36, no. 11, pp. 2877-2885. DOI 10.1021/acs.langmuir.9b03886

Monolayers of oppositely charged colloids form versatile self-organizing substrates, with a recognized potential to tailor functional interfaces. In this study, a coarse-grained Monte Carlo simulation approach is laid out to assess the structural properties of Gibbs monolayers, in which one of the counterionic species is partially soluble. It is shown that the composition of this type of monolayer varies in a nontrivial way with surface coverage, as a result of a subtle competition between steric and attractive forces. In the regime of weak electrostatic interactions, the monolayer is depleted of soluble colloids as the surface coverage is increased. At sufficiently strong interactions, the incorporation of soluble colloids is favored at high surface coverage, leading to a re-entrant-type behavior in the expansion/compression isotherms. Strong electrostatic interactions also favor the clustering of the colloids, leading to a range of aggregated configurations, qualitatively resembling those obtained in previous experimental studies. At sufficiently high surface coverage, the clusters collapse into a gel-like percolated mesoscopic structure and eventually into a square crystal lattice configuration. Such interfacial structures are in good agreement with the ones observed in the few experimental investigations available for these systems, showing that the simple methodology introduced in this study provides a valuable predictive framework to anticipate the landscape of interfacial structures that may be produced with oppositely charged colloids, through the modulation of pair interactions and thermodynamical conditions. © 2020 American Chemical Society.

DE MORA, F.O., TERESA TERRÓN-CARO, M. y ROCÍO CÁRDENAS-RODRÍGUEZ, 2020. La invisibilidad de las mujeres migrantes. La vulneración de los derechos humanos. En: Derechos humanos desde la interdisciplinariedad en ciencias sociales y humanidades, *Derechos humanos desde la interdisciplinariedad en ciencias sociales y humanidades* [en línea]. S.l.: Dykinson S. L., pp. 279-290. ISBN 978-84-13-24651-2. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7302171.

DE VILLAR IGLESIAS, J.L., 2019. About the Presumed (and Questionable) Mudejar Origin of The Author of the Ta'rij Al-Fattas. *Historia. Instituciones. Documentos.*, no. 46, pp. 381-399. ISSN 0210-7716. DOI 10.12795/hid.2019.i46.12.

The Kati family happens to be one of the most dignitary in the city of Timbuktu, which is probably the most important political, economic and cultural center of the Western Sub-Saharan Africa since 13th century on. The mostly considered author of the Ta'rij al-Fa ttas, Ma.mud Kati, was part of this family. This chronicle is an essential source for the knowledge of the history of which Medieval Arabian writers called Bilad al-Sudan, the Country of Black People. The aim of this article is to review the tradition kept within the family, that Ma.mud Kati's father, descendant of a very old Andalusi lineage, settled in Western Sudan in the last third of 15th century, coming from the Iberian Peninsula.

DEL MORAL, G. y SUÁREZ-RELINQUE, C., 2020. Family categorization as a technique to support the analysis process that follows the grounded theory. *Gaceta Sanitaria*, vol. 34, no. 1, pp. 87-90. DOI 10.1016/j.gaceta.2018.09.007

An important aspect that requires special attention by researchers using qualitative methods is the construction of theoretical categories, or more specifically, the step between coding and categorization. One of the most structured methodological proposals used in health sciences is grounded theory. In this paper an analytical technique called "family categorization" is proposed. Its aim is to facilitate the steps of creating the initial categories, based on intra- and inter-family codes analysis. © 2018 SESPAS

DELGADO BAENA, J. y VELA JIMENEZ, R., 2019. Human rights, local development and education in contexts of social exclusion. *Cuadernos del CLAEH-Centro Latinoamericano de Economía Humana*, vol. 38, no. 110, pp. 155-178. ISSN 0797-6062. DOI 10.29192/claeh.38.2.8.

Education is an essential element to generate processes of struggle for human dignity in the territories, if it is understood as a cultural and liberation process, as explained by authors such as Paulo Freire and Herrera Flores. In areas of social exclusion, education presents different approaches and aspects, whereas the educational system is configured in a hegemonic way, within a neoliberal context based on homogeneous and universal educational models. However, as Freire points out, education as a practice of freedom is a dynamic and contextual construction that must start from the heterogeneity of the territories in order to generate processes that prevent social and human exclusion. In this sense, development and education could be defined as human rights, as emancipatory cultural processes towards human dignity.

DELGADO SERRANO, M. del M. y BORREGO-MARÍN, M.M., 2020. Drivers of innovation in groundwater governance. The links between the social and the ecological systems. En: Land use policy: The International Journal Covering All Aspects of Land Use, *Land use policy: The International Journal Covering All Aspects of Land Use*, no. 91, pp. 69- 0. ISSN 1873-5754. https://doi.org/10.1016/j.landusepol.2019.104368

Global groundwater overexploitation positions groundwater governance as a critical issue for improving sustainable water management. Evidence of aquifer recovery after overexploitation is scattered, as is the research on the drivers behind recovery. The Fuencaliente Aquifer in Spain faced a tragedy of the commons situation, but after an innovative governance arrangement was implemented, the aquifer is gradually recovering. In this research, we identify the drivers that made possible the emergence and acceptance of such an arrangement using the social-ecological system framework. We identified external drivers such as market incentives and limited enforcement capacity of the water authority as the main factors that led to groundwater depletion, but we also found that these same drivers, under a new regulatory framework that reinforced monitoring and sanctioning capacities, are

the basis for the effective recovery of the aquifer. Internal drivers such as the socioeconomic attributes of the users, their limited collective action and the power differences between traditional and commercial farmers are also critical in explaining the acceptance of the new governance arrangement. Even if these drivers are context-specific, we identified innovations that might be transferable and contribute to the literature on good practices in groundwater governance and management.

DELGADO-BAQUERIZO, M., REICH, P.B., TRIVEDI, C., ELDRIDGE, D.J., ABADES, S., ALFARO, F.D., BASTIDA, F., BERHE, A.A., CUTLER, N.A., GALLARDO, A., GARCIA-VELAZQUEZ, L., HART, S.C., HAYES, P.E., HE, J.-Z., HSEU, Z.-Y., HU, H.-W., KIRCHMAIR, M., NEUHAUSER, S., PEREZ, C.A., REED, S.C., SANTOS, F., SULLIVAN, B.W., TRIVEDI, P., WANG, J.-T., WEBER-GRULLON, L., WILLIAMS, M.A. y SINGH, B.K., 2020. Multiple elements of soil biodiversity drive ecosystem functions across biomes. *Nature Ecology & Evolution*, vol. 4, no. 2, pp. 210-220. ISSN 2397-334X. DOI 10.1038/s41559-019-1084-y.

The role of soil biodiversity in regulating multiple ecosystem functions is poorly understood, limiting our ability to predict how soil biodiversity loss might affect human wellbeing and ecosystem sustainability. Here, combining a global observational study with an experimental microcosm study, we provide evidence that soil biodiversity (bacteria, fungi, protists and invertebrates) is significantly and positively associated with multiple ecosystem functions. These functions include nutrient cycling, decomposition, plant production, and reduced potential for pathogenicity and belowground biological warfare. Our findings also reveal the context dependency of such relationships and the importance of the connectedness, biodiversity and nature of the globally distributed dominant phylotypes within the soil network in maintaining multiple functions. Moreover, our results suggest that the positive association between plant diversity and multifunctionality across biomes is indirectly driven by soil biodiversity. Together, our results provide insights into the importance of soil biodiversity for maintaining soil functionality locally and across biomes, as well as providing strong support for the inclusion of soil biodiversity in conservation and management programmes. Combining field data from 83 sites on five continents, together with microcosm experiments, the authors show that nutrient cycling, decomposition, plant production and other ecosystem functions are positively associated with a higher diversity of a wide range of soil organisms.

DELGADO-CHAVES, F.M., GOMEZ-VELA, F., GARCIA-TORRES, M., DIVINA, F. y VAZQUEZ NOGUERA, J.L., 2019. Computational Inference of Gene Co-Expression Networks for the identification of Lung Carcinoma Biomarkers: An Ensemble Approach. *Genes*, vol. 10, no. 12. DOI 10.3390/genes10120962.

Gene Networks (GN), have emerged as an useful tool in recent years for the analysis of different diseases in the field of biomedicine. In particular, GNs have been widely

applied for the study and analysis of different types of cancer. In this context, Lung carcinoma is among the most common cancer types and its short life expectancy is partly due to late diagnosis. For this reason, lung cancer biomarkers that can be easily measured are highly demanded in biomedical research. In this work, we present an application of gene co-expression networks in the modelling of lung cancer gene regulatory networks, which ultimately served to the discovery of new biomarkers. For this, a robust GN inference was performed from microarray data concomitantly using three different co-expression measures. Results identified a major cluster of genes involved in SRP-dependent co-translational protein target to membrane, as well as a set of 28 genes that were exclusively found in networks generated from cancer samples. Amongst potential biomarkers, genes NCKAP1L and D MD are highlighted due to their implications in a considerable portion of lung and bronchus primary carcinomas. These findings demonstrate the potential of GN reconstruction in the rational prediction of biomarkers.

DESOTO, L., CAILLERET, M., STERCK, F., JANSEN, S., KRAMER, K., ROBERT, E.M.R., AAKALA, T., AMOROSO, M.M., BIGLER, C., CAMARERO, J.J., ČUFAR, K., GEA-IZQUIERDO, G., GILLNER, S., HAAVIK, L.J., HEREŞ, A.-M., KANE, J.M., KHARUK, V.I., KITZBERGER, T., KLEIN, T., LEVANIČ, T., LINARES, J.C., MÄKINEN, H., OBERHUBER, W., PAPADOPOULOS, A., ROHNER, B., SANGÜESA-BARREDA, G., STOJANOVIC, D.B., SUÁREZ, M.L., VILLALBA, R. y MARTÍNEZ-VILALTA, J., 2020. Low growth resilience to drought is related to future mortality risk in trees. *Nature Communications*, vol. 11, no. 1. DOI 10.1038/s41467-020-14300-5

Severe droughts have the potential to reduce forest productivity and trigger tree mortality. Most trees face several drought events during their life and therefore resilience to dry conditions may be crucial to long-term survival. We assessed how growth resilience to severe droughts, including its components resistance and recovery, is related to the ability to survive future droughts by using a tree-ring database of surviving and now-dead trees from 118 sites (22 species, >3,500 trees). We found that, across the variety of regions and species sampled, trees that died during water shortages were less resilient to previous non-lethal droughts, relative to coexisting surviving trees of the same species. In angiosperms, drought-related mortality risk is associated with lower resistance (low capacity to reduce impact of the initial drought), while it is related to reduced recovery (low capacity to attain pre-drought growth rates) in gymnosperms. The different resilience strategies in these two taxonomic groups open new avenues to improve our understanding and prediction of drought-induced mortality. © 2020, The Author(s).

DIAZ-DIEGO, J., MEDIANERO SOTO, F.J. y ZAVALA CEPEDA, J.M., 2019. Authorship and Otherness in Francisco Echaurren's Diaries from his Voyage Around the World. *Atenea*, no. 520, pp. 127-145. ISSN 0718-0462.

Francisco Echaurren's diaries from his voyage around the world (1852-1857) are the oldest extant example of this genre from a Chilean traveler. In order to deepen our

understanding of this work, we explore the social and political profile of the author, the diaries' structure and literary style, and the links between authorship and the representation of otherness through Echaurren's descriptions of local elites, servants, and guides. The diaries are characterized by their candor and intimacy, as they were written as a personal record of the journey but not meant to be published. We conclude by emphasizing the work's embodiment of modern values, such as a predilection for adventure, exoticism and the subject's centrality, as well as the scriptural strategies that reveal the author's class bias in the construction of otherness.

DIOS, R. de, RIVAS-MARIN, E., SANTERO, E. y REYES-RAMÍREZ, F., 2020. Two paralogous EcfG σ factors hierarchically orchestrate the activation of the General Stress Response in Sphingopyxis granuli TFA. *Scientific Reports*, vol. 10, no. 1. DOI 10.1038/s41598-020-62101-z

Under ever-changing environmental conditions, the General Stress Response (GSR) represents a lifesaver for bacteria in order to withstand hostile situations. In α-proteobacteria, the EcfG-type extracytoplasmic function (ECF) σ factors are the key activators of this response at the transcriptional level. In this work, we address the hierarchical function of the ECF σ factor paralogs EcfG1 and EcfG2 in triggering the GSR in Sphingopyxis granuli TFA and describe the role of EcfG2 as global switch of this response. In addition, we define a GSR regulon for TFA and use in vitro transcription analysis to study the relative contribution of each EcfG paralog to the expression of selected genes. We show that the features of each promoter ultimately dictate this contribution, though EcfG2 always produced more transcripts than EcfG1 regardless of the promoter. These first steps in the characterisation of the GSR in TFA suggest a tight regulation to orchestrate an adequate protective response in order to survive in conditions otherwise lethal. © 2020, The Author(s).

DOMINGUEZ ROBLES, J., ESPINOSA VICTOR, E., PALENZUELA RUIZ, M.D.V., EUGENIO MARTIN, M.E., RODRIGUEZ PASCUAL, A. y ROSAL RAYA, A., 2020. Evaluation of the Potential of Alternative Vegetable Materials for Production of Paper Through Kraft Processes. *Cellulose Chemistry and Technology*, vol. 54, no. 1-2, pp. 73-81. ISSN 0576-9787. DOI 10.35812/CelluloseChemTechnol.2020.54.08.

The use of biomass resources different from conventional wood materials fosters the sustainable growth of the paper industrial sector and finds a development path in line with the concept of circular bioeconomy. In this work, six non-wood materials (Leucaena leucocephala, tagasaste, rice straw, Paulownia fortunei, Hesperaloe funifera and empty fruit bunches) were tested and compared to Eucalyptus globulus for paper production under Kraft conditions. All the raw materials were chemically characterized to determine holocellulose, cellulose, Klason lignin, ash, hot water solubles, 1% soda solubles and ethanol-benzene extractives. In addition, a biometric test was performed to determine the length and the width of the fibres.

The cellulosic pulps obtained from the raw materials were characterized to determine their yield, viscosity, Kappa number and drainage index. As regards the paper sheets made from the cellulosic pulps, they were characterized to determine brightness, stretch and tear index. A comparison of the results suggests that these non-wood species can be used for papermaking, under Kraft operating conditions, when high-brightness paper is not required.

DORADO-RUBIN, M.J. y GUERRERO-MAYO, M.J., 2019. Elderly Well-Being. En: BERICAT, E. AND JIMENEZ, RODRIGO, ML (ed.), *Quality of European Societies: A Compilation of Composite Indicators*. S.l.: s.n., Social Indicators Research Series, pp. 271-293. ISBN 978-3-030-05023-8.

DUCHON, A., GRUART, A., ALBAC, C., DELATOUR, B., ZORRILLA DE SAN MARTIN, J., DELGADO-GARCÍA, J.M., HÉRAULT, Y. y POTIER, M.-C., 2020. Long-lasting correction of in vivo LTP and cognitive deficits of mice modelling Down syndrome with an α5-selective GABAA inverse agonist. *British Journal of Pharmacology*, vol. 177, no. 5, pp. 1106-1118. DOI 10.1111/bph.14903

Background and Purpose: Excessive GABAergic inhibition contributes to cognitive dysfunctions in Down syndrome (DS). Selective negative allosteric modulators (NAMs) of α5-containing GABAA receptors such as the α5 inverse agonist (α5IA) restore learning and memory deficits in Ts65Dn mice, a model of DS. In this study we have assessed the long-lasting effects of α5IA on in vivo LTP and behaviour in Ts65Dn mice. Experimental Approach: We made in vivo LTP recordings for six consecutive days in freely moving Ts65Dn mice and their wild-type littermates, treated with vehicle or α5IA. In parallel, Ts65Dn mice were assessed by various learning and memory tests (Y maze, Morris water maze, or the novel object recognition) for up to 7 days, following one single injection of α5IA or vehicle. Key Results: LTP was not evoked in vivo in Ts65Dn mice at hippocampal CA3-CA1 synapses. However, this deficit was sustainably reversed for at least six consecutive days following a single injection of α5IA. This long-lasting effect of α5IA was also observed when assessing working and long-term memory deficits in Ts65Dn mice. Conclusion and Implications: We show for the first time in vivo LTP deficits in Ts65Dn mice. These deficits were restored for at least 6 days following acute treatment with α5IA and might be the substrate for the long-lasting pharmacological effects of α5IA on spatial working and long-term recognition and spatial memory tasks. Our results demonstrate the relevance of negative allosteric modulators of α5-containing GABAA receptors to the treatment of cognitive deficits associated with DS. © 2019 The Authors. British Journal of Pharmacology published by John Wiley & Sons Ltd on behalf of British Pharmacological Society

EGUIZÁBAL ROMÁN, I.A., LUQUE DE LA ROSA, A., ORDÓÑEZ OLMEDO, E. y FERNÁNDEZ MARTÍNEZ, M. del M., 2020. El software social y el uso de las redes como herramienta didáctica en el contexto universitario. En: Aproximación periodística y educomunicativa al fenómeno de las redes sociales, *Aproximación*

periodística y educomunicativa al fenómeno de las redes sociales [en línea]. S.l.: McGraw-Hill Interamericana de España, pp. 493-504. ISBN 978-84-486-2035-6. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7277158.

ESCOBAR, M. del C.M., OJEDA-RIVERA, J.F. y SANJUAN, L.G., [sin fecha]. Effects of Roman Rule on The Settlement Geography of South Iberia: A Gis-Based Approach. *Oxford Journal of Archaeology*, ISSN 0262-5253. DOI 10.1111/ojoa.12187.

In the last years, the matter of the Romanization of Baetica has started to receive more attention, thus reactivating a topic largely assumed to be unproblematic in earlier approaches. Stemming from this interest, the present paper reviews theoretical and methodological approaches applied so far in the study of Roman rule in Baetica, before proposing new conceptualizations, research methods and insights that should clarify the development of this process of cultural change in this province. For this purpose, a GIS-based approach combining archaeological and geographic data is used to explore the settlement patterns and their diachronic transformation in two designated study areas (west Sierra Morena and Lands of Antequera). This approach provides the basis for a fresh understanding on how the local communities were transformed following the Roman intervention in southern Iberia.

ESPASANDIN-BUSTELO, F., PALACIOS-FLORENCIO, B. y SÁNCHEZ-RIVAS GARCÍA, J., 2020. CSR intellectual structure in management and tourism. *TQM Journal*, DOI 10.1108/TQM-06-2019-0173

Purpose: Corporate social responsibility (CSR) research intellectual structures are analysed and compared on the basis of the main international journals of management and tourism. Design/methodology/approach: Document co-citation, author co-citation and word co-occurrence are carried out using UCINET and NODEXL, software for social network analysis (SNA). Findings: Differences and similarities between both research fields are provided, study limitations are pointed out and future research lines are suggested. Originality/value: The main works concerning the topic of CSR are identified for each area of knowledge management and tourism. These are the basis for constructing the corresponding knowledge, and co-citation patterns among them are shown graphically. © 2019, Emerald Publishing Limited.

ESPINOSA, E., BASCON-VILLEGAS, I., ROSAL, A., PEREZ-RODRIGUEZ, F., CHINGA-CARRASCO, G. y RODRIGUEZ, A., 2019. PVA/(ligno)nanocellulose biocomposite films. Effect of residual lignin content on structural, mechanical, barrier and antioxidant properties. *International Journal of Biological Macromolecules*, vol. 141, pp. 197-206. ISSN 0141-8130. DOI 10.1016/j.ijbiomac.2019.08.262.

Nanocelluloses with and without residual lignin were isolated from wheat straw. In

addition, the effect of TEMPO-mediated oxidation on the production of lignin-containing nanocellulose was studied. The different nanocelluloses were used as reinforcing agent in Poly(vinyl alcohol) films. The morphology, crystallinity, surface microstructure, barrier properties, light transmittance, mechanical and antioxidant properties were evaluated. The translucency of films was reduced by the addition of nanocellulose, however, the ability to block UV-light increased from 10% for PVA to >50% using lignin-containing nanocellulose, and 30% for lignin-free samples. The mechanical properties increased considerably, however, for loads higher than 5% a negative trend was observed presumptively due to a clustering of nanocellulose components in PVA matrix. The barrier properties of the films were improved with the use of nanocellulose, especially at small amounts (1-3%). The antioxidant capacity of films was increased up to 10% using lignin-containing nanocellulose compared to 4.7% using PVA. (C) 2019 Elsevier B.V. All rights reserved.

ESTERHUIZEN, N., FORRESTER, J., ESLER, K.J., WIGLEY-COETZEE, C., MORCILLO, R.J., KLEINERT, A., PEREZ-FERNANDEZ, M. y VALENTINE, A.J., [sin fecha]. Nitrogen and phosphorus influence Acacia saligna invasiveness in the fynbos biome. *Plant Ecology*, ISSN 1385-0237. DOI 10.1007/s11258-020-01010-7.

This study attempts to understand how invasive legumes such as Acacia saligna may compete with indigenous legumes such as Virgilia divaricata. The two species are trees with similar growth forms. We studied the competitive ability of invasive and indigenous seedlings under variations in soil phosphorus availability. South African fynbos vegetation is threatened by invasive Acacia. The indigenous tree legume, Virgilia, grows in similar phosphorus soil conditions as Acacia although there is a gap in the knowledge of their physiology. We investigated the utilization of different inorganic P sources by the invasive A. saligna and the native V. divaricata in the presence and absence of root nodules in each species. Plant performance in terms of photosynthesis and biomass production was also analysed. Plants were cultivated in silica sand supplied with Long Ashton nutrient solution, modified to contain either 50 mu M P or 500 mu M P applied as NaH2PO4 center dot 2H(2)O. Rate of growth was estimated as the increase in mass in plants harvested after 4 and 8 weeks of growth. After 4 weeks of growth, the seedlings of Virgilia grew quicker and produced more biomass than Acacia, under both phosphorus conditions. However, this was reversed after 8 weeks of growth, with Acacia out-competing Virgilia. Increased growth of the invasive legumes was achieved by relying on soil nitrogen under high phosphorus conditions and shifting to atmospheric sources under lower phosphorus levels. The strategies of altering photosynthetic carbon balance and nitrogen acquisition under varying soil phosphorus conditions potentially underpin the invasive potential of Acacia in fynbos soils.

FALCES PRIETO, M., GONZALEZ FERNANDEZ, F.T., BAENA MORALES, S., BENITEZ JIMENEZ, A., MARTIN BARRERO, A., CONDE FERNANDEZ, L., SUAREZ ARRONES, L. y SAEZ DE VILLARREAL, E., 2020. Effects of a

Strength Training Program with Self Loading on Countermovement Jump Performance and Body Composition in Young Soccer Players. *Journal of Sport And Health Research*, vol. 12, no. 1, pp. 112-124. ISSN 1989-6239.

The purpose of this study was to investigate the effects of self-loading strength training program (SLSTP) on countermovement jump performance (CMJ) and body composition (BC) in young soccer players. 60 young soccer players were distributed in 4 groups [U16 14,67 +/- 0,49 years); U17 (15,73 +/- 0,46); U18 (16,67 +/- 0,82); U19 (18,27 +/- 0,46)]. Completed a strength training program with self-loading during 8 weeks with weekly training frequency of 2 sessions of 1 hour per week. CMJ performed with the app My Jump (R) and BC were analyzed with Bioelectrical Impedance Analysis method (BIA). Data were collected pre- and post-intervention. The effect size (ES) was calculated and a level of significance of $p<0,05$. The main results of the study showed a significant increase in U19 group ($p<0.01$) in CMJ performance. A significant decrease in body mass in U17 group ($p<0.001$). U17 and U19 groups showed a significant decrease in % fat mass ($p<0.001$) and, finally, there was a significant increase in lean mass ($p<0.001$) in all groups. The present study confirms that the strength training with self-loading is a valid method to produce changes at the neuromuscular level and modification of body composition in young soccer players.

FERNÁNDEZ, A.M., GUTIÉRREZ-AVILÉS, D., TRONCOSO, A. y MARTÍNEZ-ÁLVAREZ, F., 2020. Real-Time Big Data Analytics in Smart Cities from LoRa-Based IoT Networks. *Advances in Intelligent Systems and Computing*, vol. 950, pp. 91-100. DOI 10.1007/978-3-030-20055-8_9

The currently burst of the Internet of Things (IoT) technologies implies the emergence of new lines of investigation regarding not only to hardware and protocols but also to new methods of produced data analysis satisfying the IoT environment constraints: a real-time and a big data approach. The Real-time restriction is about the continuous generation of data provided by the endpoints connected to an IoT network; due to the connection and scaling capabilities of an IoT network, the amount of data to process is so high that Big data techniques become essential. In this article, we present a system consisting of two main modules. In one hand, the infrastructure, a complete LoRa based network designed, tested and deployment in the Pablo de Olavide University and, on the other side, the analytics, a big data streaming system that processes the inputs produced by the network to obtain useful, valid and hidden information. © 2020, Springer Nature Switzerland AG.

FERNÁNDEZ AMAYA, L. y HERNÁNDEZ LÓPEZ, M. de la O., 2020. La cortesía 1. En: Guía práctica de pragmática del español, *Guía práctica de pragmática del español* [en línea]. S.l.: Routledge, pp. 115-124. ISBN 978-0-8153-5772-8. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7145866.

FERNÁNDEZ, E.M., 2020. The accents of the environment: Processes of

environmentalisation, social force and discursive articulation in the andalusian Sierra Morena. *Etnografica*, vol. 24, no. 1, pp. 49-68. DOI 10.4000/etnografica.8206

The embracing of environmental practices and languages by the agrarian sectors that inhabit natural protected areas is a phenomenon broadly confirmed by anthropological literature. This article analyses the specific version of that process encountered among farmers of a natural park located in the Andalusian Sierra Morena. That "environmentalisation," it is argued, is closely linked to the weight that state interventions – and its transformations – have on the shaping of local reality. Moreover, the phenomenon takes place mainly within the arenas of confrontation between farmers and agents of those interventions. The article explores the relationality of the environmental significant within those struggles and highlights the relevance of its articulation with key elements of "common sense" (in a Gramscian sense). These discourses, it is argued, are able to re-signify the premises of "institution-alised" environmental narratives, thus shaping new grassroots environmentalisms.

FERNÁNDEZ, F., ORTEGA, P.G., SEGOVIA, J. y ENTEM, D.R., 2020. Description of the (formula presented) Exotics States in a Quark Model Coupled Channel Calculation. *Springer Proceedings in Physics*. S.l.: s.n., pp. 697-700. DOI 10.1007/978-3-030-32357-8_111

The nature of the (formula presented) and (formula presented) is analyzed in a coupled-channels calculation, including (formula presented), (formula presented) and (formula presented) channels, performed in the framework of a constituent quark model and the Resonating Group Method. The interactions among the different channels are dominated by the non-diagonal terms, which indicates the (formula presented) and the (formula presented) are unusual structures. The study of the analytic structure of the S-matrix on the complex energy plane leads us to conclude that the behaviour of the line shapes in the (formula presented) and the (formula presented) invariant mass distributions is due to the presence of virtual states.

FERNANDEZ GARCIA, M., HERNANDEZ CONDE, M. y BARRAGAN ROBLES, V., 2019. Breaking consensus: virtual communities and counter-hegemonic discourse in the movement against touristification in Seville. *IC-Revista Cientifica de Informacion y Comunicacion*, no. 16, pp. 285-323. ISSN 1696-2508. DOI 10.12795/IC.2019.i01.09.

Urban tourism boom is causing a series of unwanted effects on neighborhoods. According to Lefebvre. the city is increasingly seen as a commodity. In this context, new urban movements opposing this vision and its consequences are emerging. They pose a counterhegemonic discourse, use new digital tools and the practice ciberactivism.

FERNÁNDEZ SÁNCHEZ-ALARCOS, R., 2020. Algunos apuntes literarios sobre el estatus periférico español frente a Norteamérica como centro de la modernidad: de Valera a Muñoz Molina, pasando por Galdós y Blasco Ibáñez. En: España, Norteamérica y tiempos de crisis, *España, Norteamérica y tiempos de crisis* [en línea]. S.l.: Los Libros de la Catarata, pp. 185-201. ISBN 978-84-9097-930-3. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7261708.

FERNANDEZ-AMAYA, L., 2019. Disagreement and (im)politeness in a Spanish family members' WhatsApp group. *Vestnik Rossiiskogo Universiteta Druzhby Narodov-Seriya Lingvistika-Russian Journal of Linguistics*, vol. 23, no. 4, pp. 1065-1087. ISSN 2312-9182. DOI 10.22363/2687-0088-2019-23-4-1065-1087.

The present paper explores disagreement and impoliteness in a WhatsApp interaction within a Spanish family that took place during the 2018 International Women's Day. The conversation is linguistically examined using categories of disagreement strategies proposed by previous authors (Pomerantz 1984, Brown and Levinson 1987, Rees-Miller 2000, Locher 2004, Kreutel 2007, Malamed 2010, Shum and Lee 2013). Furthermore, multimodal analysis (Dresner and Herring 2010, 2013, Jewitt 2013, Bourlai and Herring 2014; Herring 2015) is used to consider not only participants' linguistic strategies for expressing disagreement, but also the function of multimedia elements and emojis (Dresner and Herring 2010, 2013, Yus 2014, 2017, Sampietro 2016a, 2016b, Aull 2019). The analysis is followed by an interview to better understand the participants' communicative intentions towards disagreements in relation to (im)politeness. A total of 427 instances of disagreement are identified, with the most common strategies being giving opposite opinions and emotional or personal reasons. This is to be expected since the group is divided from the very beginning into detractors and supporters of feminism, and they are also defending their opposite viewpoints by giving examples from their own life experience. Based on the participants' opinions, the most significant result is the fact that, although disagreement may lead to face-threat, and thus impoliteness in other contexts (Langlotz and Locher 2012, Sifianou 2012, Shum and Lee 2013), in this WhatsApp interaction, the Spanish family members did not consider it to be impolite, and it is even evaluated in positive terms by some of the participants (Angouri and Locher 2012).

FERNÁNDEZ-LÓPEZ, I. y ROJANO-ORTEGA, D., 2020. Lower Limb Biomechanical Factors Related to Running Injuries: A Review and Practical Recommendations. *Strength and Conditioning Journal*, vol. 42, no. 1, pp. 24-38. DOI 10.1519/SSC.0000000000000497

The objective of this review is to analyze some of the biomechanical factors involved in the most common running injuries: Anterior knee pain, iliotibial band syndrome, Achilles tendinopathy, and medial tibial stress syndrome/tibial stress fracture. Eighteen studies met all inclusion criteria. Results showed that there is little consistent evidence in the literature to connect any biomechanical anomaly to any given running injury, except for female runners with patellofemoral pain who

have an increased peak hip adduction angle at stance phase. This review suggests that assessing and treating hip mechanics could help to prevent knee injuries in female runners. © 2020 National Strength and Conditioning Association.

FERNANDEZ-RODRIGUEZ, M.J., LAMA-CALVENTE, D. de la, JIMENEZ-RODRIGUEZ, A., BORJA, R. y RINCON-LLORENTE, B., 2019. Anaerobic co-digestion of olive mill solid waste and microalga Scenedesmus quadricauda: effect of different carbon to nitrogen ratios on process performance and kinetics. *Journal of Applied Phycology*, vol. 31, no. 6, pp. 3583-3591. ISSN 0921-8971. DOI 10.1007/s10811-019-01858-x.

Anaerobic digestion (AD) is one of the most efficient processes for treating agri-food waste in order to obtain renewable energy. Olive mill solid waste (OMSW) is the main residue from the two-phase olive oil manufacturing process; it has a high organic content and high C/N ratio, which hinders its AD, giving low methane yield. In the present study, a microalga, Scenedesmus quadricauda, was used as co-substrate for the AD of OMSW to compensate for its nitrogen deficiency. The robustness and the high growth rate of S. quadricauda make this microalga a potential source of nitrogen to co-digest with carbon-rich substrates. Different co-digestion mixtures of OMSW-microalgae and the single substrates were tested. For all co-digestion mixtures, the alkalinity value at the end of the experiment remained below 4889 +/- 245 mg CaCO3 L-1 and pH in the range of 7.50-7.67 indicating stability and good process performance. Results showed the highest methane yield (461 mL CH4 STP g(-1) VS added) for the co-digestion mixture 75% OMSW-25% S. quadricauda (C/N = 25.3), which was 104 and 23% higher than that obtained from the single microalga (C/N = 5.6) and OMSW (C/N = 31.9), respectively. No ammonia inhibition was detected despite the high protein content of the microalgae. The transference function model allowed for adequately fitting the experimental results of methane production with time in the anaerobic experiments. The highest maximum methane production rate, R-m, among the different co-digestion mixtures assayed was obtained for the mixture 75% OMSW-25% S. quadricauda with a value of 89 mL CH4 g(-1) VS day(-1).

FLORES-HERNÁNDEZ, J.A., CAMBRA-FIERRO, J.J. y VÁZQUEZ-CARRASCO, R., 2020. Sustainability, brand image, reputation and financial value: Manager perceptions in an emerging economy context. *Sustainable Development*, DOI 10.1002/sd.2047

Sustainability has become a fundamental concern in today' world—one which firms can no longer remain oblivious to. Through CSR, companies can shore up financial sustainability by acting in responsible, socially and environmentally sustainable ways. Yet the vast majority of literature addressing this phenomenon to date has focused almost exclusively on developed economies. The objective of the present study, therefore, is to contribute to filling this gap by analyzing the potential impact of CSR on sustainable financial value in the context of an emerging economy, Peru. To this end, we used the PLS technique to carry out quantitative analysis of data from a sample of over 200 managers at Peruvian companies. Our

model is based on the premises of Social Capital Theory and Theory of Resources. Specifically, we analyze the extent to which CSR impacts corporate reputation, brand image and financial value in the context of an emerging economy. Our data indicate that—unlike more developed economies—in emerging economy contexts, direct relationships linking CSR and company financial value are lacking, though may occur by way of the path CSR > reputation > brand image > financial value. We also find that size moderates this path, while the sector of activity does not moderate the causal model. Hence, we suggest that both the cross-cultural component and differing degrees of economic development and market maturity affect the perceived impact of CSR on financial value. The present study is pioneering in that it analyzes the impact of sustainability on financial value from the perspective of managers in an emerging economy context. Key theoretical and practical implications of our findings are provided in the final section of the paper. © 2020 John Wiley & Sons, Ltd and ERP Environment

FLORES-SÁNCHEZ, R., GÁMEZ, F., LOPES-COSTA, T. y PEDROSA, J.M., 2020. A Calixarene Promotes Disaggregation and Sensing Performance of Carboxyphenyl Porphyrin Films. *ACS Omega*, DOI 10.1021/acsomega.9b03612

The aggregation of a free base porphyrin, meso-tetrakis(4-carboxyphenyl)porphyrin and its Zn(II) derivative have been studied at the air/water interface in the presence of a p-tert-butylcalyx[8]arene matrix. The mixed Langmuir films were obtained either by premixing the compounds (cospreading) or by sequential addition. The negative deviation from the additivity rule of the cospread films is indicative of a comparatively good miscibility that was further confirmed by Brewster angle microscopy. The images of the cospread mixed films showed a more homogeneous morphology in comparison with those of pure porphyrin that is attributed to a deeper and earlier self-aggregation state at the interface of the latter. These results were similar for both porphyrins and revealed the disaggregating effect of the calixarene matrix. The orientation and association of the porphyrins were studied by UV-visible reflection spectroscopy at the interface. A different aggregation behavior can be inferred from the resulting spectra, and a higher orientational freedom was observed when the molecules were less aggregated in mixed cospreaded films. The disaggregating effect was retained when the films were transferred to solid supports as demonstrated by UV-visible spectroscopy. Finally, the potential use of these Langmuir-Blodgett films as optical gas sensors was tested against ammonia and amine vapors. The changes in the spectrum in the presence of the volatile compounds are higher for the Zn-porphyrin. The presence of calixarene enhances the sensor response due to the higher accessibility of volatiles to disaggregated porphyrins in the mixed films. The resulting changes were mapped into a numerical matrix that can be transformed into a color pattern to easily discriminate among these gases. © Copyright © 2020 American Chemical Society.

FRANCO-LEAL, N., CAMELO-ORDAZ, C., DIANEZ-GONZALEZ, J.P. y SOUSA-

GINEL, E., 2020. The role of social and institutional contexts in social innovations of spanish academic spinoffs. *Sustainability*, vol. 12, no. 3. DOI 10.3390/su12030906

Social innovations developed by academic spinoffs (ASOs) are acquiring an ever-increasing relevance in the literature on academic entrepreneurship. Previous studies have considered the importance of the social and institutional contexts of entrepreneurial ecosystems for the development of these innovations, although a greater depth of analysis is required in this field of study. This research analyzes the influence of the frequency of contact with agents of social and institutional contexts of the entrepreneurial ecosystem on the social innovations of ASOs. From a sample of 173 Spanish ASOs, the results indicate that frequent contact with government and academic support units improves this type of innovation of ASOs. Regarding social context, an increase in the frequency of contact with customers, suppliers, and competitors favors the development of social innovation. However, frequent contact with venture capital firms inhibits the development of this type of innovation. © 2020 by the authors.

FUENTES CABRERA, A., LÓPEZ BELMONTE, J., PARRA GONZÁLEZ, M.E. y MORALES CEVALLOS, M.B., 2020. Diseño, validación y aplicación de un cuestionario para medir la influencia de factores exógenos sobre la eficacia del aprendizaje invertido. En: Psychology, Society & Education, *Psychology, Society & Education*, vol. 1, no. 1, pp. 1-16. ISSN 1989-709X.

Los progresos acaecidos en materia tecnológica han provocado la aparición de nuevos modelos de aprendizaje en el mundo de la educación. Entre estos modelos se encuentra el aprendizaje invertido. El objetivo de este estudio pasa por diseñar y validar un instrumento para valorar la eficacia del aprendizaje invertido, así como por conocer la incidencia de determinadas variables sociales y exógenas en su aplicación. Para ello se ha seguido un método cuantitativo a través de un diseño experimental de corte longitudinal, descriptivo y correlacional, en una muestra de 360 discentes universitarios. Para la recogida de datos se ha empleado el cuestionario generado tras el proceso de validación. Los resultados obtenidos han permitido concluir que valores adecuados en el contexto familiar, motivación, autoestima y autonomía, inciden favorablemente en la eficacia del enfoque innovador. Asimismo, la edad y el desempeño laboral de los estudiantes también resultan influyentes. Y se ha podido determinar qué factores externos ejercen mayor incidencia sobre cada aspecto constitutivo de la eficacia del aprendizaje invertido.

FUENTES-LUQUE, A., 2020. Exploring Venezuela's audiovisual translation landscape. *Journal of Multicultural Discourses*, vol. 15, no. 1, pp. 104-117. DOI 10.1080/17447143.2020.1732396

Research on audiovisual translation (AVT) has so far been basically restricted to the European context, almost completely ignoring the Spanish-speaking countries in Latin America. Furthermore, the background and factors that influenced the

emergence and development of audiovisual translation modes in Spanish America have not been studied either thus far. The present article shows a review of the historical, social, political, technical and professional aspects that have shaped audiovisual translation in Venezuela, a key country in the evolution of AVT in Spanish America, and the influence of the so-called 'neutral Spanish'. The research is based, in part, on the nuclear testimonies of some of the main translators, revisers and managers of AVT in Venezuela. © 2020, © 2020 Informa UK Limited, trading as Taylor & Francis Group.

GALVEZ MUNOZ, L., RODRIGUEZ-MODRONO, P. y MATUS LOPEZ, M., 2020. Historical and gender analysis of unemployment in Spain, from dictatorship to democracy. *Historia Social*, no. 96, pp. 129+. ISSN 0214-2570.

Spain started the transformation of its economic model in the 1980s with a female labour force participation rate much lower than other Western European countries and an underdeveloped welfare state, what did not facilitate female entry to the labour market. This article applies a gender and historical analysis of the Spanish labor market to uncover the impact of Francoist regime heritage in the constant precarization of female work, particularly visible during economic crises, but also in expansionary phases.

GÁLVEZ-MUÑOZ, L., RODRÍGUEZ MODROÑO, P. y MATUS LÓPEZ, M., 2020. Análisis histórico y de género del paro en España, desde el franquismo a la España democrática. En: Historia social, *Historia social*, no. 96, pp. 129-147. ISSN 0214-2570.

España comenzó el cambio de modelo económico a partir de los años ochenta con una tasa de actividad femenina muy inferior a los países de su entorno y un estado de bienestar aún sin desarrollar, que no facilitaba la incorporación de las mujeres al empleo al no proporcionar servicios sociales y al no demandar mano de obra femenina. Este artículo aplica un análisis de género e histórico del mercado laboral español para poder descubrir la herencia del franquismo en la constante precarización del trabajo de las mujeres, especialmente visible en los distintos periodos de crisis económica sufridos en la España democrática, pero también en los periodos de bonanza.

GARCÍA MUÑOZ, M., 2020. Iniciativas de formación para incrementar el valor del trabajo y las oportunidades profesionales de los desempleados. En: Revista Internacional y Comparada de Relaciones Laborales y Derecho del Empleo, *Revista Internacional y Comparada de Relaciones Laborales y Derecho del Empleo*, vol. 8, no. 1, pp. 96-120. ISSN 2282-2313.

Due to its unique nature, the 'labour market' is regulated by economic and legal regulations, to facilitate the exchange of capital and the labour force. The labour

laws aim to compensate for the traditional imbalance from the inception of this relationship. One of the most important laws, which compensates for this imbalance, is the right to job training programs. These laws are essential to improve and enhance professional competency. On the job training benefits the economic environment. It also helps with new technology development and new labour organization models. Government based paid training programs also benefit the unemployed. The Spanish laws have established numerous paid training programs specifically benefiting the unemployed. The Spanish laws also protect employees based on age or other additional handicaps. The Spanish laws are coded to prevent that the services provided by workers are not seen just as mere commodity

GARCÍA PÉREZ, R., LÓPEZ CATALÁN, L. y MARTÍNEZ GIMENO, A., 2020. Defender los derechos de la infancia en el ámbito local: Una práctica innovadora de formación de líderes a favor de la infancia. En: IJERI: International journal of Educational Research and Innovation, *IJERI: International journal of Educational Research and Innovation*, no. 13, pp. 74-95. ISSN 2386-4303.

UNICEF (United Nations Children's Fund) has the mission of defending the rights of all children and adolescents and, among other actions, has been developing the International Child Friendly Cities initiative since 1996, whose objective is to apply the CDN at the local level. Getting a locality to be recognized as a «Child Friendly City» is a complex process in which the formation of the teams that participate (politicians, technicians, volunteers...) acquires a relevant role. This article presents the qualitative realization and evaluation of the Project called «Local Governments: The Rights of Children in Global Citizenship». The Project was approved in competitive competition and funded by the Andalusian Agency for International Development Cooperation (AACID), of the Junta de Andalucía. It exposes the on-line postgraduate training initiative as the Own Title of the «Master in Rights and Policies of Childhood in the Local Area» developed by the UNICEF Spanish Committee and the Pablo de Olavide University of Seville during the courses 2015-16 and 2016-17. The objective has been to train high-level professionals in the design, implementation and evaluation of programs and policies for the protection and promotion of the Rights of Children. Finally, the data extracted from the evaluation of the program and the most relevant conclusions after its implementation are presented.

GARCÍA RAMOS, A., GONZÁLEZ HERNÁNDEZ, J.M., BAÑOS PELEGRIN, E.J., CASTAÑO ZAMBUDIO, A., CAPELO RAMIREZ, F. y BOULLOSA ÁLVAREZ, D.A., 2020. Mechanical and Metabolic Responses to Traditional and Cluster Set Configurations in the Bench Press Exercise. En: Journal of strength and conditioning research: the research journal of the NSCA, *Journal of strength and conditioning research: the research journal of the NSCA*, vol. 34, no. 3, pp. 663-670. ISSN 1064-8011.

This study aimed to compare mechanical and metabolic responses between traditional (TR) and cluster (CL) set configurations in the bench press exercise. In a

counterbalanced randomized order, 10 men were tested with the following protocols (sets x repetitions [inter-repetition rest]): TR1: 3 x 10 (0-second), TR2: 6 x 5 (0-second), CL5: 3 x 10 (5-second), CL10: 3 x 10 (10-second), and CL15: 3 x 10 (15-second). The number of repetitions (30), interset rest (5 minutes), and resistance applied (10 repetition maximum) were the same for all set configurations. Movement velocity and blood lactate concentration were used to assess the mechanical and metabolic responses, respectively. The comparison of the first and last set of the training session revealed a significant decrease in movement velocity for TR1 (Effect size [ES]: -0.92), CL10 (ES: -0.85), and CL15 (ES: -1.08) (but not for TR2 [ES: -0.38] and CL5 [ES: -0.37]); while blood lactate concentration was significantly increased for TR1 (ES: 1.11), TR2 (ES: 0.90), and CL5 (ES: 1.12) (but not for CL10 [ES: 0.03] and CL15 [ES: -0.43]). Based on velocity loss, set configurations were ranked as follows: TR1 (-39.3 +/- 7.3%) > CL5 (-20.2 +/- 14.7%) > CL10 (-12.9 +/- 4.9%), TR2 (-10.3 +/- 5.3%), and CL15 (-10.0 +/- 2.3%). The set configurations were ranked as follows based on the lactate concentration: TR1 (7.9 +/- 1.1 mmol[middle dot]L-1) > CL5 (5.8 +/- 0.9 mmol[middle dot]L-1) > TR2 (4.2 +/- 0.7 mmol[middle dot]L-1) > CL10 (3.5 +/- 0.4 mmol[middle dot]L-1) and CL15 (3.4 +/- 0.7 mmol[middle dot]L-1). These results support the use of TR2, CL10, and CL15 for the maintenance of high mechanical outputs, while CL10 and CL15 produce less metabolic stress than TR2.

GARCÍA REDONDO, J.M., 2020. Negotiating distance. The territorial discourse and the parish administration of the haciendas at the dawn of the IV Mexican Provincial Council. *Signos Historicos*, vol. 22, no. 43, pp. 72-111

This article analyzes the notions of distance and territorial extension in the processes of administration of the haciendas and the conformation of parishes in the archdiocese of Mexico during the second half of the 18th century. Based on documentary testimonies, it discusses the development of these concepts and how they were used in a variety of ways by the ecclesiastical authorities. The article poses the problem of the negotiation of space inside ecclesiastical jurisdictions and the establishment of territorial pacts between priests and landowners. D. R. © José María García Redondo, Ciudad de México, enero-junio, 2020.

GARCIA RIO, E., BAENA-LUNA, PEDRO, SÁNCHEZ TORNÉ, I. y PÉREZ SUÁREZ, M., 2020. Factores condicionantes en la intención emprendedora de los estudiantes universitarios.Un estudio desde la perspectiva de género. En: 3c Empresa: investigación y pensamiento crítico, *3C Empres: investigación y pensamiento crítico*, vol. 9, no. 1, pp. 89-107. ISSN 2254-3376.

Entrepreneurship and gender together as a field of study have experienced a raise in recent decades. In this work the focus is placed on the case of female university students. Specifically, the elements that influence their entrepreneurial intention (EI)and how these specific elements are analyzed according to the group under study. This was done from the research of Liñánand Chen (2009) on the modeling of the

appropriate variables to measure IE, in addition to a five-position Likert Scale,where you can formulate a series of issues to know the personal attitude towards entrepreneurship (EA), perceived behaviorcontrol (CCP), IE, entrepreneurial skills (CA) and transverse student competencies (CTA). The sample has been of 585students belonging to the degrees of Economics Degree and Degree in Labor Relations and Human Resources. The resultsindicated as both in one case and in the other, the students had a positive influence of the AE and CCP. Regarding the IEmodel, no influence was detected in the former, but in the latter it was.

GARCÍA-GONZÁLEZ, J.M. y GRANDE, R., 2020. Contributions of change in mortality by HIV/AIDS to Spanish life expectancy. *Salud Pública de Mexico*, vol. 62, no. 2, pp. 211-214. DOI 10.21149/10625

OBJECTIVE: To measure the effect of the change in mortality by AIDS in life expectancy at birth of Spanish population in 1985-2017. MATERIALS AND METHODS: We analyzed 56 863 deaths by AIDS. We calculated age-standardized death rates, and we applied Poisson regression and decomposition of life expectancies. RESULTS: From 1985 to 1995, mortality by AIDS contributed to reduce life expectancy at birth of 0.64 years for men, and 0.17 for women; in 1996-2017, increase it by 0.60 years, men, and 0.17, women. CONCLUSIONS: The introduction of highly active antiretroviral therapy in 1996 and prevention were decisive to reduce mortality by AIDS and to become chronic the epidemic.OBJETIVO: Medir el efecto del cambio en mortalidad por sida en la esperanza de vida de la población española en 1985-2017. MATERIAL Y MÉTODOS: Se analizaron 56 863 defunciones por sida. Se calcularon tasas estandarizadas de mortalidad y se aplicó regresión de Poisson y descomposición de esperanzas de vida. RESULTADOS: En 1985-1995, la mortalidad por sida contribuyó a disminuir la esperanza de vida 0.64 años en hombres y 0.17 en mujeres. En 1996-2017, la hizo crecer 0.60 en hombres y 0.17 en mujeres. CONCLUSIONES: La introducción en 1996 de los tratamientos antirretrovirales de gran actividad y la prevención fueron decisivas para disminuir la mortalidad por sida y cronificar la epidemia.

GARCIA-MARTINEZ, I., FERNANDEZ-BATANERO, J.M., COBOS SANCHIZ, D. y LUQUE DE LA ROSA, A., 2019. Using Mobile Devices for Improving Learning Outcomes and Teachers' Professionalization. *Sustainability*, vol. 11, no. 24. DOI 10.3390/su11246917.

Teaching in higher education is changing due to the influence of technology. More and more technological tools are replacing old teaching methods and strategies. Thus, mobile devices are being positioned as a key tool for new ways of understanding educational practices. The present paper responds to a systematic review about the benefits that mobile devices have for university students' learning. Using inclusion and exclusion criteria in the Web of Science and Scopus databases, 16 articles were selected to argue why Mobile learning (Mlearning) has become a modern innovative approach. The results point to an improvement in students'

learning through Mlearning, factors that encourage the use of mobile devices in universities have been identified, and effective mobile applications in improving teaching and learning processes have been presented. The inclusion of this methodology requires a new role for teachers, whose characterization is also specified.

GARCIA-RIO, E., BAENA-LUNA, P., SANCHEZ-TORNE, I. y PEREZ-SUAREZ, M., 2020. Entreprenurial Intentions Determinants Elements in University Students. An Study From a Gender Perspective. *3C Empres: investigación y pensamiento crítico*, vol. 9, no. 1, pp. 89-107. ISSN 2254-3376. DOI 10.17993/3cemp.2020.090141.89-107.

Entrepreneurship and gender together as a field of study have experienced a raise in recent decades. In this work the focus is placed on the case of female university students: Specifically the elements that influence their entrepreneurial intention (El) and how these specific elements are analyzed according to the group under study. This was done from the research of Linan and Chen (209) on the modeling of the appropriate variables to measure IF in addition to a jive-position Likert Scale, where you can formulate a series of issues to know the personal attitude towards entrepreneurship (EA), perceived behavior control (CCP), IF,, entrepreneurial skills (CA) and transverse student competencies (CTA). The sample has been of 585 students belonging to the degrees of Economics Degree and Degree in Labor Relations and Human Resources. The results indicated as both in one case and in the other the students had a positive influence of the AE and CCP. Regarding the IF, model, no influence was detected in the firmer; but in the latter it was.

GARCÍA-TORRES, M., BECERRA-ALONSO, D., GÓMEZ-VELA, F.A., DIVINA, F., COBO, I.L. y MARTÍNEZ-ÁLVAREZ, F., 2020. Analysis of Student Achievement Scores: A Machine Learning Approach. *Advances in Intelligent Systems and Computing*, vol. 951, pp. 275-284. DOI 10.1007/978-3-030-20005-3_28

Educational Data Mining (EDM) is an emerging discipline of increasing interest due to several factors, such as the adoption of learning management systems in education environment. In this work we analyze the predictive power of continuous evaluation activities with respect the overall student performance in physics course at Universidad Loyola Andalucíıa, in Seville, Spain. Such data was collected during the fall semester of 2018 and we applied several classification algorithms, as well as feature selection strategies. Results suggest that several activities are not really relevant and, so, machine learning techniques may be helpful to design new relevant and non-redundant activities for enhancing student knowledge acquisition in physics course. These results may be extrapolated to other courses. © 2020, Springer Nature Switzerland AG.

GARCÍA-VÁZQUEZ, F.I., VALDÉS-CUERVO, A.A., MARTÍNEZ-FERRER, B. y PARRA-PÉREZ, L.G., 2020. Forgiveness, Gratitude, Happiness, and Prosocial Bystander Behavior in Bullying. *Frontiers in Psychology*, vol. 10. DOI 10.3389/fpsyg.2019.02827

The relationships among character strengths (forgiveness and gratitude), happiness, and prosocial bystander behavior in bullying were analyzed. The sample includes 500 (early adolescents) and 500 (middle adolescents) of both genders, between 12 and 18 years old (M age = 14.70, SD = 1.58). Two structural equation models were calculated. Results of the first model indicated that forgiveness, gratitude, and happiness had a direct positive relation with prosocial bystander behavior. Furthermore, human strengths were indirectly related to prosocial behavior in bullying for this effect in happiness. The second model showed that prosocial bystander behavior had a positive effect on human strengths and happiness. Multigroup analyses indicated that gender and stage of adolescence did not moderate the relations found in the model. Overall findings suggest a reciprocal relationship between character strengths, happiness, and prosocial bystander behavior. © Copyright © 2020 García-Vázquez, Valdés-Cuervo, Martínez-Ferrer and Parra-Pérez.

GARUTI, M., MANTOVI, P., SOLDANO, M., IMMOVILLI, A., RUOZZI, F., FERMOSO, F.G., RODRIGUEZ, A.J. y FABBRI, C., [sin fecha]. Towards sustainable energy-crop cultivation: feasibility of biomethane production using a double-cropping system with various sorghum phenotypes. *Biofuels, Bioproducts and Biorefining*, ISSN 1932-104X. DOI 10.1002/bbb.2099.

To achieve sustainable energy crop production, energy crops should not compete for land against feed and food crops. One option for sustainable energy-crop cultivation is the use of double cropping systems with minimum tillage use and digestate as natural fertilizer, where, in the same growing season, a second crop for biomethane production is planted after a first crop used for feed/food. Different sorghum phenotypes were evaluated in the present study as first and second crops in a double cropping system. A principal component analysis of the various sorghum phenotypes showed that starch content positively affected methane production. However, sorghum chemical composition did not influence the profitability of bioenergy production as much as the total solid biomass yields of the different sorghum phenotypes. The highest total solid biomass productive sorghum phenotype led to the highest methane hectare yield. (c) 2020 Society of Chemical Industry and John Wiley & Sons, Ltd

GASCON, E., MAISANABA, S., OTAL, I., VALERO, E., REPETTO, G., JONES, P.G. y JIMENEZ, J., 2020. (Amino)cyclophosphazenes as Multisite Ligands for the Synthesis of Antitumoral and Antibacterial Silver(I) Complexes. *Inorganic Chemistry*, vol. 59, no. 4, pp. 2464-2483. ISSN 0020-1669. DOI 10.1021/acs.inorgchem.9b03334.

The reactivity of the multisite (amino)cyclotriphosphazene ligands, [N3P3(NHCy)(6)]

and [N3P3(NHCy)(3)(NMe2)(3)], has been explored in order to obtain silver(I) metallophosphazene complexes. Two series of cationic silver(I) metallophosphazenes were obtained and characterized: [N3P3(NHCy)(6){AgL}(n)]. (TfO)(n) [n = 2, L = PPh3 (2), PPh2Me (4); n = 3, L = PPh3 (3), PPh2Me (5), TPA (TPA = 1,3,5-triaza-7-phosphaadamantane, 6)] and nongem-trans-[N3P3(NHCy)(3)(NMe2)(3){AgL}(n)](TfO)(n) [n = 2, L = PPh3 (7), PPh2Me (9); n = 3, L = PPh3 (8), PPh2Me (10)]. 5, 7, and 9 have also been characterized by single-crystal X-ray diffraction, thereby allowing key bonding information to be obtained. Compounds 2-6, 9, and 10 were screened for in vitro cytotoxic activity against two tumor human cell lines, MCF7 (breast adenocarcinoma) and HepG2 (hepatocellular carcinoma), and for antimicrobial activity against five bacterial species including Gram-positive, Gram-negative, and Mycobacteria strains. Both the IC50 and MIC values revealed excellent biological activity for these metal complexes, compared with their precursors and cisplatin and also AgNO3 and silver sulfadiazine, respectively. Both IC50 and MIC values are among the lowest values found for any silver derivatives against the cell lines and bacterial strains used in this work. The structure-activity relationships were clear. The most cytotoxic and antimicrobial derivatives were those with the triphenylphosphane and [N3P3(NHCy)(6)] ligands. A significant improvement in the activity was also observed upon a rise in the number of silver atoms linked to the phosphazene ring.

GOMEZ-BLANCO, D., SANTORO, S., BORRAS, A., CABRERA, J., SENAR, J.C. y EDELAAR, P., 2019. Beak morphology predicts apparent survival of crossbills: due to selective survival or selective dispersal? *Journal of Avian Biology*, vol. 50, no. 12. ISSN 0908-8857. DOI 10.1111/jav.02107.

Dozens of morphologically differentiated populations, subspecies and species of crossbills (genus Loxia) exist. It has been suggested that this divergence is due to variation in the conifer cones that each population specialises upon, requiring a specific beak size to efficiently separate the cone scales. If so, apparent survival should depend on beak size. To test this hypothesis, we undertook multievent capture-recapture modelling for 6844 individuals monitored during 27 years in a Pyrenean common crossbill L. curvirostra population in a forest of mountain pine Pinus uncinata. Apparent survival was indeed related to beak width, resulting in stabilizing selection around an optimum that was close to the observed mean beak width, indicating that local crossbill beak morphology is adapted to the conifer they feed upon. Both natural selection (selective mortality) and selective emigration of maladapted individuals may explain our findings. As is often the case in capture-recapture analyses but rarely recognised, we could not formally decompose apparent survival into selective mortality versus selective permanent emigration. Nonetheless, there are several indications that selective permanent emigration should not be fully excluded. First, natural selection by itself would have to be unusually strong compared to other empirical estimates to create the observed pattern of apparent survival. Second, the observed mean beak width was a bit lower than the estimated optimum beak width. This can be explained by immigration of crossbills with smaller beaks originating from southern populations, which may subsequently have left the study area permanently in

response to low food intake. This is in line with a detected transient effect in the data, yet apparently little influx from crossbills from northern Europe. When permanent emigration is phenotypically selective this will have ecological and evolutionary consequences, so this possibility deserves more attention in general.

GOMEZ-ESPINO, J.M., 2019. Children Well-Being. En: BERICAT, E. AND JIMENEZ, RODRIGO, ML (ed.), *Quality of European Societies: A Compilation of Composite Indicators*. S.l.: s.n., Social Indicators Research Series, pp. 251-270. ISBN 978-3-030-05023-8.

GOMEZ-GONZALEZ, B., BARROSO, S., HERRERA-MOYANO, E. y AGUILERA, A., 2020. Spontaneous DNA-RNA hybrids: differential impacts throughout the cell cycle. *Cell Cycle*, vol. 19, no. 5, pp. 525-531. ISSN 1538-4101. DOI 10.1080/15384101.2020.1728015.

A large body of research supports that transcription plays a major role among the many sources of replicative stress contributing to genome instability. It is therefore not surprising that the DNA damage response has a role in the prevention of transcription-induced threatening events such as the formation of DNA-RNA hybrids, as we have recently found through an siRNA screening. Three major DDR pathways were defined to participate in the protection against DNA-RNA hybrids: ATM/CHK2, ATR/CHK1 and Postreplication Repair (PRR). Based on these observations, we envision different scenarios of DNA-RNA hybridization and their consequent DNA damage.

GÓMEZ-GONZÁLEZ, B., ORTEGA, P. y AGUILERA, A., 2020. Histone deacetylases facilitate the accurate repair of broken forks. *Molecular and Cellular Oncology*, vol. 7, no. 2. DOI 10.1080/23723556.2019.1705731

We have recently uncovered that loss of the yeast histone deacetylases Rpd3 (Reduced Potassium Dependency 3) and Hda1 (Histone DeAcetylase 3) affects the cohesion between sister chromatids thus impairing repair of DNA damage at replication forks and enhancing genetic instability. Here we discuss the possible implications of our findings given that histone deacetylases are a promising chemotherapeutic target often used in combination with DNA damaging agents. © 2020, © 2020 Taylor & Francis Group, LLC.

GOMEZ-VELA, F., DELGADO-CHAVES, F.M., RODRIGUEZ-BAENA, D.S., GARCIA-TORRES, M. y DIVINA, F., 2019. Ensemble and Greedy Approach for the Reconstruction of Large Gene Co-Expression Networks. *Entropy*, vol. 21, no. 12. DOI 10.3390/e21121139.

Gene networks have become a powerful tool in the comprehensive analysis of gene expression. Due to the increasing amount of available data, computational methods for networks generation must deal with the so-called curse of dimensionality in the quest for the reliability of the obtained results. In this

context, ensemble strategies have significantly improved the precision of results by combining different measures or methods. On the other hand, structure optimization techniques are also important in the reduction of the size of the networks, not only improving their topology but also keeping a positive prediction ratio. In this work, we present Ensemble and Greedy networks (EnGNet), a novel two-step method for gene networks inference. First, EnGNet uses an ensemble strategy for co-expression networks generation. Second, a greedy algorithm optimizes both the size and the topological features of the network. Not only do achieved results show that this method is able to obtain reliable networks, but also that it significantly improves topological features. Moreover, the usefulness of the method is proven by an application to a human dataset on post-traumatic stress disorder, revealing an innate immunity-mediated response to this pathology. These results are indicative of the method's potential in the field of biomarkers discovery and characterization.

GONZÁLEZ PORTILLO, Auxiliadora y JARAÍZ ARROYO, G., 2020. Las políticas de inclusión social en Andalucía desde la perspectiva discursiva y lexicométrica. Un análisis comparativo del discurso técnico-político. En: Empiria: Revista de metodología de ciencias sociales, *Empiria: Revista de metodología de ciencias sociales*, no. 45, pp. 75-111. ISSN 1139-5737. 10.5944/empiria.45.2020.26305

Social inclusion policies have been analyzed from very different perspectives, but in this article we want to present their analysis from the framework of Discourse Analysis and Lexicometry. To this end, we have focused on the discourse of two of its main actors, those who design them (politicians) and those who execute them (technicians), collected through in-depth interviews and focus groups that were done in the field work of a broader research project on autonomous Social Policies funded by MIMECO in the call for R&D projects (2014-2017). For the analysis of discourse from lexical parameters we have used the Iramuteq software, which, through a system of coding and statistical multidimensional analysis, allows us to deepen and categorize the lexical worlds present in the discourse. In this case, we establish a comparison between the lexical worlds of politicians and technicians with respect to social inclusion policies in Andalusia. The result of the application of this methodology shows, at first, the opportunity offered by lexicometry as a first way of approaching the social representations of the different actors, which will later have to be analysed in greater depth with other qualitative methodologies. In a second moment, already centred on the case analysed, the research shows us the presence of two discourses on social inclusion policies according to the profile of the actor who enunciates them, proving in many cases the distance between the theoretical (political) perception and the pragmatic (technical) perception, as well as the need for both to be shared in order to improve the effectiveness of social inclusion policies.

GONZÁLEZ PORTILLO, A. y JARAÍZ ARROYO, G., 2020. Social inclusion policies in Andalusia from a discursive and lexicometric perspective. A comparative analysis of the technical-political discourse. *Empiria*, no. 45, pp. 75-111. DOI

10.5944/empiria.45.2020.26305

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GONZÁLEZ-CASTRO, J.L., LANDA, S.U., MARTÍNEZ, A.P. y PEREA, M.V., 2020. The role of emotional intelligence and sociocultural adjustment on migrants' self-reported mental well-being in Spain: A 14 month follow-up study. *International Journal of Environmental Research and Public Health*, vol. 17, no. 4. DOI 10.3390/ijerph17041206

The analysis of mental and psychological health is a relevant public issue in modern societies. Migration is a process that may have a lasting impact on a person's mental well-being. In this study, perceived health, emotional intelligence, sociocultural adjustment and the participants' perceived general situation, not only economical, were analyzed to attest their impact on psychological distress as a measure of mental well-being. Sixty-three migrants from Romania and Ecuador were contacted twice during a 14 month period in a middle-sized Spanish city. Attrition analyses show no significant differences in perceived psychological distress between those who participated only one time or who participated in both waves. Less psychological distress is related to less attention to one's feelings and higher mood repair in both data waves. Stronger behavioral adjustment is also linked to less distress. Less distress in time 1 led to better perceived health, sociocultural adjustment and a perception of a better general situation in Spain in comparison to their home country in time 2. In general, more attention to negative feelings triggered more perceived psychological distress, whereas mood repair elicited less psychological distress, in time 2. The relevance of understanding the impact of emotional intelligence to health promotion programs with migrants is discussed.

GONZALEZ-FARACO, C., GONZALEZ-FALCON, I. y RODRIGUEZ-IZQUIERDO, R.M., 2020. Inter-cultural policies at school: meanings, dissonances and paradoxes. *Revista De Educación*, no. 387, pp. 63-84. ISSN 0034-8082. DOI 10.4438/1988-592X-RE-2020-387-438.

In order to meet the needs of students from foreign backgrounds, schools can avail themselves of different well-meaning mechanisms that define and measure difference, recognise its exclusionary potential and seek to tackle it by means of intercultural and inclusive policies. This paper aims to analyse one such mechanism: temporary linguistic adaptation classes (ATAL according to the Spanish acronym). The purpose of this study is to detect potential dissonance between the pedagogical actions promoted by these classrooms, and the logics that ground and justify them. In other words, the contradictions and paradoxes that can arise between their political-normative discourses and their apparently inclusive practices. This chiefly ethnographic study is grounded in the `problem' or `issue of knowledge' and `critical interculturality' as its main epistemological references. Through a series of field observations and interviews with key stakeholders, it seeks to understand the practices derived from the application of this mechanism, how such classes are evaluated, and how the meaning of the inclusion-exclusion duality is interpreted in multicultural education settings. Specifically, twenty-eight interviews were conducted with head teachers, ATAL teachers, and students from foreign backgrounds at various schools in four provinces of Andalusia (Cadiz, Granada, Huelva and Sevilla). The results of their analysis highlight a series of discordances that call into question the intercultural and inclusive significance of these specific classes. In most cases, the pedagogical support they provide is merely remedial. In reality, their fundamental aim is to normalise difference, understanding difference as a dual deficit or shortcoming - cultural and curricular - that must be compensated for or corrected. In schooling, systems of reason that assign identity to subjects often operate in silence. Their effects become particularly evident in mechanisms such as these parallel classrooms, associated with policies of equity and the management of cultural diversity. Although they ostensibly respond to inclusive policies, they can foster segregation, discrimination and exclusion.

GORDILLO, M.C., 2019. One-dimensional SU(N) clusters of fermions in optical lattices. *New Journal of Physics*, vol. 21, no. 10. ISSN 1367-2630. DOI 10.1088/1367-2630/ab4725.

The behaviour of fermion clusters with SU(N) symmetry loaded in one-dimensional optical lattices and described by continuous Hamiltonians was studied using a diffusion Monte Carlo (DMC) technique. The state diagrams of SU(6) and SU(2) arrangements with the same number of particles were calculated and found virtually identical. The only difference was the absence of a band insulator in the SU(N) case in the range of optical lattice depths considered (V-0 = 0-12 E-R; E-R, recoil energy of the lattice) in the non-interacting limit for N > 2. The appearance of that state was signalled by a noticeable change in the shape of the

momentum distributions in going from a metal to a band insulator.

GRACIANO SUXBERGER, A.H. y FERREIRA LIMA, J.W., 2019. Comparative Analysis of the Proceedings of Construction of Criminal Policy in Brazil and Portugal. *Quaestio Iuris*, vol. 12, no. 3, pp. 588-611. ISSN 1807-8389. DOI 10.12957/rqi.2019.38982.

The article analyzes the process of creation of the criminal policy by the Brazilian parliament, which combines elements of public security with of criminal, procedural and penitentiary law, treating them jointly as a unique kind of public policy. Evaluates the criteria for the construction of criminal policy as product of decisions that aim to defy rising crime rates and promise respect of the constitutionally protected rights and guarantees. It has as empirical referential the "Framework Law of Criminal Policy", adopted by the Assembly of the Republic of Portugal, which acts as the legal reference for this activity in the Lusitanian State. Methodologically, the study develops in the theoretical-argumentative line and intends, comparatively, to explore and analyze how a specific statute of production of criminal policies can favor the elaboration of normative arrangements more adequate and coherent as the institutional drawings, preserving the integrity of the individual rights, concomitantly with effectivity of public security, assuming that in the Brazilian scenery the great issues of public security and rights and guarantees are rhetorically articulated by populist and occasion's discourse.

GRANADO HERMOSIN, D., 2019. Cofradas and Devotees: The Role of Women in the Penitential Confraternities in Seville in the Reign of The Austrias (1538-1701). *Historia. Instituciones. Documentos.*, no. 46, pp. 101-132. ISSN 0210-7716. DOI 10.12795/hid.2019.i46.04.

In this paper we aim to show the role that women had in the penitential confraternities in Seville during the reign of the Habsburgs. In order to achieve our purpose we have used two fundamental sources: the archive of the Archbishopric of Seville and the archives of the different current confraternities. These associations were generally composed of laypersons, which means that their documents show how these people felt and lived. We have studied four different aspects: their qualities, reception and entrance fees, the cofradas (maidens, widows, religious, foreigners and nobility), the professions and women in the government of the fraternities.

GREENSTEIN, R.A., BARRALES, R.R., SANCHEZ, N.A., BISANZ, J.E., BRAUN, S. y AL-SADY, B., 2020. Set1/COMPASS repels heterochromatin invasion at euchromatic sites by disrupting Suv39/Clr4 activity and nucleosome stability. *Genes & Development*, vol. 34, no. 1-2, pp. 99-117. ISSN 0890-9369. DOI 10.1101/gad.328468.119.

Protection of euchromatin from invasion by gene-repressive heterochromatin is critical

for cellular health and viability. In addition to constitutive loci such as pericentromeres and subtelomeres, heterochromatin can be found interspersed in gene-rich euchromatin, where it regulates gene expression pertinent to cell fate. While heterochromatin and euchromatin are globally poised for mutual antagonism, the mechanisms underlying precise spatial encoding of heterochromatin containment within euchromatic sites remain opaque. We investigated ectopic heterochromatin invasion by manipulating the fission yeast mating type locus boundary using a single-cell spreading reporter system. We found that heterochromatin repulsion is locally encoded by Set1/COMPASS on certain actively transcribed genes and that this protective role is most prominent at heterochromatin islands, small domains interspersed in euchromatin that regulate cell fate specifiers. Sensitivity to invasion by heterochromatin, surprisingly, is not dependent on Set1 altering overall gene expression levels. Rather, the gene-protective effect is strictly dependent on Set1's catalytic activity. H3K4 methylation, the Sal product, antagonizes spreading in two ways: directly inhibiting catalysis by Suv39/Clr4 and locally disrupting nucleosome stability. Taken together, these results describe a mechanism for spatial encoding of euchromatic signals that repel heterochromatin invasion.

GUERRERO-GÓMEZ-OLMEDO, R., SALMERON, J.L. y KUCHKOVSKY, C., 2020. LRP-Based path relevances for global explanation of deep architectures. *Neurocomputing*, vol. 381, pp. 252-260. DOI 10.1016/j.neucom.2019.11.059

Understanding what Machine Learning models are doing is not always trivial. This is especially true for complex models such as Deep Neural Networks (DNN), which are the best-suited algorithms for modeling very complex and nonlinear relationships. But this need to understand has become a must since privacy regulations are hardening the industrial use of these models. There are different techniques to address the interpretability issues that Machine Learning models arises. This paper is focused on opening the so-called Deep Neural architectures black-box. This research extends the technique called Layer-wise Relevant Propagation (LRP) enhancing its properties to compute the most critical paths in different deep neural architectures using multicriteria analysis. We call this technique Ranked-LRP and it was tested on four different datasets and tasks, including classification and regression. The results show the worth of our proposal. © 2019

GUIJO PEREZ, S., 2019. Historical reading, description and analysis of the book of professions of 1700 of the monastery of San Leandro of Seville (1700-1868). *Tiempos Modernos-Revista Electrónica de Historia Moderna*, vol. 9, no. 39, pp. 156-179. ISSN 1699-7778.

With the present work we make known the seats of the third book of professions of the monastery of San Leandro that covers from 1700 to 1868. It contains exams of habit and profession, as well as certificates of the own taking of habit, profession, licenses and commits. Transcribe its most relevant data and analyze the same,

studying the ecclesial world of the time in Seville, the social condition, the academic level, the origin, the age of admission and the perseverance of the religious in this period. It also gives us the historical vision of the anti-clerical turbulence in the country as a result of the illustrated ideas and subsequent disentailments.

GUTIERREZ SANCHEZ, J.D. y ALCALÁ DEL OLMO FERNANDEZ, M.J., 2019. Childhood in margins: romans in contexts of vulnerability and mobility. *Acciones e Investigaciones Sociales*, no. 40, pp. 85-107. ISSN 1132-192X. DOI 10.26754/ojs_ais/ais.2019404198.

The purpose of this research is to analyse the situation of children of Romanian or Roma origin settled together with their families in the shanty town known as El Gallinero (Madrid). This qualitative approach is based on fieldwork carried out between 2010 until its completion in 2018. As a starting point on which to base the theory of our research, an analysis was performed of the documentation and legislation concerning social integration and risk situations. Likewise, how such situations impaired the quality of life of the inhabitants was considered and also how they acted as a catalyst for human mobility between various countries in the EU, affecting the physical and psychological development of the children concerned. The deterioration of the environment and the complications involved in implementing social intervention projects require interventions that can be adapted more extensively to community needs and culture. In this article we reveal the empirical work carried out both with the families and also the social entities involved in the settlement.

GUTIÉRREZ-MARÍN, D. y GUTIÉRREZ, M.R.H., 2020. The Study of Cycles of Protest: Approaches to the Case of Spain. *Studies in Systems, Decision and Control*, vol. 208, pp. 333-343. DOI 10.1007/978-3-030-18593-0_25

This chapter studies secondary data (Annuals of the Ministry of the Interior) in order to relate protest events in Spain with those occurring in the rest of the world, using the model applied by Tarrow (Protesta Social. Hacer, Barcelona, 2002) in the case of Italian protests, and Herrera (América Latina Hoy 48:165–189, 2008), in the Argentinian protest. The hypothesis is that the Indignado Movement in Spain is the local expression of a global movement, framed within the Anti-Austerity Movement. On the basis of the concept of the "cycle of protests", the frequency, intensity, sectoral spread and demands put forward have been analysed to determine the existence of a cycle of protests in Spain, in which the Indignado protest developed. © 2020, Springer Nature Switzerland AG.

GUTIÉRREZ-SÁNCHEZ, J.D., 2020. Rodríguez, A. y Gimeno, C. (coord.) (2018). Las migraciones de jóvenes y adolescentes no acompañados: una mirada internacional. [Migrations of unaccompanied young people and adolescents: an international look].: Granada: Editorial Universidad de Granada. En: Cuadernos

de trabajo social, *Cuadernos de trabajo social*, vol. 33, no. 1, pp. 167-168. ISSN 0214-0314.

HARGUINDÉGUY, J.-B., SOLA RODRÍGUEZ, G. y CRUZ DÍAZ, J., 2020. Between justice and politics: the role of the Spanish Constitutional Court in the state of autonomies. *Territory, Politics, Governance*, vol. 8, no. 2, pp. 222-240. DOI 10.1080/21622671.2018.1557073

This study focuses on the role of the Spanish Constitutional Court in the state of autonomies between 1980 and 2014. It questions the evolution of the court in two fields. First, it demonstrates that the court profoundly shaped the contours of the devolution process through a dynamic of 'judicialization'. Second, this research analyzes the politicization process of constitutional justice by territorial actors. This dynamic led to the quasi-paralysis of the court from 2008 to 2012 through the ruling of the reform of the Catalan statute. This paper concludes the court can be best interpreted as a 'trustee' aspiring to remain an independent arbiter within a framework lacking alternative fora for regulating intergovernmental relations. © 2018, © 2018 Regional Studies Association.

HERNÁNDEZ BUADES, J.C., 2020. Nuevos retos para nuestra economía 2020. En: Agenda de la empresa andaluza: ideas, personas e instrumentos para dirigir la empresa, *Agenda de la empresa andaluza: ideas, personas e instrumentos para dirigir la empresa*, no. 252, pp. 39- 0. ISSN 1576-0154.

HERNÁNDEZ JIMÉNEZ, H.M., 2020a. 3 claves para tramitar correctamente un instrumento de planeamiento. En: Actualidad administrativa, *Actualidad administrativa*, no. 2, pp. 10- 0. ISSN 1130-9946.

La tramitación de un instrumento de planeamiento conlleva múltiples complejidades que prolongan en exceso el procedimiento para su aprobación, derivadas fundamentalmente de la transversalidad de su contenido y la afección a otras Administraciones sectoriales

HERNÁNDEZ JIMÉNEZ, H.M., 2020b. La derivada administrativa del delito contra la ordenación del territorio. En: Actualidad administrativa, *Actualidad administrativa*, no. 2, pp. 11- 0. ISSN 1130-9946.

La ejecución de obras de urbanización, construcción o edificación no autorizables en el suelo no urbanizable, además del oportuno acuerdo de restitución de la legalidad en sede administrativa por el Ayuntamiento, será objeto de pronunciamiento en sede penal por un delito contra la ordenación del territorio, donde también puede acordarse la demolición.

HERNÁNDEZ JIMÉNEZ, H.M., 2020c. La necesaria intervención de juristas en la elaboración de los instrumentos de planeamiento y ejecución. En: Consultor de

los ayuntamientos y de los juzgados: Revista técnica especializada en administración local y justicia municipal, *Consultor de los ayuntamientos y de los juzgados: Revista técnica especializada en administración local y justicia municipal*, no. 3, pp. 100-104. ISSN 0210-2161.

La naturaleza reglamentaria de los instrumentos de planeamiento justifica la intervención de juristas en su redacción, colaborando con el protagonismo que asuman los técnicos; y, respecto a los proyectos de reparcelación como títulos inscribibles de las operaciones de equidistribución de beneficios y cargas, el protagonismo de su elaboración debe ser compartido entre juristas y técnicos, cada uno en el ámbito de las materias de su competencia.

HERNÁNDEZ-CAMACHO, J.D., VICENTE-GARCÍA, C., PARSONS, D.S. y NAVAS-ENAMORADO, I., 2020. Zinc at the crossroads of exercise and proteostasis. *Redox Biology*, DOI 10.1016/j.redox.2020.101529

Zinc is an essential element for all forms of life, and one in every ten human proteins is a zinc protein. Zinc has catalytic, structural and signalling functions and its correct homeostasis affects many cellular processes. Zinc deficiency leads to detrimental consequences, especially in tissues with high demand such as skeletal muscle. Zinc cellular homeostasis is tightly regulated by different transport and buffer protein systems. Specifically, in skeletal muscle, zinc has been found to affect myogenesis and muscle regeneration due to its effects on muscle cell activation, proliferation and differentiation. In relation to skeletal muscle, exercise has been shown to modulate zinc serum and urinary levels and could directly affect cellular zinc transport. The oxidative stress induced by exercise may provide the basis for the mild zinc deficiency observed in athletes and could have severe consequences on health and sport performance. Proteostasis is induced during exercise and zinc plays an essential role in several of the associated pathways. © 2020

HERNANDEZ-LOPEZ, M. de la O., 2019. Relational Work in Airbnb reviews. *Vestnik Rossiiskogo Universiteta Druzhby Narodov-Seriya Lingvistika-Russian Journal of Linguistics*, vol. 23, no. 4, pp. 1088-1108. ISSN 2312-9182. DOI 10.22363/2687-0088-2019-23-4-1088-1108.

Peer-to-peer businesses such as Airbnb have recently given rise to new travel trends in which electronic word of mouth, in the form of online consumer reviews (OCRs, henceforth), is the main trust mechanism with a threefold purpose: to make informed decisions regarding accommodation, gain good reputation, and manage the relational component as continuity from the offline stage of the experience. In the light of the above, this study will analyse 120 reviews (60 positive and 60 negative) written by Airbnb travellers and linked to three different emotional orientations: delighted/satisfied, ambivalent/neutral, and dissatisfied/disappointed. Taking an illocutionary and stylistic domain perspective, the reviews will be examined to understand how users manage relational work (Watts 1989, Locher and Watts 2005, Locher 2006, Locher and Watts 2008), and to ascertain what is likely to be the `norm' in this particular

genre (i.e., OCRs) and for the particular Virtual Community of Practice (VCoP, henceforth) (i.e., guests and hosts interacting in Airbnb). The results show that being polite seems to be the norm (hence being politic), while being rude or offensive is the exception. The data also suggest that users tend to be politic/polite through very enthusiastic and friendly messages, while dissatisfaction and ambivalence are shown by means of a process of depersonalisation, with a tone based on formality and distancing from the host. Information is also obtained from what is not said, which creates the implicature of dissatisfaction. This seems to be implicitly understood by the members of this VCoP, who seem to perceive sociability as pivotal to assess their experience.

HERRERA-USAGRE, M., 2019. Cultural Practice, Creativity and Innovation. En: BERICAT, E. AND JIMENEZ, RODRIGO, ML (ed.), *Quality of European Societies: A Compilation of Composite Indicators*. S.l.: s.n., Social Indicators Research Series, pp. 111-132. ISBN 978-3-030-05023-8.

HIDALGO, P. y GALLEGO, D., 2019. A historical climatology of the easterly winds in the strait of Gibraltar. *Atmosfera*, vol. 32, no. 3, pp. 181-195. ISSN 0187-6236. DOI 10.20937/ATM.2019.32.03.02.

In this paper, we use historical wind direction observations taken aboard sailing ships to build a new index for the frequency of the easterly winds in the strait of Gibraltar, in southern Spain. The new series starts in the late 19th century, adding almost 100 years to comparable previous series. We have found large interannual and decadal fluctuations in the frequency of the easterly winds in Gibraltar along the 20th century, although no long-term trends have been revealed. We show that the changes in the frequency of the easterly winds in Gibraltar appear significantly related to the North Atlantic Oscillation and to anomalies in the sea level pressure across the North Atlantic and large areas of Europe.

HMADCHA, A., MARTIN-MONTALVO, A., GAUTHIER, B.R., BERNAT, S. y CAPILLA-GONZALEZ, V., 2020. Therapeutic Potential of Mesenchymal Stem Cells for Cancer Therapy. *Frontiers in Bioengineering and Biotechnology*, vol. 8. ISSN 2296-4185. DOI 10.3389/fbioe.2020.00043.

Mesenchymal stem cells (MSCs) are among the most frequently used cell type for regenerative medicine. A large number of studies have shown the beneficial effects of MSC-based therapies to treat different pathologies, including neurological disorders, cardiac ischemia, diabetes, and bone and cartilage diseases. However, the therapeutic potential of MSCs in cancer is still controversial. While some studies indicate that MSCs may contribute to cancer pathogenesis, emerging data reported the suppressive effects of MSCs on cancer cells. Because of this reality, a sustained effort to understand when MSCs promote or suppress tumor development is needed before planning a MSC-based therapy for cancer. Herein, we provide an overview on the therapeutic application of MSCs for regenerative medicine and the processes that orchestrates tissue repair,

with a special emphasis placed on cancer, including central nervous system tumors. Furthermore, we will discuss the current evidence regarding the double-edged sword of MSCs in oncological treatment and the latest advances in MSC-based anti-cancer agent delivery systems.

HOYOS-MANCHADO, R., VILLA-CONSUEGRA, S., BERRAQUERO, M., JIMÉNEZ, J. y TALLADA, V.A., 2020. Mutational Analysis of N-Ethyl-N-Nitrosourea (ENU) in the Fission Yeast Schizosaccharomyces pombe. *G3 (Bethesda, Md.)*, vol. 10, no. 3, pp. 917-923. DOI 10.1534/g3.119.400936

Forward genetics in model organisms has boosted our knowledge of the genetic bases of development, aging, and human diseases. In this experimental pipeline, it is crucial to start by inducing a large number of random mutations in the genome of the model organism to search for phenotypes of interest. Many chemical mutagens are used to this end because most of them display particular reactivity properties and act differently over DNA. Here we report the use of N-ethyl-N-nitrosourea (ENU) as a mutagen in the fission yeast Schizosaccharomyces pombe As opposed to many other alkylating agents, ENU only induces an S N 1-type reaction with a low s constant (s = 0.26), attacking preferentially O2 and O4 in thymine and O6 deoxyguanosine, leading to base substitutions rather than indels, which are extremely rare in its resulting mutagenic repertoire. Using ENU, we gathered a collection of 13 temperature-sensitive mutants and 80 auxotrophic mutants including two deleterious alleles of the human ortholog ATIC. Defective alleles of this gene cause AICA-ribosiduria, a severe genetic disease. In this screen, we also identified 13 aminoglycoside-resistance inactivating mutations in APH genes. Mutations reported here may be of interest for metabolism related diseases and antibiotic resistance research fields. Copyright © 2020 Hoyos-Manchado et al.

HUBER, V., KRUMMENAUER, L., PEÑA-ORTIZ, C., LANGE, S., GASPARRINI, A., VICEDO-CABRERA, A.M., GARCIA-HERRERA, R. y FRIELER, K., 2020. Temperature-related excess mortality in German cities at 2 °C and higher degrees of global warming. *Environmental Research*, vol. 186. DOI 10.1016/j.envres.2020.109447

Background: Investigating future changes in temperature-related mortality as a function of global mean temperature (GMT) rise allows for the evaluation of policy-relevant climate change targets. So far, only few studies have taken this approach, and, in particular, no such assessments exist for Germany, the most populated country of Europe. Methods: We assess temperature-related mortality in 12 major German cities based on daily time-series of all-cause mortality and daily mean temperatures in the period 1993–2015, using distributed-lag non-linear models in a two-stage design. Resulting risk functions are applied to estimate excess mortality in terms of GMT rise relative to pre-industrial levels, assuming no change in demographics or population vulnerability. Results: In the observational period, cold contributes stronger to temperature-related mortality than heat, with overall attributable fractions of 5.49% (95%CI: 3.82–7.19) and 0.81% (95%CI:

0.72–0.89), respectively. Future projections indicate that this pattern could be reversed under progressing global warming, with heat-related mortality starting to exceed cold-related mortality at 3 °C or higher GMT rise. Across cities, projected net increases in total temperature-related mortality were 0.45% (95%CI: −0.02–1.06) at 3 °C, 1.53% (95%CI: 0.96–2.06) at 4 °C, and 2.88% (95%CI: 1.60–4.10) at 5 °C, compared to today's warming level of 1 °C. By contrast, no significant difference was found between projected total temperature-related mortality at 2 °C versus 1 °C of GMT rise. Conclusions: Our results can inform current adaptation policies aimed at buffering the health risks from increased heat exposure under climate change. They also allow for the evaluation of global mitigation efforts in terms of local health benefits in some of Germany's most populated cities. © 2020 The Authors

HUERTA-ÁLVAREZ, R., CAMBRA-FIERRO, J.J. y FUENTES-BLASCO, M., 2020. The interplay between social media communication, brand equity and brand engagement in tourist destinations: An analysis in an emerging economy. *Journal of Destination Marketing and Management*, vol. 16. DOI 10.1016/j.jdmm.2020.100413

The consolidation of Web 2.0 has modified the way people communicate and interact with tourists. User-generated social media communication continues to increase: to the detriment of traditional media channels, where the message is controlled by destination marketing organizations. Moreover, uncontrolled user-generated communication is increasingly considered more reliable than traditional, controlled communication. All this has considerably modified tourist perceptions regarding destination image and brand equity. From a business perspective, a line of thought addressing the study of these interrelationships has emerged in the literature, going so far as to consider their impact on brand engagement. Despite the current prevalence and relevance of social media communication as a loyalty-building factor in a context as competitive as the tourism sector, relatively little literature has addressed it in emerging tourist destination scenarios. Hence, the present paper presents an analysis of how – and to what extent – social media communication, both controlled and uncontrolled by the destination organization, has an impact on destination brand equity and destination brand engagement. More specifically, this study applies it to an emerging economy scenario: Metropolitan Lima, Peru. The implications of our research, presented at the end of the paper, are of interest – both as a contribution to the literature and from the perspective of tourist destination management – and can serve to aid the economic and social development of emerging economies. © 2020 Elsevier Ltd

JAÉN MARTÍNEZ, A. y MARTÍN PADILLA, A.H., 2020a. Posibilidades de las redes sociales y TIC para el trabajo colaborativo. En: Aproximación periodística y educomunicativa al fenómeno de las redes sociales, *Aproximación periodística y educomunicativa al fenómeno de las redes sociales* [en línea]. S.l.: McGraw-Hill Interamericana de España, pp. 583-595. ISBN 978-84-486-2035-6. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7277150.

JAÉN MARTÍNEZ, A. y MARTÍN PADILLA, A.H., 2020b. Uso de Twitter como herramienta para la creación de conocimiento compartido. En: Aproximación periodística y educomunicativa al fenómeno de las redes sociales, *Aproximación periodística y educomunicativa al fenómeno de las redes sociales* [en línea]. S.l.: McGraw-Hill Interamericana de España, pp. 419-431. ISBN 978-84-486-2035-6. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7277163.

JAEN-CANDON, M., JIMENEZ-HERNANDEZ, A., CARRASCO-GOMEZ, I., PENA-RUANO, J. y TEIXIDO-ULLOD, T., 2019. The Intramural Chariot Racing Stone Barrier at Carteia (Spain): Geophysical Survey and Verification by Archaeological Test Excavation. *Mediterranean Archaeology & Archaeometry*, vol. 19, no. 3, pp. 139-156. ISSN 1108-9628. DOI 10.5281/zenodo.3583065.

The aim of this research is to deepen the knowledge of the urban plan of the Roman city of Carteia, in particular its central sector. The origin of this settlement dates back to the 4th century B.C and in 171 B.C became the first Latin colony outside Italy, getting the name of Colonia Libertinorum Carteia. In 2005, exhaustive three-dimensional cartography at scales 1:1000 and 1:500 and a high resolution orthophotography surveis carried out on the site. The analysis of the paleo-relief provided by the previous images suggested the possible location of a Roman chariot racing circus inside the walls of the city. In order to prove it, in 2016 a geophysical exploration was done over this geomorphological anomaly. We used georadar (GPR), electrical resistivity tomography (ERT) and magnetic survey to contrast the results. The resulting anomalies were tested on 2017 with the archaeological tranches that allowed us to confirm the existence of an intramural circus.

JAENES, J.C., 2020. Obituary: Felix Guillen, The Smile and the Cigar. *Revista de Psicología del Deporte*, vol. 29, no. 1. ISSN 1132-239X.

JAENES SÁNCHEZ, J.C., 2020. Obituario: Félix Guillén, la sonrisa y el puro. En: Revista de psicología del deporte, *Revista de Psicología del Deporte*, vol. 29, no. 1, pp. 9-10. ISSN 1132-239X.

JÁUREGUI-LOBERA, I., 2020a. Guerra química en la I y II Guerras Mundiales. En: Journal of Negative and No Positive Results: JONNPR, *Journal of Negative and No Positive Results: JONNPR*, vol. 5, no. 2, pp. 218-235. ISSN 2529-850X. 10.19230/jonnpr.3388

El objetivo de la presente revisión es analizar el uso de la guerra química durante las dos grandes guerras mundiales del siglo XX. La revisión de la literatura actual permitirá también conocer si las razones de su uso persisten en la actualidad, qué nivel de desarrollo han alcanzado las armas químicas y si existe potencial científico-técnico para incrementar dicho desarrollo. Para la elaboración del trabajo se llevó a cabo, en primer lugar, un procedimiento de búsqueda de artículos científicos y, en segundo lugar, se establecieron unas áreas temáticas para plasmar los resultados de dicha búsqueda (agenTHES químicos empleados, armas químicas utilizadas, efectos generales de los agenTHES químicos, riesgo químico y la posible defensa contra el ataque químico). El mal uso de la ciencia

química ha dado lugar a estos trisTHES acontecimientos (la preparación y uso de armas químicas). Pero sería necesario contraponer otros muchos aspectos como los medicamentos, insecticidas, herbicidas, conservanTHES, desinfectanTHES, y otros, en los cuales la química ha sido la solución a complejos problemas que garantizan una importante mejora de las condiciones de vida. Como siempre, no es la química la culpable realmente; son dilemas éticos y sociológicos, mezclados con los dirigenTHES políticos, los que hacen que una ciencia sea utilizada de una forma responsable para bien de la humanidad o, todo lo contrario, que se utilicen los conocimientos como arma destructiva.

JÁUREGUI-LOBERA, I., 2020b. Navegación e historia de la ciencia: El incidente Laconia y la guerra total en la mar (Derecho de la Guerra). En: Journal of Negative and No Positive Results: JONNPR, *Journal of Negative and No Positive Results: JONNPR*, vol. 5, no. 1, pp. 104-120. ISSN 2529-850X. 10.19230/jonnpr.3307

On September 12, 1942, the British ship Laconia was sunk off the coast of West Africa by the submarine U Boat 156 commanded by Korvettenkapitän Werner Hartenstein. The Laconia carried 1,800 Italian war prisoners, 80 civilians and 428 British and Polish soldiers. After the disaster, seeing the situation, Hartenstein began his work fulfilling the duty of relief and displaying a Red Cross flag. Despite this, an American B-24 bomber attacked thus expanding the disaster. British propaganda displayed the idea that German submarines mercilessly attacked convoys. The “Laconia Order” was not completely fulfilled because the Germans continued their help despite the «letter» of that order. The U-Boat Commander, Karl Dönitz, was prosecuted in Nuremberg, and the testimony of Admiral Nimitz clarified many things. Those who died remain in the Atlantic Ocean. Rest in peace.

JÁUREGUI-LOBERA, I., 2020c. Navegación e historia de la ciencia: La vida a bordo: los hombres de la mar en el siglo XVI. En: Journal of Negative and No Positive Results: JONNPR, *Journal of Negative and No Positive Results: JONNPR*, vol. 5, no. 3, pp. 347-358. ISSN 2529-850X. 10.19230/jonnpr.3433

The objective of this study was to synthesize the basic aspects of the Spanish sailors´ life on board in the 16th century. Given the time they used to spend sailing, the ship was the sailors´ main residence, a better or worse “house” depending on the range of the crew. But if life on board was hard, many of those sailors were in glory when compared with their hardships on land, at least they could eat on the ship. To many hours of work were palliated with some leisure based on games, some religious readings and sex on board, which they also had. Shipwrecks, fires, epidemics, battles and other diverse scares “entertained” the intrepid sailors, a sort of hustlers of the time. All this in the midst of unfortunate hygienic-sanitary conditions, which were not much worse than those offered on the mainland.

JOO CHOI, H. y MENDOZA PUERTAS, J.D., 2020. Los factores nativo y no nativo en la enseñanza del español en Corea: la percepción del estudiante de grado. En: Tonos digital: Revista de estudios filológicos, *Tonos digital: Revista de estudios filológicos*, no. 38, pp. 49- 0. ISSN 1577-6921.

In this article, we offer an analysis in the perception of Korean University students taught by native and non native teachers ofSpanish as a foreign language (SFL).The aim of this paper istoknow what advantages and disadvantages they perceive in eachtype of teaching, as well as their expectationsregarding theteaching given by each profile.For this purposea combinedmethodwas used(qualitative and quantitative), based on the distribution of questionnairesand on the compilation andquantification of the informationprovided bythem.The study wascarried out among studentsfrom two universities in southeasternKorea: Ulsan University and Busan University of Foreign Studies.The conclusion oftheanalysis is related to two key points: adistribution of functions and a complementary perception for bothmodels of teaching.The proposal of a joint action by these twoteaching profiles iscompletelynecessary to improve the teaching-learningprocessof Spanish as a foreign language in the SouthKorean university context.

KATTGE, J., BÖNISCH, G., DÍAZ, S., LAVOREL, S., PRENTICE, I.C., LEADLEY, P., T., 2020. TRY plant trait database – enhanced coverage and open access. *Global Change Biology*, vol. 26, no. 1, pp. 119-188. DOI 10.1111/gcb.14904

Plant traits—the morphological, anatomical, physiological, biochemical and phenological characteristics of plants—determine how plants respond to environmental factors, affect other trophic levels, and influence ecosystem properties and their benefits and detriments to people. Plant trait data thus represent the basis for a vast area of research spanning from evolutionary biology, community and functional ecology, to biodiversity conservation, ecosystem and landscape management, restoration, biogeography and earth system modelling. Since its foundation in 2007, the TRY database of plant traits has grown continuously. It now provides unprecedented data coverage under an open access data policy and is the main plant trait database used by the research community worldwide. Increasingly, the TRY database also supports new frontiers of trait-based plant research, including the identification of data gaps and the subsequent mobilization or measurement of new data. To support this development, in this article we evaluate the extent of the trait data compiled in TRY and analyse emerging patterns of data coverage and representativeness. Best species coverage is achieved for categorical traits—almost complete coverage for ‘plant growth form’. However, most traits relevant for ecology and vegetation modelling are characterized by continuous intraspecific variation and trait–environmental relationships. These traits have to be measured on individual plants in their respective environment. Despite unprecedented data coverage, we observe a humbling lack of completeness and representativeness of these continuous traits in many aspects. We, therefore, conclude that reducing data gaps and biases in the TRY database remains a key challenge and requires a coordinated approach to data mobilization and trait measurements. This can only be achieved in collaboration with other initiatives. © 2019 The Authors. Global Change Biology published by John Wiley & Sons Ltd

KOPOBORU, S., CUEVAS-RODRÍGUEZ, G. y PÉREZ-CALERO, L., 2020. Boards that make a difference in firm's acquisitions: The role of interlocks and former politicians in Spain. *Sustainability*, vol. 12, no. 3. DOI 10.3390/su12030984

This study examines the influence of board interlocks and former politicians on decisions regarding acquisitions in Spain. Our research suggests that board interlocks to other firms can positively influence operations in terms of acquisition scale. Our findings also show that this relationship is positively moderated by the presence of former politicians. That is, the effects of interlocks on acquisitions are amplified further when there are former politicians on boards, which confirms their role as community influentials. In the case of Spain, and under-regulated industries, this complementary effect is maintained. However, the role played by interlocks seems to be more important than former politicians, which means that board interlocks can replace other formal methods of acquiring information (through former politicians) while attempting acquisitions. © 2020 by the authors.

LARA PALACIOS, M.D.A., MONREAL GIMENO, M.D.C. y SANCHEZ FERNANDEZ, S., 2019. Gender Violence and Trafficking of Human Beings for Sexual Exploitation Purposes. Vulnerability of Immigrant Women in Their Passage by Melilla and North of Africa. *Collectivus-Revista de Ciencias Sociales*, vol. 6, no. 2, pp. 121-140. ISSN 2382-4018. DOI 10.15648/Coll.2.2019.8.

The purpose of the research is to make visible all the areas that make up the trafficking of human beings for sexual exploitation purposes. As well as, the situation that immigrants live in their passage through North Africa to reach Melilla. We have used a comparative methodology of existing measures at international, european, national and regional level of the City of Melilla. Also, the information obtained from the direct observation. The main conclusions are: Trafficking of human beings for these purposes is directly related to gender roles in sex, the concepts of trafficking of human beings for these purposes and prostitution are confused, and, in the City of Melilla there has not yet been a plan of action against trafficking of human beings.

LARA-GÓMEZ, M.A., NAVARRO-CERRILLO, R.M., CEACERO, C.J., RUIZ-GOMÉZ, F.J., DÍAZ-HERNÁNDEZ, J.L. y RODRIGUEZ, G.P., 2020. Use of aerial laser scanning to assess the effect on c sequestration of oak (Quercus ilex L. subsp. ballota [Desf.]samp-Q. suber L.) afforestation on agricultural land. *Geosciences*, vol. 10, no. 2. DOI 10.3390/geosciences10020041

Conversion of agricultural lands to forest plantations to mitigate rising atmospheric carbon dioxide (CO2) has been proposed, but it depends on accurate estimation of the on-site carbon (C) stocks distribution. The use of aerial laser scanning (ALS) data is a rapidly evolving technology for the quantification of C stocks. We evaluated the use of allometric models together with high-density ALS data for

the quantification of biomass and soil C stocks in a 14-year-old Quercus ilex and Q. suber plantation in Southwestern Spain. In 2010, a field survey was performed and tree dasometric and biomass variables were measured. Forty-five soil profiles (N = 180 soil samples) were taken systematically and the soil organic C content (SOC) was determined. Biomass and soil organic C values were regressed against individual dasometric variables and total tree height was used as a predictor variable. Aerial laser scanning data were acquired with a point density of 12 points m−2. Relationships among ALS metrics and tree height were determined using stepwise regression models and used in the allometric models to estimate biomass and SOC C stocks. Finally, a C stock map of the holm-cork oak cover in the study area was generated. We found a tree total biomass of 27.9 kg tree−1 for holm oak and 41.1 kg tree−1 for cork oak. In the holm oak plantation, the SOC content was 36.90 Mg ha−1 for the layer 0–40 cm (SOC40) under the tree crown and 29.26 Mg ha−1 for the inter-planted area, with significant differences from the reference agricultural land (33.35 Mg ha−1). Linear regression models were developed to predict the biomass and SOC at the tree scale, based on tree height (R2 >0.72 for biomass, and R2 >0.62 for SOC). The overall on-site C stock in the holm-cork oak plantation was 35.11 Mg ha−1, representing a net C stock rise of 0.47 Mg ha−1 yr−1. The ALS data allows a reliable estimation of C stocks in holm and cork oak plantations and high-resolution maps of on-site C stocks are useful for silvicultural planning. The cost of ALS data acquisition has decreased and this method can be generalised to plantations of other Mediterranean species established on agricultural lands at regional scales. However, an increase of filed data and the availability of local biomass and, in particular, SOC will improve accurate quantification of the C stocks from allometric equations, and extrapolation to large planted areas. © 2020 by the authors. Licensee MDPI, Basel, Switzerland.

LEAL SARAGOÇA, J.M., PÉREZ FLORES, A.M. y MUÑOZ SÁNCHEZ, V.M., 2020. Capital social y redes sociales virtuales. Un estudio sobre los tipos de interacción social establecidas entre usuarios de redes sociales virtuales. En: Las redes sociales como herramienta de comunicación persuasiva, *Las redes sociales como herramienta de comunicación persuasiva* [en línea]. S.l.: McGraw-Hill Interamericana de España, pp. 55-73. ISBN 978-84-486-2033-2. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7271985.

LECHUGA, V., CARRARO, V., VINEGLA, B., CARREIRA, J.A. y LINARES, J.C., 2019. Carbon Limitation and Drought Sensitivity at Contrasting Elevation and Competition of Abies pinsapo Forests. Does Experimental Thinning Enhance Water Supply and Carbohydrates? *Forests*, vol. 10, no. 12. DOI 10.3390/f10121132.

Stand-level competition and local climate influence tree responses to increased drought at the regional scale. To evaluate stand density and elevation effects on tree carbon and water balances, we monitored seasonal changes in sap-flow density (SFD), gas exchange, xylem water potential, secondary growth, and non-structural carbohydrates (NSCs) in Abies pinsapo. Trees were subjected to experimental thinning within a low-elevation stand (1200 m), and carbon and water balances were compared to control plots at low and high elevation (1700 m). The hydraulic

conductivity and the resistance to cavitation were also characterized, showing relatively high values and no significant differences among treatments. Trees growing at higher elevations presented the highest SFD, photosynthetic rates, and secondary growth, mainly because their growing season was extended until summer. Trees growing at low elevation reduced SFD during late spring and summer while SFD and secondary growth were significantly higher in the thinned stands. Declining NSC concentrations in needles, branches, and sapwood suggest drought-induced control of the carbon supply status. Our results might indicate potential altitudinal shifts, as better performance occurs at higher elevations, while thinning may be suitable as adaptive management to mitigate drought effects in endangered Mediterranean trees.

LIU, S., WANG, H., TIAN, P., YAO, X., SUN, H., WANG, Q. y DELGADO-BAQUERIZO, M., 2020. Decoupled diversity patterns in bacteria and fungi across continental forest ecosystems. *Soil Biology and Biochemistry*, vol. 144. DOI 10.1016/j.soilbio.2020.107763

Recent evidence showed that bacteria and fungi appear to have different latitudinal diversity gradients at the global scale. However, the ecological drivers explaining these decoupled ecological and evolutionary patterns remain poorly understood. We identified the ecological predictors of such a decoupled pattern between bacterial and fungal diversity across a 4100 km latitudinal transect, from tropical to temperate forests in eastern China. Bacterial diversity showed a hump-shaped trend with latitude, while the diversity of fungi, and especially fungal saprobes and pathogens decreased with increasing latitude. In addition, our results provided evidence that while temperature and primary productivity, which decreased with increasing latitude, were the best predictors of fungal diversity, soil properties such as pH and N:P ratio were the best predictors for the latitudinal pattern in bacterial diversity. Further statistical results showed that sampling bias should be carefully considered in disentangling the underlying mechanisms of microbial geographical distribution. Our findings suggest that temperature is more likely to associate with fungal diversity than with bacterial diversity in eastern China, with important implications for the prediction of soil biodiversity and functions under climate change scenarios. © 2020 Elsevier Ltd

LOBATO PATRICIO, J., 2019. The improvement of Translation Competence in French-speaking students through French-Spanish Translation courses. *Ibérica*, no. 38, pp. 303-326. ISSN 1139-7241.

The main purpose of the m in Translation and Interpreting is, or should be, the acquisition of “translation competence”. This concept has been particularly significant in the field of Translation Teaching, which has been the object of many studies (Toury, 1984; Pym, 1992; Campbell, 1998; etc.) and of three models of classification/homogenization (Roiss, 2006): Kelly, 2002; Hurtado 1999; and the PACTE research group, PACTS 2001. French-speaking incoming students who register in French Translation courses at the University Pablo de Olavide

generally show a lesser degree of acquisition of translation competence than the local students. This sometimes causes frustration because little or no translation competence prevents them from succeeding in these courses. In order to mitigate this situation, a research project supported by the Spanish Ministry of Education was carried out. The main goal of this project was to improve the translation competence of French-speaking incoming students through translation courses. This paper briefly defines the notions of translation competence and "translation error", reports the outcome of the aforementioned project, and goes on to analyse the linguistic and translation needs of such students, following the studies of Agbodoyetin (2011), Nginios (2013) and Agudelo (2016). Finally, some teaching tools designed to overcome these needs and develop translation competence are explained, in the vein of some authors from the field of Specialized Translation, such as Delgado & Barcelo (2011).

LÓPEZ BARONI, M.J., 2020. Implications for healthcare personnel of the entry into force of the european union data protection regulation. *Atencion Primaria*, DOI 10.1016/j.aprim.2020.01.003

LÓPEZ BARONI, Manuel Jesús, 2020. Las narrativas de la biología sintética. En: Las fronteras de los derechos humanos: Problemas, Discusión y Soluciones, *Las fronteras de los derechos humanos: Problemas, Discusión y Soluciones* [en línea]. S.l.: Dykinson S. L., pp. 53-76. ISBN 978-84-13-24656-7. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7303208.

LÓPEZ, C. y RUIZ-BENÍTEZ, R., 2020. Multilayer analysis of supply chain strategies' impact on sustainability. *Journal of Purchasing and Supply Management*, vol. 26, no. 2. DOI 10.1016/j.pursup.2019.04.003

Integrating lean, green and resilient strategies into Supply Chain (SC) decisions is a key success factor for transformation toward sustainability. These strategies are increasingly common in the SC, although their implementation and results are not the same across different SC levels (Tier 1, 2 and 3 suppliers and the focal company). In spite of this, earlier studies have not explored in detail their effects on environmental, economic and social sustainability dimensions nor differentiated between SC levels and therefore implementation strategies overlook the difference between these levels. Accordingly, a novel multilevel analysis of the aerospace manufacturing SC based on Interpretive Structural Modeling (ISM) is carried out. This approach allows exploring the effects of combining lean, green and resilient strategies on specific sustainability performance measures in the aerospace manufacturing SC. The findings reveal differences between SC levels on the effects of lean, green and resilient strategies on the different sustainability dimensions. Additionally, Tiers 2 and 3 show a higher resistance or lower implication in the development of lean, green and resilient strategies than the focal company and Tier 1 companies. Final ISM models become a useful tool for managers to specifically establish coordinated long-term SC sustainability programs for each SC level. © 2019 Elsevier Ltd

LÓPEZ MENESES, E., VÁZQUEZ CANO, E. y MAC FADDEN, I., 2020. MOOC in Higher Education from the Students' Perspective. A Sustainable Model? *Studies in Systems, Decision and Control*, vol. 208, pp. 207-223. DOI 10.1007/978-3-030-18593-0_17

In this chapter we present a research that analyzes, from the perspective of university students, the positioning of MOOCs in the university panorama, determining their characteristics, strengths, weaknesses, and the main challenges to achieve sustainability. The research is based on a methodology based on virtual ethnography, and the qualitative analysis of university innovation experiences on the perception of 56 students who study "Information and Communication Technology" at the Pablo de Olavide University in Seville (Spain) following a Degree in Social Education corresponding to the academic year 2016–17. The results show that the main advantages of this type of courses are its wide offer, its open access, and the possibilities of accessing free audiovisual materials and establishing networks among the participating students. Main weaknesses are related to didactics and assessment: traditional teaching methods and little contact with teachers and tutors. As challenges that guarantee its sustainability and improvement in the future, five areas of intervention in the technological field are proposed: calibrated peer review, faculty-directed "student-sourcing" of responses to student questions, just-in-time teaching, recommendation systems and learning analytics. © 2020, Springer Nature Switzerland AG.

LÓPEZ, S., NUNO LOUREIRO, SUÁREZ MANZANO, S. y TORRE CRUZ, M.J. de la, 2020. Análisis preliminar de las relaciones entre el nivel de condición física y el apoyo parental percibido para la práctica deportiva en adolescentes con sobrepeso y obesidad. En: Retos: nuevas tendencias en educación física, deporte y recreación, *Retos-Nuevas Tendencias en Educación Física Deporte y Recreación*, no. 37, pp. 527-531. ISSN 1579-1726.

The objective of this study was to assess if parents' perceived support towards the practice of physical activity was related to gender and to physical fitness level in a group of overweight and obese adolescents. A total of 177 adolescents enrolled in public schoolinstitutions, aged between 12 and 16 years old, with an average body mass index of 29.03, participated in this study. The results of thisstudy revealed that the highest levels of general parental support for sports were observed in boys and girls with high aerobic capacity.Likewise, girls attributed their parents a greater degree of guided support compared to their male peers. With the results of this study, wecan conclude that there is a positive relationship between physical fitness and perceived parental support.

LOPEZ-BEAS, J., GUADIX, J.A., CLARES, B., SORIANO-RUIZ, J.L., ZUGAZA, J.L. y GALVEZ-MARTIN, P., [sin fecha]. An overview of international regulatory frameworks for mesenchymal stromal cell-based medicinal products: From laboratory to patient. *Medicinal Research Reviews*, ISSN 0198-6325. DOI 10.1002/med.21659.

Human mesenchymal stromal cells (hMSCs) are emerging as one of the most important cell types in advanced therapies and regenerative medicine due to their great therapeutic potential. The development of hMSC-based products focuses on the use of hMSCs as biological active substances, and they are considered medicinal products by the primary health agencies worldwide. Due to their regulatory status, the development of hMSC-based products is regulated by specific criteria that range from the design phase, nonclinical studies, clinical studies, to the final registration and approval. Patients should only be administered hMSC-based products within the framework of a clinical trial or after the product has obtained marketing authorization; in both cases, authorization by health authorities is usually required. Considering the above, this paper describes the current general regulatory requirements for hMSC-based products, by jurisdiction, to be implemented throughout their entire development process. These measures may provide support for researchers from both public and private entities and academia to optimize the development of these products and their subsequent marketing, thereby improving access to them by patients.

LOPEZ-LLUCH, G., 2019. The Important Role of CoQ(10) in Aging. *Antioxidants*, vol. 8, no. 12. DOI 10.3390/antiox8120570.

LÓPEZ-LLUCH, G., 2020. El SARS-CoV-2 y la COVID-19. Los peligros de una humanidad hacinada. En: MoleQla: revista de Ciencias de la Universidad Pablo de Olavide, *MoleQla: revista de Ciencias de la Universidad Pablo de Olavide*, no. 37, pp. 1- 0. ISSN 2173-0903.

El SARS-CoV-2 es un nuevo coronavirus emergido en la provincia de Hubei en China a finales de 2019. Como anteriores coronavirus, el SARS-CoV-2 causa una neumonía atípica conocida como COVID-19 queproduce una mortandad mayor que la causada por las gripes estacionales. Como cualquier zoonosis o enfermedadinfecciosa que pasa de un animal a otro, la virulencia del virus puede ser mayor cuando infecta al nuevo huéspedcreando una alta mortandad. En este artículo se ofrecen las características del virus y las claves de la enfermedady de como prevenir su diseminación y gravedad hasta que llegue la mayor arma contra ella: la vacuna

LOPEZ-MARTINEZ, P., MONTERO-MONTERO, D., MORENO-RUIZ, D. y MARTINEZ-FERRER, B., 2019. The Role of Parental Communication and Emotional Intelligence in Child-to-Parent Violence. *Behavioral Sciences*, vol. 9, no. 12. DOI 10.3390/bs9120148.

In recent years, cases of child-to-parent violence (CPV) have increased significantly, prompting greater scientific interest in clarifying its causes. The aim of this research was to study the relationship between styles of family communication (open, offensive and avoidant), emotional intelligence or EI (attention, repair and perceived emotional clarity) and CPV, taking into account the gender of the aggressors. The participants of the study were 1200 adolescents (46.86% boys) between the ages of 12 and 18 enrolled at secondary schools in the Autonomous

Communities of Andalusia and Valencia (M = 13.88, SD = 1.32). A Multivariate Analysis of Variance (MANOVA, 3 x 2) was performed with CPV and gender as independent variables and family communication styles and EI as dependent variables. The results showed that the adolescents with low CPV obtained lower scores for offensive and avoidant family communication and higher scores for both positive family communication and emotional repair. The girls scored higher than the boys in both offensive communication and perceived emotional attention. The results highlight the importance of encouraging positive communication, as well as the need to strengthen perceived emotional repair to prevent future cases of CPV.

LORENZO, P.I., MARTIN-MONTALVO, A., COBO VUILLEUMIER, N. y GAUTHIER, B.R., 2019. Molecular Modelling of Islet beta-Cell Adaptation to Inflammation in Pregnancy and Gestational Diabetes Mellitus. *International Journal of Molecular Sciences*, vol. 20, no. 24. DOI 10.3390/ijms20246171.

Gestational diabetes mellitus (GDM), a metabolic disease that develops with the increase in insulin resistance during late pregnancy, is currently one of the most common complications affecting pregnancy. The polygenic nature of GDM, together with the interplay between different genetic variants with nutritional and environmental factors has hindered the full understanding of the etiology of this disease. However, an important genetic overlap has been found with type 2 diabetes mellitus (T2DM) and, as in the case of T2DM, most of the identified loci are associated with beta-cell function. Early detection of GDM and adequate interventions to control the maternal glycemia are necessary to avoid the adverse outcomes for both the mother and the offspring. The in utero exposure to the diabetic milieu predispose these children for future diseases, among them T2DM, originating a vicious circle implicated in the increased prevalence of both GDM and T2DM. The involvement of inflammatory processes in the development of GDM highlights the importance of pancreatic beta-cell factors able to favor the adaptation processes required during gestation, concomitantly with the protection of the islets from an inflammatory milieu. In this regard, two members of the Pax family of transcription factors, PAX4 and PAX8, together with the chromatin remodeler factor HMG20A, have gained great relevance due to their involvement in beta-cell mass adaptation together with their anti-inflammatory properties. Mutations in these factors have been associated with GDM, highlighting these as novel candidates for genetic screening analysis in the identification of women at risk of developing GDM.

LOSADA FRIEND, M., 2020. Introduction. *Estudios Irlandeses*, no. 15, pp. 223-227. ISSN 1699-311X.

LOZANO-OYOLA, M. y SARASOLA FERNÁNDEZ, A., 2020. Time Banks Within the Framework of the Collaborative Economy. A Case Study. *Studies in Systems, Decision and Control*, vol. 208, pp. 89-109. DOI 10.1007/978-3-030-18593-0_8

In recent decades we have witnessed the growth of a series of activities that are part of a new vision of the economy. We refer to the collaborative economy, extending its areas of action projects arising in different aspects such as holidays and accommodation, housing, mobility, finance, energy, information and communications technology, and exchange of goods and services. Within these areas we will focus on the banks of time, an initiative that has been consolidated in recent years, partly because of the situation of sustained global economic crisis. With time bank, citizens can achieve a number of benefits while covering part of their basic needs. Thus, we can say that shows economic benefits, both for the consumer who receives a service at a low price or free as part of the producer who provides the service. We also found emotional benefits users as time banks get to feel useful, to be part of the community, a sense of mutual aid is generated … also sometimes benefits arise in the environmental field. As a case study we will use the time bank Nervión-San Pablo de Sevilla. We chose this center for pioneering in the city of Seville and currently have the largest number of users. © 2020, Springer Nature Switzerland AG.

LUCENA-CID, I.-V., 2020. Technological revolution. An approach to the new technologies from the perspective of human rights. En: Las fronteras de los derechos humanos: Problemas, Discusión y Soluciones, *Las fronteras de los derechos humanos: Problemas, Discusión y Soluciones* [en línea]. S.l.: Dykinson S. L., pp. 77-92. ISBN 978-84-13-24656-7. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7303207.

LUENGO LOPEZ, J., 2020. La Fronde's Feminist Chronicles. Feminist Associative Movements in the Turn-of-The- Century Paris. *Hispania Nova*, no. 18, pp. 486-516. ISSN 1138-7319. DOI 10.20318/hn.2020.5115.

La Fronde (1897-1905) was founded by Marguerite Durand (1864-1936) as a women-only project in which women were paid the same wage as men, and were in charge of writing, managing and distributing it. The topics covered touched on the improvement of women's conditions in French society and the section "Chronique ferniniste" covered all topics related to reporting injustices suffered by women, fighting for their rights and helping women achieve full citizens' status. Moreover, those chronicles enable us to understand what associations existed at the turn of the century in Paris, as well as the positioning of the feminist daily towards them and others from abroad.

LUNA, Á., PALMA, A., SANZ-AGUILAR, A., TELLA, J.L. y CARRETE, M., 2020a. Author Correction: Personality-dependent breeding dispersal in rural but not urban burrowing owls (Scientific Reports, (2019), 9, 1, (2886), 10.1038/s41598-019-39251-w). *Scientific Reports*, vol. 10, no. 1. DOI 10.1038/s41598-020-58513-6

This Article contains errors in the Results section, where: "After model averaging, we found strong support for an effect of individual behaviour on site fidelity of rural birds and of conspecific density on site fidelity of urban and rural ones (Table 2

and Fig. 2), shyer rural individuals and birds breeding at higher conspecific densities having a higher probability of changing their breeding sites between successive years than their counterparts (R2 = 0.16). Habitat, and breeding success and productivity in the previous year received strong support to explain variability in the dispersal distance of all individuals (R2 = 0.46), urban birds, and individuals breeding successfully or having more chicks moving less than rural, and unsuccessful owls (Table 2 and Fig. 2).". © 2020, The Author(s).

LUNA, Á., PALMA, A., SANZ-AGUILAR, A., TELLA, J.L. y CARRETE, M., 2020b. Sex, personality and conspecific density influence natal dispersal with lifetime fitness consequences in urban and rural burrowing owls. *PLOS One*, vol. 15, no. 2. DOI 10.1371/journal.pone.0226089

There is a growing need to understand how species respond to habitat changes and the potential key role played by natal dispersal in population dynamics, structure and gene flow. However, few studies have explored differences in this process between conspecifics living in natural habitats and those inhabiting landscapes highly transformed by humans, such as cities. Here, we investigate how individual traits and social characteristics can influence the natal dispersal decisions of burrowing owls (Athene cunicularia) living in urban and rural areas, as well as the consequences in terms of reproductive success and apparent survival. We found short dispersal movements among individuals, with differences between urban and rural birds (i.e., the former covering shorter distances than the latter), maybe because of the higher conspecific density of urban compared to rural areas. Moreover, we found that urban and rural females as well as bold individuals (i.e., individuals with shorter flight initiation distance) exhibited longer dispersal distances than their counterparts. These dispersal decisions have effects on individual fitness. Individuals traveling longer distances increased their reproductive prospects (productivity during the first breeding attempt, and long term productivity). However, the apparent survival of females decreased when they dispersed farther from their natal territory. Although further research is needed to properly understand the ecological and evolutionary consequences of dispersal patterns in transformed habitats, our results provide information about the drivers and the consequences of the restricted natal movements of this species, which may explain its population structuring through restricted gene flow between and within urban and rural areas. This is an open access article, free of all copyright, and may be freely reproduced, distributed, transmitted, modified, built upon, or otherwise used by anyone for any lawful purpose. The work is made available under the Creative Commons CC0 public domain dedication.

LUNA-ROMERA, J.M., NUNEZ-HERNANDEZ, F., MARTINEZ-BALLESTEROS, M., RIQUELME, J.C. y USABIAGA IBANEZ, C., 2019. Analysis of the Evolution of the Spanish Labour Market Through Unsupervised Learning. *IEEE Access*, vol. 7, pp. 121695-121708. ISSN 2169-3536. DOI 10.1109/ACCESS.2019.2935386.

Unemployment in Spain is one of the biggest concerns of its inhabitants. Its unemployment rate is the second highest in the European Union, and in the second quarter of 2018 there is a 15.2% unemployment rate, some 3.4 million unemployed. Construction is one of the activity sectors that have suffered the most from the economic crisis. In addition, the economic crisis affected in different ways to the labour market in terms of occupation level or location. The aim of this paper is to discover how the labour market is organised taking into account the jobs that workers get during two periods: 2011-2013, which corresponds to the economic crisis period, and 2014-2016, which was a period of economic recovery. The data used are official records of the Spanish administration corresponding to 1.9 and 2.4 million job placements, respectively. The labour market was analysed by applying unsupervised machine learning techniques to obtain a clear and structured information on the employment generation process and the underlying labour mobility. We have applied two clustering methods with two different technologies, and the results indicate that there were some movements in the Spanish labour market which have changed the physiognomy of some of the jobs. The analysis reveals the changes in the labour market: the crisis forces greater geographical mobility and favours the subsequent emergence of new job sources. Nevertheless, there still exist some clusters that remain stable despite the crisis. We may conclude that we have achieved a characterisation of some important groups of workers in Spain. The methodology used, being supported by Big Data techniques, would serve to analyse any alternative job market.

LUNA-TRIGUERO, A., SŁAWEK, A., SÁNCHEZ-DE-ARMAS, R., GUTIÉRREZ-SEVILLANO, J.J., ANIA, C.O., PARRA, J.B., VICENT-LUNA, J.M. y CALERO, S., 2020. Π-Complexation for olefin/paraffin separation using aluminosilicates. *Chemical Engineering Journal*, vol. 380. DOI 10.1016/j.cej.2019.122482

The purification of the α-olefins though challenging, is mandatory step for their use in the chemical industry. Since adsorptive separation using zeolites is one of the most promising alternatives for olefin/paraffin separation in terms of energy efficiency, we use a combination of experiments and molecular simulations to study the effect that the topology and chemical composition of the zeolite exert on the purification of olefins. To this aim we developed an effective potential for the cations with the double bond of the olefins. The potential parameters were validated with our experimental adsorption isotherms and isobars of propylene and 1-hexene. We performed an extensive study of propane/propylene separation in more than 200 all silica zeolites and several aluminosilicates. We also performed DFT and classical optimization of the structures, obtaining the minimum energy of a given chemical composition and topology, which is key factor for the adsorption mechanisms. DFT calculations also allowed the analysis of binding energies and binding geometries of propane and propylene in NaY and LTA5A. We discussed the effect exerted by the cations on the separation performance of the zeolites. Our study shows that aluminosilicates with calcium cations are the best candidates to separate olefins from paraffins, due to the stronger interaction of the double bond of olefins with these divalent cations. © 2019 Elsevier B.V.

LYALKOV, S., CARMONA, M., CONGREGADO, E., MILLAN, A. y MILLAN, J.M., 2020. Trademarks and their association with Kirznerian entrepreneurs. *Industry and Innovation*, vol. 27, no. 1-2, SI, pp. 155-183. ISSN 1366-2716. DOI 10.1080/13662716.2019.1586523.

Although trademarks are the most widely used form of Intellectual Property Rights (IPRs) by firms across all economic sectors worldwide, this indicator is a much less exploited information resource in empirical analysis compared with patents. Our work addresses this gap by investigating the relationship between trademark registration and entrepreneurial activity using data for 33 European countries. Our empirical results show a positive and significant relationship between the share of the self-employed workforce in a given country that can be considered `entrepreneurial' - which we associate with the share of Kirznerian entrepreneurs - and trademark registration at the country level. These results have important implications for scholars, practitioners and policymakers, which are discussed in this work.

LYSGAARD, J., LÓPEZ-SÁNCHEZ, A.D. y HERNÁNDEZ-DÍAZ, A.G., 2020. A matheuristic for the MinMax capacitated open vehicle routing problem. *International Transactions in Operational Research*, vol. 27, no. 1, pp. 394-417. DOI 10.1111/itor.12581

In this paper, the MinMax-COVRP (where COVRP is capacitated open vehicle routing problem) is considered as a variation of the COVRP where the objective is to minimize the duration of the longest route. For the purpose of producing high-quality solutions, elements from the fields of mathematical programming and metaheuristics are combined, resulting in a matheuristic for solving the MinMax-COVRP. The matheuristic benefits from the diversification produced by a metaheuristic and the intensification from mixed-integer linear programming (MILP). The initial solution provided by a multistart heuristic is used to seed and accelerate the MILP in which a local branching framework and the separation of k-path inequalities are suitably combined. Computational experience shows promising results not only improving the initial solution provided by the multistart algorithm, but also ensuring optimality for most of the small- and medium-sized instances. © 2018 The Authors. International Transactions in Operational Research © 2018 International Federation of Operational Research Societies

MAAITAH, M., HODAIFA, G., MALVIS, A. y SÁNCHEZ, S., 2020. Kinetic growth and biochemical composition variability of Chlorella pyrenoidosa in olive oil washing wastewater cultures enriched with urban wastewater. *Journal of Water Process Engineering*, vol. 35. DOI 10.1016/j.jwpe.2020.101197

Olive mills generates wastewaters (OMWs) characterized by high organic and inorganic load, which includes sugars, phenolic compounds, polyalcohols, pectins, lipids, Na, K, Ca ..., but deficient in nitrogen and phosphorus. Urban wastewater treatment plants with primary (natural sedimentation) and secondary (biological

removal) treatments are unable to remove the total nitrogen and phosphorus from these wastewaters, which can be therefore considered as a sustainable source of both nutrients. The enrichment of OMW with urban wastewater from secondary treatment (UW) can provide optimal nutrient concentrations to produce an algal biomass with high added value. Chlorella pyrenoidosa is a green unicellular alga that can eliminate nutrients and produce biomass with high lipids content. Experiments have been carried out in photobioreactors of 0.5 L useful capacity. Different enriched dilutions of olive oil washing wastewater (OOWW) with ultrapure water (%OOWWenriched = 5–100% v/v) were prepared as culture media. Common operating conditions were pH 8, aeration level 1 v/v/min, initial illumination intensity 126.2 μE/(m2 s) under 12 h light/12 h dark cycles and temperature of 25 °C. Results obtained showed that the highest values of maximum specific growth rate and volumetric biomass productivity were μm = 0.0203 h−1 and Pb = 1.73 × 10-3 g/(L h), respectively. Maximum percentages of chlorophylls (0.96 %) and carotenoids (0.24 %) were obtained in the final biomass of the culture formed by 30 % (v/v) of OOWWenriched. The highest proteins (43.7 %) and lipids (51.5 %) contents were obtained in the biomass from the culture medium with 100 % (v/v) of OOWWenriched, which is suitable for biofuel production. Final treated water could be discharged into water public channels, used in irrigation or as drinking water if other operation units such as ultrafiltration and reverse osmosis are added to the bioprocess. © 2020 Elsevier Ltd

MAC FADDEN, I., 2020. Educational Models of Social Cohesion in Marginal Contexts: The Social Space as an Educational Agent. *Studies in Systems, Decision and Control*, vol. 208, pp. 161-172. DOI 10.1007/978-3-030-18593-0_13

The main objective of this research is to analyze the relationship between the advance of social marginality and education as a tool of social cohesion, making an exploratory study of a qualitative nature that is limited to the scope of the doctoral study by the same author, started in 2015: “Advanced Marginality and Social Space: New Models of Cohesion, El cado de Torreblanca”. Advanced marginality (Wacquant in Parias urbanos. Marginalidad en la ciudad a comienzos del milenio. Ediciones Manantial, Buenos Aires, 2006), shows the constant advance of the phenomenon, and the need for new public policies and social inclusion. Democracy—understood as an aspiration to the realization of the well-being of every individual that does not correspond to mere principles of utility, but to the possibilities of action and choice within alternative combinations accessible to all—has as its primary objective the training of all citizens (Sen in La libertà individuale come impegno sociale. Editori laterza, Bari, 2007). In a democratic government, one way to offer this set of capacity-action that Sen (La libertà individuale come impegno sociale. Editori laterza, Bari, 2007) defines as a capability, could be to invest in education, in the construction of a paideia, promoter of rights and opportunities, capable of really making the free individual. Education has to be, then, a protagonist in the construction of social spaces—which become educational agents—in which people can show, with facts and words, who they are and what they can do (Arendt in Men in the Dark Times. Ancourt Brace, New York, 1986), through an educational model oriented to human development (Nussbaum in Creare capacità. Liberarsi dalla dittatura del

Pi, Bologna, 2012), and to promote educational experiences of social cohesion, which start from the focal point that each human being is constituted as a being whose singularity is realized in plurality (Mortari in A scuola di libertà. Formazione e Pensiero autonomo. Raffaello Cortina, Milano, 2008). © 2020, Springer Nature Switzerland AG.

MACARRO OSUNA, J.M., 2020. La compatibilidad del Impuesto sobre Servicios Digitales con los convenios de doble imposición a la luz del modelo OCDE. En: Quincena fiscal, *Quincena fiscal*, no. 6, pp. 21-30. ISSN 1132-8576.

MAGRI, M.S., JIMÉNEZ-GANCEDO, S., BERTRAND, S., MADGWICK, A., ESCRIVÀ, H., LEMAIRE, P. y GÓMEZ-SKARMETA, J.L., 2020. Assaying Chromatin Accessibility Using ATAC-Seq in Invertebrate Chordate Embryos. *Frontiers in Cell and Developmental Biology*, vol. 7. DOI 10.3389/fcell.2019.00372

Cis-regulatory elements (CREs) are non-coding DNA regions involved in the spatio-temporal regulation of gene expression. Gene regulatory changes drive animal development and play major roles during evolution of animal body plans. Therefore, we believe that determining CREs at different developmental stages and across animal lineages is critical to understand how evolution operates through development. The Assay for Transposase-Accessible Chromatin followed by high-throughput sequencing (ATAC-seq) is a powerful technique for the study of CREs that takes advantage of Tn5 transposase activity. Starting from fewer than 105 cells, in a 1-day procedure, it is possible to detect, at a genome-wide level, CREs located in open chromatin regions with high resolution. Here, we describe a detailed step-by-step ATAC-seq protocol for invertebrate chordate marine embryos. We have successfully applied this technique to amphioxus and two species of tunicate embryos. We also show an easy workflow to analyze data generated with this technique. Moreover, we point out that this method and our bioinformatic pipeline are efficient to detect CREs associated with Wnt signaling pathway by simply using embryos treated with a drug that perturbs this pathway. This approach can be extended to other signaling pathways and also to embryo mutants for critical genes. Our results therefore demonstrate the power of ATAC-seq for the identification of CREs that play essential functions during animal development in a wide range of invertebrate or vertebrate animals. © Copyright © 2020 Magri, Jiménez-Gancedo, Bertrand, Madgwick, Escrivà, Lemaire and Gómez-Skarmeta.

MAGUILLA, E., MIGUEZ, M., VILLAVERDE, T., VARGAS-MONTES, F.J. y LUCENO, M., 2020. Molecular characterization of hybrids in Carex (Cyperaceae) by cloning: Carex paniculata x remota (= C. x boenninghausiana). *Phytotaxa*, vol. 435, no. 2, pp. 181-191. ISSN 1179-3155. DOI 10.11646/phytotaxa.435.2.5.

One of the most common processes shaping evolution in plants could be the introgression

or hybridization between species. We sampled a putative hybrid population of Carex x boenninghausiana recently discovered from Sicily (Italy), and one specimen of each of the parent species of this hybrid (C. paniculata and C. remota) from the same area. We performed phylogenetic analyses of nuclear and plastid DNA markers after sequencing and cloning in the case of the nuclear region, as an easy and effective way of hybrid detection. Previous morphological and cytogenetic studies demonstrated the hybrid character of C. x boenninghausiana. Our results show how C. paniculata and C. remota are the parent species of this hybrid, also from a molecular DNA point of view. The use of cloning of the ITS nrDNA region to separate chains from both parents, combined with the analysis of cpDNA regions seems to be a powerful tool to detect hybridization and clarify the evolution and species's relationships in natural populations in Carex.

MAILET, Z., RAMOS, T. y BORROTO, G., 2020. Study on acute effects of breakfast in well-nourished children. *Archivos Latinoamericanos De Nutrición*, vol. 70, no. 3, pp. 543-552. ISSN 0004-0622.

The majority of studies demonstrate positive effects of breakfast compared with no breakfast. However, effects vary over cognitive domain. Benefits of breakfast consumption were most evident on measures of memory and in terms of fewer errors on attention tasks especially later in the morning when performance decrements become apparent on the no breakfast conditions.

MANZANO-LÓPEZ, J. y MONJE-CASAS, F., 2020. The multiple roles of the cdc14 phosphatase in cell cycle control. *International Journal of Molecular Sciences*, vol. 21, no. 3. DOI 10.3390/ijms21030709

The Cdc14 phosphatase is a key regulator of mitosis in the budding yeast Saccharomyces cerevisiae. Cdc14 was initially described as playing an essential role in the control of cell cycle progression by promoting mitotic exit on the basis of its capacity to counteract the activity of the cyclin-dependent kinase Cdc28/Cdk1. A compiling body of evidence, however, has later demonstrated that this phosphatase plays other multiple roles in the regulation of mitosis at different cell cycle stages. Here, we summarize our current knowledge about the pivotal role of Cdc14 in cell cycle control, with a special focus in the most recently uncovered functions of the phosphatase. © 2020 by the authors. Licensee MDPI, Basel, Switzerland.

MARCHENA FERNÁNDEZ, J., 2020. La reconciliación imposible. El fin del régimen colonial. En: La Aventura de la historia, *La Aventura de la historia*, no. 255, pp. 68-71. ISSN 1579-427X.

MARENTE, J., ORTEGA, P., PARDO-MEDINA, J., AVALOS, J. y LIMÓN, M.C., 2020. Modulation of Activity of a Carotenoid Pathway Through the Use of the TeT-on Regulatory System: Application in the Fungus Fusarium fujikuroi. *Methods in molecular biology (Clifton, N.J.)*, vol. 2083, pp. 343-360. DOI

10.1007/978-1-4939-9952-1_26

Carotenoids are widespread pigments in photosynthetic species, but they are also found in nonphotosynthetic microorganisms, such as bacteria and fungi. The amenability of fungi to genetic studies have made some fungal species advantageous models in the study of the genetics and biochemistry of carotenoid biosynthesis, while others have been used for biotechnological carotenoid production. The availability of molecular techniques that allow modulating the expression of target genes is a powerful tool in the manipulation of carotenoid synthesis. An example of an adjustable gene expression is based on the tetracycline-controlled transcriptional activation system, known as Tet-on. We describe here the material and protocols for the construction of a Tet-on regulated gene, its introduction in the filamentous fungus F. fujikuroi, and its use to modulate the expression of a negative regulator of carotenoid biosynthesis.

MARÍN-AGUILAR, F., LECHUGA-VIECO, A.V., ALCOCER-GÓMEZ, E., CASTEJÓN-VEGA, B., LUCAS, J., GARRIDO, C., PERALTA-GARCIA, A., PÉREZ-PULIDO, A.J., VARELA-LÓPEZ, A., QUILES, J.L., RYFFEL, B., FLORES, I., BULLÓN, P., RUIZ-CABELLO, J. y CORDERO, M.D., 2020. NLRP3 inflammasome suppression improves longevity and prevents cardiac aging in male mice. *Aging Cell*, vol. 19, no. 1. DOI 10.1111/acel.13050

While NLRP3-inflammasome has been implicated in cardiovascular diseases, its role in physiological cardiac aging is largely unknown. During aging, many alterations occur in the organism, which are associated with progressive impairment of metabolic pathways related to insulin resistance, autophagy dysfunction, and inflammation. Here, we investigated the molecular mechanisms through which NLRP3 inhibition may attenuate cardiac aging. Ablation of NLRP3-inflammasome protected mice from age-related increased insulin sensitivity, reduced IGF-1 and leptin/adiponectin ratio levels, and reduced cardiac damage with protection of the prolongation of the age-dependent PR interval, which is associated with atrial fibrillation by cardiovascular aging and reduced telomere shortening. Furthermore, old NLRP3 KO mice showed an inhibition of the PI3K/AKT/mTOR pathway and autophagy improvement, compared with old wild mice and preserved Nampt-mediated NAD+ levels with increased SIRT1 protein expression. These findings suggest that suppression of NLRP3 prevented many age-associated changes in the heart, preserved cardiac function of aged mice and increased lifespan. © 2019 The Authors. Aging Cell published by the Anatomical Society and John Wiley & Sons Ltd.

MÁRMOL, A.M. y HINOJOSA, M.A., 2020. A Two-Step Proportional Rule for Division with Multiple References. *Group Decision and Negotiation*, vol. 29, no. 1, pp. 127-141. DOI 10.1007/s10726-019-09649-y

Proportionality is a primary principle generally accepted when dividing a commodity between a set of agents characterized by their reference with respect to a certain

characteristic. However, when multiple characteristics have to be taken into account, it is not clear how to define proportionality. We propose a two-step proportional rule for the class of division problems with multiple characteristics. The rule is based on the best expectations of the agents and incorporates the extensions of two crucial properties which are inherent to proportionality: the proportions obtained with respect to the different references cannot be improved simultaneously, and the result does not depend on the scale in which each of the characteristics is measured. We also prove that the two-step proportional rule can be understood as the result of a negotiation in which the Kalai–Smorodinsky solution is applied to a bargaining game between parties each one aiming to maximize the proportions that the set of agents attain with respect to the references of the corresponding characteristic. © 2019, Springer Nature B.V.

MARTIN-CALVO, A., GUTIERREZ-SEVILLANO, J.J., DUBBELDAM, D. y CALERO, S., 2020. Using Aliphatic Alcohols to Tune Benzene Adsorption in MAF-6 (vol 2, 1900112, 2019). *Advanced Theory and Simulations*, vol. 3, no. 1. DOI 10.1002/adts.201900224.

MARTÍNEZ CABEZUDO, F., 2020. Derechos políticos y de información e internet: Cuestiones para la realización de los derechos humanos en los procesos electorales en la era de internet. En: Las fronteras de los derechos humanos: Problemas, Discusión y Soluciones, *Las fronteras de los derechos humanos: Problemas, Discusión y Soluciones* [en línea]. S.l.: Dykinson S. L., pp. 93-120. ISBN 978-84-13-24656-7. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7303206.

MARTINEZ-ALVAREZ, F. y BUI, D.T., 2020. Advanced Machine Learning and Big Data Analytics in Remote Sensing for Natural Hazards Management. *Remote Sensing*, vol. 12, no. 2. DOI 10.3390/rs12020301.

This editorial summarizes the performance of the special issue entitled Advanced Machine Learning and Big Data Analytics in Remote Sensing for Natural Hazards Management, which was published at MDPI's Remote Sensing journal. The special issue took place in years 2018 and 2019 and accepted a total of nine papers from authors of thirteen different countries. So far, these papers have dealt with 116 cites. Earthquakes, landslides, floods, wildfire and soil salinity were the topics analyzed. New methods were introduced, with applications of the utmost relevance.

MARTÍNEZ-ÁLVAREZ, F., TRONCOSO, A., QUINTIÁN, H. y CORCHADO, E., 2020. Special issue: HAIS16-IGPL. *Logic Journal of the IGPL*, vol. 28, no. 1, pp. 1-3. DOI 10.1093/jigpal/jzz066

MARTINEZ-FERRER, B. y STATTIN, H., 2019. Self-harm, depressive mood, and belonging to a subculture in adolescence. *Journal of Adolescence*, vol. 76, pp. 12-19. ISSN 0140-1971. DOI 10.1016/j.adolescence.2019.08.003.

MARTINEZ-LOPEZ, D. y PALAZUELOS-MARTINEZ, M., 2019. Breaking with the Past in Smart Specialisation: A New Model of Selection of Business StakeholdersWithin the Entrepreneurial Process of Discovery. *Journal of The Knowledge Economy*, vol. 10, no. 4, pp. 1643-1656. ISSN 1868-7865. DOI 10.1007/s13132-015-0271-6.

The real core of the smart specialisation approach is embedded in what is known as the entrepreneurial process of discovery (EPD), which is a main novelty of this innovative policy framework. A successful EPD requires a relevant involvement of stakeholders in a clear break with past practices, but this demands a careful actors' selection. In this context, this paper proposes an analytical method for the selection of private business stakeholders, based on a transparent and measurable criterion: the choice of the entrepreneurs who can best define an adequate resource allocation over time in a context of uncertainty. On the basis of a simple general equilibrium model with monopolistic competition, the paper proposes a simple test comparing the optimal decisions on factors' demand taken in different periods. The closer both factors' demands are, the better the entrepreneur's ability will be to predict the most adequate level of resources, which is an indicator of economic success.

MARTÍNEZ-SÁNCHEZ, S.M., MARTÍNEZ-GARCÍA, T.E., BUENO-ANTEQUERA, J. y MUNGUÍA-IZQUIERDO, D., 2020. Feasibility and effect of a Pilates program on the clinical, physical and sleep parameters of adolescents with anorexia nervosa. *Complementary Therapies in Clinical Practice*, vol. 39. DOI 10.1016/j.ctcp.2020.101161

Background and purpose: Anorexia nervosa (AN) becomes chronic, with high physical, psychological and social morbidity and high mortality without early and effective treatment. The impact of physical exercise as a coadjutant to conventional treatment in this clinical population has been studied with favorable results. Although a Pilates program could be beneficial for patients with AN, no study has analyzed its feasibility and effects in adolescents with AN. Therefore, this study evaluated the safety of a Pilates program and investigated the feasibility and effect in adolescents with AN. Materials and methods: In this prospective quasi-experimental study, body composition, blood analysis, sedentary time, physical activity and time of sleep, and physical fitness were measured objectively before and after a 10-week Pilates supervised program. Results: Twelve female adolescents with AN (14.6 ± 1.7 years old) completed the program, with a session attendance rate of 96%, a persistence rate of 100%. There were significant increases in height, plasma calcium and sleep efficiency. Significant decreases in plasma follitropin, sleep duration and, duration and number of night perturbations were observed. Conclusion: A Pilates program is safe and feasible in adolescents with AN when they have a controlled and stable weight, and such a program could be a viable alternative among treatment programs to achieve better sleep quality.

MARTINS-NOGUEROL, R., MORENO-PÉREZ, A.J., SEBASTIEN, A., TRONCOSO-PONCE, M.A., GARCÉS, R., THOMASSET, B., SALAS, J.J. y MARTÍNEZ-FORCE, E., 2020. Impact of sunflower (Helianthus annuus L.) plastidial lipoyl synthases genes expression in glycerolipids composition of transgenic Arabidopsis plants. *Scientific Reports*, vol. 10, no. 1. DOI 10.1038/s41598-020-60686-z

Lipoyl synthases are key enzymes in lipoic acid biosynthesis, a co-factor of several enzyme complexes involved in central metabolism. Plant pyruvate dehydrogenase complex (PDH), located in mitochondria and plastids, catalyses the first step of fatty acid biosynthesis in these organelles. Among their different components, the E2 subunit requires the lipoic acid prosthetic group to be active. De novo lipoic acid biosynthesis is achieved by the successive action of two enzymes on octanoyl-ACP: octanoyltransferase (LIP2) and lipoyl synthase (LIP1). In this study, two plastidial lipoyl synthase genes from sunflower (Helianthus annuus L.) were identified (HaLIP1p1 and HaLIP1p2), sequenced and cloned in a heterologous production system (Escherichia coli). Gene expression studies revealed similar expression patterns for both isoforms, with a slight predominance of HaLIP1p1 in vegetative tissues and mature seeds. Tertiary structural models for these enzymes indicate they both have the same theoretical catalytic sites, using lipoyl-lys and 5-deoxyadenosine as docking substrates. The fatty acid profile of E. coli cells overexpressing HaLIP1p1 and HaLIP1p2 did not present major differences, and the in vivo activity of both proteins was confirmed by complementation of an E. coli JW0623 mutant in which lipoyl synthase is defective. Although no significant differences were detected in the total fatty acid composition of transgenic Arabidopsis thaliana seeds overexpressing any of both proteins, a lipidomic analysis revealed a redistribution of the glycerolipid species, accompanied with increased phosphatidylethanolamine (PE) content and a decrease in diacyglycerols (DAG) and phosphatidylcholine (PC). Depletion of the SAM co-factor caused by HaLIP1p1 and HaLIP1p2 overexpression in transgenic plants could explain this remodelling through its effects on PC synthesis. © 2020, The Author(s).

MARTOS-ROSILLO, S., GONZALEZ-RAMON, A., RUIZ-CONSTAN, A., MARIN-LECHADO, C., GUARDIOLA-ALBERT, C., MORAL MARTOS, F., JODAR, J. y PEDRERA PARIAS, A., 2019. Water management in the high mountain watersheds of the Sierra Nevada National Park (southern Spain). An example of ancestral Integrated Water Management. *Boletín Geológico y Minero*, vol. 130, no. 4, pp. 729-742. ISSN 0366-0176. DOI 10.21701/bolgeomin.130.4.008.

Sierra Nevada is the main mountain range in the southern Iberian Peninsula and has been catalogued as a Biosphere Reserve (1986), a Natural Park (1989) and a National Park (1999). Apart from its ecological, geomorphological and landscape singularities, there are other remarkable hydrological, historical and cultural features, such as the ancestral water management performed at the headwaters of the rivers. A dense network channels excavated in the ground, the so-called acequias de careo, allows the derivation of melt water from of the river water head towards the higher zone of the hillsides, where it infiltrates. It slowly flows down through the weathered zone of the metamorphic rocks, until reaching the rivers

and springs used for supply and irrigation. This water management system, implemented since the Muslim conquest of southern Spain (VIII century), has led to a remarkable transformation of the landscape, where agricultural terraces and pastures coexist with ecosystems of high ecological value. This paper describes the careos water-management technique in a pilot basin, the Berchules watershed, recently studied during 2014 and 2015 by the Geological Survey of Spain. Migration, the abandonment of cultivated lands and, consequently, of the acequias de careo are affecting the dynamics of the rivers, endangering the delicate balance reached between man and nature in the Sierra Nevada, after many centuries of harmonious coexistence.

MATAS TERRÓN, A., JOSÉ LEIVA OLIVENCIA, J. y JESÚS CABALLERO BLANCO, P., 2020. Big Data Irruption in Education. En: Pixel-Bit: Revista de medios y educación, *Pixel-Bit: Revista de medios y educación*, no. 57, pp. 59-90. ISSN 1133-8482. 10.12795/pixelbit.2020.i57.02

The objective is to analyse the production of scientific articles on Big Data in Educationfrom 2013 to 2018, as well as to identify themost frequently used keywords in those articles.The publications of the Scopus database wereconsulted using a search algorithm based onpre-established criteria. Through a quantitativeprocedure, including text mining, differentaspects of the production of research articles onBig Data in Education were analysed: citations,authors, journals, and topics covered.The results show an increase in productionover Big Data in Education from 2015, as wellas a change in trend in the subjects dealt with,going from studies focused on Psychology andBehaviour to studies focused on Education. Fromthis point, there is a real interest in this field ofresearch, and the usage in the Educational Systemwill change the pedagogical mentality and in thetraining centres. .

MATELLÁN, L. y MONJE-CASAS, F., 2020. Regulation of mitotic exit by cell cycle checkpoints: Lessons from Saccharomyces cerevisiae. *Genes*, vol. 11, no. 2. DOI 10.3390/genes11020195

In order to preserve genome integrity and their ploidy, cells must ensure that the duplicated genome has been faithfully replicated and evenly distributed before they complete their division by mitosis. To this end, cells have developed highly elaborated checkpoints that halt mitotic progression when problems in DNA integrity or chromosome segregation arise, providing them with time to fix these issues before advancing further into the cell cycle. Remarkably, exit from mitosis constitutes a key cell cycle transition that is targeted by the main mitotic checkpoints, despite these surveillance mechanisms being activated by specific intracellular signals and acting at different stages of cell division. Focusing primarily on research carried out using Saccharomyces cerevisiae as a model organism, the aim of this review is to provide a general overview of the molecular mechanisms by which the major cell cycle checkpoints control mitotic exit and to highlight the importance of the proper regulation of this process for the

maintenance of genome stability during the distribution of the duplicated chromosomes between the dividing cells. © 2020 by the authors. Licensee MDPI, Basel, Switzerland.

MATEOS-APARICIO, P. y RODRÍGUEZ-MORENO, A., 2020. Calcium Dynamics and Synaptic Plasticity. *Advances in Experimental Medicine and Biology*, vol. 1131, pp. 965-984. DOI 10.1007/978-3-030-12457-1_38

Synaptic plasticity is a fundamental property of neurons referring to the activity-dependent changes in the strength and efficacy of synaptic transmission at preexisting synapses. Such changes can last from milliseconds to hours, days, or even longer and are involved in learning and memory as well as in development and response of the brain to injuries. Several types of synaptic plasticity have been described across neuronal types, brain regions, and species, but all of them share in one way or another capital importance of Ca2+-mediated processes. In this chapter, we will focus on the Ca2+-dependent events necessary for the induction and expression of multiple forms of synaptic plasticity. © Springer Nature Switzerland AG 2020.

MATITO-MARTOS, I., MARTIN-CALVO, A., ANIA, C.O., PARRA, J.B., VICENT-LUNA, J.M. y CALERO, S., 2020. Role of hydrogen bonding in the capture and storage of ammonia in zeolites. *Chemical Engineering Journal*, vol. 387. DOI 10.1016/j.cej.2020.124062

Ammonia is an important chemical compound used in a wide range of applications. This makes its capture, purification and recovery necessary. We combine experimental and molecular simulation techniques to identify the molecular mechanisms ruling the adsorption of ammonia in pure and high silica zeolites. To reproduce accurately the interaction between ammonia and the zeolites the development of a transferable set of Lennard-Jones parameters was needed. Adsorption isotherms were measured and also calculated using the new set of parameters for several commercial pure silica zeolites, including MFI, FAU, and LTA topologies. We found an anomalous behavior of the adsorption isotherm of ammonia in MFI, which can be explained through a monoclinic to orthorhombic structural phase transition. We also found that low concentration of extra-framework cations favors the adsorption of ammonia in these high silica zeolites. Using radial distribution functions and hydrogen bond analyses we identified ammonia clusterization as the key mechanism involved in the adsorption. Based on it, hydrophobic zeolites with large pores could be used for ammonia sequestration with lower cost than the currently used techniques. © 2020 Elsevier B.V.

MATUS-LÓPEZ, M. y BACHMANN FUENTES, R.I., 2020. La privatización de semillas y su impacto sobre el derecho a una alimentación adecuada. En: Derechos humanos desde la interdisciplinariedad en ciencias sociales y humanidades, *Derechos humanos desde la interdisciplinariedad en ciencias sociales y*

humanidades [en línea]. S.l.: Dykinson S. L., pp. 6-21. ISBN 978-84-13-24651-2. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7302190.

MAYA, J., JIMENEZ, L., LORENCE, B., MORAL, G. del y HIDALGO, V., 2020. Scene-Based Psychodramatic Family Therapy With Troubled Adolescents and Parents: A Pilot Study. *Family Process*, vol. 59, no. 1, pp. 111-126. ISSN 0014-7370. DOI 10.1111/famp.12401.

Scene-Based Psychodramatic Family Therapy (SB-PFT) is an innovative treatment used with troubled adolescents and their parents to improve family relationships and reduce adolescents' problematic behavior. It integrates the principles of family therapy, psychodrama, and multiple-family group methodology. This research is a pilot study to obtain empirical evidence on the SB-PFT therapeutic process by gauging the perception of change of troubled adolescents and their parents, and assess the perceived helpfulness of its methodology and techniques. Ten multiple-family intervention groups were drawn up, with 110 participants (63 adolescents and 47 parents), and we adopted a qualitative methodology with focus groups, using an inductive analysis of 290 active constructions of participant narratives. Concerning perception of change, the adolescents reported mainly gaining in social support, prosocial attitudes, keys to problem solving, and expression of emotions due to the treatment. The parents perceived improvement in social support, keys for educational practices, emotional well-being, and expression of emotions due to the treatment. Regarding the perceived helpfulness of methodology and techniques, both adolescents and parents highlighted the usefulness of the group methodology for gaining social support, relativizing the problem, and expressing emotions. Additionally, participants referred to role-playing and mirror techniques as the most useful techniques. In conclusion, this first study on SB-PFT presents and describes its treatment for troubled adolescents and their parents. The participants' positive perception of their personal and relational change after treatment should serve to promote further studies with quantitative methodology in order to verify the effectiveness of SB-PFT treatment.

MELGAR-GARCÍA, L., GUTIÉRREZ-AVILÉS, D., RUBIO-ESCUDERO, C. y TRONCOSO, A., 2020. High-content screening images streaming analysis using the STriGen methodology. *Proceedings of the ACM Symposium on Applied Computing*. S.l.: s.n., pp. 537-539. DOI 10.1145/3341105.3374071

One of the techniques that provides systematic insights into biological processes is High-Content Screening (HCS). It measures cells phenotypes simultaneously. When analysing these images, features like fluorescent colour, shape, spatial distribution and interaction between components can be found. STriGen, which works in the real-time environment, leads to the possibility of studying time evolution of these features in real-time. In addition, data streaming algorithms are able to process flows of data in a fast way. In this article, STriGen (Streaming Triclustering Genetic) algorithm is presented and applied to HCS images. Results have proved that STriGen finds quality triclusters in HCS images, adapts correctly throughout time and is faster than re-computing the triclustering algorithm each time a new

data stream image arrives. © 2020 Owner/Author.

MELO, H.M., SEIXAS DA SILVA, G. da S., SANT'ANA, M.R., LIGO TEIXEIRA, C.V., CLARKE, J.R., MIYA COREIXAS, V.S., DE MELO, B.C., FORTUNA, J.T.S., FORNY-GERMANO, L., LEDO, J.H., OLIVEIRA, M.S., FIGUEIREDO, C.P., PARDOSSI-PIQUARD, R., CHECLER, F., MARIA DELGADO-GARCIA, J., GRUART, A., VELLOSO, L.A., BALTHAZAR, M.L.F., CINTRA, D.E., FERREIRA, S.T. y DE FELICE, F.G., 2020. Palmitate Is Increased in the Cerebrospinal Fluid of Humans with Obesity and Induces Memory Impairment in Mice via Pro-inflammatory TNF-alpha. *Cell Reports*, vol. 30, no. 7, pp. 2180+. ISSN 2211-1247. DOI 10.1016/j.celrep.2020.01.072.

Obesity has been associated with cognitive decline, atrophy of brain regions related to learning and memory, and higher risk of developing dementia. However, the molecular mechanisms underlying these neurological alterations are still largely unknown. Here, we investigate the effects of palmitate, a saturated fatty acid present at high amounts in fat-rich diets, in the brain. Palmitate is increased in the cerebrospinal fluid (CSF) of overweight and obese patients with amnestic mild cognitive impairment. In mice, intracerebroventricular infusion of palmitate impairs synaptic plasticity and memory. Palmitate induces astroglial and microglial activation in the mouse hippocampus, and its deleterious impact is mediated by microglia-derived tumor necrosis factor alpha (TNF-alpha) signaling. Our results establish that obesity is associated with increases in CSF palmitate. By defining a pro-inflammatory mechanism by which abnormal levels of palmitate in the brain impair memory, the results further suggest that anti-inflammatory strategies may attenuate memory impairment in obesity.

MÉNDEZ-CEA, B., COBO-SIMÓN, I., PÉREZ-GONZÁLEZ, A., GARCÍA-GARCÍA, I., LINARES, J.C. y RODRÍGUEZ, F.J.G., 2020. DNA extraction and amplification from Pinaceae dry wood. *Silvae Genetica*, vol. 68, no. 1, pp. 55-57. DOI 10.2478/sg-2019-0010

Wood constitutes the unique source of DNA in dead trees, but extraction of adequate quality DNA from dry wood is usually challenging. However, many different molecular studies require the use of such DNA. We have standardized and validated a modified CTAB protocol to isolate DNA from dry wood from Abies pinsapo and Cedrus atlantica species. Due to the degradation and very little DNA that is normally present in the wood from dead trees we have developed a PCR based test to certify the quality of the extracted samples. In the present study, we have proved too the effectiveness of this methodology to isolate DNA from conifer dry wood samples of sufficient quality to perform further molecular genetic experiments. © 2019 Belén Méndez-Cea et al., published by Sciendo 2019.

MENDEZ-REBOLLEDO, G., GUZMAN-MUÑOZ, E., CONCHA-ARAYA, J.,

ARAVENA-FALCON, M., GALVEZ-GONZALEZ, V. y ROSA, F.J.B. de la, 2020. Relationship between anthropometric and electromyographic variables of the scapular muscles. *Human Movement*, vol. 21, no. 1, pp. 1-6. DOI 10.5114/hm.2020.88147

Purpose. To determine the relationship between skinfolds and onset latency of scapular muscles in healthy young adults. Methods. A cross-sectional study was carried out at the Biomechanics and Motor Control Laboratory of Saint Thomas University, Talca, Chile. Overall, 36 participants between 18 and 24 years of age were selected. The axillary, pectoral, and subscapular skinfolds were measured, as well as the electromyographic onset latency of the scapular muscles (serratus anterior and trapezius) when performing a voluntary arm abduction task. The Pearson correlation coefficient was used. Results. There was a positive correlation between the axillary skinfold and the lower trapezius ($r = 0.51$, $p = 0.002$) and serratus anterior ($r = 0.53$, $p = 0.001$) muscle onset latencies, and also between the subscapular skinfold and the lower trapezius ($r = 0.38$, $p = 0.022$) and serratus anterior ($r = 0.73$, $p < 0.001$) muscle onset latencies. Conclusions. During a voluntary abduction arm movement, a greater thickness of axillary and subscapular skinfolds is related to an increase in the lower trapezius and serratus anterior muscle onset latencies. © 2019 University School of Physical Education in Wroclaw.

MENDOZA PUERTAS, J.D., 2020. Ideas para un curso de escritura creativa con estudiantes de Asia Oriental. En: Tonos digital: Revista de estudios filológicos, *Tonos digital: Revista de estudios filológicos*, no. 38, pp. 16- 0. ISSN 1577-6921.

The main objective of this text is to propose activities for a university course in creative writing for Taiwanese studentswho are studyingSpanish as aforeign language. In order to dothis, wemustapproach the concept ofcreative 2writingbased on differentperspectivesand definitions. Thenweorganisethese ideasand guide them to the field of teachingSFL. On thesecond step, we briefly describethe characteristics of the student profile to which this subject is addressed justifyingthe approach chosen for the course. Finally,we explain the objectives of the courseandwe detail the succession of activities that make up the proposal by explaining theimplementation of each of them.

MENUDO, J.M. y O'KEAN, J.M., 2019. Editions, Reprints and Translations into Spanish of "A Treatise on Political Economy" by Jean-Baptiste Say. *Revista de Historia Económica*, vol. 37, no. 1, pp. 169-192. ISSN 0212-6109. DOI 10.1017/S0212610918000186.

Jean-Baptiste Say's Traite d'economie politique made a profound impact on Spain in the 19th century due to its prominent influence on parliamentary debate and teaching. Probably due to the success achieved in Spain and the numerous editions and translations into Spanish, certain confusion is perceived in the literature. The aim of this article is to clarify the muddle over the different editions of Say's Traite in

Spanish and also the identity of their translators who, in some cases, were obliged to conceal their names because of the obstacles to press freedom. We also conclude that Say's translation was part of two publishing projects. A teaching project linked to the Real Sociedad Economica de Amigos del Pais and a political project due to the fact the Liberal Triennium allowed the exiles to bring new ideas to policy makers and students.

MERCHÁN MURILLO, A., 2020a. Defensa jurídica de los usuarios conforme al derecho internacional. En: Las redes sociales como herramienta de comunicación persuasiva, *Las redes sociales como herramienta de comunicación persuasiva* [en línea]. S.l.: McGraw-Hill Interamericana de España, pp. 861-876. ISBN 978-84-486-2033-2. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7271937.

MERCHÁN MURILLO, A., 2020b. El interés superior del menor como cuestión de fondo. En: Cuadernos de derecho transnacional, *Cuadernos de derecho transnacional*, vol. 12, no. 1, pp. 635-644. ISSN 1989-4570.

La Sentencia TJUE, de 19 de septiembre de 2018, Hampshire County Council contra C.E. y N.E, asuntos acumulados C 325/18 PPU y C 375/18 PPU, responde a cuestiones prejudicial, que tienen como cuestión fundamental de fondo la protección del interés del menor, que prevalece frente a cualquier sujeto, en este caso frente a la autoridad local responsable de la protección de la infancia, de Reino Unido. En este caso, el TJUE se muestra a favor de que un Tribunal de un Estado miembro pueda adoptar medidas cautelares contra el citado organismo público, de otro Estado miembro, con objeto de que no pueda seguir o entablar un procedimiento de adopción.

MERINO, L., ALEJO, D., MARTINEZ-ROZAS, S. y CABALLERO, F., 2020. A RGBD-Based System for Real-Time Robotic Defects Detection on Sewer Networks. *Advances in Intelligent Systems and Computing*, vol. 1092 AISC, pp. 593-605. DOI 10.1007/978-3-030-35990-4_48

In this paper we summarize the automatic defect inspection onboard the sewer inspection ground platform SIAR. We include a general overview of the software and hardware characteristics of our platform, making a special emphasis on the sensing devices and software systems that are used for defect inspection. The main detection algorithm makes use of the a priori knowledge of ideal sections of the sewers that can be found in the Geographic Information Systems (GIS), and uses a variant of the Iterative Closest Point (ICP) algorithm for finding structural and serviceability defects. Then, we describe the software modules that are in charge of storing the alerts found by the detection system and of displaying them to the operator. The whole system has been tested in two field scenarios on different locations of the real sewer network of Barcelona, Spain. © 2020, Springer Nature Switzerland AG.

MIGUEZ-MONTERO, M.A., VALENTINE, A. y PEREZ-FERNANDEZ, M.A., 2020. Regulatory effect of phosphorus and nitrogen on nodulation and plant performance of leguminous shrubs. *AoB Plants*, vol. 12, no. 1. ISSN 2041-2851. DOI 10.1093/aobpla/plz047.

The impact of phosphorus (P) nutrition on plant growth, symbiotic N-2 fixation, and phosphorus and nitrogen use and their assimilation was investigated in four leguminous plants of the genus Cytisus. Plants inoculated with Rhizobium strains isolated from plants of the four species growing in the wild were crop under controlled conditions in soils with either low P (5 mu M) or high P (500 mu M). The experiment was replicated in the presence and absence of plant irrigation to test for the effects of drought stress of inoculated and non-inoculated plants under the two P levels of fertilization. P-low treatments increased nodule production while plant biomass and shoot and root P and N contents were maximum at sufficient P. The reduction of P in the soil clearly induced biological nitrogen fixation and greater phosphorus and nitrogen uptake efficiencies, as shown by the total N and P accumulated in plants. Similarly, distinct tolerances to drought support this idea. Cytisus balansae had the lowest tolerance to water scarcity. Cytisus multiflorus and Cytisus scoparius were the most resistant species to drought, with this resistance enhanced in the inoculated plants. In the four species, the inoculation treatment clearly enhanced N-use efficiency, whereas P-use efficiency was greater in the non-inoculated plants in the irrigated treatment. With a P-induced demand for N, the plants nodulated prolifically and increased N supply from biological fixation. The physiological basis for N-2-fixing C. scoparius and C. striatus maintaining growth at low P supply and responding to greater P supply is through balanced acquisition of P and N for plant demand.

MINGIRULLI, N., PYLE, A., HATHAZI, D., ALSTON, C.L., KOHLSCHMIDT, N., O'GRADY, G., WADDELL, L., EVESSON, F., COOPER, S.B.T., TURNER, C., DUFF, J., TOPF, A., YUBERO, D., JOU, C., NASCIMENTO, A., ORTEZ, C., GARCIA-CAZORLA, A., GROSS, C., O'CALLAGHAN, M., SANTRA, S., PREECE, M.A., CHAMPION, M., KORENEV, S., CHRONOPOULOU, E., ANIRBAN, M., PIERRE, G., MCARTHUR, D., THOMPSON, K., NAVAS, P., RIBES, A., TORT, F., SCHLUTER, A., PUJOL, A., MONTERO, R., SARQUELLA, G., LOCHMUELLER, H., JIMENEZ-MALLEBRERA, C., TAYLOR, R.W., ARTUCH, R., KIRSCHNER, J., GRUENERT, S.C., ROOS, A. y HORVATH, R., 2020. Clinical presentation and proteomic signature of patients with TANGO2 mutations. *Journal of Inherited Metabolic Disease*, vol. 43, no. 2, pp. 297-308. ISSN 0141-8955. DOI 10.1002/jimd.12156.

Transport And Golgi Organization protein 2 (TANGO2) deficiency has recently been identified as a rare metabolic disorder with a distinct clinical and biochemical phenotype of recurrent metabolic crises, hypoglycemia, lactic acidosis, rhabdomyolysis, arrhythmias, and encephalopathy with cognitive decline. We report nine subjects from seven independent families, and we studied muscle histology, respiratory chain enzyme activities in skeletal muscle and proteomic signature of fibroblasts. All nine subjects carried autosomal recessive TANGO2 mutations. Two carried the reported deletion of exons 3 to 9, one homozygous,

one heterozygous with a 22q11.21 microdeletion inherited in trans. The other subjects carried three novel homozygous (c.262C>T/p.Arg88*; c.220A>C/p.Thr74Pro; c.380+1G>A), and two further novel heterozygous (c.6_9del/p.Phe6del); c.11-13delTCT/p.Phe5del mutations. Immunoblot analysis detected a significant decrease of TANGO2 protein. Muscle histology showed mild variation of fiber diameter, no ragged-red/cytochrome c oxidase-negative fibers and a defect of multiple respiratory chain enzymes and coenzyme Q(10) (CoQ(10)) in two cases, suggesting a possible secondary defect of oxidative phosphorylation. Proteomic analysis in fibroblasts revealed significant changes in components of the mitochondrial fatty acid oxidation, plasma membrane, endoplasmic reticulum-Golgi network and secretory pathways. Clinical presentation of TANGO2 mutations is homogeneous and clinically recognizable. The hemizygous mutations in two patients suggest that some mutations leading to allele loss are difficult to detect. A combined defect of the respiratory chain enzymes and CoQ(10) with altered levels of several membrane proteins provides molecular insights into the underlying pathophysiology and may guide rational new therapeutic interventions.

MIRANDA MENDOZA, J., FELIPE REYNOSO SÁNCHEZ, L., HOYOS FLORES, J.R., QUEZADA CHACÓN, J.T., NARANJO ORELLANA, J. y RANGEL COLMENERO, B., 2020. Stress score y LnrMSSD como parámetros de carga interna durante una competición. En: Revista Internacional de Medicina y Ciencias de la Actividad Física y del Deporte, *Revista Internacional de Medicina y Ciencias de la Actividad Física y del Deporte*, vol. 20, no. 77, pp. 21-35. ISSN 1577-0354. 10.15366/rimcafd2020.77.002

The aim of this study was to analyse the behaviour of the stress score (SS) and the Neperian logarithmof the Root Mean Square of Successive R-R Interval differences(LnrMSSD) of heart rate variability (HRV) as indicators of internal load throughout sympathetic and parasympathetic modulation, supported by biochemical parameters of internal load. 14 handball university athletes (age 22.30 ± 1.83years) were evaluated. Six times of HRV and biochemical markers were collected. Each variable were analyzed by conventional statistics and using the Cohen´s d, and Hopkins magnitude for the sample size effect. It was analyzed the Pearson correlations between variables. The LnrMSSD, SS and cortisol presented significant changes (p< .05). Correlations were found between HRV (SS and LnrMSSD) and CK respectively. Results of this study shows that SS can be a reliable method for the evaluation of internal load during competition.

MIRANDA-MENDOZA, J., REYNOSO-SÁNCHEZ, L.F., HOYOS-FLORES, J.R., QUEZADA-CHACÓN, J.T., NARANJO, J., RANGEL-COLMENERO, B. y HERNÁNDEZ-CRUZ, G., 2020. Stress score and LnrMSSD as internal load parameters during competition. *Revista Internacional de Medicina y Ciencias de la Actividad Fisica y del Deporte*, vol. 20, no. 77, pp. 21-35. DOI 10.15366/rimcafd2020.77.002

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Neperian logarithmof the Root Mean Square of Successive R-R Interval differences(LnrMSSD) of heart rate variability (HRV) as indicators of internal load throughout sympathetic and parasympathetic modulation, supported by biochemical parameters of internal load. 14 handball university athletes (age 22.30 ± 1.83years) were evaluated. Six times of HRV and biochemical markers were collected. Each variable were analyzed by conventional statistics and using the Cohen´s d, and Hopkins magnitude for the sample size effect. It was analyzed the Pearson correlations between variables. The LnrMSSD, SS and cortisol presented significant changes ($p < .05$). Correlations were found between HRV (SS and LnrMSSD) and CK respectively. Results of this study shows that SS can be a reliable method for the evaluation of internal load during competition.

MIURA ANDRADES, J.M., 2019. Synodicon Baeticum I. Conciliation and Synod Constitutions of the Archbishopric of Seville, vol 1, 590 to 1604 years. *Hispania Sacra*, vol. 71, no. 144, pp. 685-686. ISSN 0018-215X.

MONTORO SÁNCHEZ, J.A., 2020. La combinación del método del caso y la simulación en la enseñanza del Derecho procesal civil. En: Aprendizaje colaborativo y técnicas de simulación, *Aprendizaje colaborativo y técnicas de simulación* [en línea]. S.l.: Tirant lo Blanch, pp. 361-370. ISBN 978-84-13-36314-1. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7242366.

MOOHAN, J., STEWART, S.A., ESPINOSA, E., ROSAL, A., RODRIGUEZ, A., LARRANETA, E., DONNELLY, R.F. y DOMINGUEZ-ROBLES, J., 2020. Cellulose Nanofibers and Other Biopolymers for Biomedical Applications. A Review. *Applied Sciences-Basel*, vol. 10, no. 1. DOI 10.3390/app10010065.

Biopolymers are materials synthesised or derived from natural sources, such as plants, animals, microorganisms or any other living organism. The use of these polymers has grown significantly in recent years as industry shifts away from unsustainable fossil fuel resources and looks towards a softer and more sustainable environmental approach. This review article covers the main classes of biopolymers: Polysaccharides, proteins, microbial-derived and lignin. In addition, an overview of the leading biomedical applications of biopolymers is also provided, which includes tissue engineering, medical implants, wound dressings, and the delivery of bioactive molecules. The future clinical applications of biopolymers are vast, due to their inherent biocompatibility, biodegradability and low immunogenicity. All properties which their synthetic counterparts do not share.

MORA NAVARRO, F.V., 2020. Resistencias y luchas. Estrategias en defensa del territorio de los pueblos indígenas en el Ecuador. En: Derechos humanos desde la interdisciplinariedad en ciencias sociales y humanidades, *Derechos humanos desde la interdisciplinariedad en ciencias sociales y humanidades* [en línea]. S.l.:

Dykinson S. L., pp. 241-254. ISBN 978-84-13-24651-2. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7302174.

MORALES, M.L., OCHOA, M., VALDIVIA, M., UBEDA, C., ROMERO-SANCHEZ, S., IBEAS, J.I. y VALERO, E., 2020. Volatile metabolites produced by different for yeast strains during wine biological ageing. *Food Research International*, vol. 128. ISSN 0963-9969. DOI 10.1016/j.foodres.2019.108771.

Sherry white wine called Fino is produced by dynamic biological ageing under the action of for yeasts using traditional practices aimed at ensuring uniform quality and characteristics over time. These kinds of yeasts provide typical sensory properties to Fino wines. Although there are studies of the volatile composition of these wines submitted to biological ageing in wood barrels, there is a lack of knowledge on the particular volatile profile produced by different f/or yeast strains from Sherry zone wineries. For this reason, the aim of this study was to analyse the volatile profiles produced by 15 pure culture for velum yeasts, with the goal of observing their suitability for obtaining high quality Fino sherry wines. Volatile composition was determined by dual sequential stir bar sorptive extraction, followed by GC-MS analysis. All yeast strains studied produced the increase of most acetals, highlighting acetaldehyde diethylacetal which was the compound that most increased. Among terpenes, nerolidol and farnesol underwent remarkable increases. However, results showed that in a month of biological ageing, significant differences were observed among the volatile metabolites produced by for yeast strains studied. Only some of them stood out for their high production of volatile compounds characteristic of Sherry Fino wines, which are good candidates for producing starter cultures.

MOREIRA, X., ABDALA-ROBERTS, L., GALMAN, A., BARTLOW, A.W., BERNY-MIER Y TERAN, J.C., CARRARI, E., COVELO, F., DE LA FUENTE, M., FERRENBERG, S., FYLLAS, N.M., HOSHIKA, Y., LEE, S.R., MARQUIS, R.J., NAKAMURA, M., NELL, C.S., PESENDORFER, M.B., STEELE, M.A., VAZQUEZ-GONZALEZ, C., ZHANG, S. y RASMANN, S., [sin fecha]. Ontogenetic consistency in oak defence syndromes. *Journal of Ecology*, ISSN 0022-0477. DOI 10.1111/1365-2745.13376.

Plant species allocate resources to multiple defensive traits simultaneously, often leading to so-called defence syndromes (i.e. suites of traits that are co-expressed across several species). While reports of ontogenetic variation in plant defences are commonplace, no study to date has tested for ontogenetic shifts in defence syndromes, and we know little about the ecological and evolutionary drivers of variation in plant defence syndromes across ontogeny. We tested for ontogenetic variation in plant defence syndromes by measuring a suite of defensive and nutritional traits on saplings and adult trees of 29 oak (Quercus, Fagaceae) species distributed across Europe, North America, and Asia. In addition, we investigated if these syndromes exhibited a phylogenetic signal to elucidate the nature of their macro-evolutionary variation, whether they were associated with levels of herbivore pressure and climatic conditions, and if any such evolutionary and ecological patterns were contingent on ontogeny. Our analyses revealed three distinct oak defence syndromes: the first included species with high defences, the

second species with high defences and low nutrient levels, and the third species with high nutrients and thinner leaves. Interestingly, these defence syndromes remained virtually unchanged across the two ontogenetic stages sampled. In addition, our analyses indicated no evidence for a phylogenetic signal in oak syndromes, a result consistent across ontogenetic stages. Finally, with respect to ecological factors, we found no effect of climatic conditions on defences for either ontogenetic stage, whereas defence syndromes were associated with differing levels of herbivory in adults but not saplings suggesting an association between herbivore pressure and syndrome type that is contingent on ontogeny. Synthesis. Together, these findings indicate that defence syndromes remain remarkably consistent across oak ontogenetic stages, are evolutionarily labile, and while they appear unrelated to climate, they do appear to be associated with herbivory levels in an ontogenetic-dependent manner. Overall, this study builds towards a better understanding of ecological and evolutionary factors underlying multivariate plant defensive phenotypes.

MORENO, M., ORTIZ, P. y ORTIZ, R., 2019. Vulnerability Study of Earth Walls in Urban Fortifications Using Cause-Effect Matrixes and Gis: The Case of Seville, Carmona and Estepa Defensive Fences. *Mediterranean Archaeology & Archaeometry*, vol. 19, no. 3, pp. 119-138. ISSN 1108-9628. DOI 10.5281/zenodo.3583063.

The objective of this paper is to develop a new methodological model to assess the vulnerability of defensive remains in rammed earth walls in historical centers. To do this, the vulnerability index based on cause-effect matrix has been adapted for constructions which main component is rammed earth walls and combined with a Georeferenced Information System (GIS). Medieval defensive fences have been studied in three historical centers in the province of Seville (Carmona, Estepa and Seville). 20 sections belonging to medieval rammed earth walls fortifications (10th -15th century) have been analysed. In the case of Carmona, the bases of the walls are from the Carthaginians period (3rd century BC). The sections were divided into 199 minimum units of analysis (MUA), with walls, towers, gates, shutters and fortresses. 2450 m of earth walls were studied in the three cities. The tools used to assess the vulnerability index were Leopold matrixes and cataloguing cards filled out after onsite inspection. As a result, a descriptive study of weathering forms that affect the structures and a vulnerability index that identifies the most vulnerable structures is presented. The information gathered is very useful in decision-making and prioritization of strategies in the preservation of urban heritage environments.

MORENO SOLDEVILA, R. y KONIG, A., 2019. Roman Literature under Nerva, Trajan and Hadrian. Literary Interactions, AD 96-138. *Exemplaria Classica*, vol. 23, pp. 465-476. ISSN 1699-3225. DOI 10.33776/ec.v23i0.3766.

MORENO-MORENO, A.-M., SANCHIS-PEDREGOSA, C. y BERENGUER, E., 2019. Success Factors in Peer-to-Business (P2B) Crowdlending: A Predictive

Approach. *IEEE Access*, vol. 7, pp. 148586-148593. ISSN 2169-3536. DOI 10.1109/ACCESS.2019.2946858.

Peer-to-Business (P2B) crowdlending is gaining importance among companies seeking funding. However, not all projects get the same take-up by the crowd. Thus, this study aims to determine the key factors that drive non-professional investors to choose a given loan in an online environment. To this purpose, we have analyzed 243 crowdlending campaigns on October.eu platform. We have obtained a series of variables from the analyzed loans using logistic regression. Results indicate that loan amount, loan term and overall credit rating are the key predictors of non-professional lender P2B crowdlending success. These findings may be useful for predicting whether the crowd will subscribe to a loan request or not. This information would help businesses to modify specific loan characteristics (if possible) to make their loans more attractive or could even lead companies to consider a different financial option. It could also help platforms select and adapt project parameters to secure their success.

MORENO-PÉREZ, V., MALONE, S., SALA-PÉREZ, L., LAPUENTE-SAGARRA, M., CAMPOS-VAZQUEZ, M.A. y COSO, J. del, 2020. Activity monitoring in professional soccer goalkeepers during training and match play. *International Journal of Performance Analysis in Sport*, vol. 20, no. 1, pp. 19-30. DOI 10.1080/24748668.2019.1699386

The purpose of the present study was to quantify the external load of professional soccer goalkeepers. Twenty professional goalkeepers participated in the study. Data were classified according to the number of days before or after the match day (MD) as follows: MD-4, MD-3, MD-2, MD-1 for the sessions before the match, and MD+1 for the session after the match. The total running distance covered (TD), the high metabolic load (HMLD), the number of high metabolic load efforts (HMLE) were progressively reduced from MD-4 to MD-1 but the values of these variables were always inferior to MD (ES: -3.79 to −1.11). There was a tendency for a progressive reduction in the number of high-intensity accelerations (ACC) and decelerations (DEC) from MD-4 to MD-1 although the values of ACC/DEC were superior to MD (ES: 0.19 to 2.05). Overall, MD-2 was the day with the lowest external load. During training sessions, starter goalkeepers performed more TD (ES: 0.36) and more HMLE (ES: 0.29) than non-starters. External load was progressively decreased in the days before match play for goalkeepers which is reflective of appropriate recovery and preparation practices within the cohort analysed. However, habitual goalkeepers training has an excess of accelerations/decelerations and a lack of running actions performed at high metabolic loads. © 2019, © 2019 Cardiff Metropolitan University.

MORENTE PONCE, F.J. y CALVO LLUCH, Africa, 2020. Caloric expenditure in dancers of contemporary dance. Case study. *Retos-Nuevas Tendencias en Educación Física Deporte y Recreación*, no. 37, pp. 309-311. ISSN 1579-1726.

the purpose of our study was to determine the caloric expenditure in dancers of

contemporary dance and relate it to their intake to be able to identify the energy balance; all this took place during the period of performances of these dancers. Ten students of the contemporary dance modality, five men with an average age of 25 +/- 5.08 and five women of 21 +/- 2.51 years of age participated in this study. However, due to an unexpected cancellation there was a sample death of two male subjects. During a period of 3 consecutive days, the total daily energy expenditure was measured using the BodyMedia SenseWear metabolic sensor and the caloric intake was compiled through a nutritional history of 24 h memory and transformed to daily energy intake with the DIAL computer software. The results showed a negative energy balance in men of -1,623, 27 +/- 626, 76 Kcal/d and in women of - 1,196.87 +/- 360, 28 Kcal/d. It can be concluded that the dancers had low caloric intakes, which led to a negative energy balance. These results suggest that the high energetic demands of the dancers of contemporary dance force to increase the food intake in training and days of function. Contemporary dancers may be at risk for numerous health and performance problems associated with a negative energy balance, particularly during periods of training.

MORENTE PONCE, F.J. y CALVO LLUCH, África, 2020. Gasto calórico en bailarines de danza contemporánea: estudio de caso. En: Retos: nuevas tendencias en educación física, deporte y recreación, *Retos-Nuevas Tendencias en Educación Física Deporte y Recreación*, no. 37, pp. 309-311. ISSN 1579-1726.

The purpose of our study was to determine the caloric expenditure in dancers of contemporary dance and relate it to their intake to be able to identify the energy balance; all this took place during the period of performances of these dancers. Ten students ofthe contemporary dance modality, five men with an average age of 25 ± 5.08 and five women of 21 ± 2.51 years of age participated in thisstudy. However, due to an unexpected cancellation there was a sample death of two male subjects. During a period of 3 consecutive days,the total daily energy expenditure was measured using the BodyMedia SenseWear metabolic sensor and the caloric intake was compiledthrough a nutritional history of 24 h memory and transformed to daily energy intake with the DIAL computer software. The resultsshowed a negative energy balance in men of -1,623, 27 ± 626, 76 Kcal/d and in women of - 1,196.87 ± 360, 28 Kcal/d. It can be concludedthat the dancers had low caloric intakes, which led to a negative energy balance. These results suggest that the high energetic demands ofthe dancers of contemporary dance force to increase the food intake in training and days of function.Contemporary dancers may be at risk for numerous health and performance problems associated with a negative energy balance,particularly during periods of training.

MORI, E., CARDADOR, L., REINO, L., WHITE, R.L., HERNANDEZ-BRITO, D., LE LOUARN, M., MENTIL, L., EDELAAR, P., PARAU, L.G., NIKOLOV, B.P. y MENCHETTI, M., 2020. Lovebirds in the air: trade patterns, establishment success and niche shifts of Agapornis parrots within their non-native range. *Biological Invasions*, vol. 22, no. 2, pp. 421-435. ISSN 1387-3547. DOI 10.1007/s10530-019-02100-y.

Understanding the factors influencing the establishment of non-native species is pivotal with regards to the development of effective biosecurity policies. In this paper, we aim to assess the role of climate matching, trade patterns and breeding origin as drivers of establishment success of introduced lovebirds (Agapornis species). A comprehensive database on the worldwide distribution of eight species of non-native lovebirds (including establishment success and population size from 21 countries spanning 27 years) was compiled. We combined climate-based species distribution models with environmental niche analyses to evaluate environmental suitability and potential niche shifts in the introduced range of lovebirds. Then, we tested whether combining habitat suitability with information on trade, introduction effort and breeding origin (captive-bred or wild-caught) of imported birds can improve model predictions at the country level. Although climate-based models fit well with the current distribution of non-native lovebirds at 5-arcminute resolution and significant niche similarity was found for 3 species, we also observed successful establishments in areas climatically distinct from those occupied in native ranges. At the country level, only a significant relationship between the number of established populations and both the number of introduction sites and the year of first importation was observed. A significant effect of breeding origin was not found, but most traded birds had a captive-bred origin. Our work contributes to the growing evidence of the complexity of the invasion process and the difficulty of pre-introduction invasion assessments based solely on the characteristics of the recipient environments for the Agapornis species. Surveillance protocols should be applied to both wild-caught and captive-bred lovebirds, as additional data becomes available to better tease apart the role of origin in those species.

MOSCOSO, F.G., ALMEIDA, J., SOUSARAEI, A., LOPES-COSTA, T., SILVA, A.M.G., CABANILLAS-GONZALEZ, J., CUNHA-SILVA, L. y PEDROSA, J.M., 2020. A lanthanide MOF immobilized in PMMA transparent films as a selective fluorescence sensor for nitroaromatic explosive vapours. *Journal of Materials Chemistry C*, vol. 8, no. 11, pp. 3626-3630. DOI 10.1039/d0tc00376j

This study introduces a highly selective and sensitive luminescent sensor based on simply mixing a Tb(iii)-based luminescent Metal-Organic Framework with polymethyl-methacrylate enabling to detect sub-ppb range of nitroaromatic vapours, properly. To the best of our knowledge, this is the first report on the use of this material for detecting gaseous analytes. Meanwhile, the present sensor dispels previous doubts about the selectivity and sensitivity of this material for the detection of nitroaromatic explosives in liquid media along with its applicability in the presence of potential interferences. © 2020 The Royal Society of Chemistry.

MOSLEHI, F., HAERI, A. y MARTINEZ-ALVAREZ, F., 2020. A novel hybrid GA-PSO framework for mining quantitative association rules. *Soft Computing*, vol. 24, no. 6, pp. 4645-4666. ISSN 1432-7643. DOI 10.1007/s00500-019-04226-6.

Discovering association rules is a useful and common technique for data mining in which dependencies among datasets are shown. Discovering the rules from continuous

numeric datasets is one of the common challenges in data mining. Furthermore, another restriction imposed by algorithms in this area is the need to determine the minimum threshold for the criteria of support and confidence. By drawing on two heuristic optimization techniques, to wit, the genetic algorithm (GA) and particle swarm optimization (PSO) algorithm, a hybrid algorithm for extracting quantitative association rules was developed in this research. Accurate and interpretable rules result from the integration of the multiple objectives GA with the multiple objective PSO algorithms, which redresses the balance in the exploitation and exploration tasks. The useful and appropriate rules and the most suitable numerical intervals are discovered by proposing a multi-criteria method in which there is no need to discretize numerical values and to determine threshold values of minimum support and confidence. Different criteria are used to determine appropriate rules. In this algorithm, the selected rules are extracted based on confidence, interestingness and comprehensibility. The results gained over five real-world datasets evidence the effectiveness of the proposed method. By hybridization of the GA and the PSO algorithm, the proposed approach has achieved considerable improvements compared with the basic algorithms in the criteria of the number of extracted rules from dataset, high confidence measure and support percentage.

MUNOZ-LOPEZ, A., NAKAMURA, F. y NARANJO ORELLANA, J., [sin fecha]. Soccer Matches but Not Training Sessions Disturb Cardiac-Autonomic Regulation During National Soccer Team Training Camps. *Research Quarterly for Exercise and Sport*, ISSN 0270-1367. DOI 10.1080/02701367.2019.1708843.

Purpose: Heart rate variability (HRV) can be used to monitor changes in autonomic nervous system (ANS) function. Monitoring HRV via the natural log of the root-mean-square difference of successive normal RR intervals (lnRMSSD), a decrease was related to lower parasympathetic activity and a fatigued state, and an increase was related to higher parasympathetic activity and better physical conditioning. This study analyzed daily ANS function changes among professional soccer players at national team training camps during preparation for the UEFA Eurocup 2016. Method: 23 professional soccer players were distributed into two groups: First eleven (players who played more than 60 minutes per soccer match) and Reserves (the rest of the players). HRV and session training load (s-TL) were monitored. Between-group daily differences were assessed using two-way mixed repeated measures ANOVA. Results: s-TL significantly increased ($p < .05$) at the beginning of each camp and significantly decreased the day before the soccer match ($p < .001$). There was a significant time by group interaction in lnRMSSD ($p = .024$). Changes were found in the First eleven group from match day +1 to match day +2 (+0.523 ms, $p = .003$). After the soccer match, there were between-group differences ($p < .05$) at +24h and +72h in lnRMSSD. Conclusions: During national team training camps, ANS function was only modified 24h and 72h after playing soccer matches, in players who played a minimum of 60 minutes. This knowledge can help coaches to monitor the impact of soccer matches during training camps to detect fatigue and improve recovery.

MUÑOZ, Á.B., VELASCO, M.J.P. y RODRÍGUEZ, C.H., 2020. Evolution of estimated erosion (USLE) and naturbanisation processes in the surroundings of the National Parks of Doñana and Sierra Nevada (Spain). *Cuadernos Geograficos*, vol. 59, no. 1, pp. 196-223. DOI 10.30827/cuadgeo.v59i1.8752

This article analyzes the different incidence that estimated soil erosion shows in the areas of socioeconomic influence of the national parks of Doñana and Sierra Nevada within the framework of Naturbanization processes. The naturbanization indicates the capacity of attraction of population and economic activities towards the areas of socioeconomic influence of protected spaces thanks to the recognition of their environmental and landscape values.The data processing methodology is established with a Geographic Information System to carry out the diachronic study of the estimated values of erosion provided by the Junta de Andalucía for the entire Autonomous Community. Applying this methodology to the river basins of El Partido and the river Trevélez is intended to contribute to a better understanding of the existing causal or empowering relationships between climatic factors, human activities and erosive processes. A statistical analysis of the published raster erosion estimation maps and the variables used for their calculation between 2003 and 2014 has been carried out. The relevance of plant uses and coverages as key variables to explain the distribution of mean values of erosion in both basins has been established. In the Trevélez river basin the evolution of estimated erosion rates has shown a greater parallel with the erosivity of rain, while in the stream of El Partido it has been the changes of land uses that determine this evolution to a greater extent.

NARANJO SANTANA, M.C., 2020. Fernando Estévez González (Anthony Alan Shelton, prólog., Mayte Henríquez y Mariano de Santa Ana, eds.), Museopatías, Colección Ensayo 7, Fundación César Manrique, Tahíche, Lanzarote, 2019, 390 págs., ISBN: 978-84-88550-87-3. En: Vegueta: Anuario de la Facultad de Geografía e Historia, *Vegueta: Anuario de la Facultad de Geografía e Historia*, no. 20, pp. 524-528. ISSN 1133-598X.

NARANJO-FERNANDEZ, N., GUARDIOLA-ALBERT, C., AGUILERA, H., SERRANO-HIDALGO, C., RODRIGUEZ-RODRIGUEZ, M., FERNANDEZ-AYUSO, A., RUIZ-BERMUDO, F. y MONTERO-GONZALEZ, E., [sin fecha]. Relevance of spatio-temporal rainfall variability regarding groundwater management challenges under global change: case study in Donana (SW Spain). *Stochastic Environmental Research and Risk Assessment*, ISSN 1436-3240. DOI 10.1007/s00477-020-01771-7.

Rainfall is the major contribution for groundwater recharge in arid and semiarid climates, therefore a key factor in water resources estimation. This work presents the results of an in-depth study in Donana National Park concerning groundwater recharge behavior over a long period (1975-2016). The spatio-temporal kriging algorithm was used as a supportive tool to improve the reconstruction of the spatio-temporal rainfall variability. One of the main findings was that monthly recharge estimations range between 21 and 91% of the maximum rainfall, being overestimated in areas that also demonstrate spatial heterogeneity in rainfall

distribution. In the light of these results, for water management purposes in the Mediterranean area, rainfall spatio-temporal scale is a critical aspect and it must be taken into account in groundwater reservoir allocation. Moreover, it is highlighted that local studies of rainfall and recharge, in an area of high ecological fragility, are essential to developing management strategies that prevent climate change effects and guarantee optimal conditions for groundwater resources in the future.

NAVARRO ARDOY, L., 2019a. Dissemination of Sociology and Social Knowledge Introduction. *Revista Española de Sociología*, vol. 28, no. 3, 2, pp. 137-139. ISSN 1578-2824. DOI 10.22325/fes/res.2019.42.

NAVARRO ARDOY, L., 2019b. Dissemination of Sociology as a social contribution: practices and challenges to engage with public at large. *Revista Española de Sociología*, vol. 28, no. 3, 2, pp. 161-169. ISSN 1578-2824. DOI 10.22325/fes/res.2019.45.

This text argues the importance of scientific dissemination in Sociology as a social contribution. Thus, along with necessary academic impact, it suggests that Sociology needs to gain ground in social impact by improving dissemination of its scientific knowledge amongst public at large. Should Sociology intend to be the science of society, besides speaking for sociologists, it should do it for the general public, without ceasing to be rigorous, as well as in an amusing way, making an effort for the results of the research to land softly on the grounds of day-to-day experience. Here, for illustrative purposes, we present the video titled Sociology in motion.

NAVARRO-YÁÑEZ, C.J. y RODRÍGUEZ-GARCÍA, M.J., 2020. Urban policies as multi-level policy mixes. The comparative urban portfolio analysis to study the strategies of integral urban development initiatives. *Cities*, vol. 102. DOI 10.1016/j.cities.2020.102716

Urban policy is an increasingly important policy domain in international and national agendas, intended to cope with the complexity of urban problems. The use of integral interventions across various policy sectors involving different types of actors from the public and private spheres is a common orientation in urban policy. This implies that urban policies should be understand as multilevel policy mixes, and appropriate research strategies should be developed to analyse them from a comparative perspective. This article introduces main analytical elements to analyse urban policies as multi-level policy mixes and proposes an original methodological approach (the comparative urban portfolio analysis). To illustrate and show the face validity of the proposal, policy measures included in 78 local plans under three urban policies in Spain representing policy approach identified in international literature are analysed. Main results show the importance of two basic orientations (contextual and redistributive) to understand the intervention strategy of local plans and urban policies as policy mixes. Differences within

policies show the multi-level character of urban policies, and differences between them resemble the orientation of policy frame they represent, showing the face validity of the proposal to analyse urban policies as multi-level policy mixes from a comparative perspective. © 2020 Elsevier Ltd

NIETO JIMENEZ, C., RUSO ÁLVAREZ, J., PARDOS MAINER, E. y NARANJO ORELLANA, J., 2020. La variabilidad de la frecuencia cardiaca en el control del entrenamiento en un corredor de Ironman: estudio de caso. En: Retos: nuevas tendencias en educación física, deporte y recreación, *Retos-Nuevas Tendencias en Educación Física Deporte y Recreación*, no. 37, pp. 339-343. ISSN 1579-1726.

The objective of this article is to provide information on the relationship between external (TL) and internal training load (ITL) from the tracking of an athlete during seven months of preparation for an Ironman competition (3.8 km of swimming, 180 km ofcycling, and 42,195 km of running), using a training methodology with daily records of the heart rate variability (HRV). As a variable toassess parasympathetic activity, the square root of the mean of the differences in the sum of the squares between adjacent RR intervals(RMSSD) was calculated, together with the stress score (SS) as an indicator of sympathetic activity. In months two, three and four, therewas a moderate increase in SS (d = 1.17) parallel to a moderate decrease in RMSSD (d = -1.04). In months five, six, and seven, a smalldecrease in SS (d = -0.23) and a moderate increase in RMSSD (d = 1.08) were observed. As a conclusion, the five-minute HRVmeasurements upon awakening appear to be a useful tool to monitor the state of parasympathetic equilibrium in a triathlete beforeapproaching training sessions. The analysis of this monitoring would serve to detect possible fatigue states in the early stages and tomodify, if necessary, the training load planning in preparation for an Ironman competition.

NIETO ROMERO, M.M., CHINCHILLA MINGUET, J.L. y CASTILLO RODRÍGUEZ, A., 2020. Estudio de los procesos cognitivos en bailarines semi-profesionales. En: Retos: nuevas tendencias en educación física, deporte y recreación, *Retos-Nuevas Tendencias en Educación Física Deporte y Recreación*, no. 37, pp. 493-497. ISSN 1579-1726.

The purpose of this research is to acknowledge the cognitive strategies used by dance students at pre-professional stages within professional Dance Conservatories when attempting to solve issues of psychological nature, during, before, and after the stageperformance and/or rehearsal/classes. A sample of 125 pre-professional dance students currently enrolled in the last three academic yearsof professional dancing degrees (fourth, fifth, and sixth grade) belonging to the three disciplines (classical dance, Spanish dance, andflamenco dance) from the professional Dance Conservatories of Córdoba, Seville, and Malaga were recruited. The instrument employedfor data collection in this first stage was the Cuestionario de Estrategias Cognitivas en Deportistas (CEAD; Mora, García, Toro, &Zarco, 2001), in which certain terms pertaining to the field of sports were substituted with specific dance terms. The outcomes of theresearch allow us to draw conclusions about the most remarkable cognitive issues in dancers with similar characteristics to those in

oursample, and to take them into account in educational and learning stages so to provide such dancers, both in labor and professionalenvironments, with optimal coping strategies for reaching the highest stage performances.

NIETO-JIMENEZ, C., RUSO-ALVAREZ, J., PARDOS-MAINER, E. y NARANJO ORELLANA, J., 2020. Heart Rate Varibility in the training monitoring of an Ironman runner. A case study. *Retos-Nuevas Tendencias en Educación Física Deporte y Recreación*, no. 37, pp. 339-343. ISSN 1579-1726.

The objective of this article is to provide information on the relationship between external (TL) and internal training load (ITL) from the tracking of an athlete during seven months of preparation for an Ironman competition (3.8 km of swimming, 180 km of cycling, and 42,195 km of running), using a training methodology with daily records of the heart rate variability (HRV). As a variable to assess parasympathetic activity, the square root of the mean of the differences in the sum of the squares between adjacent RR intervals (RMSSD) was calculated, together with the stress score (SS) as an indicator of sympathetic activity. In months two, three and four, there was a moderate increase in SS (d = 1.17) parallel to a moderate decrease in RMSSD (d = -1.04). In months five, six, and seven, a small decrease in SS (d = -0.23) and a moderate increase in RMSSD (d = 1.08) were observed. As a conclusion, the five-minute HRV measurements upon awakening appear to be a useful tool to monitor the state of parasympathetic equilibrium in a triathlete before approaching training sessions. The analysis of this monitoring would serve to detect possible fatigue states in the early stages and to modify, if necessary, the training load planning in preparation for an Ironman competition.

NUNES VIEIRA, L. y ALONSO, E., 2020. Translating perceptions and managing expectations: an analysis of management and production perspectives on machine translation. *Perspectives: Studies in Translation Theory and Practice*, vol. 28, no. 2, pp. 163-184. DOI 10.1080/0907676X.2019.1646776

The use of machine translation (MT) in professional translation tasks can change not only how translators work, but also how projects are managed and the expectations they entail across translation supply chains. Previous research has looked extensively into translators' attitudes to MT but has often ignored important aspects of how translators' views interact with those of other language industry stakeholders. This article presents a contrastive analysis of attitudes to MT which covers management and production perspectives. The discussion draws on semi-structured interviews which were thematically coded and qualitatively examined. The study shows how MT adds uncertainty to translation production networks. It argues that the challenges posed by MT are exacerbated by how the current makeup of the language industry restricts translators' field of influence to texts while possibly alienating them from wider aspects of business strategy. The article makes two suggestions. First, it calls for increased translator involvement in the management aspects of service provision. Second, it emphasises the need for a deeper discussion of MT which, rather than framing the technology itself as a

potential 'threat', addresses broader societal issues involving misguided perceptions and mismatched expectations. © 2019, © 2019 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.

NUNEZ, F.J., MUNGUIA-IZQUIERDO, D. y SUAREZ-ARRONES, L., 2020. Validity of Field Methods to Estimate Fat-Free Mass Changes Throughout the Season in Elite Youth Soccer Players. *Frontiers in Physiology*, vol. 11. ISSN 1664-042X. DOI 10.3389/fphys.2020.00016.

The aim of this study was to determine the most effective anthropometric equations or bioelectrical impedance analysis (BIA) devices for quantifying the sensitivity to change in fat-free mass (FFM) in elite young soccer players, in comparison with measurements using dual-energy X-ray absorptiometry (DXA), between the pre- and mid-season. A total of 40 elite youth soccer players participated in this study. DXA values provided a criterion measure of FFM. Correlation coefficients, biases, limits of agreement, and differences were used as measures of sensitivity to change. All body density, skinfold, and anthropometric equations and BIA devices used to obtain FFM data showed positive and very large correlations (r from 0.70 to 0.89) with DXA. A significant increase in FFM was shown between time points using DXA, BIA, and all anthropometric equations ($p < 0.01$). The magnitudes of differences were small for DXA, BIA inbody and all anthropometric equations except those of Faulkner (1966), Durnin and Rahaman (1967), Brook (1971), and Sarria et al. (1998). Six anthropometric equations [Faulkner (1966), Durnin and Womersley (1974), Carter (1982), Slaughter et al. (1988), Reilly et al. (2009), and Munguia-Izquierdo et al. (2018)] and BIA Tanita showed no statistical differences compared to DXA, with a low bias. We concluded that the equations developed by Durnin and Womersley (1974), Carter (1982), Slaughter et al. (1988), Reilly et al. (2009), and Munguia-Izquierdo et al. (2018) showed the best sensitivity in assessing FFM changes between pre- and mid-season in elite youth soccer players.

OJEDA RIVERA, J.F., 2019. The land of Spain. Visions of the Iberian Peninsula. *Boletín de La Asociación de Geógrafos Españoles*, no. 83. ISSN 0212-9426.

OLAIZOLA, E., MORALES-SÁNCHEZ, R. y HUERTA, M.E., 2020. Biomimetic organisations: A management model that learns from nature. *Sustainability*, vol. 12, no. 6. DOI 10.3390/su12062329

Since the end of the last century, different approaches for corporate management have been appearing that try to incorporate the social advances that are being produced and disseminated thanks to the greater capacity of communication available through social networks and other traditional avenues. Among the best known are Corporate Social Responsibility, Sustainability, the Circular Economy, and Collaborative Economics. All of them add value to organisations, and all of them have a common characteristic: they are anthropocentric approaches. Our proposal goes a step further: we need a worldview that is capable of placing organisations in a position of continuous learning looking at nature, because it is the best way

to integrate into it as a more ecosystem and thus achieve its flowering respecting the once to all the other subsystems that make up the planet: Organizational Biomimicry. This work compares the anthropocentric vision with the worldview at the same time that it offers a guide of the essential steps so that Organizational Biomimicry is the new model of corporate management. © 2020 by the authors.

OLLERO LOBATO, F., 2020. The Festive King. Palace, gardens, seas and rivers as court scenes (XVI-XIX centuries). *Archivo Espanol de Arte*, vol. 93, no. 369, pp. 85-86. ISSN 0004-0428.

OLLERO-LOBATO, F., 2020. Rodríguez, Inmaculada (ed.): El rey Festivo. Palacio, jardines, mares y ríos como escenarios cortesanos (siglos XVI-XIX). Valencia: Universitat de València, 2019. 335 pp., ilus. color. [ISBN 978-84-9133-250-3]. En: Archivo español de arte, *Archivo Espanol de Arte*, vol. 93, no. 369, pp. 85-86. ISSN 0004-0428.

OLMEDO, M., MATA-CABANA, A., RODRÍGUEZ-PALERO, M.J., GARCÍA-SÁNCHEZ, S., FERNÁNDEZ-YAÑEZ, A., MERROW, M. y ARTAL-SANZ, M., 2020. Prolonged quiescence delays somatic stem cell-like divisions in Caenorhabditis elegans and is controlled by insulin signaling. *Aging Cell*, vol. 19, no. 2. DOI 10.1111/acel.13085

Cells can enter quiescence in adverse conditions and resume proliferation when the environment becomes favorable. Prolonged quiescence comes with a cost, reducing the subsequent speed and potential to return to proliferation. Here, we show that a similar process happens during Caenorhabditis elegans development, providing an in vivo model to study proliferative capacity after quiescence. Hatching under starvation provokes the arrest of blast cell divisions that normally take place during the first larval stage (L1). We have used a novel method to precisely quantify each stage of postembryonic development to analyze the consequences of prolonged L1 quiescence. We report that prolonged L1 quiescence delays the reactivation of blast cell divisions in C. elegans, leading to a delay in the initiation of postembryonic development. The transcription factor DAF-16/FOXO is necessary for rapid recovery after extended arrest, and this effect is independent from its role as a suppressor of cell proliferation. Instead, the activation of DAF-16 by decreased insulin signaling reduces the rate of L1 aging, increasing proliferative potential. We also show that yolk provisioning affects the proliferative potential after L1 arrest modulating the rate of L1 aging, providing a possible mechanistic link between insulin signaling and the maintenance of proliferative potential. Furthermore, variable yolk provisioning in embryos is one of the sources of interindividual variability in recovery after quiescence of genetically identical animals. Our results support the relevance of L1 arrest as an in vivo model to study stem cell-like aging and the mechanisms for maintenance of proliferation potential after quiescence. © 2019 The Authors. Aging Cell published by the Anatomical Society and John Wiley & Sons Ltd.

OLMEDO RUIZ, F.J., MATEOS CLAROS, F., LATORRE MEDINA, M.J. y ESTEBAN IBANEZ, M., 2020. Influence of Sex and Mother Tongue on Academic Performance. *Propósitos y Representaciones*, vol. 8, no. 1. ISSN 2307-7999. DOI 10.20511/pyr2020.v8n1.382.

This work focuses on knowing the differences in the academic performance of children's education students according to sex and mother tongue. To this end, and starting from the different scenarios presented by multiculturality, we have taken into account the peculiarities of this cultural diversity reflected in the classroom. On the basis that we are in a context in which an official language and a cultural dialect coexist. The sample consisted of 489 children's education students from 12 public educational establishments and 3 concerted centres, aged 5 to 6 (M= 5.23; DT= 506), of which 51.4 percent were boys (n=249) and 48.6 percent girls (n=235) of which 37.7% had Spanish as their mother tongue (n=183) and 62.3% Darija (n=302). The multidimensional instrument of basic skills in Child Education was used (Mateos y Olmedo, 2018). The results of ANOVA analysis and binary logistic regression showed that the mother tongue is the main cause of these children's differences, negatively affecting those who have mother tongue Castilian, being clearly defined that the main weakness is shown in the areas of oral expression, written expression and phonetic consciousness.

ORDÓÑEZ OLMEDO, E., FERNÁNDEZ PARDAVILA, M.J. y MACFADDEN, ISOTTA, 2020. Present stereotypes in the choice of academic careers and professional training. En: IJERI: International journal of Educational Research and Innovation, *IJERI: International journal of Educational Research and Innovation*, no. 13, pp. 47-61. ISSN 2386-4303.

En este trabajo seanaliza cómo influyen los estereotipos de género de modo diferencial en el modo en que hombres y mujeres deciden sobre su futuro profesional. Se ha diseñado una investigación cuantitativa a fin de conocer cuáles son las creencias y estereotipos que, en elpresente, influyen sobre el proceso de toma de decisión del individuo a la hora de escoger su trayectoria académica.La investigación se efectúa desde una doble perspectiva, analizándose por un lado las creencias, motivaciones y estereotipos del alumnado y por otro lado, identificando en la sociedad gallega las creencias en relación a competencia profesional y los estereotipos que conectan a cada género. Estos datos serán correlacionados con el número de matriculados en cada una de estas titulaciones de cada género a fin de identificar qué peso ejercen los estereotipos a la hora de decidir el futuro professional.

ORTEGA, P.G., SEGOVIA, J., ENTEM, D.R. y FERNÁNDEZ, F., 2020. Spectroscopy of Bc mesons and the possibility of finding exotic Bc -like structures. *European Physical Journal C*, vol. 80, no. 3. DOI 10.1140/epjc/s10052-020-7764-6

The bottom-charmed (Bc) mesons are more stable than their charmonium (cc^{-}) and bottomium (bb^{-}) partners because they cannot annihilate into gluons. However, the low production cross-sections and signal-to-background ratios avoided until

now their clear identification. The recent experimental results reported by CMS and LHCb at CERN open the possibility of having a Bc spectrum as complete as the ones of charmonium and bottomonium. Motivated by this expectation, we compute bottom-charmed meson masses in the region energies in which decay meson–meson thresholds are opened, looking for the analogs to the X(3872) in the Bc spectroscopy. We use a constituent quark model in which quark–antiquark degrees of freedom are complemented by four-body Fock states configurations. The model has been applied to a wide range of hadronic observables, in particular to the X(3872), and thus the model parameters are completely constrained. No extra states are found in the JP= 0 + and JP= 1 + sectors. However, in the JP= 2 + sector we found an additional state very close to the D∗B∗ threshold which could be experimentally detected. © 2020, The Author(s).

ORTEGA VILLODRES, C. y RECUERO LÓPEZ, F., 2020. Liderazgo político y elecciones municipales: ¿nacionalización, regionalización o localismo? En: REIS: Revista Española de Investigaciones Sociológicas, *REIS: Revista Española de Investigaciones Sociológicas*, no. 169, pp. 123-142. ISSN 0210-5233.

Las elecciones municipales han sido tradicionalmente conceptualizadas como unas convocatorias de segundo orden, estando así supeditadas ala situación política nacional. Sin embargo, los electores podrían tener encuenta factores nacionales, regionales o propiamente locales para definirsu voto en estas convocatorias. Por ello, el objetivo de este estudio esexaminar la incidencia electoral de dichos factores a través del liderazgopolítico. Así, se comprueba el efecto de los líderes nacionales, regionalesy locales en el voto municipal en el ámbito de la comunidad autónomade Andalucía. Se utiliza como técnica de análisis la regresión logísticabinaria. Los resultados muestran que los candidatos locales tienen unmayor impacto en las elecciones municipales que los líderes nacionalesy regionales, de modo que las consultas locales tendrían una autonomíapropia

ORTIZ CALDERON, P. y PINTO, F.S., 2019. FORWARD. *Mediterranean Archaeology & Archaeometry*, vol. 19, no. 3. ISSN 1108-9628.

OSORIO-AGUDELO, J.-A., NARANJO-GIL, D. y RIPOLL-FELIU, V., 2020. Cost of Water Use for Negotiating Rates in Energy Exchanges: Evidence from the Hydroelectric Industry. *Water*, vol. 12, no. 2. DOI 10.3390/w12020361.

This paper analyzes the importance of the cost of dam water use in hydroelectric generators according to the International Financial Reporting Standard (IFRS) and Management Accounting. Not valuing the use of water from dams would imply undervaluing energy generation service, leading to a lack of reasonability in the Financial Statements of electricity generators. For this reason, it is vital to recognize that dam water has a cost that directly impacts the Statement of Financial Position as an asset and later, in energy generation and commercialization, its cost will impact the statement of profit or loss, according to the IFRS as good accounting and financial practices around the world. Said cost

will also be an important indicator for rationalizing consumption, defining public policy, or determining energy tariffs. An empirical study is conducted for Colombia and Norway, two of the main countries in the world whose primary source of energy generation is water. The results evidence the need for hydroelectric generators to present the cost of their hydric reserve as intangibles inventories because of its potential capacity to generate electric power. Additionally, there is a positive and significant relationship between the cost of water and the price of energy, and a negative relationship between the price of energy and dam levels.

OVIEDO-CARO, M.Á., BUENO-ANTEQUERA, J. y MUNGUÍA-IZQUIERDO, D., 2020. Associations of 24-hours activity composition with adiposity and cardiorespiratory fitness: The PregnActive project. *Scandinavian Journal of Medicine and Science in Sports*, vol. 30, no. 2, pp. 295-302. DOI 10.1111/sms.13566

Aim: This study examined the associations of activity behaviors composition (sleep, sedentary time, light and moderate-to-vigorous physical activity) with adiposity and cardiorespiratory fitness, and how isotemporal reallocations of time between activity behaviors are associated with differences in adiposity and cardiorespiratory fitness. Methods: A cross-sectional study was conducted in 130 women during midpregnancy. Activity behaviors, conceptualized as a 24-hours composition, were objectively assessed by multi-sensor monitors. Skinfold thickness, fat mass index, and body mass index were calculated as indicators of adiposity. Cardiorespiratory fitness was assessed using a 6-minute walk test. Log-ratio multiple linear regression models and compositional isotemporal substitutions were used to analyze the associations and estimated differences in outcomes. Results: The activity composition was significantly associated with adiposity indicators (all P <.001) and cardiorespiratory fitness (P values from.025 to <.001) during midpregnancy. The isotemporal substitutions were asymmetrical, showing the highest estimated differences in adiposity (8.7%, 0.80 kg/m2, for fat mass index; 6.0%, 2.65 mm, for the sum of skinfold thickness; and 3.8%, 1.02 kg/m2, for body mass index) and cardiorespiratory fitness (3.0%, 1.00 mL/kg min) when 30 minutes of moderate-to-vigorous physical activity was reallocated by sedentary time. Conclusion: The activity composition was associated with adiposity and the cardiorespiratory fitness levels during midpregnancy, with moderate-to-vigorous physical activity being the leading activity behavior. The most unfavorable differences in adiposity and cardiorespiratory fitness were found when moderate-to-vigorous physical activity was replaced by another behavior, mainly sedentary time, reinforcing the importance of at least maintaining moderate-to-vigorous physical activity during pregnancy. © 2019 John Wiley & Sons A/S. Published by John Wiley & Sons Ltd

OVIEDO-CARO, M.A., MAYOLAS-PI, C., LOPEZ-LAVAL, I., REVERTER-MASIA, J., MUNGUIA-IZQUIERDO, D., BUENO-ANTEQUERA, J., GUILLEN-CORREAS, R., LAPETRA-COSTA, S. y LEGAZ-ARRESE, A., [sin fecha]. Amateur endurance cycling practice and adult's physical and psychosocial health:

a cross-sectional study of the influence of training volume. *Research in Sports Medicine*, ISSN 1543-8627. DOI 10.1080/15438627.2020.1731689.

This study aimed to analyse the association between amateur cycling training volume and physical and psychosocial health. A cross-sectional study was developed, via self-reported survey, among 1669 cyclists and 1039 controls, where analysis of variance and hierarchical multiple linear regression test were developed. Independent of gender, high volumes of amateur endurance cycling practice benefited cyclists' body mass index and male cyclists' physical conditioning, while psychosocial health did not differ among the training volume groups. Hierarchical multiple linear regression analysis highlighted the contribution of training volume to lower cyclists' body mass index and better male cyclists' physical conditioning. All cyclist groups presented better physical and psychosocial health than controls. High volumes of amateur endurance cycling training were associated with better physical health without jeopardizing psychosocial health. The practice of amateur endurance cycling, both in low and high volumes, was associated with better physical and psychosocial health compared with inactivity.

PALACIOS FLORENCIO, B., SANTOS ROLDAN, L. y BERBEL PINEDA, J.M., 2020. Communication, Trust, And Loyalty in The Hotel Sector: The Mediator Role Of Consumer's Complaints. *Tourism Analysis*, vol. 25, no. 1, pp. 183-187. ISSN 1083-5423. DOI 10.3727/108354220X15758301241648.

The purpose of this study was to analyze how the relationship between communication with customers, loyalty, and trust are mediated by a correct handling of customers' complaints. A survey of 629 customers of the hotel sector, and using structural equations modeling, was used. The results demonstrated that good customer communication and information when handling claims positively and significantly influences customer loyalty and trust. Loyal and trusting customers is one of the aims of companies. These are generally determined by the communication carried out by the firm. Nevertheless, it is understandable that there is a mediator variable: the firm's handling of customers' complaints.

PALLARÉS, J.G., CAVA, A.M., COUREL-IBÁÑEZ, J., GONZÁLEZ-BADILLO, J.J. y MORÁN-NAVARRO, R., 2020. Full squat produces greater neuromuscular and functional adaptations and lower pain than partial squats after prolonged resistance training. *European Journal of Sport Science*, vol. 20, no. 1, pp. 115-124. DOI 10.1080/17461391.2019.1612952

The choice of the optimal squatting depth for resistance training (RT) has been a matter of debate for decades and is still controversial. In this study, fifty-three resistance-trained men were randomly assigned to one of four training groups: full squat (F-SQ), parallel squat (P-SQ), half squat (H-SQ), and Control (training cessation). Experimental groups completed a 10-week velocity-based RT programme using the same relative load (linear periodization from 60% to 80% 1RM), only

differing in the depth of the squat trained. The individual range of motion and spinal curvatures for each squat variation were determined in the familiarization and subsequently replicated in every lift during the training and testing sessions. Neuromuscular adaptations were evaluated by one-repetition maximum strength (1RM) and mean propulsive velocity (MPV) at each squatting depth. Functional performance was assessed by countermovement jump, 20-m sprint and Wingate tests. Physical functional disability included pain and stiffness records. F-SQ was the only group that increased 1RM and MPV in the three squat variations (ES = 0.77–2.36), and achieved the highest functional performance (ES = 0.35–0.85). P-SQ group obtained the second best results (ES = 0.15–0.56). H-SQ produced no increments in neuromuscular and functional performance (ES = −0.11–0.28) and was the only group reporting significant increases in pain, stiffness and physical functional disability (ES = 1.21–0.87). Controls declined on all tests (ES = 0.02–1.32). We recommend using F-SQ or P-SQ exercises to improve strength and functional performance in well-trained athletes. In turn, the use of H-SQ is inadvisable due to the limited performance improvements and the increments in pain and discomfort after continued training. . © 2019, © 2019 European College of Sport Science.

PALOMAR-BONET, M., ATIENZA, M. y CANTERO, J.L., 2020. Blood total antioxidant status is associated with cortical glucose uptake and factors related to accelerated aging. *Brain Structure & Function*, vol. 225, no. 2, pp. 841-851. ISSN 1863-2653. DOI 10.1007/s00429-020-02039-0.

Identifying cerebral vulnerability in late life is of paramount importance to prevent pathological trajectories of aging before the onset of symptoms. Considerable evidence suggests that impaired antioxidant mechanisms are a fingerprint of aging-related conditions, but there is a lack of human research linking total antioxidant capacity (TAC) measured in peripheral blood to in vivo brain changes and other factors featuring accelerated aging. To address this issue, we have assessed in cognitively normal elderly subjects (N = 100) correlations between serum TAC, using the oxygen radical absorbance capacity assay, surface-based cortical thickness, surface-based 18F-fluorodeoxyglucose positron emission tomography cortical uptake, and different factors associated with accelerated aging [i.e., serum homocysteine (HCY), self-reported memory problems, and self-reported patterns of physical activity]. While no relationship was observed between serum TAC and variations in cortical thickness, decreased TAC level was significantly associated with lower FDG uptake in temporal lobes bilaterally. Remarkably, decreased TAC level was linked to increased HCY concentrations, more subjective memory complaints, and lower frequency of physical activity. Overall, our results suggest that decreased serum TAC level may be helpful to detect vulnerable trajectories of aging.

PARRA-GONZÁLEZ, M.E., SEGURA-ROBLES, A., MORALES CEVALLOS, M.B. y MENESES, E.L., 2020. Relation of the associated factors in the development of gamified experiences. *Campus Virtuales*, vol. 9, no. 1, pp. 113-123

Currently one of the main concerns among teachers is the lack of involvement of students in academic tasks and their own learning, since the former need the latter to participate or take an active part in many of the situations in the teaching processes -learning. One of the main elements is the lack of motivation of the students before the learning that they must carry out in class. Active methodologies are presented as an alternative for students to actively build their learning, with the teacher's guidance. Among the active methodologies is gamification, which is presented as a methodology using techniques and structures of the game in non-recreational contexts, to provoke and build learning. This research aims to define and contrast an explanatory model about the personal dimensions that become part of the students with the use of this methodology such as the student's mastery, enjoyment, the absence of negative effect and absorption with respect to creative student thinking. The instrument used is the GAMEX questionnaire, translated and validated by the authors of this manuscript for this context, as a previous investigation to the current one. The results obtained show that there is a positive relationship between all dimensions, that is, the student's mastery, their enjoyment, the absence of a negative effect and the student's absorption with the student's creative thinking. There is also a relationship between the dimensions absence of negative effect and dominance with the enjoyment of the students and between the dominance and the enjoyment of the students with their absorption in learning through gamified experiences.

PASAMAR, S., JOHNSTON, K. y TANWAR, J., 2020. Anticipation of work–life conflict in higher education. *Employee Relations*, vol. 42, no. 3, pp. 777-797. DOI 10.1108/ER-06-2019-0237

Purpose: This paper aims to further the understanding about the relationship between work–life conflict and possible barriers to career progression due to the perception of anticipated work–life conflict, considering the unbounded nature of academic work through features such as its intensity, flexibility and perception of organizational support. Design/methodology/approach: The model was tested using survey data from academics in a public university in the south of Spain. Hierarchical regression analyses were used to test the hypotheses. Findings: The results reveal that current work–life conflict, job intensity and perception of support have a direct effect on the anticipation of work–life conflict in the event of progression in academic careers. The flexibility that academics enjoy is not sufficient to prevent the expected conflict. Academics' age is relevant, but gender or having childcare responsibilities have no significant effect of the anticipation of conflict. Research limitations/implications: This study addresses the gap in the literature on anticipated work–life conflict, expanding the focus to nonfamily commitments in unbounded jobs such as academic posts. The authors are not aware of any other study that focuses on the anticipation of work–life conflict in the case of career advancement among current employees with professional experience or accurate knowledge of what job they will be doing instead of students. Work–life balance should not be restricted to women with caring responsibilities, as conflict is no longer only related to gender roles. Originality/value: This paper not only explores existing work–life conflict but also

empirically analyzes anticipated work–life conflict in unbounded careers such as academia. It represents a significant contribution in an underresearched field and may lead to future research in other settings. © 2020, Emerald Publishing Limited.

PASS, J., 2019. World Hegemony in Question: The Complexities & Contradictions of China's `Passive Revolution' in its Global Context. *Revista Electrónica de Estudios Internacionales*, no. 38. ISSN 1697-5197. DOI 10.17103/reei.38.10.

China's unprecedented meteoric rise has dramatically altered the structure and functioning of the global order sparking debate about whether it may become a `world hegemon'. The Neo neo-Gramscian perspective adopted here understands hegemony as a power relationship between state-society complexes, each determined by the social forces emergent from its particular class configuration. To enjoy world hegemony a state-society complex must, amongst other things, enjoy politico-cultural hegemony over its subordinate counterparts, manifested in intellectual and moral leadership, enabling it to remaking the world in its `own image'. In order to assess China's `hegemonic credentials' (and the kind of world order it would be) according to this criterion, this study examines the evolving and contradictory nature of the country's ongoing top-down social restructuring - a passive revolution - within the context of a changing global capitalist system. Contemporary China stands at a crossroads, its growth model "unstable, unbalanced and uncoordinated" and its society far from "harmonious". Against the backdrop of authoritarian Caesarism, we argue, a nascent hegemonic project has emerged under Xi Jinping, which seeks not just to carry out profound domestic social reform, but to extend Chinese hegemony internationally, as witnessed over the last few years. We conclude that for the foreseeable future Chinese world hegemony appears unlikely, amongst other reasons because its present societal model fails to inspire emulation abroad, a key requirement for intellectual and moral leadership.

PEREZ-CARBAJO, J., BALESTRA, S.R.G., CALERO, S. y MERKLING, P.J., 2020. Effect of lattice shrinking on the migration of water within zeolite LTA. *Microporous and Mesoporous Materials*, vol. 293. ISSN 1387-1811. DOI 10.1016/j.micromeso.2019.109808.

Water adsorption within zeolites of the Linde Type A (LTA) structure plays an important role in processes of water removal from solvents. For this purpose, knowing in which adsorption sites water is preferably found is of interest. In this paper, the distribution of water within LTA is investigated in several aluminum-substituted frameworks ranging from a Si:Al ratio of 1 (maximum substitution, framework is hydrophilic) to a Si:Al ratio of 191 (almost pure siliceous framework, it is hydrophobic). The counterion is sodium. In the hydrophobic framework, water is found in the large alpha-cages, whereas in the most hydrophilic frameworks, water is found preferably in the small beta-cages. For frameworks with moderate aluminum substitution, beta-cages are populated first, but at intermediate loading water favors alpha-cages instead. Framework composition and pressure therefore drive water molecules selectively towards alpha- or beta-cages.

PÉREZ-DE-GUZMÁN, V. y RODRÍGUEZ DÍEZ, J.L., 2020. Roles de género en personas mayores en el ámbito familiar. En: iQual: revista de género e igualdad, *iQual: revista de género e igualdad*, no. 3, pp. 62-79. ISSN 2603-851X. 10.6018/iqual.372841

We have carried out a longitudinal study of the student older than 65 years old in the "Open Classroom" university senior program from the Pablo de Olavide University (Seville, Spain), from different locations. In this article, we present the results of finding out the gender roles in the family. Although the general analysis of the results don´t show statistically significant differences between the 2013 and 2018 studies in the frequency of accomplishment of the tasks: small domestic repairs and management (banks, doctors, etc.); However, in the care of minors and / or elderly dependents in men, in the current study, there has been a decrease in frequency while in women there has been an increase in the frequency of this task.Some gender roles are maintained in the family after five years. Our results highlight the importance of focusing in the issues related with the gender equality, starting with the field more familiar with each person. From the university senior's programs, it is necessary continue stressing the theoretical and practical knowledge that allows the understanding of issues related with the gender.

PEREZ-FERNANDEZ, M., ELLIOTT, C.P., VALENTINE, A. y OYOLA, J.A., 2019. Seed provenance determines germination responses of Rumex crispus (L.) under water stress and nutrient availability. *Journal of Plant Ecology*, vol. 12, no. 6, pp. 949-961. ISSN 1752-9921. DOI 10.1093/jpe/rtz034.

Aims Seeds of Rumex crispus from six provenances were studied in relation to their germination under drought and presence of nitrogen in the germination and emergence media. We also investigated whether adaptation to soil increases the ability of the species to colonize and establish in contrasting environments along a longitudinal gradient in western Spain by means of a reciprocal transplantation experiment. Methods We conducted a germination trial in the lab to test for the germination responses to water scarcity along a polyethylene glycol gradient and to varying concentrations of nitrogen compounds. Simultaneously reciprocal transplantations experiment was conducted, where seeds from six provenances were grown in the soils from the very same provenances. Seedling emergence, survivorship and fitness-related variables were measured in all plots. Important Findings We found that R. crispus has a cold-stratification requirement that enhances its germination. Significant differences between the six provenances were detected for time-to-germination, total seedling emergence, plant mortality and reproductive effort in all the experiments. The differences between provenances with respect to germination were confirmed by the significant statistical analyses of the variance, thus providing evidence that seeds from parent plants grown in different environmental conditions have an intrinsically different abilities to germinate and establish. Soil nitrogen content where seed germination and seedlings establish also play an important role in their performance in terms of survivorship and reproduction, being the higher levels of inorganic nitrogen

and of microbial biomass those that increased biomass production, enhanced inflorescence formation and reduced plant mortality. We conclude that one of the main reasons for the spread and maintenance of R. crispus would be the increased levels of nitrogen in agricultural soils.

PEREZ-PELO, S., SANCHEZ-ORO, J., LOPEZ-SANCHEZ, A.D. y DUARTE, A., 2019. A Multi-Objective Parallel Iterated Greedy for Solving the p-Center and p-Dispersion Problem. *Electronics*, vol. 8, no. 12. DOI 10.3390/electronics8121440.

This paper generalizes the iterated greedy algorithm to solve a multi-objective facility location problem known as the Bi-objective p-Center and p-Dispersion problem (BpCD). The new algorithm is coined as Multi-objective Parallel Iterated Greedy (MoPIG) and optimizes more than one objective at the same time. The BpCD seeks to locate p facilities to service or cover a set of n demand points, and the goal is to minimize the maximum distance between facilities and demand points and, at the same time, maximize the minimum distance between all pairs of selected facilities. Computational results demonstrate the effectiveness of the proposed algorithm over the evolutionary algorithms NSGA-II, MOEA/D, and the Strength Pareto Evolutionary Algorithm 2 (SPEA2), comparing them with the optimal solution found by the E-constraint method.

PEREZ-PRAT DURBAN, L., 2019. Trucco-or-Treat. The Jugdment of the International Court of Justice of 1 October 2018 in Case Obligation to Negotiate Access to the Pacific Ocean (Bolivia V. Chile). *Revista Electrónica de Estudios Internacionales*, no. 38. ISSN 1697-5197. DOI 10.17103/reei.38.08.

The award of the International Court of Justice of October October 1 2018 has ruled in Chile’s favour on the question of whether Chile should be given an obligation to negotiate with Bolivia for its sovereign access to the Pacific Ocean. The refusal to recognize the existence of this obligation has been made after the analysis of a considerable amount of acts, declarations and behaviours of the parties - bilateral agreements, unilateral declarations, acquiescence, estoppel, etc -, with the constant result of denying the possibility that Chile’s intention to commit has emerged. The work of the Court gives rise to criticism, since it has been an exercise in formalism and voluntarism, which has ignored, as plausibly shows dissenting opinions, the crystallizing effect of the aforementioned obligation in some of the episodes of Chilean and Bolivian practice.

PINEDA-ALFONSO, JOSE A., José.A., HUNT GÓMEZ, C.I. y FERRERAS-LISTÁN, M., 2020. Heritage Education as a Tool for Creating Critical Citizens: Analysis of Conceptions of Teachers in Training. En: Handbook of Research on Citizenship and Heritage Education, *Handbook of Research on Citizenship and Heritage Education* [en línea]. S.l.: Information Science Reference, pp. 198-217. ISBN 978-1-79981-978-3. Disponible en:

https://dialnet.unirioja.es/servlet/articulo?codigo=7250379.

During the last decades, citizenship education has become a key priority, as it is one of the main concerns for governments and international organizations. Since 2004, the European Commission has been developing several programmes and projects with the aim of disseminating democratic values and raising awareness of the power of education and its role in the creation of democratic and participative citizenship. In light of this, heritage education, as one of the main dimensions of citizenship education, plays a key role in building a local identity to confront the challenges of global citizenship. The main aim of this study is exploring the conceptions that future secondary education teachers have regarding citizenship, democracy and heritage as well as identifying the relationships between education and the training they have received as future teachers

PIÑERO, P., PÉREZ-NEIRA, D., INFANTE-AMATE, J., CHAS-AMIL, M.L. y DOLDÁN-GARCÍA, X.R., 2020. Unequal raw material exchange between and within countries: Galicia (NW Spain) as a core-periphery economy. *Ecological Economics*, vol. 172. DOI 10.1016/j.ecolecon.2020.106621

A global multi-regional input-output model with sub-national resolution for Galicia, north-west Spain, was used to study physical and value added trade balances between Galicia, the rest of Spain and the world. Within the framework of Ecologically Unequal Exchange theory, we argue that a region, such as Galicia, can play a twofold role as core and periphery in the global division of extractive activities. We show that Galicia is a sink, i.e. net importer of natural resources from middle- and low-income economies, and that the lower the income of the trade partner, the more raw material intensive the imports (measured as upstream kg per USD imported value added). However, this physical deficit is less accentuated than for the rest of Spain and Galicia's material footprint is significantly lower (~14.2 compared with ~24.5 t/capita). Moreover, Galicia is a source, i.e. net exporter of raw materials compared with more thriving European Union economies and, even for some key trade partners, such as Germany, UK and the rest of Spain, it is a net importer of value added. © 2020 Elsevier B.V.

PLAZA, P., I., WIEMEYER, G., BLANCO, G., ALARCON, P., HORNERO-MENDEZ, D., ANTONIO DONAZAR, J., SANCHEZ-ZAPATA, J.A., HIRALDO, F., DE LA ROSA, J. y LAMBERTUCCI, S.A., 2019. Natural hazards and wildlife health: The effects of a volcanic eruption on the Andean Condor. *Condor*, vol. 121, no. 4. ISSN 0010-5422. DOI 10.1093/condor/duz051.

Volcanic eruptions produce health changes in animals that may be associated with emitted gases and deposited ashes. We evaluated whether the Puyehue-Cordon Caulle volcanic eruption in 2011 produced health changes in the threatened Andean Condor (Vultur gryphus) living in the area most affected by the eruption, northwestern Patagonia. We studied clinical and biochemical parameters of condors examined before and after the eruption. We also examined concentrations

of different metals and metalloids in the blood of individuals sampled after the eruption. The most common clinical abnormality associated with the eruptive process was irritating pharyngitis. In condors sampled after the eruption, blood concentrations of albumin, calcium, carotenoids, and total proteins decreased to levels under the reference values reported for this species. We found different chemical elements in the blood of these condors after the eruption, such as arsenic and cadmium, with the potential to produce health impacts. Thus, the health of Andean Condors was affected in different ways by the eruption; remaining in the affected area appears to have been costly. However, in comparison to other animal species, the health impacts were not as strong and were mainly related to food shortages due to the decrease in availability of livestock carcasses linked to the eruption. This suggests that condors dealt relatively well with this massive event. Future research is needed to evaluate if the health changes we found reduce the survival of this species, and if the cost of inhabiting volcanic areas has any ecological or evolutionary influence on the condor's life history.

PLUMMER, R., BAIRD, J., FARHAD, S. y WITKOWSKI, S., 2020. How do biosphere stewards actively shape trajectories of social-ecological change? *Journal of Environmental Management*, vol. 261. DOI 10.1016/j.jenvman.2020.110139

The biosphere faces an uncertain future! Embracing change, uncertainty and complexity calls for creative transformative pathways. Biosphere stewardship provides a novel multi actor approach towards sustainability. Despite the critical role of individual environmental stewards, biosphere stewardship emphasizes the importance of collective action, and therefore governance. Biosphere stewardship denotes novel governance configurations with the capacity to effectively approach to sustainability transformation. In this paper we seek to advance understanding of how biosphere stewardship actively shapes trajectories of change to foster social-ecological resilience and human wellbeing. Considering the crucial role of governance and more specifically its two pillars of collaboration and learning, we conduct our study of biosphere stewardship through the lens of adaptive co-management. We first set out a framework for diagnosing and analyzing the process of biosphere stewardship. Secondly, we provide evidenced-based insights from applying the framework in four UNESCO biosphere reserves situated in Canada and Sweden to shed light on how active collective shaping of biosphere stewardship occurs and what it produces. In view of the lack of framework for environmental stewardship, we suggest that the present study makes a considerable contribution by providing an appropriate holistic and systemic framework with operational measures. The study also highlights how the comprehensive and consensual understanding of stewardship is proving to be a means of catalyzing biosphere stewardship by enabling effective crafting of policy design and strategic interventions. Moreover, the application of the framework to four case studies reveals the importance of the governance process attributes (collaboration and learning) in mediating outcomes from biosphere stewardship. Finally, the framework provides the basis to address new stewardship enquiries, which require further research in this field.

POVEDANO-DIAZ, A., MUÑIZ-RIVAS, M. y VERA-PEREA, M., 2020. Adolescents' life satisfaction: The role of classroom, family, self-concept and gender. *International Journal of Environmental Research and Public Health*, vol. 17, no. 1. DOI 10.3390/ijerph17010019

This study analyzes the direct relationships between classroom and family context and adolescent students' life satisfaction (LS) and the indirect relationships between these same variables through adolescents' academic, family, and social self-concept from a gender perspective. In the theoretical model, we assume that the quality of the parent—child relationship affects adolescents' LS both directly and indirectly through their self-concept. We assume that the quality of the classroom climate also affects adolescents' LS through their self-concept. The sample consisted of 2373 adolescents (49.8% girls) aged 12 to 18 years (mean (M) = 14.69, standard deviation (SD) = 1.82). A structural equation model was tested to analyse the relationship between the variables. Subsequently, multigroup analysis was performed to determine the structural invariance of the model as a function of gender. The chi square and T-student test was 71.66. Results revealed a direct positive relationship between family environment and LS. Family and classroom environment were indirectly related to LS through their relationship with academic, family, and social self-concept. The result of multigroup analysis supports the structural invariance of the model in both sexes; therefore, the expected relationships are the same for boys and girls, making the model more generalizable and applicable. The practical and theoretical implications are discussed. © 2019 by the authors. Licensee MDPI, Basel, Switzerland.

PRADANA, M., PEREZ-LUNO, A. y FUENTES-BLASCO, M., [sin fecha]. Innovation as the key to gain performance from absorptive capacity and human capital. *Technology Analysis & Strategic Management*, ISSN 0953-7325. DOI 10.1080/09537325.2020.1714578.

This study aims to investigate how firms can achieve high levels of organisational performance through innovation, absorptive capacity (ACAP) and human capital (HC). Using a sample of 138 Spanish companies from the wine industry, our findings show that ACAP and HC allow businesses to fully capture the benefits of innovation. These results contribute to the literature of ACAP, human resources management (HRM) innovation and resource-based view (RBV) of the firm by showing that a number of resources and capabilities (ACAP, HC, and innovation) can be seen as good drivers of performance and, by extension, of competitive advantage.

PRAVST, I., AGUILERA, J.C.R., RODRIGUEZ, A.B.C., JAZBAR, J., LOCATELLI, I., HRISTOV, H. y ŽMITEK, K., 2020. Comparative bioavailability of different coenzyme q10 formulations in healthy elderly individuals. *Nutrients*, vol. 12, no. 3. DOI 10.3390/nu12030784

Coenzyme Q10 (CoQ10) plays a central role in mitochondrial oxidative phosphorylation.

Several studies have shown the beneficial effects of dietary CoQ10 supplementation, particularly in relation to cardiovascular health. CoQ10 biosynthesis decreases in the elderly, and consequently, the beneficial effects of dietary supplementation in this population are of greater significance. However, most pharmacokinetic studies have been conducted on younger populations. The aim of this study was to investigate the single-dose bioavailability of different formulations of CoQ10 in a healthy geriatric population. A randomized, three-period, crossover bioavailability study was conducted on 21 healthy older adults (aged 65–74). The treatment was a single dose with a one-week washout period. Three different formulations containing the equivalent of 100 mg of CoQ10 were used: Q10Vital® water-soluble CoQ10 syrup (the investigational product—IP); ubiquinol capsules (the comparative product—CP); and ubiquinone capsules (the standard product—SP). Ubiquinone/ubiquinol was followed in the plasma for 48 h. An analysis of the ratio of the area under the baseline-corrected concentration curve (ΔAUC48) for total CoQ10 and a comparison to SP yielded the following: The bioavailability of CoQ10 in the IP was 2.4-fold higher (95% CI: 1.3–4.5; p = 0.002), while the bioavailability of ubiquinol (CP) was not significantly increased (1.7-fold; 95% CI: 0.9–3.1, p = 0.129). No differences in the redox status of the absorbed coenzyme Q10 were observed between formulations, showing that CoQ10 appeared in the blood mostly as ubiquinol, even if consumed as ubiquinone. © 2020 by the authors. Licensee MDPI, Basel, Switzerland.

PULGAR SANUDO, I. y AMIGO VAZQUEZ, J., 2019. Notes on the flora of Baixa Limia (Ourense, Galicia, Spain). *NACC: Nova acta científica compostelana*, vol. 26, pp. 5-7. ISSN 1130-9717.

Three species of vascular plants are cited, one new for Galicia and two for the province of Ourense.

QUILES GARCÍA, F., 2020. Mi infancia son recuerdos de un patio de Sevilla... Memoria y cultura migrante. En: Con la casa a cuestas. Migración y patrimonio cultural en el mundo hispano, *Con la casa a cuestas. Migración y patrimonio cultural en el mundo hispano* [en línea]. S.l.: Enredars, pp. 249-268. ISBN 978-84-09-19468-1. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7285758.

En su autorretrato Machado recuperó los recuerdos de infancia que le llevaron a ese remanso de paz donde maduraba el limone-ro. Imágenes que no amarillearon y formaron parte del bagaje que cargó el resto de su vida en tanto hizo su camino (caminante no hay camino, se hace camino al andar), el mismo que concluyó en la amarga soledad de su exilio de Collioure, el miércoles de ceniza, 22 de febrero de 1939, lejos, muy lejos de su patio andaluz. Salvando las distancias, quien estas páginas escribe también tiene entre sus recuerdos más lejanos, situados en la borrosa infancia, un limonero y un patio, donde mansamente discurrían las horas. Horas consumidas en ensimismada complacencia, entre rosales y jazmines, una natu-raleza figurada entre macetas y arriates (Fig. 1). Ajeno a un futuro que traería consigo el abandono del pueblo y -lo más emotivo- los rincones de la infancia. Más de medio siglo después los recuerdos siguen vivos, no así el árbol ni tan

siquiera una parte de la familia que participó de las mismas sensaciones. Quiero considerar en esta aportación al libro la importancia de los recuerdos, atesorados en la memoria, por lo que representan para la salvaguarda de la identidad y las esencias culturales de la colectividad.

RAMÓN DÍAZ, A., 2020. ¿Ostenta legitimación el Delegado de Protección de Datos para interponer directamente recurso de reposición frente a resoluciones de la autoridad de control en procedimientos de tutela de derechos? En: Diario La Ley, *Diario La Ley*, no. 9592, pp. 2- 0. ISSN 1989-6913.

El presente comentario tiene por objeto determinar la conceptualización normativa de la figura del DPD en caso de reclamación ante la autoridad de control y, en base a la misma y a la normativa administrativa, analizar si el DPD ostenta legitimación para la formulación de recurso de reposición ante resoluciones de la autoridad de control por reclamación de los interesados y si su intervención pudiere, además, evidenciar una quiebra a la garantía de su independencia generadora de conflicto de intereses.

RAYA GONZÁLEZ, J., JESÚS PÉREZ RODRÍGUEZ, D., DOMÍNGUEZ DÍEZ, M. y DANIEL CASTILLO, 2020. Análisis de los goles anotados en la Primera y Segunda División española durante la temporada 2017/2018. En: Sport TK: revista euroamericana de ciencias del deporte, *Sport TK: revista euroamericana de ciencias del deporte*, vol. 9, no. 1, pp. 37-43. ISSN 2254-4070. 10.6018/sportk.412501

El objetivo del presente estudio fue conocer la tipología de los goles marcados en el fútbol profesional español mediante un análisis observacional. Los 1137 goles (508 en Primera división y 629 Segunda división) marcados en los 421 partidos de fútbol correspondienTHES a la temporada 2017-2018 en Primera y Segunda división fueron analizados. Todos los goles se clasificaron en función de su tipología. De manera general, la mayoría de los goles se anotaron con las extremidades inferiores, al primer toque y desde dentro del área. No se obtuvieron diferencias significativas ($p > 0,05$) al comparar la tipología de los goles en función de la categoría de la competición. Sin embargo, se observaron diferencias significativas ($p < 0,05$) al comparar los diferenTHES puestos específicos. Los resultados obtenidos sugieren que se deben plantear tareas de entrenamiento específicas, en función del puesto específico, con el fin de optimizar el rendimiento de cara a gol de los futbolistas.

REBOLLEDO GAMEZ, T. y RODRIGUEZ CASADO, R., 2019. Migrant Women, Vulnerability and Human Rights. *Collectivus-Revista de Ciencias Sociales*, vol. 6, no. 2, pp. 59-69. ISSN 2382-4018. DOI 10.15648/Coll.2.2019.4.

The social, cultural and economic transformations that have occurred in recent decades

have involved changes in the migration phenomenon. Among these changes is the feminization of migrations, understood as an increase in the number of women who participate in migration processes, but also the presence of new roles in which women have become leaders in their travel projects. This paper aims to analyze the increase and involvement of women in the current migration processes, in order to make visible the importance of the gender perspective in studies and political actions to respond to this situation of risk and vulnerability aggravated by the being a woman.

REBOLLO-SANZ, Y.F. y RODRIGUEZ-PLANAS, N., 2020. When the Going Gets Tough ... Financial Incentives, Duration of Unemployment, and Job-Match Quality. *Journal of Human Resources*, vol. 55, no. 1, pp. 119-163. ISSN 0022-166X. DOI 10.3368/jhr.55.1.1015.7420R2.

In the aftermath of the Great Recession, the Spanish government reduced the replacement rate (RR) from 60 percent to 50 percent after 180 days of unemployment for all spells beginning on or after July 15, 2012. Using Social Security data and a differences-in-differences approach, we find that reducing the RR by ten percentage points (or 17 percent) increases workers' odds of finding a job by 41 percent relative to similar workers not affected by the reform. To put it differently, the reform reduced the mean expected unemployment duration by 5.7 weeks (or 14 potent), implying an elasticity of 0.86. A regression discontinuity approach indicates that the reform increased the job-finding rate by 26 percent. We find strong behavioral effects as the reform reduced the expected unemployment duration right from the beginning of the unemployment spell. While the reform had no effect on wages, it did not decrease other measures of post-displacement job-match quality. After 15 months, the reform decreased unemployment insurance expenditures by 16 percent, about one-half of which are explained by job seekers' behavioral changes.

REVILLA-CAMACHO, M.-Á., PALACIOS-FLORENCIO, B., GARZÓN, D. y PRADO-ROMÁN, C., 2020. Marketing capabilities and innovation. How do they affect the financial results of hotels? *Psychology and Marketing*, vol. 37, no. 3, pp. 506-518. DOI 10.1002/mar.21316

From the point of view of firms' managers, the knowledge of the factors which explain their firms' financial results is considered of great usefulness to propose the most appropriate and profitable marketing strategies and actions. This research sets out from this central idea and proposes a model of relationships that considers the marketing results, the marketing capabilities, and the innovation capability as key factors for achieving good financial results. This model is verified via an empirical investigation carried out among 200 directors of hotel establishments in Andalusia, a region in the south of Spain which is one of the country's main tourist destinations. The results indicate that innovation capability is strongly conditioned by marketing capabilities and resources and that this innovation capability affects the financial results of the firms analyzed. Likewise, it is deduced that a market-oriented management philosophy contributes to the development of these

marketing capabilities. The implications for management are considered very relevant as they must lead these firms to invest in the development of marketing resources and capabilities, and apply a market-oriented management philosophy if they wish to improve their financial results. © 2019 Wiley Periodicals, Inc.

RIERA, R., DELGADO, J.D., MORO, L., HERRERA, R. y BECERRO, M.A., 2020. Difficulties to identify global and local key biodiversity areas in diverse and isolated marine jurisdictions. *Journal of Coastal Conservation*, vol. 24, no. 1. ISSN 1400-0350. DOI 10.1007/s11852-020-00732-0.

Biodiversity conservation requires efficient methods to be integrated into environmental management planning. The Key Biodiversity Area (KBA) approach has been recently developed for identifying sites of greatest conservation importance. They are regarded as priorities for management intervention and for identifying investment priorities. While the KBA approach has been extensively used to identify locations of high biodiversity significance in the terrestrial realm, this methodology is scarcely known by stakeholders in marine jurisdictions. Identification of a network of KBA sites should be regarded as a high priority in diverse and isolated areas, such as oceanic islands. In the Canary Islands (NE Atlantic Ocean), a number of KBA sites are here identified across the archipelago using irreplaceability and vulnerability criteria to safeguard populations of threatened marine species. If global standards associated with the IUCN Red List are considered, only nesting beaches and regular feeding grounds of sea turtles (Caretta caretta and Chelonia mydas) qualify as KBAs. However, this approach overlooks most of the biodiversity hotspots in the Canary archipelago that include representative ecosystems of volcanic islands (e.g. marine caves) or habitats with high conservation importance in terms of productivity, regional rarity and diversity (e.g. seagrass meadows and maerl seabeds), as well as presence of locally threatened species.

RIVAS-MARIN, E., PEETERS, S.H., FERNANDEZ, L.C., JOGLER, C., VAN NIFTRIK, L., WIEGAND, S. y DEVOS, D.P., 2020. Non-essentiality of canonical cell division genes in the planctomycete Planctopirus limnophila. *Scientific Reports*, vol. 10, no. 1. ISSN 2045-2322. DOI 10.1038/s41598-019-56978-8.

Most bacteria divide by binary fission using an FtsZ-based mechanism that relies on a multi-protein complex, the divisome. In the majority of non-spherical bacteria another multi-protein complex, the elongasome, is also required for the maintenance of cell shape. Components of these multi-protein assemblies are conserved and essential in most bacteria. Here, we provide evidence that at least three proteins of these two complexes are not essential in the FtsZ-less ovoid planctomycete bacterium Planctopirus limnophila which divides by budding. We attempted to construct P. limnophila knock-out mutants of the genes coding for the divisome proteins FtsI, FtsK, FtsW and the elongasome protein MreB. Surprisingly, ftsI, ftsW and mreB could be deleted without affecting the growth

rate. On the other hand, the conserved ftsK appeared to be essential in this bacterium. In conclusion, the canonical bacterial cell division machinery is not essential in P. limnophila and this bacterium divides via budding using an unknown mechanism.

RODRÍGUEZ BENOT, A., 2020. Lecciones de Derecho internacional privado. En: Revista española de derecho internacional, *Revista Española de Derecho Internacional*, vol. 72, no. 1, pp. 254-256. ISSN 0034-9380.

RODRÍGUEZ, O.Y.A., 2020. Social and cultural memories. A debate under construction. *Historia y Memoria*, no. 20, pp. 11-19. DOI 10.19053/20275137.n20.2020.10311

RODRÍGUEZ, R.M. y GARCÍA, M.A.H., 2020. The role of subnational governments in the cities of tomorrow. The Urban Agenda for andalusia. *Urban Book Series*, pp. 231-263. DOI 10.1007/978-3-030-29073-3_11

During the last decades, a renewed interest in policies geared specifically towards cities has emerged. UN-HABITAT (2014) defines an urban policy as a series of coherent decisions, derived from a deliberative process of coordination, and which brings various stakeholders together around a shared vision and goals, aimed at promoting long-term urban development that is more transformative, inclusive, and resilient. In accordance with this definition, public administrations at national and international level have sought to respond to this renewed interest in cities, but also, and above all, to this new way of understanding urban reality from the perspective of public policies. This has materialised through specific instruments such as urban agendas, which provide a general framework to lay the foundations and offer general guidelines when undertaking intervention in urban areas. The aim of this chapter is to reflect on the role played in general by regions with regard to city policies and, specifically, within the framework of urban agendas. To this end, first, the chapter analyzes the relevance of proposing urban agendas at regional level. In this sense, the definition and measurement of regional capacity are reviewed from the point of view of policies for cities. The second part focuses on the analyses the case of Andalusia in Spain, the country's first region to develop an Urban Agenda. © Springer Nature Switzerland AG 2020.

RODRÍGUEZ ROJO, J., 2020. Derechos humanos y ciudadanía mundial en el marco de la producción del capital. En: Las fronteras de los derechos humanos: Problemas, Discusión y Soluciones, *Las fronteras de los derechos humanos: Problemas, Discusión y Soluciones* [en línea]. S.l.: Dykinson S. L., pp. 148-168. ISBN 978-84-13-24656-7. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7303204.

RODRIGUEZ-BAENA, D.S., GOMEZ-VELA, F.A., GARCÍA-TORRES, M., DIVINA, F., BARRANCO, C.D., DAZ-DIAZ, N., JIMENEZ, M. y MONTALVO, G., 2020. Identifying livestock behavior patterns based on accelerometer dataset. *Journal of Computational Science*, vol. 41. DOI 10.1016/j.jocs.2020.101076

In large livestock farming it would be beneficial to be able to automatically detect behaviors in animals. In fact, this would allow to estimate the health status of individuals, providing valuable insight to stock raisers. Traditionally this process has been carried out manually, relying only on the experience of the breeders. Such an approach is effective for a small number of individuals. However, in large breeding farms this may not represent the best approach, since, in this way, not all the animals can be effectively monitored all the time. Moreover, the traditional approach heavily rely on human experience, which cannot be always taken for granted. To this aim, in this paper, we propose a new method for automatically detecting activity and inactivity time periods of animals, as a behavior indicator of livestock. In order to do this, we collected data with sensors located in the body of the animals to be analyzed. In particular, the reliability of the method was tested with data collected on Iberian pigs and calves. Results confirm that the proposed method can help breeders in detecting activity and inactivity periods for large livestock farming. © 2020 Elsevier B.V.

RODRIGUEZ-IZQUIERDO, R.M., 2020. Service learning and academic commitment in higher education. *Revista de Psicodidáctica*, vol. 25, no. 1, pp. 45-51. ISSN 1136-1034. DOI 10.1016/j.psicod.2019.09.001.

As a result of the university reform, the challenge for universities is to promote the quality of teaching, for which it is necessary to implement student-centered teaching methodologies. These methodologies require the commitment of students to their studies, which is not always present. To date, work on the relationship between service learning (SL) and academic commitment (AC) has been scarce. The aims of this paper are two-fold: to validate the Utrecht Work Engagement Scale for Students (UWES-S-9) and to evaluate the effect of the SL-based methodology on the AC of university students. A quasi-experimental design of repeated pretest-postest measurements with control group was carried out. The sample consists of 342 students, 168 experimental students who participate in SL practices and 174 control students who had not participated in SL. Both groups complete the UWES-S-9 in pretest and postest. The baseline hypothesis was that students who participated in ApS practices would achieve higher levels of AC with their studies. The results verify the existence of significant differences, in favor of the experimental group, in three of the factors that compose the AC: vigor, dedication and absorption. The discussion focuses on the potential value of the SL methodology for improving the AC of university students and paves the way for rethinking the implementation of active teaching methodologies as a key issue for optimising the quality of teaching at university. (C) 2019 Universidad de Pais Vasco. Published by Elsevier Espana. S.L.U. All rights reserved.

RODRÍGUEZ-LÓPEZ, M., GONZALEZ, S., HILLSON, O., TUNNACLIFFE, E., CODLIN, S., TALLADA, V.A., BÄHLER, J. y RALLIS, C., 2020. The GATA Transcription Factor Gaf1 Represses tRNAs, Inhibits Growth, and Extends Chronological Lifespan Downstream of Fission Yeast TORC1. *Cell Reports*, vol. 30, no. 10, pp. 3240- 3249.e4. DOI 10.1016/j.celrep.2020.02.058

Target of Rapamycin Complex 1 (TORC1) signaling promotes growth and aging. Inhibition of TORC1 leads to reduced protein translation, which promotes longevity. TORC1-dependent post-transcriptional regulation of protein translation has been well studied, while analogous transcriptional regulation is less understood. Here we screen fission yeast mutants for resistance to Torin1, which inhibits TORC1 and cell growth. Cells lacking the GATA factor Gaf1 (gaf1Δ) grow normally even in high doses of Torin1. The gaf1Δ mutation shortens the chronological lifespan of non-dividing cells and diminishes Torin1-mediated longevity. Expression profiling and genome-wide binding experiments show that upon TORC1 inhibition, Gaf1 directly upregulates genes for small-molecule metabolic pathways and indirectly represses genes for protein translation. Surprisingly, Gaf1 binds to and downregulates the tRNA genes, so it also functions as a transcription factor for RNA polymerase III. Thus, Gaf1 controls the transcription of both protein-coding and tRNA genes to inhibit translation and growth downstream of TORC1. © 2020 The Author(s)TORC1 signaling promotes protein translation and cellular aging. Rodríguez-López et al. show that this role of TORC1 is partly mediated via the transcription factor Gaf1. When TORC1 is blocked, Gaf1 extends the cellular lifespan by inhibiting the transcription not only of protein-coding genes but also of tRNA genes functioning in translation. © 2020 The Author(s)

RODRÍGUEZ-MEDELLÍN, R., ZAMARRIPA, J., MARENTES-CASTILLO, M., OTERO-SABORIDO, F., BAÑOS, R. y MORQUECHO-SÁNCHEZ, R., 2020. Mexican validation of the engagement and disaffection in physical education scale. *International Journal of Environmental Research and Public Health*, vol. 17, no. 6. DOI 10.3390/ijerph17061821

To date, no instrument adapted and validated that measures engagement and disaffection in the physical education class has been found, which limits the generation of knowledge of this area in Mexico. The aims of this study were to translate and adapt the engagement and disaffection scale to the context of physical education in Mexico and to examine its reliability, structure (two and four factors), and factorial invariance by gender in Mexican fifth-and sixth-grade elementary school students. A total of 1470 students participated (50.6% boys) with ages between 10 and 14 years (mean (M) = 10.56; standard deviation (SD) = 0.77) from federal (89.3%) and state (10.7%) elementary schools. Two factorial structures were tested (with four factors and two factors). The fit indexes of both models were satisfactory, and the factorial saturations were significant. The differences between the fit indexes of both models were irrelevant; therefore, the two-factor model was considered more suitable. The total strict invariance by gender was confirmed, and the reliabilities of the engagement and disaffection scale were acceptable. The Mexican version of the course engagement and disaffection scale in physical education is valid and useful to measure these constructs in the context of physical education in Mexico. © 2020 by the authors. Licensee MDPI, Basel, Switzerland.

RODRÍGUEZ-PRIETO, R., 2020. La vulneración del ius in officium como paradigma de

la erosión de derechos fundamentales durante el proceso separatista en Cataluña. En: Las fronteras de los derechos humanos: Problemas, Discusión y Soluciones, *Las fronteras de los derechos humanos: Problemas, Discusión y Soluciones* [en línea]. S.l.: Dykinson S. L., pp. 121-147. ISBN 978-84-13-24656-7. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7303205.

ROMERO CABALLERO, A. y CAMPOS VÁZQUEZ, M.Á., 2020. Relación entre indicadores de carga interna en un juego reducido 3x3 en jóvenes futbolistas. En: Retos: nuevas tendencias en educación física, deporte y recreación, *Retos-Nuevas Tendencias en Educación Física Deporte y Recreación*, no. 37, pp. 152-159. ISSN 1579-1726.

The main purpose of this work was to verify if there was a relation between players' perceived effort (RPE Borg-10) and the percentage of reserve heart rate (%HRres) as methods to monitor the internal load during small sided games (SSG) in U-16, U-14 and U12 soccer players. A group of 36 young soccer players from the same club, divided into three categories: U-12 (mean ± ds: 11.76 ± 0.31years), U-14 (12.78 ± 0.37) and U-16 (15.25 ± 0.53), participated in this study. All of them performed two SSG with a duration of 4 setsof 4 minutes, with a 3-minute rest period between them. Heart rate (HR) was constantly recorded and each participant's perceived effort(RPE Borg-10) was recorded after each of the series of both SSG. Repeated-measure ANOVA was performed to compare mean interseries values of the different variables, whereas one-way ANOVA was run to compare mean values of each variable during the completeSSG between the different categories. Pearson correlation analysis was also used to verify the relationship between %HRres and RPEat different times and according to the categories. From these analyses, a moderate and statistically significant relationship (r= .41;p<0.05) was derived between soccer players' RPE and %HRres during SSG. These results confirm that RPE is a practical tool whenevaluating SSG internal load in the first formative stages in soccer.

ROMERO-CABALLERO, A. y CAMPOS-VÁZQUEZ, M.Á., 2020. Relationship between internal load indicators in a 3-a-side small-sided game in young soccer players. *Retos*, vol. 37, pp. 152-159

The main purpose of this work was to verify if there was a relation between players' perceived effort (RPE Borg-10) and the percentage of reserve heart rate (%HRres) as methods to monitor the internal load during small sided games (SSG) in U-16, U-14 and U-12 soccer players. A group of 36 young soccer players from the same club, divided into three categories: U-12 (mean ± ds: 11.76 ± 0.31 years), U-14 (12.78 ± 0.37) and U-16 (15.25 ± 0.53), participated in this study. All of them performed two SSG with a duration of 4 sets of 4 minutes, with a 3-minute rest period between them. Heart rate (HR) was constantly recorded and each participant's perceived effort (RPE Borg-10) was recorded after each of the series of both SSG. Repeated-measure ANOVA was performed to compare mean inter-series values of the different variables, whereas one-way ANOVA was run to compare mean values of each variable during the complete SSG between the different categories. Pearson correlation analysis was also used to verify the

relationship between %HRres and RPE at different times and according to the categories. From these analyses, a moderate and statistically significant relationship (r= .41; p<0.05) was derived between soccer players' RPE and %HRres during SSG. These results confirm that RPE is a practical tool when evaluating SSG internal load in the first formative stages in soccer. © Copyright: Federación Española de Asociaciones de Docentes de Educación Física (FEADEF

ROMERO-ZERBO, S.Y., GARCÍA-FERNÁNDEZ, M., ESPINOSA-JIMÉNEZ, V., POZO-MORALES, M., ESCAMILLA-SÁNCHEZ, A., SÁNCHEZ-SALIDO, L., LARA, E., COBO-VUILLEUMIER, N., RAFACHO, A., OLVEIRA, G., ROJO-MARTÍNEZ, G., GAUTHIER, B.R., GONZÁLEZ-MARISCAL, I. y BERMÚDEZ-SILVA, F.J., 2020. The Atypical Cannabinoid Abn-CBD Reduces Inflammation and Protects Liver, Pancreas, and Adipose Tissue in a Mouse Model of Prediabetes and Non-alcoholic Fatty Liver Disease. *Frontiers in Endocrinology*, vol. 11. DOI 10.3389/fendo.2020.00103

Background and Aims: The synthetic atypical cannabinoid Abn-CBD, a cannabidiol (CBD) derivative, has been recently shown to modulate the immune system in different organs, but its impact in obesity-related meta-inflammation remains unstudied. We investigated the effects of Abn-CBD on metabolic and inflammatory parameters utilizing a diet-induced obese (DIO) mouse model of prediabetes and non-alcoholic fatty liver disease (NAFLD). Materials and Methods: Ten-week-old C57Bl/6J mice were fed a high-fat diet for 15 weeks, following a 2-week treatment of daily intraperitoneal injections with Abn-CBD or vehicle. At week 15 mice were obese, prediabetic and developed NAFLD. Body weight and glucose homeostasis were monitored. Mice were euthanized and blood, liver, adipose tissue and pancreas were collected and processed for metabolic and inflammatory analysis. Results: Body weight and triglycerides profiles in blood and liver were comparable between vehicle- and Abn-CBD-treated DIO mice. However, treatment with Abn-CBD reduced hyperinsulinemia and markers of systemic low-grade inflammation in plasma and fat, also promoting white adipose tissue browning. Pancreatic islets from Abn-CBD-treated mice showed lower apoptosis, inflammation and oxidative stress than vehicle-treated DIO mice, and beta cell proliferation was induced. Furthermore, Abn-CBD lowered hepatic fibrosis, inflammation and macrophage infiltration in the liver when compared to vehicle-treated DIO mice. Importantly, the balance between hepatocyte proliferation and apoptosis was improved in Abn-CBD-treated compared to vehicle-treated DIO mice. Conclusions: These results suggest that Abn-CBD exerts beneficial immunomodulatory actions in the liver, pancreas and adipose tissue of DIO prediabetic mice with NAFLD, thus protecting tissues. Therefore, Abn-CBD and related compounds could represent novel pharmacological strategies for managing obesity-related metabolic disorders. © Copyright © 2020 Romero-Zerbo, García-Fernández, Espinosa-Jiménez, Pozo-Morales, Escamilla-Sánchez, Sánchez-Salido, Lara, Cobo-Vuilleumier, Rafacho, Olveira, Rojo-Martínez, Gauthier, González-Mariscal and Bermúdez-Silva.

ROSENBAUM, S., MORELL, R., ABDEL-BAKI, A., AHMADPANAH, M.,

ANILKUMAR, T.V., BAIE, L., BAUMAN, A., BENDER, S., BOYAN HAN, J., BRAND, S., BRATLAND-SANDA, S., BUENO-ANTEQUERA, J., CAMAZ DESLANDES, A., CARNEIRO, L., CARRARO, A., CASTAÑEDA, C.P., CASTRO MONTEIRO, F., CHAPMAN, J., CHAU, J.Y., CHEN, L.J., CHVATALOVA, B., CHWASTIAK, L., CORRETTI, G., DILLON, M., DOUGLAS, C., EGGER, S.T., GAUGHRAN, F., GERBER, M., GOBBI, E., GOULD, K., HATZINGER, M., HOLSBOER-TRACHSLER, E., HOODBHOY, Z., IMBODEN, C., INDU, P.S., IQBAL, R., JESUS-MORALEIDA, F.R., KONDO, S., KU, P.W., LEDERMAN, O., LEE, E.H.M., MALCHOW, B., MATTHEWS, E., MAZUR, P., MENEGHELLI, A., MIAN, A., MORSETH, B., MUNGUIA-IZQUIERDO, D., NYBOE, L., O'DONOGHUE, B., PERRAM, A., RICHARDS, J., ROMAIN, A.J., ROMANIUK, M., SADEGHI BAHMANI, D., SARNO, M., SCHUCH, F., SCHWEINFURTH, N., STUBBS, B., UWAKWE, R., VAN DAMME, T., VAN DER STOUWE, E., VANCAMPFORT, D., VETTER, S., WATERREUS, A. y WARD, P.B., 2020. Assessing physical activity in people with mental illness: 23-country reliability and validity of the simple physical activity questionnaire (SIMPAQ). *BMC Psychiatry*, vol. 20, no. 1. DOI 10.1186/s12888-020-2473-0

Background: Physical inactivity is a key contributor to the global burden of disease and disproportionately impacts the wellbeing of people experiencing mental illness. Increases in physical activity are associated with improvements in symptoms of mental illness and reduction in cardiometabolic risk. Reliable and valid clinical tools that assess physical activity would improve evaluation of intervention studies that aim to increase physical activity and reduce sedentary behaviour in people living with mental illness. Methods: The five-item Simple Physical Activity Questionnaire (SIMPAQ) was developed by a multidisciplinary, international working group as a clinical tool to assess physical activity and sedentary behaviour in people living with mental illness. Patients with a DSM or ICD mental illness diagnoses were recruited and completed the SIMPAQ on two occasions, one week apart. Participants wore an Actigraph accelerometer and completed brief cognitive and clinical assessments. Results: Evidence of SIMPAQ validity was assessed against accelerometer-derived measures of physical activity. Data were obtained from 1010 participants. The SIMPAQ had good test-retest reliability. Correlations for moderate-vigorous physical activity was comparable to studies conducted in general population samples. Evidence of validity for the sedentary behaviour item was poor. An alternative method to calculate sedentary behaviour had stronger evidence of validity. This alternative method is recommended for use in future studies employing the SIMPAQ. Conclusions: The SIMPAQ is a brief measure of physical activity and sedentary behaviour that can be reliably and validly administered by health professionals. © 2020 The Author(s).

ROSSI, D., GRUART, A., CONTRERAS-MURILLO, G., MUHAISEN, A., ÁVILA, J., DELGADO-GARCÍA, J.M., PUJADAS, L. y SORIANO, E., 2020. Reelin reverts biochemical, physiological and cognitive alterations in mouse models of Tauopathy. *Progress in Neurobiology*, vol. 186. DOI 10.1016/j.pneurobio.2019.101743

Reelin is an extracellular protein crucial for adult brain plasticity. Moreover, Reelin is protective against amyloid-β (Aβ) pathology in Alzheimer's Disease (AD), reducing plaque deposition, synaptic loss and cognitive decline. Given that Tau protein plays a key role in AD pathogenesis, and that the Reelin pathway modulates Tau phosphorylation, here we explored the involvement of Reelin in AD-related Tau pathology. We found that Reelin overexpression modulates the levels of Tau phosphorylation in AD-related epitopes in VLW mice expressing human mutant Tau. in vitro, Reelin reduced the Aβ-induced missorting of axonal Tau and neurofilament proteins to dendrites. Reelin also reverted in vivo the toxic somatodendritic localization of phosphorylated Tau. Finally, overexpression of Reelin in VLW mice improved long-term potentiation and long-term memory cognitive performance thus masking the cognitive and physiological deficits in VLW mice. These data suggest that the Reelin pathway, which is also protective against Aβ pathology, modulates fundamental traits of Tau pathology, strengthening the potential of Reelin as a therapeutic target in AD. © 2020 The Authors

RUBIO-ESCUDERO, C., MARTÍNEZ-ÁLVAREZ, F., ATENCIA-GIL, E. y TRONCOSO, A., 2020. Implementation of an Internal Quality Assurance System at Pablo de Olavide University of Seville: Improving Computer Science Students Skills. *Advances in Intelligent Systems and Computing*, vol. 951, pp. 340-348. DOI 10.1007/978-3-030-20005-3_35

This work describes how an internal quality assurance system is deployed at Pablo de Olavide University of Seville, Spain, in order to follow up all the existing degrees among the faculties and schools, seven centers inÂ total, and how the teaching-learning process is improved. In the first place, the quality management structure existing in all the centers and degrees of the university is described. Additionally, all the actions related to the quality and improvement of the degrees of a center are reported. Unlike in other Universities, in the Pablo de Olavide University there is no specific procedure for monitoring degrees, but the strategic procedure PE04: Measurement, analysis and improvement of the Internal Quality Assurance System is used to carry out such a procedure. Therefore, the procedure is detailed specifying the different phases it consists of and those responsible for each of them. Once this procedure has been implemented, the centers have a follow-up report for each of their degrees, which also includes an improvement plan to be developed during the next course. The case of the degree of Computer Science in Information Systems, included in the School of Engineering, is analyzed over time in order to show how the implementation of such a system improves the overall performance of students. © 2020, Springer Nature Switzerland AG.

RUEDA-CANTUCHE, J.M., AMORES, A.F. y REMOND-TIEDREZ, I., 2020. Can supply, use and input–output tables be converted to a different classification with aggregate information? *Economic Systems Research*, vol. 32, no. 1, pp. 145-165. DOI 10.1080/09535314.2019.1655393

Every change in the product and/or industry classifications and/or methodology of supply,

use and input–output tables makes any medium- to long-term policy analysis impossible unless appropriate conversions are provided by national statistical institutes using more detailed data. However, can these tables be reasonably converted to a different classification of industries and products using aggregate information? We develop a conversion method that allows changes in classification that are independent of the number of industries and products. In addition, we provide evidence about its empirical performance compared with projection methods. We find projection methods perform better than conversion methods, at least when using aggregate information. Nonetheless, unlike conversion methods, projection methods generally require supply, use and input–output tables in the new classification that might not always be available. In their absence, we recommend using more detailed and sophisticated data. © 2019, © European Union 2019. Published by Informa UK Limited, trading as Taylor & Francis Group.

RUHSTALLER, S., 2020. Lexical dialectal and lexicography in Iberorromania. *Zeitschrift fur Romanische Philologie*, vol. 136, no. 1, pp. 296-302. ISSN 0049-8661. DOI 10.1515/zrp-2020-0016.

RUIZ BALLESTEROS, E. y Mª VALCUENDE DEL RÍO, J., 2020. Cuerpos en el entorno: reflexiones para una etnografía de las percepciones ambientales. En: AIBR: Revista de Antropología Iberoamericana, *AIBR: Revista de Antropología Iberoamericana*, vol. 15, no. 1, pp. 105-128. ISSN 1578-9705. 10.11156/aibr.150106

Perceptions are a central analytical tool to environmental anthropology. Studying perceptions implies, from a phenomenological perspective, a redefinition of ethnography and the role of the ethnographer. Using the analysis of unplanned experiences of ethnographic fieldwork, our aim is to unravel some of the potentialities and limits of non-discursive approaches to environmental perception. Experiences wherein the corporality of the researcher — as an ethnographic tool — and her/his estrangement play a central role. © 2020, Asociacion de Antropologos Iberoamericanos en Red.

RUIZ PILARES, E.J. y MINGORANCE RUIZ, J.A., 2019. The social mobility of foreign nations in late medieval Andalusian cities: the Adorno family and the political society of Jerez de la Frontera (1470-1520). *Hispania-Revista Española de Historia*, vol. 79, no. 263, pp. 669-698. ISSN 0018-2141. DOI 10.3989/hispania.2019.016.

In the late Middle Ages, Andalusia had a strategic position on the navigation routes between the Atlantic and the Mediterranean which encouraged settlement in major foreign merchant communities. Although historiography has shown that these contacts led to social transformations in these spaces, there are few studies dedicated to these groups' incorporation into municipal power institutions. In this work, we explore the issue by studying the Genoese Adorno family and the town

of Jerez de la Frontera. With particular reference to its Municipal Archive, the origin and bases of their socioeconomic and political power have been reconstructed, as have relevant details on their integration by means of the construction of sumptuous burials and marriage policies. We can corroborate that it was possible for a wealthy merchant family to reach the peak of municipal power if they adequately invested the profits of their activities in the purchase of government offices, rural property and real estate and, above all, cultivated advantageous links with former ruling families.

RUIZ ROMERO, M., 2020. Los intentos para una novena provincia en Andalucía: La rebeldía administrativa de la Bahía de Algeciras. En: Andalucía en la historia, *Andalucía en la historia*, no. 67, pp. 76-79. ISSN 1695-1956.

En los últimos siglos, la particular presencia de la colonia británica en el Campo de Gibraltar y el devenir diplomático han contribuido a motivar diferentes propuestas político-administrativas para dotar a la comarca de una mayor personalidad, recursos y progreso. En los últimos siglos, la particular presencia de la colonia británica y su devenir diplómatico ha contribuido a motivar deferentes propuestas político-administrativas, algunas de las cuales analizamos.

RUIZ-ARAGON, J., GANI, R., MARQUEZ, S. y ALVAREZ, P., [sin fecha]. Estimated cost-effectiveness and burden of disease associated with quadrivalent cell-based and egg-based influenza vaccines in Spain. *Human Vaccines & Immunotherapeutics*, ISSN 2164-5515. DOI 10.1080/21645515.2020.1712935.

Influenza is a viral respiratory disease that causes significant clinical and economic burden globally. Quadrivalent influenza vaccine (QIV) is frequently used to protect people who have a high-risk of developing influenza complications due to comorbidities. QIV offers protection against influenza A (A/H1N1 and H3N2) and B (B/Victoria, and B/Yamagata) strains. The European Medicines Agency has recently approved a cell-based QIV (QIVc) in people aged over 9 years old. QIVc has been shown to be more effective at preventing influenza than traditional egg-based QIV (QIVe). In this study, we use a health economic model adapted to Spain to assess the costs and outcomes associated with using QIVc instead of QIVe in people aged 9-64 at high-risk of complications. Observed vaccine coverage of 32% in the 9-17 age group, 17% in those aged 18-59, and 22% for ages 60-64 was used in the analysis. In total, 2.5 million people were vaccinated in the simulations. Using QIVc instead of QIVe was associated with 16,221fewer symptomatic cases, 4,522 fewer primary care visits, 1,015 fewer emergency room visits and 88 fewer hospitalizations. From a societal perspective, QIVc was more effective and less expensive compared to QIVe, leading to a cost-saving of euro3.4 million. From a public payer perspective, the incremental cost-effectiveness ratio for QIVc vs QIVe was euro12,852 per QALY gained. In conclusion, QIVc offers a cost-effective alternative to QIVe and should be considered as an alternative vaccine to QIVe for people aged 9-64 at high-risk of influenza complications in Spain.

SALTO, R., GIRÓN, M.D., MANZANO, M., MARTÍN, M.J., VÍLCHEZ, J.D., BUENO-VARGAS, P., CABRERA, E., PÉREZ-ALEGRE, M., ANDUJAR, E., RUEDA, R. y LOPEZ-PEDROSA, J.M., 2020. Programming skeletal muscle metabolic flexibility in offspring of male rats in response to maternal consumption of slow digesting carbohydrates during pregnancy. *Nutrients*, vol. 12, no. 2. DOI 10.3390/nu12020528

Skeletal muscle plays a relevant role in metabolic flexibility and fuel usage and the associated muscle metabolic inflexibility due to high-fat diets contributing to obesity and type 2 diabetes. Previous research from our group indicates that a high-fat and rapid-digesting carbohydrate diet during pregnancy promotes an excessive adipogenesis and also increases the risk of non-alcoholic fatty liver disease in the offspring. This effect can be counteracted by diets containing carbohydrates with similar glycemic load but lower digestion rates. To address the role of the skeletal muscle in these experimental settings, pregnant rats were fed high-fat diets containing carbohydrates with similar glycemic load but different digestion rates, a high fat containing rapid-digesting carbohydrates diet (HF/RD diet) or a high fat containing slow-digesting carbohydrates diet (HF/SD diet). After weaning, male offspring were fed a standard diet for 3 weeks (weaning) or 10 weeks (adolescence) and the impact of the maternal HF/RD and HF/SD diets on the metabolism, signaling pathways and muscle transcriptome was analyzed. The HF/SD offspring displayed better muscle features compared with the HF/RD group, showing a higher muscle mass, myosin content and differentiation markers that translated into a greater grip strength. In the HF/SD group, metabolic changes such as a higher expression of fatty acids (FAT/CD36) and glucose (GLUT4) transporters, an enhanced glycogen content, as well as changes in regulatory enzymes such as muscle pyruvate kinase and pyruvate dehydrogenase kinase 4 were found, supporting an increased muscle metabolic flexibility and improved muscle performance. The analysis of signaling pathways was consistent with a better insulin sensitivity in the muscle of the HF/SD group. Furthermore, increased expression of genes involved in pathways leading to muscle differentiation, muscle mass regulation, extracellular matrix content and insulin sensitivity were detected in the HF/SD group when compared with HF/RD animals. In the HF/SD group, the upregulation of the ElaV1/HuR gene could be one of the main regulators in the positive effects of the diet in early programming on the offspring. The long-lasting programming effects of the HF/SD diet during pregnancy may depend on a coordinated gene regulation, modulation of signaling pathways and metabolic flexibility that lead to an improved muscle functionality. The dietary early programming associated to HF/SD diet has synergic and positive crosstalk effects in several tissues, mainly muscle, liver and adipose tissue, contributing to maintain the whole body homeostasis in the offspring. © 2020 by the authors. Licensee MDPI, Basel, Switzerland.

SALVATORI, S. y TERRON-CARO, T., 2019. Gender and Human Development: The Case of the Migration of Skilled Women in Italy. *Collectivus-Revista de Ciencias Sociales*, vol. 6, no. 2, pp. 169-179. ISSN 2382-4018. DOI

10.15648/Coll.2.2019.11.

According to the UN objectives aimed at promoting human development, work can be a positive factor for its realization. However, if we focus on the labour insertion of skilled migrant women we observe that this is not always done according to the level of the education. In many cases, it promotes a declassification process. On the contrary, often the decrease in social position in the host country is functional to the strengthening of the social position in the country of origin through remittances or savings. Starting from these ambiguities, we propose some reflections on the relationship between human development and the migration of skilled women.

SANCHEZ, F.C., AIZPURUA, E., RICARTE, J.J. y BARRY, T.J., [sin fecha]. Personal, Criminal and Social Predictors of Suicide Attempts in Prison. *Archives of Suicide Research*, ISSN 1381-1118. DOI 10.1080/13811118.2020.1738293.

Previous epidemiological analyses indicate that specific demographic and criminal factors might be associated with suicide attempts during incarceration. However, there is a relative lack of research examining the role of social variables such as perceived social support. Data from 943 male inmates enrolled from three correctional facilities in Spain were collected. Participants completed self-report measures of the demographic, penitentiary and sentence-related, social support and suicide attempts variables. Approximately 1 in 11 inmates indicated that they had attempted suicide during incarceration. Inmates who were 50 years or above and who were serving longer sentences were significantly more likely to attempt suicide. Perceived social support was not associated with suicide attempts. These characteristics might be included in the development of intervention programs for incarcerated individuals.

SÁNCHEZ RUBIO, D., 2020. Una propuesta multigarantista de derechos humanos en materia de (mal)-trata de personas. En: Las fronteras de los derechos humanos: Problemas, Discusión y Soluciones, *Las fronteras de los derechos humanos: Problemas, Discusión y Soluciones* [en línea]. S.l.: Dykinson S. L., pp. 182-198. ISBN 978-84-13-24656-7. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7303202.

SÁNCHEZ RUBIO, D., MARÍN-CONEJO, SERGIO y OLVERA GARCÍA, J., 2020. *Derechos humanos desde la interdisciplinariedad en ciencias sociales y humanidades* [en línea]. S.l.: Dykinson S. L. ISBN 978-84-13-24651-2. Disponible en: https://dialnet.unirioja.es/servlet/libro?codigo=751228.

SÁNCHEZ-CARDONA, I., VERA, M., MARTÍNEZ-LUGO, M., RODRÍGUEZ-MONTALBÁN, R. y MARRERO-CENTENO, J., 2020. When the Job Does Not Fit: The Moderating Role of Job Crafting and Meaningful Work in the Relation Between Employees' Perceived Overqualification and Job Boredom. *Journal of Career Assessment*, vol. 28, no. 2, pp. 257-276. DOI 10.1177/1069072719857174

Job boredom is a common experience at work; however, it has been neglected in research and practice compared to other well-being states. Based on the person-job fit theory, this article aims to examine the association between employees' perceived overqualification and job boredom, analyzing potential moderators. In Study 1, we analyzed job crafting as a moderator using a sample of 832 employees from different organizations in Puerto Rico. Results supported the relation between employees' perceived overqualification and job boredom but did not support the moderating effect of job crafting since only two dimensions (i.e., increasing structural resources and increasing challenging demands) significantly moderate this association in an opposite direction. In Study 2, we analyzed the moderating role of meaningful work with a sample of 394 employees. Results supported the moderating effect of meaningful work on the relation between employees' perceived overqualification and job boredom. While job crafting dimensions of increasing structural resources and increasing challenging demands strengthen or have little effect on reducing the association between employees' perceived overqualification and job boredom, meaningful work buffers this effect. These findings suggest that organizations must provide opportunities for employees to find meaning in their jobs. Additional research is needed to understand the role of job crafting to reduce job boredom. © The Author(s) 2019.

SÁNCHEZ-EXPÓSITO, M.J. y NARANJO-GIL, D., 2020. The effect of relative performance feedback on individual performance in team settings under group-based incentives*. *Accounting and Business Research*, DOI 10.1080/00014788.2020.1712548

This study reports the results of an experiment that analyses the behavioural effect of relative performance feedback (RPF) on individual performance when compensation is based on team performance. Specifically, it investigates whether RPF affects individual performance differently when the comparison focuses on other members of that individual's team (within-group RPF) or on other teams (between-group RPF). We predict a negative effect of within-group RPF on individual performance. We also predict that between-group RPF moderates that negative effect, since it encourages individuals to focus on group goals rather than individual goals. Consistent with our predictions, results show that the negative effect of within-group RPF on individual performance is mitigated by between-group RPF. Our results can help accountants to better understand how the effects of relative performance feedback differ according to the predominant comparison target. © 2020, © 2020 Informa UK Limited, trading as Taylor & Francis Group.

SÁNCHEZ-RODRÍGUEZ, I., TEMPRANO-CARAZO, S., NÁJERA, A., DJEBARI, S., YAJEYA, J., GRUART, A., DELGADO-GARCÍA, J.M., JIMÉNEZ-DÍAZ, L. y NAVARRO-LÓPEZ, J.D., 2020. Erratum: Publisher Correction: Activation of G-protein-gated inwardly rectifying potassium (Kir3/GirK) channels rescues hippocampal functions in a mouse model of early amyloid-β pathology (Scientific reports (2017) 7 1 (14658)). *Scientific Reports*, vol. 10, no. 1, pp. 1722. DOI 10.1038/s41598-020-58226-w

An amendment to this paper has been published and can be accessed via a link at the top of the paper.

SÁNCHEZ-SALGUERO, R. y CAMARERO, J.J., 2020. Greater sensitivity to hotter droughts underlies juniper dieback and mortality in Mediterranean shrublands. *Science of the Total Environment*, vol. 721. DOI 10.1016/j.scitotenv.2020.137599

Drought-induced dieback episodes have been globally reported. However, few studies have jointly examined the role played by drought on growth of co-occurring shrub and tree species showing different dieback and mortality. Here, we focused on dieback events affecting Mediterranean shrublands dominated by the Phoenician juniper (Juniperus phoenicea) since the middle 2000s in three sites across a wide geographical and climatic gradient in Spain. We compared their growth responses to climate and drought with coexisting tree species (Pinus pinea, Pinus pinaster and Quercus faginea), which did not show dieback in response to drought. We characterized the major climatic constraints of radial growth for trees, surviving and dead junipers by quantifying climate–growth relationships. Then, we simulated growth responses to temperature and soil moisture using the process-based VS-Lite growth model. Growth of shrubs and trees was strongly reduced during extreme droughts but the highest negative growth responsiveness to climate and drought was observed in trees followed by dead junipers from the most xeric and cold sites. Growth of dead junipers responded more negatively to droughts prior to the dieback than co-occurring, living junipers. Growth was particularly depressed in the dead junipers from the warmest site after the warm and dry 1990s. The growth model showed how a steep precipitation reduction in the 1980s triggered soil moisture limitation at the driest sites, affecting growth, particularly in the case of dead junipers and mainly in warm and dry sites. The asynchrony in the simulated seasonal timing of drought events caused contrasting effects on growth of co-occurring shrubs and tree species, compromising their future coexistence. Junipers were particularly vulnerable to hotter droughts during the early growing season. The presented projections indicate that de-shrubification events in response to hotter droughts will be common but conditioned by site conditions. Our modelling approach provides tools to evaluate vulnerability thresholds of growth under similar drought-induced dieback and mortality processes. © 2020 Elsevier B.V.

SÁNCHEZ-SERRANO, J.L.S. y ARAUJO, E.H., 2020. Myths and Realities in the Employability of Young People Working in the Hotel Sector. *Studies in Systems, Decision and Control*, vol. 208, pp. 391-409. DOI 10.1007/978-3-030-18593-0_29

In this chapter we present a research, developed in a framework of Ph.D. work, resulting a doctoral dissertation presented at the end of 2013. The methodology of qualitative orientation, focuses its attention on the voices of the young workers in the sector of the hotel sector from Andalusian area in Spain, as main source of information. The aim of this research was to analyze and describe the work and social situation of working youth in the hotel and tourism sector, describing both

their profiles and beliefs, feelings and disappointments (tensions, insecurities, illusions, satisfactions, disappointments, frustrations, misunderstandings, etc.) in their work context, in order to know the most important landmark of their work experience. Understanding that such experience depends on multiple personal and professional factors and circumstances, as well as the result of the balance each person makes of what he expects and what he really finds in the vocation. It was therefore based on the principle that perceptions of experience may therefore be very complex and diverse in their contrasts and similarities. But in any case, it has been a small-scale research work, with the collaboration of the contributions of 260 hard-working young persons in the hotel and tourism sector.

SANTAMARÍA-BONFIL, G., IBÁÑEZ, M.B., PÉREZ-RAMÍREZ, M., ARROYO-FIGUEROA, G. y MARTÍNEZ-ÁLVAREZ, F., 2020. Learning analytics for student modeling in virtual reality training systems: Lineworkers case. *Computers and Education*, vol. 151. DOI 10.1016/j.compedu.2020.103871

Live-line maintenance is a high risk activity. Hence, lineworkers require effective and safe training. Virtual Reality Training Systems (VRTS) provide an affordable and safe alternative for training in such high risk environments. However, their effectiveness relies mainly on having meaningful activities for supporting learning and on their ability to detect untrained students. This study builds a student model based on Learning Analytics (LA), using data collected from 1399 students that used a VRTS for the maintenance training of lineworkers in 329 courses carried out from 2008 to 2016. By employing several classifiers, the model allows discriminating between trained and untrained students in different maneuvers using three minimum evaluation proficiency scores. Using the best classifier, a Feature Importance Analysis is carried out to understand the impact of the variables regarding the trainees' final performances. The model also involves the exploration of the trainees' trace data through a visualization tool to pose non-observable behavioral variables related to displayed errors. The results show that the model can discriminate between trained and untrained students, the Random Forest algorithm standing out. The feature importance analysis revealed that the most relevant features regarding the trainees' final performance were profile and course variables along with specific maneuver steps. Finally, using the visual tool, and with human expert aid, several error patterns in trace data associated with misconceptions and confusion were identified. In the light of these, LA enables disassembling the data jigsaw quandary from VRTS to enhance the human-in-the-loop evaluation.

SANTANA, M., MORALES-SÁNCHEZ, R. y PASAMAR, S., 2020. Mapping the link between Corporate Social Responsibility (CSR) and Human Resource Management (HRM): How is this relationship measured? *Sustainability*, vol. 12, no. 4. DOI 10.3390/su12041678

Despite the relevance of human resources in the management of Corporate Social

Responsibility (CSR), confusion and theoretical chaos are still evident in the area. This manuscript provides a systematic review of the link between CSR and Human Resource Management (HRM), stressing the main topics along with the evolution and tendencies founded in this field. SciMAT was used to conduct a conceptual science mapping analysis based on co-word bibliographic networks. From 2006 to 2019, 194 documents were retrieved from the Web of Science. Considering the last period (2017-2019), the motor themes (those which are well-developed and relevant for the structure of the research field) were environmental management (including green HRM), sustainable HRM and pro-environmental behaviour. Socially responsible HRM (SR-HRM) was a basic theme (important, although not developed). Perceived organisational support was a specialised theme (well-developed, although less important), and employee commitment was an emerging theme (both weakly developed and marginal). In addition, a review of the measurement tools used in the main topics extracted from the previous analysis was carried out. Our analysis will help inform researchers and practitioners on the future of CSR and HRM and the previous efforts in the creation of measurement instruments. © 2020 by the author.

SANTANA, M., VALLE, R. y GALAN, J.-L., 2019. How National Institutions Limit Turnaround Strategies and Human Resource Management: A Comparative Study in the Airline Industry. *European Management Review*, vol. 16, no. 4, pp. 923-935. ISSN 1740-4754. DOI 10.1111/emre.12177.

The influence of national institutions, particularly employee representation, on managers' turnaround strategies remains largely unexplored in the literature. Therefore, this paper assesses the pressures that affected two European airline companies, British Airways (BA) and Iberia, and their turnaround responses in a context of economic crisis and austerity, particularly from the perspective of strategic human resource management (SHRM). Our case studies show that when national institutions grant a number of rights to employee representatives, an innovative HRM strategy enables the recovery strategy required to deal with internal sources of decline. In contrast, when national institutions provide fewer rights to employee representatives, there is room for company HRM strategy to challenge or resist institutional pressures. Our research focuses particularly on how coercive pressures exerted by employee representation, according to the legal framework governing labor relations, affect turnaround strategies.

SANTORO, S., 2020. The neglected role of individual variation in the sexy son hypothesis. *Evolutionary Ecology*, vol. 34, no. 1. DOI 10.1007/s10682-019-10019-y

The polygyny threshold model predicts that a female chooses an already-mated male if the direct benefits of higher territorial quality compensate for the cost of mate sharing. The sexy son hypothesis (SSH) expands this framework from direct to indirect benefits assuming that polygynously-mated females give birth to sexy and subsequently polygynous sons. Although the SSH has generated much debate, empirical evidence is inconclusive. I argue that lack of support could be related to

the SSH formulation of the polygyny threshold as a population-level mechanism making the female choice of a polygynous male either advantageous or disadvantageous regardless of any other difference between potential mates. Using a simulation approach, I show that individual variation in males' quality should be considered because, otherwise, the empirical validation of the hypothesis is hampered, giving rise to patterns that are apparently irreconcilable with the SSH predictions. © 2019, Springer Nature Switzerland AG.

SARASOLA SÁNCHEZ-SERRANO, J.L., PÉREZ LAGARES, M. y PACHECO MONTERO, L., 2020. Training Requirements of the Andalusian Volunteer Program. *Studies in Systems, Decision and Control*, vol. 208, pp. 193-206. DOI 10.1007/978-3-030-18593-0_16

The research presented in this chapter focuses on the analysis of training requirements in volunteering, with reference to the autonomous community of Andalusia. Through the analysis of data acquired via various collection techniques, insight into differing perspectives of the agents involved in the world of volunteering may be gained. This research begins with a critical evaluation into the existence of people who spend part of their free time tackling situations which should be the responsibility of governmental administrations, however its absence makes solidarity a value on the rise which requires these altruist actions to be responsible, trained and critic. © 2020, Springer Nature Switzerland AG.

SECCIÓN JUVENIL DE LA ASOCIACIÓN ESPAÑOLA DE DERECHO DEL TRABAJO Y DE LA SEGURIDAD SOCIAL, ÁNGEL QUIROGA, M., GÓMEZ GARCÍA, F.X., JALIL NAJI, M. y FERNÁNDEZ GARCÍA, A., 2020. El derecho del trabajo y de la seguridad social en España en 2019. En: Revista General de Derecho del Trabajo y de la Seguridad Social, *Revista General de Derecho del Trabajo y de la Seguridad Social*, no. 55, pp. 22- 0. ISSN 1696-9626.

The sixth edition of the report, «Labour and Social Security Law in Spain in 2019» analyses the key issues in the changing scenario of Labour Law and Social Security during last year. Elaborated by the Young Scholars' Section of the Spanish Association of Labour and Social Security Law focuses on the following thematic blocks: non-specific fundamental rights; employment contracts and employment; issues related to employment relationship; collective rights; equality and co-responsibility; occupational risks prevention; and procedural law. In conclusion, you may find here a concrete but detailed analysis of the main legal and case law novelties of Spanish Social Law.

SECO MARTÍNEZ, J.M., 2020. The legal dilemma. Rule and human rights, an insuperable paradox? a different approach from the personalist legal philosophy. En: Las fronteras de los derechos humanos: Problemas, Discusión y Soluciones, *Las fronteras de los derechos humanos: Problemas, Discusión y Soluciones* [en

línea]. S.l.: Dykinson S. L., pp. 199-214. ISBN 978-84-13-24656-7. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7303201.

SEGOVIA-GONZALEZ, M.M., DOMINGUEZ, C. y CONTRERAS, I., 2020. An assessment of the efficiency of Spanish schools: evaluating the influence of the geographical, managerial, and socioeconomic features. *International Transactions in Operational Research*, vol. 27, no. 4, pp. 1845-1868. DOI 10.1111/itor.12711

The aim of the present paper is to explore the efficiency of Spanish schools while simultaneously considering data envelopment analysis (DEA) and multivariate analysis. Test scores from the Program for International Assessment reports are used as outputs while the resources of each institution are considered as inputs to the analysis. The methodology utilized determines the DEA efficiencies under various input/output combinations and the results are interpreted through the application of factor analysis and property-fitting techniques. The objective of the study is to identify the strengths and weaknesses of each type of school and the connections with the way in which the efficiency is obtained. In the light of the results, the study concludes that there exist differences related with two of the criteria considered: the type of management of the schools and the parental socioeconomic level of the students. However, no differences appear when the geographical location of the institutions is considered to characterize the entities. © 2019 The Authors. International Transactions in Operational Research © 2019 International Federation of Operational Research Societies

SERRANO-BENÍTEZ, A., CORTÉS-LEDESMA, F. y RUIZ, J.F., 2020. “An End to a Means”: How DNA-End Structure Shapes the Double-Strand Break Repair Process. *Frontiers in Molecular Biosciences*, vol. 6. DOI 10.3389/fmolb.2019.00153

Endogenously-arising DNA double-strand breaks (DSBs) rarely harbor canonical 5′-phosphate, 3′-hydroxyl moieties at the ends, which are, regardless of the pathway used, ultimately required for their repair. Cells are therefore endowed with a wide variety of enzymes that can deal with these chemical and structural variations and guarantee the formation of ligatable termini. An important distinction is whether the ends are directly “unblocked” by specific enzymatic activities without affecting the integrity of the DNA molecule and its sequence, or whether they are “processed” by unspecific nucleases that remove nucleotides from the termini. DNA end structure and configuration, therefore, shape the repair process, its requirements, and, importantly, its final outcome. Thus, the molecular mechanisms that coordinate and integrate the cellular response to blocked DSBs, although still largely unexplored, can be particularly relevant for maintaining genome integrity and avoiding malignant transformation and cancer. © Copyright © 2020 Serrano-Benítez, Cortés-Ledesma and Ruiz.

SORIANO DÍAZ, R.L., 2020. El derecho a una renta básica universal. Cuestiones controvertidas y opiniones de los expertos. En: Las fronteras de los derechos

humanos: Problemas, Discusión y Soluciones, *Las fronteras de los derechos humanos: Problemas, Discusión y Soluciones* [en línea]. S.l.: Dykinson S. L., pp. 215-255. ISBN 978-84-13-24656-7. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7303200.

SORIANO DÍAZ, R.L., SÁNCHEZ RUBIO, D. y SUÁREZ-VILLEGAS, JUAN-CARLOS, 2020. *Las fronteras de los derechos humanos: Problemas, Discusión y Soluciones* [en línea]. S.l.: Dykinson S. L. ISBN 978-84-13-24656-7. Disponible en: https://dialnet.unirioja.es/servlet/libro?codigo=751634.

SORIANO GONZALEZ, M.L., 2019. Freedom of Information, Media Networks and State Control. Case Study. *Quaestio Iuris*, vol. 12, no. 3, pp. 355-382. ISSN 1807-8389. DOI 10.12957/rqi.2019.40495.

The aim of this work is to specify the media value of the zapatista revolution in Chiapas' indigenous communities, in the process of conquering seated political autonomy on the basis of an assembly democracy as opposed to a formal and representative democracy of the Mexican State. For this reason the title of the paper responds the media construction of the zapatista democracy. Sections of the project are: a) the description of the character of the cited revolution emphasizing its media value, b) an explanation of media spaces covering the revolution, c) the causes and factors behind the media success of the revolution, d) media function developed by subcommander Marcos, spokesperson and military leader, and e) the strategy of political indefinition of zapatismo, with the purpose of attracting to its ranks to the greatest number of propagators and partners in the success of the revolutionary goals. The main conclusion is that the lack of ideological definition of zapatismo and the extraordinary role of subcommander Marcos, military leader of the revolution, contributed to the success of the revolution.

SORIANO GONZÁLEZ, M.L., 2020a. Derechos y teoría política en Donato Giannotti y Niccolò Maquiavelo. En: Derechos humanos desde la interdisciplinariedad en ciencias sociales y humanidades, *Derechos humanos desde la interdisciplinariedad en ciencias sociales y humanidades* [en línea]. S.l.: Dykinson S. L., pp. 310-332. ISBN 978-84-13-24651-2. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7302168.

SORIANO GONZÁLEZ, M.L., 2020b. El derecho al desarrollo en el marco de los derechos humanos de tercera generación. El largo trecho desde el reconocimiento jurídico a la eficacia. En: Las fronteras de los derechos humanos: Problemas, Discusión y Soluciones, *Las fronteras de los derechos humanos: Problemas, Discusión y Soluciones* [en línea]. S.l.: Dykinson S. L., pp. 256-287. ISBN 978-84-13-24656-7. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7303199.

SOUSARAEI, A., QUEIROS, C., MOSCOSO, F.G., LOPES-COSTA, T., PEDROSA, J.M., SILVA, A.M.G., CUNHA-SILVA, L. y CABANILLAS-GONZALEZ, J., 2019. Subppm Amine Detection via Absorption and Luminescence Turn-On Caused by Ligand Exchange in Metal Organic Frameworks. *Analytical*

Chemistry, vol. 91, no. 24, pp. 15853-15859. ISSN 0003-2700. DOI 10.1021/acs.analchem.9b04291.

Luminescent metal-organic frameworks (LMOFs) are promising materials for lighting and sensing applications. Herein, exposure of the highly luminescent Zn-2(bpdc)(2)(bpee) MOF (H(2)bpdc = 4,4'-biphenyldicarboxylic acid and bpee = 1,2-bipyridylethene) to subppm amine contents turns on a new absorption band unambiguously ascribed to free bpee molecules concomitant with the gradual appearance of a new photoluminescence band at shorter wavelengths. These findings combined with Fourier-transform infrared spectra, powder X-ray diffraction and thermogravimetric analysis of exposed LMOF powders confirm that bpee ligands are exchanged by amines and released inside the LMOF, triggering absorption and luminescence features which can be exploited for highly sensitive amine recognition. This principle was demonstrated in mixed matrix membranes (MMMs) prepared by a simple solvent-free method consisting of mixing Zn-2(bpdc)(2)(bpee) with dimethylvinyl-terminated dimethylsiloxane and dimethylhydrogen siloxane. This method enabled the production of free-standing, permeable, and highly transparent MMMs which showed enormous potential and sensitivity to the detection of amines in gas phase and aqueous medium.

SZYMYSLIK, R., 2020. La traducción de elementos lexicogénicos en la ciencia ficción: análisis de «2001, a space odyssey» de Arthur C. Clarke. En: Tonos digital: Revista de estudios filológicos, *Tonos digital: Revista de estudios filológicos*, no. 38, pp. 47- 0. ISSN 1577-6921.

This paper consists of the translation analysis of the lexicogenic elements (or neologisms) used to build the fictional world described in a literary work included inthe science fiction genre. The chosen book is2001: A Space Odysseyby Arthur C.Clarke, one of the masterpieces of science fiction literature, written by one of themost influential authors in this literary sphere. Clarke is responsible for works such asChildhood's EndorThe Nine Billion Names of God, whichcreated new standards forthis kind of narratives, but2001: A Space Odysseyhas been chosen due to itsconceptual depth and its writing virtuosity. This translation study has been carried outby comparing the original version of the novel (written in theEnglish language andpublished by Hachette UK in 2010) and the sole target text available in Spanish,translated by Antonio Ribera and published by Debolsillo in 2014. The differentexamples included in this article will be shown in their original as wellas theirtranslated forms (inserted in their contexts of origin) and they will be analyzed using acontrastive method, after which conclusions about the functionality of the new termsthat transfer the concepts described in the novel will be presented.

TALLON-BALLESTEROS, A.J., RIQUELME, J.C. y RUIZ, R., 2020. Filter-based feature selection in the context of evolutionary neural networks in supervised machine learning. *Pattern Analysis and Applications*, vol. 23, no. 1, pp. 467-491. ISSN 1433-7541. DOI 10.1007/s10044-019-00798-z.

This paper presents a workbench to get simple neural classification models based on product evolutionary networks via a prior data preparation at attribute level by means of filter-based feature selection. Therefore, the computation to build the classifier is shorter, compared to a full model without data pre-processing, which is of utmost importance since the evolutionary neural models are stochastic and different classifiers with different seeds are required to get reliable results. Feature selection is one of the most common techniques for pre-processing the data within any kind of learning task. Six filters have been tested to assess the proposal. Fourteen (binary and multi-class) difficult classification data sets from the University of California repository at Irvine have been established as the test bed. An empirical study between the evolutionary neural network models obtained with and without feature selection has been included. The results have been contrasted with nonparametric statistical tests and show that the current proposal improves the test accuracy of the previous models significantly. Moreover, the current proposal is much more efficient than the previous methodology; the time reduction percentage is above 40%, on average. Our approach has also been compared with several classifiers both with and without feature selection in order to illustrate the performance of the different filters considered. Lastly, a statistical analysis for each feature selector has been performed providing a pairwise comparison between machine learning algorithms.

TIEN BUI, D., HOANG, N.-D., MARTÍNEZ-ÁLVAREZ, F., NGO, P.-T.T., HOA, P.V., PHAM, T.D., SAMUI, P. y COSTACHE, R., 2020. A novel deep learning neural network approach for predicting flash flood susceptibility: A case study at a high frequency tropical storm area. *Science of the Total Environment*, vol. 701. DOI 10.1016/j.scitotenv.2019.134413

This research proposes and evaluates a new approach for flash flood susceptibility mapping based on Deep Learning Neural Network (DLNN)) algorithm, with a case study at a high-frequency tropical storm area in the northwest mountainous region of Vietnam. Accordingly, a DLNN structure with 192 neurons in 3 hidden layers was proposed to construct an inference model that predicts different levels of susceptibility to flash flood. The Rectified Linear Unit (ReLU) and the sigmoid were selected as the activate function and the transfer function, respectively, whereas the Adaptive moment estimation (Adam) was used to update and optimize the weights of the DLNN. A database for the study area, which includes factors of elevation, slope, curvature, aspect, stream density, NDVI, soil type, lithology, and rainfall, was established to train and validate the proposed model. Feature selection was carried out for these factors using the Information gain ratio. The results show that the DLNN attains a good prediction accuracy with Classification Accuracy Rate = 92.05%, Positive Predictive Value = 94.55% and Negative Predictive Value = 89.55%. Compared to benchmarks, Multilayer Perceptron Neural Network and Support Vector Machine, the DLNN performs better; therefore, it could be concluded that the proposed hybridization of GIS and deep learning can be a promising tool to assist the government authorities and involving parties in flash flood mitigation and land-use planning. © 2019 Elsevier B.V.

TORREBLANCA-MARTINEZ, V., NEVADO-GARROSA, F., OTERO-SABORIDO, F.M. y GONZALEZ-JURADO, J.A., 2020. Effects of fatigue induced by repeated-sprint on kicking accuracy and velocity in female soccer players. *PLOS One*, vol. 15, no. 1. DOI 10.1371/journal.pone.0227214

The aim of this study was to investigate the effects of fatigue induced by repeated sprint in the kicking accuracy and velocity in female soccer players. Eighteen Under-23 female soccer players from a Spanish professional club were subjected to a fatigue protocol based on a repeated-sprint ability (RSA) test. Measurements of the kicking velocity (maximal ball velocity) and accuracy (Loughborough Soccer Shooting Test) were taken before and after fatigue induction. Correlations between the change in the maximal ball velocity/accuracy and the heart rate (HR), the fatigue index (FI), the sprint decrement (Sdec) and the rating of perceived exertion (RPE) were made. There was a significant difference between maximal ball velocity under fatigue conditions with respect to non-fatigue conditions ($p = 0.001$; ES = 0.89). However, despite a lower kicking accuracy punctuation with fatigue, this was not statistically significant ($p = 0.433$; ES = 0.22). Significant correlations were found between the maximal kicking velocity and the FI ($r = 0.632$, $p < 0.01$) and the Sdec ($r = -0.554$, $p < 0.05$) and between the kicking accuracy and the RPE ($r = -0.506$, $p < 0.05$). In conclusion, there was a significant reduction in the maximal kicking velocity, but not in the kicking accuracy, under fatigued conditions. The RSA-related FI and Sdec were the best predictors of the maximal kicking velocity and the RPE for the kicking accuracy.

TORRES RIVERA, J., 2020. Recuperacion del fenotipo senescente en individuos centenarios. En: MoleQla: revista de Ciencias de la Universidad Pablo de Olavide, *MoleQla: revista de Ciencias de la Universidad Pablo de Olavide*, no. 37, pp. 2-0. ISSN 2173-0903.

Es ampliamente conocido que la senescencia esta asociada a múltiples factores, la mayoría causantes de daño celular, que derivan en diversas enfermedades muy comunes: hipertensión, osteoporosis, demencia, defectos cardiovascularesAl superar los 85 anos de edad, la mayoría de personas comienzan a sufrir cambios en la percepción sensorial, lacapacidad cognitiva, debilidad y mayor susceptibilidad frente a infecciones. Muchas patologías se cronifican como resultadodel envejecimiento. Sin embargo, en aquellos individuos centenarios high-performance, algunos de los mecanismos quecaracterizan el fenotipo senescente se ven revertidos o restaurados. Es este artículo se revisaran algunos de ellos, y comoesta restauración se ve implicada en el escape de los efectos deletéreos de las enfermedades asociadas al envejecimiento

TORRES-SORIANO, M.R., 2020. Jihadist Propaganda as a Threat Indicator: The Case of Spain. *Terrorism and Political Violence*, vol. 32, no. 2, pp. 365-381. DOI 10.1080/09546553.2017.1374255

The present article examines the relevance of jihadist propaganda as an indicator of the threat from terrorism. To that end, it uses jihadist propaganda output referring to Spain as a case study. It proposes an instrument of measurement based on content analysis, in which the origin, format, content, and distribution method of the materials are taken as categories. The results offer empirical evidence regarding the seriousness of the terrorist threat against Spain, a country that is particularly exposed due to its historical and geographical singularities and its status as the victim of an attack deemed paradigmatic in the minds of jihadists. © 2017, © 2017 Taylor & Francis.

TRIGUEROS, R., ALIAS, A., GALLARDO, A.M., GARCIA-TASCON, M. y AGUILAR-PARRA, J.M., 2020. Validation and Adaptation of the Prosocial and Antisocial Behavior in Sport Scale to the Spanish context of Physical Education. *International Journal of Environmental Research and Public Health*, vol. 17, no. 2. ISSN 1661-7827. DOI 10.3390/ijerph17020477.

Physical education (PE), by its own characteristics, is a subject where social communication is especially promoted. However, it is necessary to have tools that evaluate the social behaviour of students during PE classes. For this reason, we propose to validate and adapt the Prosocial and Antisocial Behavior in Sport Scale to the Spanish context of PE classes. The study involved 1081 students aged 12 to 18 (M = 14.83; SD = 1.27). The psychometric properties of the Prosocial Behavior Scale were analyzed through several statistical analyses. The results of the confirmatory factorial analysis and the exploratory factorial analysis supported the internal structure of the questionnaire. In addition, the scale was invariant to gender. Cronbach's alpha values were higher than 0.70 in the factors and sub-factors, finally showing adequate levels of temporal stability. Taking into account the results achieved in the present study, PE teachers have an effective tool to assess the social and antisocial behaviour of their students' students during PE classes.

TRULL, O., GARCÍA-DÍAZ, J.C. y TRONCOSO, A., 2020. Initialization methods for multiple seasonal holt-winters forecasting models. *Mathematics*, vol. 8, no. 2. DOI 10.3390/math8020268

The Holt-Winters models are one of the most popular forecasting algorithms. As wellknown, these models are recursive and thus, an initialization value is needed to feed the model, being that a proper initialization of the Holt-Winters models is crucial for obtaining a good accuracy of the predictions. Moreover, the introduction of multiple seasonal Holt-Winters models requires a new development of methods for seed initialization and obtaining initial values. This work proposes new initialization methods based on the adaptation of the

traditional methods developed for a single seasonality in order to include multiple seasonalities. Thus, new methods to initialize the level, trend, and seasonality in multiple seasonal Holt-Winters models are presented. These new methods are tested with an application for electricity demand in Spain and analyzed for their impact on the accuracy of forecasts. As a consequence of the analysis carried out, which initialization method to use for the level, trend, and seasonality in multiple seasonal Holt-Winters models with an additive and multiplicative trend is provided. © 2020 by the authors.

TURBAY, I., MARTIN, J.M., CARRASCO, I., FERNANDEZ-UGALDE, A., BECERRA, J., ORTIZ, R. y ORTIZ, P., 2019. Quarry Identification and Characterization of 2ND Century ad Roman Granite Columns From Ecija (Spain). *Mediterranean Archaeology & Archaeometry*, vol. 19, no. 3, pp. 157-172. ISSN 1108-9628. DOI 10.5281/zenodo.3583069.

Rock column is one of the most representative structural elements used in Roman buildings. Its main section is the shaft, a cylindrical conduit between the base and the chapiter. Their decontextualization sometimes makes it difficult their provenance. This is the case of granite shafts coming from the ancient Colonia Augusta Firma Astigi, nowadays Ecija (Seville, Spain). In this paper, 52 pieces of granite shafts preserved both along the streets and in the Municipal History Museum of Ecija have been studied, to understand the provenance of the granite used in its construction and the type of building where they were employed. An approximation of the granite composition based on the quantity of the main minerals was carried out by digital image analysis. This non-invasive technique allows us to identify the main characteristics of the granites according to their provenance. Additionally, the column heights were calculated according to Roman treatises of architecture. The combination of these techniques allowed us to determine the quarries of the granite columns. The results showed that 20 shafts may come from the Troad region (Turkey), which granite was one of the most commonly used in the Roman constructions on the provinces; although granite from other quarries, i.e. Gerena (Spain) or Forum (Egypt), might have been used in this city during the 2nd century AD too. The relationship between provenance of the granite and height of the column allows us to specify aspects referred to the magnification of buildings or the sponsors of the monumentalization of public spaces carried out in time of the Roman emperor Hadrian.

UREÑA LOPERA, C., CHINCHILLA MINGUET, J.L. y CASTILLO RODRÍGUEZ, A., 2020. Relación de la motivación y el flow situacional en futbolistas sub16 en estado basal y precompetitivo. En: Retos: nuevas tendencias en educación física, deporte y recreación, *Retos-Nuevas Tendencias en Educación Física Deporte y Recreación*, no. 37, pp. 480-485. ISSN 1579-1726.

The aim of the present study was to verify the relationship between motivation dimensions and flow state (FS) in young soccer players at developmental age, in two different contexts (training context [basal], and precompetitive context). A total of 141 U16soccer players (age: 14.7 ± .5, height: 170.4 ± 7.2cm, weight: 61.6

± 10.0kg) were selected. The results showed that intrinsic motivationis positively related to the dimensions of FS in the precompetitive context, and extrinsic motivation in the context of training (P <.05).No relationships between demotivation and FS were found. The main findings of this study showed that young soccer players havefluctuations in motivation and FS depending on the context that surrounds them; therefore, coaches should design tasks for trainingsusing an appropriate and active methodology, very similar to the experiences that players live in the competition setting, involvingproblem solving and global tactical approaches, since this would increase their intrinsic motivation in this context.

US-MEDINA, U., MILLÁN-LINARES, M.C., ARANA-ARGAES, V.E. y SEGURA-CAMPOS, M.R., 2020. In vitro antioxidant and anti-inflammatory activity of chaya extracts (Cnidoscolus aconitifolius (Mill.) I.M. Johnst). *Nutricion Hospitalaria*, vol. 37, no. 1, pp. 46-55. DOI 10.20960/nh.02752

Introduction: noncommunicable diseases (NCDs) are the main cause of death worldwide. Secondary metabolites from plant sources such as Cnidoscolus aconitifolius may be used as adjuvants in the prevention of diseases related to oxidative stress and inflammation such as NCDs. Objective: the in vitro antioxidant and anti-inflammatory activities associated with biologically active compounds in C. aconitifolius extracts were evaluated. Methods: the contents of phenols, flavonoids, flavonones and hydroflavonoles were determined. The potential antioxidant activity was determined with 1,1-Diphenyl-2-picrylhydrazyl (DPPH) and 2,2'-Azino-bis(3-ethylbenzothiazoline-6-sulfonic acid) (ABTS) assays, and angiotensin-converting enzyme (ACE) activity. For anti-inflammatory activity quantitative PCR and enzyme-linked immunosorbent assay (ELISA) tests were used in macrophages derived from THP-1 monocytes and stimulated with LPS. Results: the aqueous extract recorded the highest phenolic content (70.61 ± 0.07 g/100 g of extract), and the ethanolic extract registered the highest content in flavonoids (47.76 ± 4.84 g/100 g of extract), flavonones and dihydroflavonoles (70.10 ± 7.29 g/100 g of extract). The acetone extract obtained the highest DPPH inhibition (49.85 ± 5.30 %), while the ethanolic extract showed the highest ABTS inhibition (41.01 ± 3.81 %). The etanolic and aqueous extracts had the highest ACE inhibition. The ethanolic extract had the highest anti-inflammatory activity, decreasing gene expression for TNF-α by 39.78 % and for IL-6 by 97.81 %, and their production by 46 % and 48.38 %, respectively, in macrophages stimulated with LPS. Conclusions: these extracts demonstrated in vitro their antioxidant and anti-inflammatory potential due to their content of bioactive compounds.

VALDES-SANCHEZ, L., CALADO, S.M., CERDA, B. de la, ARAMBURU, A., GARCIA-DELGADO, A.B., MASSALINI, S., MONTERO-SANCHEZ, A., BHATIA, V., RODRIGUEZ-BOCANEGRA, E., DIEZ-LLORET, A., RODRIGUEZ-MARTINEZ, D., CHAKAROVA, C., BHATTACHARYA, S.S. y

DIAZ-CORRALES, F.J., 2019. Retinal pigment epithelium degeneration caused by aggregation of PRPF31 and the role of HSP70 family of proteins. *Molecular Medicine*, vol. 26, no. 1. ISSN 1076-1551. DOI 10.1186/s10020-019-0124-z.

Background Mutations in pre-mRNA splicing factor PRPF31 can lead to retinitis pigmentosa (RP). Although the exact disease mechanism remains unknown, it has been hypothesized that haploinsufficiency might be involved in the pathophysiology of the disease. Methods In this study, we have analyzed a mouse model containing the p.A216P mutation in Prpf31 gene. Results We found that mutant Prpf31 protein produces cytoplasmic aggregates in the retinal pigment epithelium and decreasing the protein levels of this splicing factor in the nucleus. Additionally, normal protein was recruited in insoluble aggregates when the mutant protein was overexpressed in vitro. In response to protein aggregation, Hspa4l is overexpressed. This member of the HSP70 family of chaperones might contribute to the correct folding and solubilization of the mutant protein, allowing its translocation to the nucleus. Conclusions Our data suggests that a mechanism haploinsufficiency and dominant-negative is involved in retinal degeneration due to mutations in PRPF31. HSP70 over-expression might be a new therapeutic target for the treatment of retinal degeneration due to PRPF31 mutations.

VALDES-SANCHEZ, L., GARCIA-DELGADO, A.B., MONTERO-SANCHEZ, A., CERDA, B. de la, LUCAS, R., PENALVER, P., MORALES, J.C., BHATTACHARYA, S.S. y DIAZ-CORRALES, F.J., 2019. The Resveratrol Prodrug JC19 Delays Retinal Degeneration in rd10 Mice. En: RICKMAN, CB AND GRIMM, C AND ANDERSON, RE AND ASH, JD AND LAVAIL, MM AND HOLLYFIELD, JG (ed.), *Retinal Degenerative Diseases: Mechanisms and Experimental Therapy*. S.l.: s.n., pp. 457-462. ISBN 978-3-030-27378-1. DOI 10.1007/978-3-030-27378-1_75.

It has been reported that resveratrol (RES) has a therapeutic effect in different neurodegenerative and ocular diseases. However, RES is rapidly eliminated from the organism, and high doses need to be administered resulting in potential toxic side effects. We hypothesized that a RES prodrug such as 3,4'-diglucosyl resveratrol (JC19) would reduce RES metabolism to produce a neuroprotective effect. Here, we have examined the protective effect of JC19 in an experimental mouse model of autosomal recessive RP. Rd10 mice at postnatal day 13 (P13) were subretinally injected with vehicle and two different doses of JC19. Electroretinogram (ERG) and histological evaluation were performed 15 days after injections. The amplitude of a- and b-waves was quantified in ERG recordings, and the number of photoreceptor nuclei in the outer nuclear layer was counted. In addition, the mouse retinas were immunostained with anti-rhodopsin antibodies. JC19 treatment delayed the loss of rod photoreceptor in rd10 mice, maintaining the expression of rhodopsin and preserving their electrical responses to light stimuli. The exact mechanism by which RES delays retinal degeneration in rd10 mice remains to be elucidated, but Sirtuin 1 activation could be one of the key molecular pathways involved in its neuroprotective effect.

VALERO, E., TRONCHONI, J., MORALES, P. y GONZALEZ, R., 2020. Autophagy is required for sulfur dioxide tolerance in Saccharomyces cerevisiae. *Microbial Biotechnology*, vol. 13, no. 2, pp. 599-604. DOI 10.1111/1751-7915.13495

Sulfiting agents are among the most widely used preservatives in the food and beverages industries, including winemaking, and one of their main functions is inhibition of spoilage microorganisms. We have used a whole genome quantitative fitness analysis in order to improve our knowledge on yeast tolerance to sulfites. Apart from the contribution of sulfite efflux to tolerance, results point to vesicle-mediated transport, autophagy and vacuolar activity as the main cellular functions required to survive sulfite challenges. The involvement of autophagic and vacuolar functions in sulfite tolerance was further confirmed by pairwise competition using a newly constructed atg2-defective strain, as well as by showing induction of ATG8 expression by sulfite. Autophagy is required for the turnover of proteins and subcellular structures damaged by sulfite. In addition, the requirement for vacuolar functions might be related to its role in intracellular pH homeostasis. Finally, the involvement of the sulfite pump Ssu1 and the transcription factor Fzf1 in sulfite tolerance by Saccharomyces cerevisiae was confirmed; a result that validates the experimental approach used in this work. These findings have relevance for understanding sulfite toxicity and tolerance, as well as for the eventual design of strategies aiming to control yeast spoilage.

VARELA GARAY, R.M., GÓMEZ DEL TORO, R. y SUÁREZ RELINQUE, C., 2020. Violence in Adolescence from a Social Work Perspective: A Qualitative Study. *Studies in Systems, Decision and Control*, vol. 208, pp. 25-50. DOI 10.1007/978-3-030-18593-0_3

In this study, the role played by social workers in the field of violence in adolescence is analysed from the perspective of a group of people professionally and academically linked to Social Work. To such end, a qualitative study has been carried out following the Grounded Theory (Strauss and Corbin 1998) method. The results indicate that, according to the participants, the performance of social workers is excessively limited in the field of violence in adolescence and shows deficiencies in academic training at a theoretical and practical level. The interviewees demand greater participation of social workers in interdisciplinary teams, and claim direct intervention with adolescents and review current curricula.

VÁSQUEZ, A.F.U. y NARANJO-GIL, D., 2020. Management accounting systems, top management teams, and sustainable knowledge acquisition: Effects on performance. *Sustainability*, vol. 12, no. 5. DOI 10.3390/su12052132

Organizations are increasingly aware of the importance of managing the acquisition processes of new and sustainable knowledge, which allows them to increase

performance. These knowledge-acquisition processes require top management teams to focus on the external environment to search for sustainable opportunities and initiatives. This spurs top teams to make strategic decisions that require more comprehensive managerial information, which is provided by management accounting systems. Our research analyzes how top management team composition facilitates the acquisition of new knowledge. Our management accounting paper also analyzes the mediating effect of the interactive use of management accounting systems (MASs) and their impact on sustainable firm performance. A survey was conducted among the main manufacturer firms in the Republic of Ecuador. Results were analyzed by using the partial least squares methodology, and they showed a positive effect for the interactive use of management accounting systems on sustainable knowledge-acquisition processes. Results also showed that knowledge acquisition increased firm performance through an interactive use of MASs. © 2020 by the authors.

VAZQUEZ-CANO, E., GOMEZ-GALAN, J., INFANTE-MORO, A. y LOPEZ-MENESES, E., 2020. Incidence of a Non-Sustainability Use of Technology on Students' Reading Performance in Pisa. *Sustainability*, vol. 12, no. 2. DOI 10.3390/su12020749.

This article describes an investigation that made a comparative analysis of the influence of the use of technology for non-academic activities on the reading performance of students in 21 countries within the Organisation for Economic Co-operation and Development (OECD), as measured by the Program for International Student Assessment (PISA). To do this, we coded the SumIC001-008-010 variables ("Devices available at home" and "How often do you use digital devices for the following activities outside school") in the PISA survey and quantified the effect by the proportion of variance explained of each variable in the model for each country. The results show that the reading score increases according to the variable for type and quantity of devices at home but falls drastically in all 21 countries when the "SumIC001" variable exceeds 15 points. Our research also found that the two activities that most negatively impacted reading performance if done on a regular basis were "playing online games via social networks" and "uploading your own created contents." These results would seem to confirm that the non-sustainability and prolonged use of technology outside school is objectively negative for the development of reading competence in young people.

VÁZQUEZ-CANO, E., URRUTIA, M.L., PARRA-GONZÁLEZ, M.E. y MENESES, E.L., 2020. Analysis of interpersonal competences in the use of ICT in the Spanish university context. *Sustainability*, vol. 12, no. 2. DOI 10.3390/su12020476

This article analyzes Higher Education students' development of interpersonal competences when using Information and Communication Technologies. The participating sample was made up of 1490 students from three Spanish universities: Complutense University of Madrid (Spain), Pablo de Olavide University (Spain), and National Distance Education University (UNED). The data were collected through a questionnaire called «Basic digital skills 2.0 of

university students» COBADI® (Registered trademark: 2970648). A factorial analysis was performed to determine possible groupings of representative factors and subsequently the trees technique was applied by running the CHAID (Chi-squared Automatic Interaction Detector) algorithm. This made it possible to develop a map of possible differences between universities, ages, and gender of students. The results showed that university students have higher competences in communicating through interactive presentations and video-images, as well as in collaborating and working with documents online through mobile devices. © 2020 by the authors.

VICEDO-CABRERA, A.M., SERA, F., LIU, C., ARMSTRONG, B., MILOJEVIC, A., GUO, Y., TONG, S., LAVIGNE, E., KYSELY, J., URBAN, A., ORRU, H., INDERMITTE, E., PASCAL, M., HUBER, V., SCHNEIDER, A., KATSOUYANNI, K., SAMOLI, E., STAFOGGIA, M., SCORTICHINI, M., HASHIZUME, M., HONDA, Y., NG, C.F.S., HURTADO-DIAZ, M., CRUZ, J., SILVA, S., MADUREIRA, J., SCOVRONICK, N., GARLAND, R.M., KIM, H., TOBIAS, A., INIGUEZ, C., FORSBERG, B., ASTROM, C., RAGETTLI, M.S., ROOSLI, M., GUO, Y.-L.L., CHEN, B.-Y., ZANOBETTI, A., SCHWARTZ, J., BELL, M.L., KAN, H. y GASPARRINI, A., 2020. Short term association between ozone and mortality: global two stage time series study in 406 locations in 20 countries. *BMJ-British Medical Journal*, vol. 368. ISSN 1756-1833. DOI 10.1136/bmj.m108.

OBJECTIVE To assess short term mortality risks and excess mortality associated with exposure to ozone in several cities worldwide. DESIGN Two stage time series analysis. SETTING 406 cities in 20 countries, with overlapping periods between 1985 and 2015, collected from the database of Multi-City Multi-Country Collaborative Research Network. POPULATION Deaths for all causes or for external causes only registered in each city within the study period. MAIN OUTCOME MEASURES Daily total mortality (all or non-external causes only). RESULTS A total of 45 165 171 deaths were analysed in the 406 cities. On average, a 10 mu g/m(3) increase in ozone during the current and previous day was associated with an overall relative risk of mortality of 1.0018 (95% confidence interval 1.0012 to 1.0024). Some heterogeneity was found across countries, with estimates ranging from greater than 1.0020 in the United Kingdom, South Africa, Estonia, and Canada to less than 1.0008 in Mexico and Spain. Short term excess mortality in association with exposure to ozone higher than maximum background levels (70 mu g/m(3)) was 0.26% (95% confidence interval 0.24% to 0.28%), corresponding to 8203 annual excess deaths (95% confidence interval 3525 to 12 840) across the 406 cities studied. The excess remained at 0.20% (0.18% to 0.22%) when restricting to days above the WHO guideline (100 mu g/m(3)), corresponding to 6262 annual excess deaths (1413 to 11 065). Above more lenient thresholds for air quality standards in Europe, America, and China, excess mortality was 0.14%, 0.09%, and 0.05%, respectively. CONCLUSIONS Results suggest that ozone related mortality could be potentially reduced under stricter air quality standards. These findings have relevance for the implementation of efficient clean air interventions and mitigation strategies designed within national and international climate policies.

VICENTE-SERRANO, S.M., MARTÍN-HERNÁNDEZ, N., CAMARERO, J.J., GAZOL, A., SÁNCHEZ-SALGUERO, R., PEÑA-GALLARDO, M., EL KENAWY, A., DOMÍNGUEZ-CASTRO, F., TOMAS-BURGUERA, M., GUTIÉRREZ, E., DE LUIS, M., SANGÜESA-BARREDA, G., NOVAK, K., ROZAS, V., TÍSCAR, P.A., LINARES, J.C., DEL CASTILLO, E.M., RIBAS, M., GARCÍA-GONZÁLEZ, I., SILLA, F., CAMISÓN, A., GÉNOVA, M., OLANO, J.M., LONGARES, L.A., HEVIA, A. y DIEGO GALVÁN, J., 2020. Linking tree-ring growth and satellite-derived gross primary growth in multiple forest biomes. Temporal-scale matters. *Ecological Indicators*, vol. 108. DOI 10.1016/j.ecolind.2019.105753

This study links tree-ring growth and gross primary production for a variety of forest types under different environmental conditions across Spain. NOAA-AVHRR satellite imagery data were combined with dendrochronological records and climate data at a fine spatial resolution (1.21 km2) to analyze the interannual variability of tree-ring growth and vegetation activity for different forest biomes from 1981 to 2015. Specifically, we assessed the links between tree-ring width indices (TRWi), the Normalized Difference Vegetation Index (NDVI) and a variety of environmental conditions, represented by climatic variables (air temperature, precipitation, evapotranspiration and water balance) and elevation. The impact of these variables on tree growth was assessed by means of the Predictive Discriminant Analysis (PDA). Results reveal a general positive and significant relationship between inter-annual variability of the NDVI at a high spatial resolution (1.21 km2) and tree-ring growth. Maximum correlations between NDVI and tree-ring growth were recorded when cumulative NDVI values were considered, in some cases covering long time periods (6–10 months), suggesting that tree growth is mainly related to Gross Primary Production (GPP) at annual scale. The relationship between tree-ring growth and inter-annual variability of the NDVI, however, strongly varies between forest types and environmental conditions. © 2019

VIGIER-MORENO, F.J., 2020. La interpretación de calidad como garantía procesal de los encausados alófonos. La provisión de intérpretes en los tribunales de Sevilla como estudio de caso. En: Derechos humanos desde la interdisciplinariedad en ciencias sociales y humanidades, *Derechos humanos desde la interdisciplinariedad en ciencias sociales y humanidades* [en línea]. S.l.: Dykinson S. L., pp. 364-381. ISBN 978-84-13-24651-2. Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7302165.

VILLAMAYOR, L., CANO, D.A. y ROJAS, A., 2020. GATA factors in pancreas development and disease. *IUBMB Life*, vol. 72, no. 1, pp. 80-88. DOI 10.1002/iub.2170

There is an urgent need for the development of novel therapeutics options for diabetic patients given the high prevalence of diabetes worldwide and that, currently, there is no cure for this disease. The transplantation of pancreatic islets that contain insulin-producing cells is a promising therapeutic alternative, particularly for type

1 diabetes. However, the shortage of organ donors constitutes a major limitation for this approach; thus, developing alternative sources of insulin-producing cells is of critical importance. In the last decade, our knowledge of the molecular mechanisms controlling embryonic pancreas development has significantly advanced. More importantly, this knowledge has provided the basis for the in vitro generation of insulin-producing cells from stem cells. Recent studies have revealed that GATA transcription factors are involved in various stages of pancreas formation and in the adult ß cell function. Here, we review the fundamental role of GATA transcription factors in pancreas morphogenesis and their association with congenital diseases associated with pancreas. © 2019 International Union of Biochemistry and Molecular Biology

VILLANUEVA-PAZ, M., POVEA-CABELLO, S., VILLALÓN-GARCÍA, I., ÁLVAREZ-CÓRDOBA, M., SUÁREZ-RIVERO, J.M., TALAVERÓN-REY, M., JACKSON, S., FALCÓN-MOYA, R., RODRÍGUEZ-MORENO, A. y SÁNCHEZ-ALCÁZAR, J.A., 2020. Parkin-mediated mitophagy and autophagy flux disruption in cellular models of MERRF syndrome. *Biochimica et Biophysica Acta - Molecular Basis of Disease*, vol. 1866, no. 6. DOI 10.1016/j.bbadis.2020.165726

Mitochondrial diseases are considered rare genetic disorders characterized by defects in oxidative phosphorylation (OXPHOS). They can be provoked by mutations in nuclear DNA (nDNA) or mitochondrial DNA (mtDNA). MERRF (Myoclonic Epilepsy with Ragged-Red Fibers) syndrome is one of the most frequent mitochondrial diseases, principally caused by the m.8344A>G mutation in mtDNA, which affects the translation of all mtDNA-encoded proteins and therefore impairs mitochondrial function. In the present work, we evaluated autophagy and mitophagy flux in transmitochondrial cybrids and fibroblasts derived from a MERRF patient, reporting that Parkin-mediated mitophagy is increased in MERRF cell cultures. Our results suggest that supplementation with coenzyme Q10 (CoQ), a component of the electron transport chain (ETC) and lipid antioxidant, prevents Parkin translocation to the mitochondria. In addition, CoQ acts as an enhancer of autophagy and mitophagy flux, which partially improves cell pathophysiology. The significance of Parkin-mediated mitophagy in cell survival was evaluated by silencing the expression of Parkin in MERRF cybrids. Our results show that mitophagy acts as a cell survival mechanism in mutant cells. To confirm these results in one of the main affected cell types in MERRF syndrome, mutant induced neurons (iNs) were generated by direct reprogramming of patients-derived skin fibroblasts. The treatment of MERRF iNs with Guttaquinon CoQ10 (GuttaQ), a water-soluble derivative of CoQ, revealed a significant improvement in cell bioenergetics. These results indicate that iNs, along with fibroblasts and cybrids, can be utilized as reliable cellular models to shed light on disease pathomechanisms as well as for drug screening. © 2020 Elsevier B.V.

VISERAS, A., XU, Z. y MERINO, L., 2020. Distributed multi-robot information

gathering under spatio-temporal inter-robot constraints. *Sensors*, vol. 20, no. 2. DOI 10.3390/s20020484

Information gathering (IG) algorithms aim to intelligently select the mobile robotic sensor actions required to efficiently obtain an accurate reconstruction of a physical process, such as an occupancy map, a wind field, or a magnetic field. Recently, multiple IG algorithms that benefit from multi-robot cooperation have been proposed in the literature. Most of these algorithms employ discretization of the state and action spaces, which makes them computationally intractable for robotic systems with complex dynamics. Moreover, they cannot deal with inter-robot restrictions such as collision avoidance or communication constraints. This paper presents a novel approach for multi-robot information gathering (MR-IG) that tackles the two aforementioned restrictions: (i) discretization of robot's state space, and (ii) dealing with inter-robot constraints. Here we propose an algorithm that employs: (i) an underlying model of the physical process of interest, (ii) sampling-based planners to plan paths in a continuous domain, and (iii) a distributed decision-making algorithm to enable multi-robot coordination. In particular, we use the max-sum algorithm for distributed decision-making by defining an information-theoretic utility function. This function maximizes IG, while fulfilling inter-robot communication and collision avoidance constraints. We validate our proposed approach in simulations, and in a field experiment where three quadcopters explore a simulated wind field. Results demonstrate the effectiveness and scalability with respect to the number of robots of our approach.

VÍTOR, A.C., HUERTAS, P., LEGUBE, G. y DE ALMEIDA, S.F., 2020. Studying DNA Double-Strand Break Repair: An Ever-Growing Toolbox. *Frontiers in Molecular Biosciences*, vol. 7. DOI 10.3389/fmolb.2020.00024

To ward off against the catastrophic consequences of persistent DNA double-strand breaks (DSBs), eukaryotic cells have developed a set of complex signaling networks that detect these DNA lesions, orchestrate cell cycle checkpoints and ultimately lead to their repair. Collectively, these signaling networks comprise the DNA damage response (DDR). The current knowledge of the molecular determinants and mechanistic details of the DDR owes greatly to the continuous development of ground-breaking experimental tools that couple the controlled induction of DSBs at distinct genomic positions with assays and reporters to investigate DNA repair pathways, their impact on other DNA-templated processes and the specific contribution of the chromatin environment. In this review, we present these tools, discuss their pros and cons and illustrate their contribution to our current understanding of the DDR.

VLAISAVLJEVIC, V., MEDINA, C.C. y VAN LOOY, B., 2020. The role of policies and the contribution of cluster agency in the development of biotech open innovation ecosystem. *Technological Forecasting and Social Change*, vol. 155. DOI 10.1016/j.techfore.2020.119987

Building on the open innovation and cluster literature, our research describes how innovation policies contribute to the development of open innovation dynamics in biotech clusters. Particularly, we address the role and impact of cluster agency by adopting a contextualized perspective. We carry out comparative case studies of the main five Spanish biotech clusters by combining longitudinal data extracted from secondary sources with primary data obtained from relevant stakeholders. Our study shows that clusters policies do not yield uniform effects; the impact in terms of patterns of collaboration and (open) innovation dynamics is path dependent. The characteristics of the local texture significantly contribute to the observed open innovation ecosystems. As such, these findings imply a plea for contextualizing regional policy initiatives. © 2020 Elsevier Inc.

VOLTES, A., BERMÚDEZ, A., RODRÍGUEZ-GUTIÉRREZ, G., REYES, M.L., OLANO, C., FERNÁNDEZ-BOLAÑOS, J. y PORTILLA, F.D.L., 2020. Anti-Inflammatory Local Effect of Hydroxytyrosol Combined with Pectin-Alginate and Olive Oil on Trinitrobenzene Sulfonic Acid-Induced Colitis in Wistar Rats. *Journal of Investigative Surgery*, vol. 33, no. 1, pp. 8-14. DOI 10.1080/08941939.2018.1469697

Purpose: Evaluate the efficacy of hydroxytyrosol in the local treatment of inflammatory colitis. Currently, the existing treatments for inflammatory bowel diseases does not cure the disease and it is associated with high rates of side effects and complications. Hydroxytyrosol is a phenyl-ethyl-alcohol derived from the hydrolysis of oleuropein and present in olive oil, previous studies have demonstrated the anti-inflammatory effect of dietary hydroxytyrosol supplement, with no toxicity. Materials & Methods: Colitis has been induced by using Trinitrobenzene Sulfonic Acid at 40 rats. They were divided into four groups randomly: 10 rats without treatment; 10 rats with pectin/alginate mixture; 10 rats treated with pectin/alginate + olive oil; 10 rats treated with pectin/alginate + olive oil + hydroxytyrosol. Animals were sacrificed 10 days after induction of trinitrobenzene sulfonic acid, receiving 5 days of continuous treatment. Samples of the rectal area were studied and observed under a microscope to determine the damage by Hunter scoring modified, assessing inflammatory infiltration, number of intestinal walls involved, damage to the mucosal architecture, and edema. Results: When the rectum was analyzed in a global way, nonsignificant differences were observed; however, when performing an individualized analysis, statistically significant differences in the inflammatory infiltrate are present in the samples, which were evaluated using the ANOVA and Student-T statistics. Conclusions: Local treatment with the natural antioxidant hydroxytyrosol combined with pectin/alginate and olive oil of inflammatory bowel disease has been shown to be effective against inflammatory infiltration of TNBS-induced colitis. © 2018, Copyright © 2018 Taylor & Francis Group, LLC.

WIEGAND, S., JOGLER, M., BOEDEKER, C., PINTO, D., VOLLMERS, J., RIVAS-MARIN, E., KOHN, T., PEETERS, S.H., HEUER, A., RAST, P., OBERBECKMANN, S., BUNK, B., JESKE, O., MEYERDIERKS, A.,

STORESUND, J.E., KALLSCHEUER, N., LUCKER, S., LAGE, O.M., POHL, T., MERKEL, B.J., HORNBURGER, P., MUELLER, R.-W., BRUEMMER, F., LABRENZ, M., SPORMANN, A.M., OP DEN CAMP, H.J.M., OVERMANN, J., AMANN, R., JETTEN, M.S.M., MASCHER, T., MEDEMA, M.H., DEVOS, D.P., KASTER, A.-K., OVREAS, L., ROHDE, M., GALPERIN, M.Y. y JOGLER, C., 2020. Cultivation and functional characterization of 79 planctomycetes uncovers their unique biology. *Nature Microbiology*, vol. 5, no. 1, pp. 126-140. ISSN 2058-5276. DOI 10.1038/s41564-019-0588-1.

When it comes to the discovery and analysis of yet uncharted bacterial traits, pure cultures are essential as only these allow detailed morphological and physiological characterization as well as genetic manipulation. However, microbiologists are struggling to isolate and maintain the majority of bacterial strains, as mimicking their native environmental niches adequately can be a challenging task. Here, we report the diversity-driven cultivation, characterization and genome sequencing of 79 bacterial strains from all major taxonomic clades of the conspicuous bacterial phylum Planctomycetes. The samples were derived from different aquatic environments but close relatives could be isolated from geographically distinct regions and structurally diverse habitats, implying that `everything is everywhere'. With the discovery of lateral budding in `Kolteria novifilia' and the capability of the members of the Saltatorellus clade to divide by binary fission as well as budding, we identified previously unknown modes of bacterial cell division. Alongside unobserved aspects of cell signalling and small-molecule production, our findings demonstrate that exploration beyond the well-established model organisms has the potential to increase our knowledge of bacterial diversity. We illustrate how `microbial dark matter' can be accessed by cultivation techniques, expanding the organismic background for small-molecule research and drug-target detection.

WOLFF, N., CARAVACA SÁNCHEZ, F. y AIZPURUA, E., 2020. Childhood adversity classes of incarcerated men and their association with prison-based psychological distress and substance use. *Children and Youth Services Review*, vol. 109. DOI 10.1016/j.childyouth.2019.104732

WONG, R.P., GARCIA-RODRIGUEZ, N., ZILIO, N., HANULOVA, M. y ULRICH, H.D., 2020. Processing of DNA Polymerase-Blocking Lesions during Genome Replication Is Spatially and Temporally Segregated from Replication Forks. *Molecular Cell*, vol. 77, no. 1, pp. 3+. ISSN 1097-2765. DOI 10.1016/j.molcel.2019.09.015.

Tracing DNA repair factors by fluorescence microscopy provides valuable information about how DNA damage processing is orchestrated within cells. Most repair pathways involve single-stranded DNA (ssDNA), making replication protein A (RPA) a hallmark of DNA damage and replication stress. RPA foci emerging during S phase in response to tolerable loads of polymerase-blocking lesions are generally thought to indicate stalled replication intermediates. We now report that in budding yeast they predominantly form far away from sites of ongoing replication, and they do not overlap with any of the repair centers associated with collapsed replication forks or double-strand breaks. Instead, they represent sites

of postreplicative DNA damage bypass involving translesion synthesis and homologous recombination. We propose that most RPA and recombination foci induced by polymerase-blocking lesions in the replication template are clusters of repair tracts arising from replication centers by polymerase re-priming and subsequent expansion of daughter-strand gaps over the course of S phase.

YAGÜE CAPILLA, M., GONZÁLEZ PACANOWSKA, D. y MANUEL CASTILLO ACOSTA, V., 2020. *Control of nucleotide homeostasis and genomic integrity in Trypanosoma brucei: role of hd nucleotidases and base excision repair* [en línea]. S.l.: s.n. Disponible en: https://dialnet.unirioja.es/servlet/THESis?codigo=259785.

Trypanosoma brucei es un parásito protozoario de la clase Kinetoplástida, agente causal de la tripanosomiasis humana africana (HAT) o comúnmente conocida como la “enfermedad del sueño”. La transmisión está mediada por la picadura de la mosca tsetsé (del género Glossina) y tanto parásito como vector se localizan mayoritariamente en el África subsahariana. Tras el desarrollo de numerosas iniciativas enfocadas al control de la enfermedad, el número de nuevos casos ha disminuido considerablemente, registrándose tan solo 977 casos en 2018 (WHO 2019). Sin embargo, a pesar de estos datos prometedores, los tratamientos disponibles siguen siendo escasos y muy tóxicos, y el desarrollo de resistencias constituye un inconveniente adicional (Buscher et al. 2017). Por esta razón, el descubrimiento de nuevos blancos de acción sigue siendo prioritario para mejorar la terapia contra la enfermedad. Por otra parte, T. brucei constituye un organismo modelo para el estudio de la biología de kinetoplástidos. La disponibilidad de sofisticadas herramientas de manipulación genética unido a la facilidad de cultivo y mantenimiento hacen de este organismo un paradigma para el estudio de la biología de organismos eucarióticos unicelulares. En todos los organismos la preservación de la integridad genómica es esencial, y en concreto, el correcto mantenimiento de los niveles de los nucleótidos (dNTPs) posee un papel primordial. De hecho, desequilibrios en el “pool” de dNTPs da lugar a procesos que comprometen gravemente la viabilidad celular, como genotoxicidad, mutagénesis o tumorogénesis (Kohnken et al. 2015). De esta manera, los componenTHES del metabolismo de nucleótidos pueden suponer una fuente importante de dianas terapéuticas. Los dNTPs pueden ser sintetizados en la mayoría de organismos por dos rutas metabólicas, la vía de recuperación de nucleósidos pre-formados y la sínTHESis de novo (Wang 2016). Mientras que T. brucei carece de las enzimas necesarias para sintetizar purinas de novo, es capaz de sintetizar los nucleótidos de pirimidina por ambas vías. A pesar de esta aparente redundancia metabólica para la generación de precursores pirimidínicos, ciertas enzimas implicadas en la biosínTHESis del timidilato, como la dihidrofolato reductasa-timidilato sintasa (DHFR-TS), timidina kinasa (TK), desoxiuridina trifosfato hidrolasa (dUTPasa) o la citidina desaminasa (CDA), han demostrado ser esenciales para la viabilidad del parásito (Sienkiewicz et al. 2008; Castillo-Acosta et al. 2013; Leija et al. 2016; Valente et al. 2016). En concreto, líneas de T. brucei deficienTHES en TK no son viables y acumulan nucleósidos intracelulares tanto en ausencia como en presencia de un aporte exógeno de nucleósidos. Por otra parte, se ha demostrado que la fosforilación de la

desoxiuridina (procedente de la desaminación de la desoxicitidina) via TK es un paso esencial en la sínTHESis de timidilato. Estas observaciones plantean la hipóTHESis de que T. brucei expresa nucleotidasas implicadas en la formación de nucleósidos intracelulares esenciales para la sínTHESis de timidilato. Por esta razón, el objetivo principal de esta THESis fue la identificación de dNTPasas en T. brucei que pudieran estar implicadas en este proceso.En un esfuerzo por caracterizar nucleotidasas en el genoma de T. brucei, se han identificado dos nucleotidohidrolasas que contienen un dominio “histidine-aspartic acid” (HD) y que están relacionadas con la proteína humana “sterile alpha motif and HD domain-containing protein 1” (SAMHD1), que es una trifosfato desoxinucleósido (dNTP) hidrolasa que juega un papel esencial en la homeostasis de dNTPs/nucleósidos a lo largo del ciclo celular. Los dos parálogos identificados en Trypanosoma exhiben un dominio HD altamente conservado pero carecen del dominio SAM, y se denominaron TbHD52 y TbHD82. En este trabajo, se ha evaluado el papel de estos ortólogos en viabilidad celular y control de la homeostasis de nucleótidos. Ambas proteínas mostraron una localización diferencial, así como un diferente impacto sobre la proliferación celular. Mientras que TbHD82 era nuclear y prescindible, TbHD52 demostró ser una proteína mitocondrial esencial para la viabilidad, y células “knock-out” para la enzima son auxótrofas para timidina. La expansión del “pool” de dTMP en líneas deficienTHES en TbHD52, ya sea por suplementación del medio con nucleósidos de pirimidina o por la complementación con la enzima dCMP desaminasa humana, revierte el fenotipo deletéreo. Las observaciones obtenidas indican que TbHD52 tiene un papel central en la provisión de desoxinucleósidos pirimidínicos necesarios para la división celular. Asimismo, la ausencia de TbHD52 induce graves defectos en la progresión del ciclo celular, caracterizado por una parada en las fases S y G2/M y por la aparición de poblaciones aberranTHES en cuanto al número y apariencia de núcleos y kinetoplastos. La cuantificación de dNTPs junto con un análisis metabolómico global de las líneas TbHD52-nulas puso de manifiesto profundas modificaciones en el perfil de precursores pirimidínicos, caracterizadas por una acusada acumulación de dCTP y derivados de citidina, así como una depleción significativa de dTTP y derivados de timidina. Estos resultados, junto con la intensa activación de foci nucleares de ?H2A, un marcador temprano de daño en el DNA, sugieren que TbHD52 tiene un papel central en la homeostasis de dNTPs y en el abastecimiento de la desoxicitidina y timidina destinadas a la biosínTHESis de timidilato.Adicionalmente, a pesar de la estricta regulación de los niveles de dNTPs, en el DNA se producen constantemente lesiones derivadas del metabolismo endógeno o de agenTHES externos, los cuales pueden causar importanTHES daños como mutaciones o fragmentación (Chatterjee and Walker 2017). De hecho, durante el proceso de infección en el torrente sanguíneo, los parásitos están especialmente expuestos a estrés oxidativo por la acción del sistema inmune. Para contrarrestar esta situación y preservar la integridad genómica, las células activan múltiples mecanismos de reparación, entre los cuales destaca la ruta de reparación de DNA por escisión de bases (BER). La enzima uracil-DNA glicosilasa (UNG), inicia la ruta de BER ante la presencia de uracilo en el DNA (Jacobs and Schar 2012). En este contexto, durante la respuesta inmune primaria, el óxido nítrico (NO) es liberado por los fagocitos, y en combinación con los radicales de oxígeno producen especies reactivas de nitrógeno que reaccionan con el DNA, generando roturas de cadena y bases modificadas (incluyendo desaminaciones de citosina), los cuales son sustratos

para la UNG (Fang 1997). Estudios previos han demostrado la importancia de UNG para la virulencia de T. brucei (Castillo-Acosta et al. 2012), por lo que en esta THESis se ha profundizado en el daño en el DNA que se genera en respuesta al estrés oxidativo durante la interacción entre el patógeno y el huésped in vivo. Se ha analizado el contenido en uracilo y sitios abásicos en el DNA, así como la cantidad de foci de ?H2A tanto in vitro, tras el tratamiento con donadores de NO, como in vivo, en parásitos aislados tras infección en modelos murinos. Los resultados ponen de manifiesto la aparición de daño genotóxico en T. brucei tras la exposición al NO in vitro y muestra que la ausencia de UNG genera mayores niveles de daño en el DNA. Por otra parte, los parásitos recuperados de ratones exhiben niveles más altos de roturas de cadenas de DNA, desaminación de bases y focos de reparación en comparación con las células cultivadas in vitro, y la ausencia de UNG conduce a un mayor daño del DNA también en infecciones animales. Estas observaciones sugieren que la respuesta inmune desarrollada por el huésped genera estrés oxidativo y daño en el DNA del parásito y enfatiza la importancia de BER en la protección contra el estrés genotóxico y oxidativo en T. brucei.

YANG, G., PING, J., ORTEGA, P.G. y SEGOVIA, J., 2020. Triply heavy baryons in the constituent quark model. *Chinese Physics C*, vol. 44, no. 2. ISSN 1674-1137. DOI 10.1088/1674-1137/44/2/023102.

The constituent quark model is used to compute the ground and excited state masses of QQQbaryons containing either c or bquarks. The quark model parameters previously used to describe the properties of charmonium and bottomonium states were used in this analysis. The non-relativistic three-body bound state problem is solved by means of the Gaussian expansion method which provides sufficient accuracy and simplifies the subsequent evaluation of the matrix elements. Several low-lying states with quantum numbers are reported. We compare the results with those obtained by the other theoretical formalisms. There is a general agreement for the mass of the ground state in each sector of triply heavy baryons. However, the situation is more puzzling for the excited states, and appropriate comments about the most relevant features of our comparison are given.

YANG, G., PING, J. y SEGOVIA, J., 2020. Double-heavy tetraquarks. *Physical Review D*, vol. 101, no. 1. ISSN 2470-0010. DOI 10.1103/PhysRevD.101.014001.

In the framework of the chiral quark model along with complex scaling range, we perform a dynamical study on the low-lying S-wave double-heavy tetraquark states (QQ (q) over bar(q) over bar, Q = c, b and q = u, d) with an accurate computing approach, Gaussian expansion method. The meson-meson and diquark-antidiquark configurations within all possible color structures for spin-parity quantum numbers J(P) = 0(+), 1(+), and 2(+) and in the 0 and 1 isospin sectors are considered. Possible tightly bound and narrow resonance states are obtained for double-charm and double-bottom tetraquarks with IJ(P) = 01(+), and these exotic states are also obtained in charm-bottom tetraquarks with 00(+) and 01(+)

quantum numbers. Only a loosely bound state is found in charm-bottom tetraquarks of 02(+) states. All of these bound states within meson-meson configurations are loosely bound whether in color-singlet channels or coupling to hidden-color ones. However, compact structures are available in diquark-antidiquark channels except for charm-bottom tetraquarks in 02(+) states.

YUN-CASALILLA, B., 2020. The Peninsular Economies and the Impact of Globalisation (Ca. 1494-1700). En: BOUZA, F AND CARDIM, P AND FEROS, A (ed.), *Iberian World: 1450-1820*. S.l.: s.n., Routledge Worlds, pp. 189-210. ISBN 978-0-429-28369-7.

ZAMARRIPA, J., RODRÍGUEZ-MEDELLÍN, R., PÉREZ-GARCIA, J.A., OTERO-SABORIDO, F. y DELGADO, M., 2020. Mexican Basic Psychological Need Satisfaction and Frustration Scale in Physical Education. *Frontiers in Psychology*, vol. 11. DOI 10.3389/fpsyg.2020.00253

Basic psychological needs are an energizing state that, if satisfied, will produce an increase in confidence and a healthy motivational orientation that leads to wellness. Frustration of these needs is the opposite concept of satisfaction, which refers to the negative sensation experimented by an individual when he or she perceives that their psychological needs are being actively limited by the actions of the significant other. To date, we have not found instruments validated in Spanish that measure both the satisfaction and the frustration of basic psychological needs in the physical education (PE) context. Therefore, the aims of this study are adapting the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS) to the PE context in Mexico; and examine its psychometric properties, structure, and factorial invariance by gender in a sample of fifth- and sixth-grade elementary school students. This study included a total of 1,470 fifth- and sixth-grade students from elementary schools in the metropolitan area of Monterrey, Nuevo Leon, Mexico. The results support the reliability, validity, structure, and strict invariance of the sixth Mexican version of the BPNSFS in physical education (BPNSFS-PE). The BPNSFS-PE can be used to measure the satisfaction and/or frustration of the basic psychological needs of students in PE class and to perform comparisons between groups of boys and girls.