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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

Scopus

Estrategia de búsqueda avanzada:

((AF-ID ("CSIC-JA-UPO-USE - Centro Andaluz de Biología 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))

Dialnet

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

Fecha de recolección de datos: Web of Science, Scopus y Dialnet: 08/01/2021



Publicaciones

AGUSTI, M., VELASCO, F. y GALAN, J.L., 2020. The dynamic slack-performance relationship from an efficiency perspective. *Managerial and Decision Economics*, ISSN 0143-6570. DOI 10.1002/mde.3277.

The article aims to analyse the behaviour of firms in terms of managing their slack resources from the perspective of efficiency when faced with a generalised crisis. From a sample of 419 Spanish companies in 2006, 2010 and 2014, a cluster analysis was carried out to identify their position in relation to slack resources (whether there was an excess or a deficiency). Taking this position into account, a data envelopment analysis was carried out which allowed the efficiency frontier to be analysed with respect to the different performances of the company. The results show firstly how companies' resource endowment is affected as a result of adaptation to the crisis and, in turn, how said adaptations accentuate the efficiency of the companies. The management of capacity and resources is an element that companies have failed to prioritise. The recent financial crisis and the current crisis underline the importance of maintaining and managing these resources beyond the vision of simply reducing slack as shown by many companies. The study has two particularities. First, it analyses the changes before, during and after one of the most important crises. Second, the complexity of the phenomenon means that a multiple methodology must be adopted.

ALMUDI, I., VIZUETA, J., WYATT, C.D.R., DE MENDOZA, A., MARLÉTAZ, F., FIRBAS, P.N., FEUDA, R., MASIERO, G., MEDINA, P., ALCAINA-CARO, A., CRUZ, F., GÓMEZ-GARRIDO, J., GUT, M., ALIOTO, T.S., VARGAS-CHAVEZ, C., DAVIE, K., MISOF, B., GONZÁLEZ, J., AERTS, S., LISTER, R., PAPS, J., ROZAS, J., SÁNCHEZ-GRACIA, A., IRIMIA, M., MAESO, I. y CASARES, F., 2020. Genomic adaptations to aquatic and aerial life in mayflies and the origin of insect wings. *Nature Communications* [en línea], vol. 11, no. 1. ISSN 20411723 (ISSN). DOI 10.1038/s41467-020-16284-8.

The evolution of winged insects revolutionized terrestrial ecosystems and led to the largest animal radiation on Earth. However, we still have an incomplete picture of the genomic changes that underlay this diversification. Mayflies, as one of the sister groups of all other winged insects, are key to understanding this radiation. Here, we describe the genome of the mayfly *Cloeon dipterum* and its gene expression throughout its aquatic and aerial life cycle and specific organs. We discover an expansion of odorant-binding-protein genes, some expressed specifically in breathing gills of aquatic nymphs, suggesting a novel sensory role for this organ. In contrast, flying adults use an enlarged opsin set in a sexually dimorphic manner, with some expressed only in males. Finally, we identify a set of wing-associated genes deeply conserved in the pterygote insects and find transcriptomic similarities between gills and wings, suggesting a common genetic program. Globally, this comprehensive genomic and transcriptomic study uncovers the genetic basis of key evolutionary adaptations in mayflies and winged insects. © 2020, The Author(s).

ÁLVAREZ DE TOLEDO, P., NÚÑEZ, F. y USABIAGA, C., 2020. Matching in segmented labor markets: An analytical proposal based on high-dimensional contingency tables. *Economic Modelling*, vol. 93, pp. 175-186. ISSN 02649993 (ISSN). DOI 10.1016/j.econmod.2020.07.019

The Spanish economy has a very problematic labor market characterized by high and persistent levels of unemployment, elevated long-term unemployment, strong segmentation and low regional mobility, among other drawbacks. This paper uses labor matching data from a large database of administrative microdata (Continuous Sample of Working Lives, MCVL) and structures them into a contingency table which cross-classifies the information of workers and jobs at provincial and occupational levels. The association analysis performed allows us to identify a more precise vision of the structure of the labor market, and a better design regarding active labor market policies. Our results demonstrate, for example, that highly isolated markets and those that influence the entire national territory coexist in the Spanish labor market. Finally, we also propose a new smoothing method in order to deal with typical statistical problems in sparse contingency tables, such as the existence of non-structural zero frequencies or sparsity. © 2020 Elsevier B.V.

ÁLVAREZ GARCÍA, H., 2020. Disp. Adicionales 19^a a 22^a. *Comentarios a la Nueva Ley de Protección de Datos: Ley Orgánica 3/2018, de 5 de diciembre, de Protección de Datos Personales y Garantía de los Derechos Digitales*. S.l.: Dilex, pp. 25-0. ISBN 978-84-92754-52-6.

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* [en línea], vol. 11, no. 1. ISSN 20411723 (ISSN). 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).

ARROYO, G.J. y PORTILLO, A.G., 2020. Focus on weaknesses or strengths? Determining factors for an inclusive and relational management in public community social service organizations. *Sustainability (Switzerland)*, vol. 12, no. 24, pp. 1-14. ISSN 20711050 (ISSN). DOI 10.3390/su122410551

This article, which is result of a research and development (R&D) project financed by the Spanish administration, studies the difficulties in managing social inclusion programs in Social Service (SS) Centers located in areas with high rates of exclusion in Andalusia (Spain). The research follows a qualitative methodology, based on observation, semi-open interviews (SOI), and focus groups (FG) aimed at the different actors in four Social Service Centers. Three dimensions are addressed: normative, functional, and perceived. The main results are four groups of incident factors: the mismatch between the expectations of non-professional actors (politicians, etc.) and those of technicians; the knowledge management of implemented dynamics; the position of the SS in local action networks; and the professional–client relationship. We concluded that, although these programs should be managed in an inclusive context, they are conditioned by scenarios with little possibility of social activation and a high level of interference and additional demands. Aspects that generate a great deal of organizational pressure divert professional practices to social assistance work. © 2020 by the authors. Licensee MDPI, Basel, Switzerland.

ASIÁN CLEMENTE, J.A., REQUENA SÁNCHEZ, B. y SANTALLA HERNÁNDEZ, A., 2020. *Assessment of soccer demands and elements to its development*. S.l.: s.n.

Antecedentes: La complejidad e incertidumbre del fútbol provoca que en la actualidad aún haya muchos aspectos relacionados con su competición y entrenamiento que son desconocidos. Los avances tecnológicos y de conocimiento permiten conocer en mayor medida estos aspectos, pero todavía son necesarios muchos estudios que permitan otorgar objetividad y rigurosidad a la práctica del fútbol. Por este motivo el análisis de la competición y las tareas de entrenamiento se antoja como una tarea fundamental para los entrenadores y preparadores físicos. Objetivo: Analizar la competición de fútbol y crear nuevos recursos de entrenamientos a través de tareas y reglas que permitan entrenar de manera más efectiva a los jugadores. Método: Se analizó una temporada de las más igualadas de la primera división española de la realizaron dos estudios: 1) Se determinó las diferencias físicas entre los equipos, dependiendo su posición final en la tabla de clasificación y 2) se valoró las diferencias físicas de los equipos más exitosos en función de su estilo de juego. Paralelamente a estos estudios se llevaron a cabo los otros estudios que componen esta tesis donde se evaluó el efecto de diferentes tareas de entrenamientos para determinar la influencia en las demandas físicas de los jugadores. En estos estudios se examinó: 3) La comparación entre partidos competitivos y no competitivos en jugadores de fútbol, 4) La modificación de la orientación del espacio de juego en los juegos

reducidos para determinar la influencia en el rendimiento locomotor de los jugadores, 5) La utilización de juegos reducidos con comodines y su influencia en las demandas físicas de jugadores de fútbol dependiendo de su edad y 6) La ubicación de los jugadores comodines y como estos afectaban a las tareas de entrenamiento en fútbol. Resultados: Los principales hallazgos son: 1) No existieron diferencias físicas entre los equipos más o menos exitosos en la primera división española, 2) las Demandas físicas de los jugadores durante el partido de fútbol estuvieron condicionadas por el estilo de juego del equipo, sus tácticas y la formación utilizada, 3) Los partidos competitivos, no competitivos y los juegos reducidos tienen demandas físicas diferentes, 4) Juegos reducidos priorizando superficies de juego más largas provocaron mayor cantidad de acciones a mayor velocidad y aceleraciones que los juegos reducidos priorizando campos más anchos, 5) Las demandas físicas en los juegos reducidos estuvieron condicionadas por la edad de los sujetos y 6) Los jugadores comodines en los juegos reducidos siempre tuvieron menores demandas físicas que los jugadores normales, aunque dichas demandas están condicionadas por la posición que ocupen en el juego, siendo el comodín interior la posición con situaciones más demandantes. Conclusiones: Los resultados aportados por este trabajo aumentan el conocimiento tanto a nivel físico como sobre la concepción actual de la teoría del entrenamiento en fútbol. Aunque es considerado un deporte complejo y debe ser entendido como tal, estos hallazgos describen cuáles son algunos de los elementos que definen a los equipos de fútbol en función de su posición en la tabla, los aspectos que influyen en las demandas físicas de los jugadores y que existen varios recursos de entrenamiento que pueden provocar determinadas demandas físicas en los jugadores.

AUGOUSTATOS ZARCO, N., DORADO MUÑOZ, M. y LUCEÑO OLIVA, J.L., 2020. *Compendio de derecho concursal*. S.I.: Tecnos. ISBN 978-84-309-8101-4.

La presente obra, *Compendio de Derecho concursal*, pretende proporcionar a los estudiantes de grado, de doble grado y de másteres jurídicos (Máster de Abogacía, Máster de Asesoría Jurídica de Empresas) una visión completa, sistematizada y actualizada de nuestro actual Derecho de la insolvencia, de conformidad con la metodología y objetivos propios de las enseñanzas universitarias. La obra, redactada de acuerdo con el reciente Texto Refundido de la Ley Concursal, no solo profundiza en las instituciones concursales desde un punto de vista teórico, sino que se acompaña de casos prácticos y cuestionarios de preguntas tipo test que la dotan de un enfoque eminentemente práctico que permitirán al alumno enfrentarse a situaciones reales y completar sus conocimientos sobre la materia analizada. Por último, el *Compendio de Derecho concursal* es, amén de una herramienta de aprendizaje para el alumno, un instrumento docente para los profesores de esta materia, a la vez que aspira a ser de utilidad, por la visión panorámica que ofrece -crítica, en ocasiones-, a todos aquellos que se acerquen a esta rama del Derecho mercantil.

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* [en línea], vol. 10, no. 1. ISSN 20452322

(ISSN). 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).

BANOS-VILLALBA, A., CARRETE, M., TELLA, J.L., BLAS, J., POTTI, J., CAMACHO, C., DIOP, M.S., MARCHANT, T.A., CABEZAS, S. y EDELAAR, P., 2020. Selection on individuals of introduced species starts before the actual introduction. *Evolutionary applications*, ISSN 1752-4571. DOI 10.1111/eva.13159.

Biological invasion is a global problem with large negative impacts on ecosystems and human societies. When a species is introduced, individuals will first have to pass through the invasion stages of uptake and transport, before actual introduction in a non-native range. Selection is predicted to act during these earliest stages of biological invasion, potentially influencing the invasiveness and/or impact of introduced populations. Despite this potential impact of pre-introduction selection, empirical tests are virtually lacking. To test the hypothesis of pre-introduction selection, we followed the fate of individuals during capture, initial acclimation, and captivity in two bird species with several invasive populations originating from the international trade in wild-caught pets (the weavers *Ploceus melanocepalus* and *Euplectes afer*). We confirm that pre-introduction selection acts on a wide range of physiological, morphological, behavioral, and demographic traits (incl. sex, age, size of body/brain/bill, bill shape, body mass, corticosterone levels, and escape behavior); these are all traits which likely affect invasion success. Our study thus comprehensively demonstrates the existence of hitherto ignored selection acting before the actual introduction into

non-native ranges. This could ultimately change the composition and functioning of introduced populations, and therefore warrants greater attention. More knowledge on pre-introduction selection also might provide novel targets for the management of invasive species, if pre-introduction filters can be adjusted to change the quality and/or quantity of individuals passing through such that invasion probability and/or impacts are reduced.

BARRERA-ALGARÍN, E. y RODRÍGUEZ GUERRERO, M., 2020. El uso estratégico de las nuevas tecnologías de la información y comunicación del movimiento social indígena MA OGM. En: libertad y D. Humanos.R. de la democracia informativa CONGRESO INTERNACIONAL ULEPICC. CIBERACTIVISMO (ed.), *Ciberactivismo, Libertad y Derechos Humanos: Retos de la democracia informativa*. S.l.: Unión Latina de la Economía Política de la Información, la Comunicación y la Cultura (ULEPICC), pp. 261-282. ISBN 978-84-09-25298-5.

En el presente documento se analiza el uso estratégico que realiza el movimiento social MA OGM (No a los Organismos Genéticamente Modificados) de las Nuevas Tecnologías de la Información y Comunicación (NTIC). Para ello se lleva a cabo una metodología de tipo mixto, a través del análisis de datos cualitativos y cuantitativos conseguidos de la aplicación de entrevistas estructuradas y cuestionarios durante el trabajo de campo. Los resultados muestran que las personas activistas destacan como principales potencialidades del uso de las NTIC, la capacidad de difusión de sus discursos y su posicionamiento en la esfera de la opinión pública, como colectivo frente a la problemática de la agricultura intensiva. Derivados de esta cuestión, se proyectan los cambios producidos en su estructura y modos de acción de la protesta, así como las nuevas dificultades que se plantean. Finalmente se concluye que la apropiación desarrollada sobre las NTIC es consecuencia de un cambio de enfoque sobre los modos de transformación social que desarrolla el movimiento social MA OGM, donde la disputa por la narrativa se convierte en fundamental

BERBEL-PINEDA, J.M., RAMÍREZ-HURTADO, J.M., PALACIOS-FLORENCIO, B. y SANTOS-ROLDÁN, L., 2020. Dataset for analyzing the influence of country of origin, gastronomic culture and products evaluation on consumers' shopping intentions. *Data in Brief* [en línea], vol. 33. ISSN 23523409 (ISSN). DOI 10.1016/j.dib.2020.106320.

Knowing the tastes and needs of consumers is a key aspect in the literature review on consumer behaviour. This becomes even more important when it comes to selling across borders, in international markets. In other words, facing a different environment, both the tastes and the needs of consumers are different compared to those that can be found in a local market. Therefore, knowing how consumers behave takes on special relevance in business internationalization. In order to determine this behaviour, companies develop commercial research, which involves a large investment of resources (especially when it comes to obtaining primary information). Large companies usually have the resources to be able to carry out this type of market research, but what about small and medium-sized enterprises (SME's)? They generally do not have enough resources to undertake a full commercial research experiment to investigate the tastes and needs of

customers in foreign market countries. The data from this paper allow participating SME's to have a first understanding of the tastes and needs of consumers in these countries-markets that are being internationalized (in this case, through exports). The data provide the precise information sought about consumers in those countries-markets that are the target of internationalization. To this end, tourists visiting a certain place have been analysed. Based on the information needs of these companies (and on questionnaires found in the scientific literature), the questionnaire for this experiment was drawn up and completed by tourists who visited that particular place. The information collected by the questionnaire was mainly focused on how consumers responded to some of the main marketing variables: product, price and distribution, as well as, gastronomic culture, "made in" effect and purchase intention. This valuable information allowed the companies that participated in the experiment to adapt their products to the tastes and needs of each international market country targeted, and even led some of these companies to consider market countries that were not previously considered for the exportation of their products. © 2020

BERMÚDEZ REQUENA, J.M., 2020a. Hytasa y la Hermandad de Nuestra Señora de los Dolores: Relaciones institucionales e interpersonales. *Boletín de las cofradías de Sevilla*, no. 740, pp. 672-677. ISSN 1137-2893.

BERMÚDEZ REQUENA, J.M., 2020b. La Cofradía del Silencio, de Salvador Rueda ¿un poema dedicado a Nuestro Padre Jesús del Gran Poder?: Análisis de la poesía e identificación de la dedicatoria. *Boletín de las cofradías de Sevilla*, no. 735, pp. 339-341. ISSN 1137-2893.

BERMÚDEZ-ORIA, A., BOUCHAL, Y., FERNÁNDEZ-PRIOR, Á., VIOQUE, B. y FERNÁNDEZ-BOLAÑOS, J., 2020. Strawberry Puree Functionalized with Natural Hydroxytyrosol: Effects on Vitamin C and Antioxidant Activity. *Molecules (Basel, Switzerland)* [en línea], vol. 25, no. 24. ISSN 14203049 (ISSN). DOI 10.3390/molecules25245829.

The natural antioxidant hydroxytyrosol (HT) was used to functionalize a strawberry puree. The effect of the antioxidant on the stability of the two bioactive forms of vitamin C (ascorbic acid-AA and dehydroascorbic acid-DHAA) in strawberry puree stored at 4 °C, compared with the effect on a model system of AA in water, was investigated. In the absence of HT, the concentration of vitamin C in strawberry puree decreased but not in the model system. Low concentrations of HT in strawberry puree (0.05 and 0.1 mg HT/g puree) stabilized vitamin C and improved its antioxidant activity. However, at high concentrations of HT (from 0.5 mg HT/g puree), although the antioxidant activity improved, degradation of vitamin C occurred. Therefore, the concentration of HT used to obtain a functionalized strawberry puree it is very important. An adequate concentration increases the antioxidant activity and protects vitamin C from degradation, developing a functional food. However, an inadequate concentration of HT affects the vitamin C content, which is essential for the human diet because it cannot be biosynthesized by the organism.

BERRAL DE LA ROSA, F.J., BERRAL DE LA ROSA, C.J. y FERNÁNDEZ SIMÓN, F., 2020. Rehabilitación del Atrapamiento Femoroacetabular tras Artroscopia: revisión sistemática y propuesta de programa contextualizado. *Revista andaluza de medicina del deporte*, vol. 13, no. 2, pp. 99-105. ISSN 1888-7546. 10.33155/j.ramd.2020.02.010

La artroscopia de cadera para el atrapamiento femoroacetabular es un procedimiento reciente. Se ha estudiado la etiología, diagnóstico y tratamiento artroscópico del atrapamiento femoroacetabular, no así la rehabilitación postoperatoria. Hemos examinado los estudios de la última década sobre estructura y contenidos de los programas de rehabilitación del atrapamiento femoroacetabular tras artroscopia. Se realizó una revisión sistemática de acuerdo a la declaración PRISMA, las bases de datos seleccionadas fueron Scopus, Web of Science, PubMed, Dialnet y Cochrane Library Plus, evaluándose la calidad metodológica de los trabajos mediante la escala de Coleman modificada. Se analizaron los programas de los estudios incluidos, hallándose fases, contenidos y criterios comunes, mostrando escasa evidencia y heterogeneidad metodológica, que no permite estandarizar los protocolos de rehabilitación. En conclusión, con toda la información se ha diseñado un protocolo integral dirigido al paciente para ser aplicado y medir sus resultados en el contexto socioeconómico de la población española.

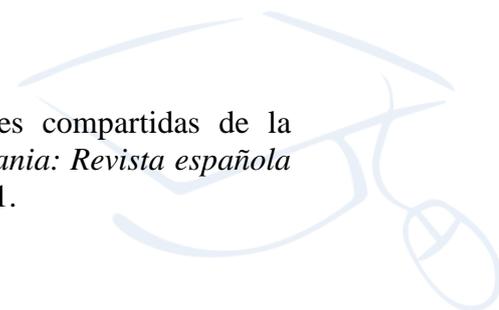
BLANCO LÓPEZ, J., 2020. Introducción: Cuerpos, mercados y sexualidades, continuidades, paradojas y disidencias. *RELIES: Revista del Laboratorio Iberoamericano para el Estudio Sociohistórico de las Sexualidades*, no. 4, pp. 1-7. ISSN 2659-8620. 10.46661/relies.5415

Introducción al número cuatro de la revista RELIES Cuerpos, mercados y sexualidades, continuidades, paradojas y disidencias.

BOADO, M. y FACHELLI, S., 2020. Contrasting intergenerational social mobility in buenos aires and montevideo. *Estudios Sociologicos*, vol. 38, no. 114, pp. 723-762. ISSN 01854186 (ISSN). DOI 10.24201/es.2020v38n114.1867

This paper analyzes intergenerational social mobility mediated by education in comparative terms between Buenos Aires and Montevideo in the second half of the 20th century. We have used the usual intergenerational social mobility techniques and introduced new developments for the region by exploring the different effects on the origin-destination relationship mediated by education such as the inequality of educational opportunities, the return of classes to education and the compositional effect of education. The results lead us to confirm the persistence of inequalities in both cities. © 2020 Colegio de Mexico, A.C., Departamento de Publicaciones. All rights reserved.

BRAVO LOZANO, C., 2020. Antiguos españoles. Identidades compartidas de la comunidad irlandesa en Castilla (siglos XVI-XVII). *Hispania: Revista española de historia*, vol. 80, no. 266, pp. 721-751. ISSN 0018-2141.



Tras la fallida expedición de Kinsale en 1601-1602, los irlandeses comenzaron a definir su identidad de comunidad exiliada en la península ibérica. Como forma de legitimación, su retórica se fundamentó en una tradición arraigada sobre un origen «español». Generalizada a través de las crónicas medievales y los bardos, este discurso y la presentación del mítico rey Miliesio como antepasado común fueron el recurso fáctico empleado por las élites para justificar su presencia e incorporación en las distintas estructuras de la Monarquía de España. La intrínseca polarización social quedó representada en este relato, utilizado como aspecto definitorio y elemento diferenciador. La historicidad de tal construcción ideológica fue recogida por autores castellanos y acentuada por eruditos irlandeses. Sus plumas y la instrumentalización de recursos como las genealogías sentaron las bases de una idiosincrasia compartida que cul-minaría con su naturalización castellana.

BUENO-GUERRERO, A., MORENO, M. y NAVAS, J.F., 2020. Valuation of caps and swaptions under a stochastic string model. *PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS*, vol. 559. ISSN 0378-4371. DOI 10.1016/j.physa.2020.125103.

We develop a Gaussian stochastic string model that provides exact closed-form expressions for the prices and hedging portfolios of caps and swaptions. Under certain conditions, our pricing expressions reduce to Black (1976) formulas. We also propose a stochastic string LIBOR market model that generalizes the models of Brace et al. (1997) and Longstaff et al. (2001a). We provide a possible explanation for some problems involved in the relative valuation of these derivatives. We also attain the observational equivalence of Kerkhof and Pelsser (2002) and prove that, in our setup, the models proposed by Brace et al. (1997) and Longstaff et al. (2001a) are more parsimonious than stated in the original papers. (C) 2020 Elsevier B.V. All rights reserved.

BUIDE, M.L., DEL VALLE, J.C., PRADO-COMESANA, A. y NARBONA, E., 2020. The effects of pollination, herbivory and autonomous selfing on the maintenance of flower colour variation in *Silenellittorea*. *PLANT BIOLOGY*, ISSN 1435-8603. DOI 10.1111/plb.13209.

Intraspecific flower colour variation has been generally proposed to evolve as a result of selection driven by biotic or abiotic agents. In a polymorphic population of *Silene littorea* with pink- and white-flowered plants, we studied pollinators, analysed flower colour perception and tested for differences in pollinator visitation. We also experimentally analysed pollinator limitation in fruit and seed set, and the degree of autonomous selfing. The incidence of florivory and leaf herbivory was compared over 3-4 years. *Silene littorea* is mainly pollinated by bees and butterflies. Pollinators preferred pink flowers, which did not show pollinator limitation. On the contrary, white flowers showed pollinator limitation in fruit set. White-flowered plants had less floral display and higher levels of florivory than pink plants. Flower colour morphs of *S. littorea* can reproduce in the absence of pollinators by autonomous selfing, setting 20% and 12% of fruit

and seeds in the pink morph and 27% and 20% in the white morph, respectively. Fruit set of white flowers produced by autonomous selfing did not differ from open-pollinated flowers. In conclusion, *S. littorea* is pollinated by insects of different orders that more frequently visit pink flowers, which is reflected in pollinator limitation of fruit set in white flowers. Moreover, this species has a mixed mating system in which both colour morphs can reproduce in the absence of pollinators by autonomous selfing, although white flowers mainly produce fruits by autogamy. We suggest that reproductive assurance by autonomous selfing helps to maintain flower colour polymorphism in this population.

CÁCERES-FERIA, R. y CORDERO RAMOS, N., 2020. Mujeres africanas en Situación de Trata: Diversidades, resistencias y oportunidades. *RELIES: Revista del Laboratorio Iberoamericano para el Estudio Sociohistórico de las Sexualidades*, no. 4, pp. 193-207. ISSN 2659-8620. 10.46661/relies.5103

En este texto nos aproximamos a las mujeres africanas que se encuentran en una posible situación de trata con fines de explotación sexual. Nos proponemos analizar la complejidad de la trata de seres humanos (TSH), su fuerte vinculación con las políticas migratorias, y la relación simplificadora que a menudo se establece entre este fenómeno y la prostitución. Cuestionamos la utilización de la categoría “víctima de trata” al considerarla una etiqueta estigmatizadora que niega la capacidad de toma de decisiones de estas mujeres, y un papel activo en la dirección de sus propias vidas. Por último, reflexionaremos sobre los problemas a los que estas migrantes se enfrentan, y cómo todos estos factores inciden en el modo en las instituciones públicas y privadas atienden sus necesidades. Visibilizamos a las mujeres africanas en situación de trata como sujetos de derecho frente a los discursos políticos y las prácticas asistenciales dominantes en la intervención social. Revisamos el rol de los agentes de intervención y resaltamos la necesidad del protagonismo de las propias mujeres durante estos procesos.

CÁCERES-FERIA, R. y DEL CAMPO TEJEDOR, A., 2020. ¿Quién me llama?. ¿quién la bebe?: agua y aguadores en el cante flamenco. *Ecología y lecturas del agua: investigación interdisciplinar y transversal en didáctica de la lengua y la literatura*. S.l.: Universidad de Jaén, pp. 253-266. ISBN 978-84-9159-300-3.

CALDERON-MONGE, E., REDONDO-RODRIGUEZ, R.-G. y RAMIREZ-HURTADO, J.M., 2020. Narrowing the gap between consumer purchasing intention and behaviour through ecolabelling: a challenge for eco-entrepreneurism. *British Food journal*, ISSN 0007-070X. DOI 10.1108/BFJ-09-2020-0874.

Purpose The gap between the self-declarations of buyers as responsible consumers and the purchase of sustainable products means that consumer knowledge needs to be examined in depth, to guide the initiatives of eco-entrepreneurs towards sectors and demands that will make them viable and to advance responsible production and consumption - Objective 12: Sustainable Development 2030.

The purpose of this study is to analyse the profile of consumers in relation to the purchase of ecolabelled products and to establish relations between purchasing decisions with environmental, social and ethical factors. Design/methodology/approach Multiple correspondence analysis is applied to the results of a questionnaire administered to a sample of 407 consumers resident in Spain. Information is gathered on environmental, social and economic concerns and the importance consumers attach to certain product attributes such as ecolabels, price and quality. Findings Consumers concerned over environmental, social and economic questions attached greater importance to information on ecolabels, principally within the textile, and drugstore sectors, followed by electrical and electronic appliances and the food sector. These consumers selected ecolabelled products with a good quality-price relationship. Originality/value The academic and business value of this research is its focus on the attributes of sustainable products so that eco-entrepreneurs may advance initiatives that are at once viable and sustainable, motivating consumers with concerns over environmental, social and economic issues.

CALVO, E. y MARIÁN MORÓN, 2020. Investigación con corpus cualitativos en los estudios de traducción: el problema de los constructos traductológicos complejos. *Meta: Journal des traducteurs = translators' journal*, vol. 65, no. 1, pp. 237-257. ISSN 0026-0452. <https://doi.org/10.7202/1073644ar>

In translation and interpreting studies (TIS), source text analysis has enormous potential (Nord 2005; De la Cova 2017; Szymyslik 2019). To identify complex elements in a text, with a view to their analysis and systemization, TIS resorts to abstract, notionally dense concepts which, while interesting, nevertheless need to be operationalised methodologically in an eminently qualitative, complex manner. Examples of such concepts include translation problem (Nord 1997/2001; De la Cova 2017; Hurtado 2017), difficulty (Dahl 2004; Dragsted 2004), and error (O'Brien 2012; Koby, Fields et al. 2014). Translation-orientated corpus studies tend to be quantitative (corpus-based or corpus-driven, according to Baker (2006)) or, more rarely, hybrid studies which make it possible to work at a computer-friendly level of text analysis. Complex constructs, however, require essentially qualitative corpus methodologies, which are less frequently used precisely because of their complexity. This paper analyses the objectivation of complex concepts from a Grounded Theory perspective as a means of subjecting them to systematic study. It also presents some examples of qualitative research using corpora and explores the research potential of different tools in this regard. The conclusions drawn focus on methodological transferability based on a qualitative approach to complex concepts, and on the methods best suited to such contexts, like Grounded Theory and bottom-up categorisation (Strauss and Corbin 1990; Robson 2002; Böhm 2000/2004; Silverman 2011; etc.).

CALVO VÉRGEZ, J. y MANUEL MACARRO OSUNA, J., 2020. Impuesto sobre el Valor Añadido (II): operaciones interiores (cont.). *Derecho tributario. Parte especial*. S.l.: Tecnos, pp. 519-566. ISBN 978-84-309-7994-3.

CAMBRA-FIERRO, J.J., FLORES-HERNÁNDEZ, J.A., PÉREZ, L. y VALERA-

BLANES, G., 2020. CSR and branding in emerging economies: The effect of incomes and education. *Corporate Social Responsibility and Environmental Management*, vol. 27, no. 6, pp. 2765-2776. ISSN 15353958 (ISSN). DOI 10.1002/csr.2000

Sustainable development is a fundamental objective for guaranteeing the future of the planet. Taking into account the impact of emerging economies on the global economy and the scarcity of papers that have considered the effect of CSR initiatives on consumer behavior on those economies, it seems that further research on this issue is necessary. In particular, we analyze the extent to which CSR affects the connection and links of the consumer to the brand (i.e., self-brand connection, brand engagement). The main contribution of the paper to the field is the analysis of the interaction between CSR and branding in the context of an emerging economy. To that aim, and also in a novel way, we use the Stimuli-Organism-Response (SOR) model for a sample of more than 400 food and beverage consumers in Metropolitan Lima, Peru. Our results show that CSR effectively acts as a stimulus for consumers to identify and link to brands and that, in addition, these links generate buy-back (i.e., loyalty) and recommendation behaviors (i.e., WOM) which, in turn, create a great commercial value for companies. This research also analyses how incomes and educational levels moderate the intensity of such links. For practical implications, global trends in managing CSR and branding may be useful, although some cross-cultural and context-specific adaptations are necessary. © 2020 ERP Environment and John Wiley & Sons Ltd.

CAO-ALVIRA, J.J., NOVOA-HOYOS, A. y NUNEZ-TORRES, A., 2020. On the financial literacy, indebtedness, and wealth of Colombian households. *REVIEW OF DEVELOPMENT ECONOMICS*, ISSN 1363-6669. DOI 10.1111/rode.12739.

In this paper we attempt to find existing linkages of financial literacy with indebtedness and wealth accumulation of households in Bogota, the capital of Colombia. We analyze an econometric model where we regress a household's debt usage, cost of debt servicing, and wealth indicators against its financial literacy. Financial literacy is assessed according to the financial numeracy and money management skills of the head of households. Numeracy skills are found to have a positive correlation with the decision to use debt and have a mortgage and with the total number of lending sources, debt-to-income, and net worth. Money management skills decrease the household's likelihood of using all of the debt types considered in the analysis and increase with net worth. We also uncover important debt and wealth accumulation conducts closely tied to the city's economic stratification and the gender of the head of household. A number of public policy implications are derived from the results of the analysis.

CARRIZOSA, E., 2020. Programas de promoción de la salud en el trabajo. Hacia el cumplimiento óptimo de las obligaciones laborales. *Noticias CIELO*, no. 11, pp. 3- 0. ISSN 2532-1226.

CASARES, F., ALLENDE, M., DE CELIS, J.F., GÓNZALEZ-REYES, A. y MARTÍNEZ-MORALES, J.R., 2020. José Luis Gómez-Skarmeta (1966-2020). *Development (Cambridge, England)* [en línea], vol. 147, no. 22. ISSN 14779129 (ISSN). DOI 10.1242/dev.197996.

CASIMIRO-SORIGUER, C.S., RIGUAL, M.M., BROKATE-LLANOS, A.M., MUÑOZ, M.J., GARZÓN, A., PÉREZ-PULIDO, A.J. y JIMENEZ, J., 2020. Using AnABlast for intergenic sORF prediction in the *Caenorhabditis elegans* genome. *Bioinformatics (Oxford, England)*, vol. 36, no. 19, pp. 4827-4832. ISSN 13674811 (ISSN). DOI 10.1093/bioinformatics/btaa608

MOTIVATION: Short bioactive peptides encoded by small open reading frames (sORFs) play important roles in eukaryotes. Bioinformatics prediction of ORFs is an early step in a genome sequence analysis, but sORFs encoding short peptides, often using non-AUG initiation codons, are not easily discriminated from false ORFs occurring by chance. **RESULTS:** AnABlast is a computational tool designed to highlight putative protein-coding regions in genomic DNA sequences. This protein-coding finder is independent of ORF length and reading frame shifts, thus making of AnABlast a potentially useful tool to predict sORFs. Using this algorithm, here, we report the identification of 82 putative new intergenic sORFs in the *Caenorhabditis elegans* genome. Sequence similarity, motif presence, expression data and RNA interference experiments support that the underlined sORFs likely encode functional peptides, encouraging the use of AnABlast as a new approach for the accurate prediction of intergenic sORFs in annotated eukaryotic genomes. **AVAILABILITY AND IMPLEMENTATION:** AnABlast is freely available at <http://www.bioinfocabd.upo.es/ab/>. The *C.elegans* genome browser with AnABlast results, annotated genes and all data used in this study is available at <http://www.bioinfocabd.upo.es/celegans>. **SUPPLEMENTARY INFORMATION:** Supplementary data are available at Bioinformatics online. © The Author(s) 2020. Published by Oxford University Press.

CHAVES-MAZA, M. y FEDRIANI MARTEL, E.M., 2020. Entrepreneurship support ways after the Covid-19 crisis. *Entrepreneurship and Sustainability Issues*, vol. 8, no. 2, pp. 662-681. ISSN 23450282 (ISSN). DOI 10.9770/jesi.2020.8.2(40)

The impact of the Covid-19 on Europe economy has been similar to that produced in the 2008 crisis, even with worse long-term consequences. Most governments have implemented recovery plans similar to those that were then implemented. However, there are differences in the economic impact that require different methodologies which focus on the microenvironment. Entrepreneurs' sponsorship may help to recover the current socio-economic situation. Simultaneously, technological progress in Artificial Intelligence and Big Data allows the analysis of vast amounts of information and support decision making. This paper shows a brief introduction of entrepreneurship policy in twenty countries after the irruption of the Covid-19 to contextualize, and applies Artificial Intelligence to examine factors whose influence is strong in the survival rate of entrepreneurs within a public support program. Specifically, two types of artificial networks are used: self-organizing maps and multilayer

perceptron (respectively, SOM and MLP). After the application of neural networks on a data set of 2,221 entrepreneurs from Andalusia (Spain) and with 769 variables taken during the recovery after the crisis from 2008 to 2012, the prediction in the probability of entrepreneurial survival and business success is shown to be realistic in more than 98% of individuals analysed. © 2020 by author(s) and VsI Entrepreneurship and Sustainability Center.

CHRISTIE, A.P., ABECASIS, D., ADJEROUD, M., ALONSO, J.C., AMANO, T., ANTON, A., BALDIGO, B.P., BARRIENTOS, R., BICKNELL, J.E., BUHL, D.A., CEBRIAN, J., CEIA, R.S., CIBILS-MARTINA, L., CLARKE, S., CLAUDET, J., CRAIG, M.D., DAVOULT, D., DE BACKER, A., DONOVAN, M.K., EDDY, T.D., FRANÇA, F.M., GARDNER, J.P.A., HARRIS, B.P., HUUSKO, A., JONES, I.L., KELAHER, B.P., KOTIAHO, J.S., LÓPEZ-BAUCCELLS, A., MAJOR, H.L., MÄKI-PETÄYS, A., MARTÍN, B., MARTÍN, C.A., MARTIN, P.A., MATEOS-MOLINA, D., MCCONNAUGHEY, R.A., MERONI, M., MEYER, C.F.J., MILLS, K., MONTEFALCONE, M., NOREIKA, N., PALACÍN, C., PANDE, A., PITCHER, C.R., PONCE, C., RINELLA, M., ROCHA, R., RUIZ-DELGADO, M.C., SCHMITTER-SOTO, J.J., SHAFFER, J.A., SHARMA, S., SHER, A.A., STAGNOL, D., STANLEY, T.R., STOKESBURY, K.D.E., TORRES, A., TULLY, O., VEHANEN, T., WATTS, C., ZHAO, Q. y SUTHERLAND, W.J., 2020. Quantifying and addressing the prevalence and bias of study designs in the environmental and social sciences. *Nature Communications* [en línea], vol. 11, no. 1. ISSN 20411723 (ISSN). DOI 10.1038/s41467-020-20142-y.

Building trust in science and evidence-based decision-making depends heavily on the credibility of studies and their findings. Researchers employ many different study designs that vary in their risk of bias to evaluate the true effect of interventions or impacts. Here, we empirically quantify, on a large scale, the prevalence of different study designs and the magnitude of bias in their estimates. Randomised designs and controlled observational designs with pre-intervention sampling were used by just 23% of intervention studies in biodiversity conservation, and 36% of intervention studies in social science. We demonstrate, through pairwise within-study comparisons across 49 environmental datasets, that these types of designs usually give less biased estimates than simpler observational designs. We propose a model-based approach to combine study estimates that may suffer from different levels of study design bias, discuss the implications for evidence synthesis, and how to facilitate the use of more credible study designs. © 2020, The Author(s).

COLOM PIELLA, G., 2020. Haciendo posible lo impensable: opciones selectivas, disuasión a medida y fallos en la disuasión nuclear (1974-1994). *Revista española de ciencia política*, no. 54, pp. 121-148. ISSN 1575-6548. 10.21308/recp.54.05

The article is aimed at studying the selective options, a nuclear weapons employment doctrine launched by the United States in 1974 to reinforce its deterrent position

by enabling a limited nuclear war. However, by widening the military gap with the Soviet Union and exploiting its worst fears, the implementation of this doctrine almost caused a nuclear crisis in 1983. Since this constitutes one of the few known nuclear deterrence failures, the study of this historical case may contribute to explaining the working of this process which is regaining its central role in the field of Strategic Studies. The article is divided into two parts: the first theoretical part delves into the literature on deterrence up to the fourth wave of studies on the phenomenon and the consolidation of tailored deterrence models. The second one, as a historical case study, analyzes the selective options. It is argued that this doctrine, in force during the last stage of the Cold War, does not only constitute a proto-model of tailor-made deterrence, but its realization also caused a failure of deterrence that fortunately did not culminate in catastrophe. Even if the few cases of nuclear deterrence failures prevent drawing general conclusions, the article concludes by warning about the contextuality, credibility and relativism of deterrence.

CORONA-AGUILAR, A., MARIA DIAZ-JIMENEZ, R. y CARAVACA-SANCHEZ, F., 2020. Participation by Women With Physical Functional Diversity: From Inherited Oppression to Social Integration. *AUSTRALIAN SOCIAL WORK*, ISSN 0312-407X. DOI 10.1080/0312407X.2020.1849332.

This paper analyses the participation processes displayed by women with physical functional diversity in Spain, from the perspective of feminism and human rights. Responses from 18 participants with physical functional diversity allowed us to describe the female participants, as well as to explain their participation histories and plans, including any enabling or obstructing elements. This feedback also allowed us to interpret the participation models of women in positions or situations of influence. This paper, using qualitative methodology, combines grounded theory, intersectionality, and discourse narration to analyse the life contexts and elements that impede access to social participation on a level playing field for these women. The results present emancipatory tools for women and arguments for political decision-making that can help women overcome oppression and violence, thereby facilitating their integration into society. **IMPLICATIONS** The defence of people's rights is a professional endeavour grounded in social work theory and involves drawing attention to inequalities, in this case, those faced by women with functional diversity. Social work training should prepare social workers for advocacy based on human rights and be led by people with disabilities themselves. Research into disability in social work yields advances in strategies for social and civic participation, particularly for women with functional diversity.

CRUZ-DÍAZ, J. y ÁLVAREZ DE LAS ASTURIAS, M., 2020. La nulidad matrimonial. Mitos y realidades, Digital Reasons, Madrid 2020, 233 pp., ISBN 978-84-120888-6-1. *Ius canonicum*, vol. 60, no. 120, pp. 941-948. ISSN 0021-325X.

CUI, H., SUN, W., DELGADO-BAQUERIZO, M., SONG, W., MA, J.-Y., WANG, K. y LING, X., 2020. The effects of mowing and multi-level N fertilization on soil

bacterial and fungal communities in a semiarid grassland are year-dependent. *Soil Biology and Biochemistry* [en línea], vol. 151. ISSN 00380717 (ISSN). DOI 10.1016/j.soilbio.2020.108040.

The diversity and structure of plant and soil microbial communities are influenced by temporal variability in environmental conditions (e.g., precipitation); however, it is unclear whether the responses of these biotic communities to land use practices (e.g., N fertilization and mowing) also vary over time. Here we investigated how harvesting hay by mowing and applications of N fertilization at different rates (0, 2.5, 5, 10, 20, and 40 g N m⁻² yr⁻¹) affected plant, bacterial, and fungal communities by exploring data collected from a field experiment in a semiarid grassland in northern China over two consecutive years of 2017 and 2018. The cumulative precipitation during the growing season differed between the two studied years. The sampling year had more effect on the structure of the plant and soil microbial community than N fertilization and mowing, suggesting that the effects of land use practices varied by year, and were difficult to predict over time. The diversity of bacteria and fungi showed a different response to N fertilization and mowing between the two years. For example, in the wet year, the fungal diversity was up to 11% lower in soil that had been treated using the highest N fertilizer application than in untreated soil, but showed little variation in the dry year. The bacterial diversity was higher for all N application rates in the mown than the unmown land during the wet year, but no difference was observed during the dry year. There were more opportunistic and sensitive taxa for the two years (over 36.9% of top 10% relative abundance of bacterial and fungal taxa) than for N fertilization and mowing (below 33.0% of top 10% relative abundance of bacterial and fungal taxa). The relationships between plant and soil microbial communities differed between the two years, and were much stronger in the dry year than the wet year. We conclude that N fertilization and mowing had varying effects on plant and soil microbial communities in the study area over the two-year period. Our results also suggest that precipitation is the main control on land use-related changes in plant and soil microbial communities in semiarid ecosystems. © 2020

DE DIOS, R., 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* [en línea], vol. 10, no. 1. ISSN 20452322 (ISSN). 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).

DEL CAMPO, V.L., GONZÁLEZ, C. y MORENAS, J., 2020. La precisión del recuerdo de patrones de juego en jugadores infantiles (sub-13 años) de balonmano. *e-balonmano.com: Revista de Ciencias del Deporte*, vol. 16, no. 3, pp. 159-166. ISSN 1885-7019.

The aim of the study was to address whether the skill to recall play patterns in handball was influenced by the temporal period in which those actions were perceived by the players. The sample of participants was seven U-13 federated handball players. The participants had to observe different play actions of a competition match played previously, and then, they had to judge how these actions ended. The recall tests were performed 1 day (1st test), 15 days (2nd test), and 30 days (3rd test) after the match. Specifically, the players perceived a set of 18 representative play actions, including 6 trials for each test. They had 30 seconds to recall how the play actions finished, selecting one option between several ones available on an observation sheet created specifically for this study. The players decreased their performance recalling the end of the play patterns as more time elapsed since the date that they played the match and the recall test. For example, their recall was significantly worse in the third test compared to the second and the first tests.

DEL-CARPIO-DELGADO, J., 2020. El paradigma del volumen del patrimonio criminal y de su blanqueo. *Criminalidad en un mundo global: Criminalidad de empresa, transnacional, organizada y recuperación de activos*. S.l.: Tirant lo Blanch, pp. 397-435. ISBN 978-84-13-55194-4.

DEL-CARPIO-DELGADO, J. y DE PABLO SERRANO, A., 2020a. *Criminalidad en un mundo global: Criminalidad de empresa, transnacional, organizada y recuperación de activos*. S.l.: Tirant lo Blanch. ISBN 978-84-13-55194-4.

La silueta de la criminalidad actual vendría definida por varios rasgos: es una delincuencia de amplio alcance, transnacional, que pivota sobre grupos criminales organizados estructurados y generalmente en la forma de empresas, que desarrolla su actividad delictiva en sectores claves y delicados para el funcionamiento de un Estado. Esta criminalidad se adapta con enorme facilidad y rapidez a los cambios y a las normativas. Dentro de ese contexto, la obra que el lector tiene entre sus manos se enfrenta aun trinomio que debilita las estructuras económicas y políticas de los Estados y constituye un reto impostergable para el Derecho Penal en el presente y en el medio plazo: crimen organizado y criminalidad empresarial (en ámbitos como el medio ambiente, la trata de personas y el tráfico clandestino de inmigrantes), junto al terrorismo. En este trabajo, la doctrina y los operadores jurídicos y policiales trabajan juntos

para identificar estas redes criminales, desentrañar sus formas de actuación y desarrollar estrategias de intervención, persecución y de debilitamiento económico (blanqueo y decomiso).

DEL-CARPIO-DELGADO, J. y DE PABLO SERRANO, A., 2020b. La criminalidad poliédrica en el siglo XXI. *Criminalidad en un mundo global: Criminalidad de empresa, transnacional, organizada y recuperación de activos*. S.l.: Tirant lo Blanch, pp. 17-29. ISBN 978-84-13-55194-4.

DELGADO BAENA, J. y ARENAL LORA, M.L., 2020. Actores e instrumentos de la cooperación internacional para el desarrollo. *Estudios contemporáneos sobre geopolítica, conflictos armados y cooperación internacional*. S.l.: Universidad Internacional de Andalucía, pp. 489-512. ISBN 978-84-7993-360-9.

DELGADO-BAQUERIZO, M., REICH, P.B., BARDGETT, R.D., ELDRIDGE, D.J., LAMBERS, H., WARDLE, D.A., REED, S.C., PLAZA, C., PNG, G.K., NEUHAUSER, S., BERHE, A.A., HART, S.C., HU, H.-W., HE, J.-Z., BASTIDA, F., ABADES, S., ALFARO, F.D., CUTLER, N.A., GALLARDO, A., GARCÍA-VELÁZQUEZ, L., HAYES, P.E., HSEU, Z.-Y., PÉREZ, C.A., SANTOS, F., SIEBE, C., TRIVEDI, P., SULLIVAN, B.W., WEBER-GRULLON, L., WILLIAMS, M.A. y FIERER, N., 2020. The influence of soil age on ecosystem structure and function across biomes. *Nature Communications* [en línea], vol. 11, no. 1. ISSN 20411723 (ISSN). DOI 10.1038/s41467-020-18451-3.

The importance of soil age as an ecosystem driver across biomes remains largely unresolved. By combining a cross-biome global field survey, including data for 32 soil, plant, and microbial properties in 16 soil chronosequences, with a global meta-analysis, we show that soil age is a significant ecosystem driver, but only accounts for a relatively small proportion of the cross-biome variation in multiple ecosystem properties. Parent material, climate, vegetation and topography predict, collectively, 24 times more variation in ecosystem properties than soil age alone. Soil age is an important local-scale ecosystem driver; however, environmental context, rather than soil age, determines the rates and trajectories of ecosystem development in structure and function across biomes. Our work provides insights into the natural history of terrestrial ecosystems. We propose that, regardless of soil age, changes in the environmental context, such as those associated with global climatic and land-use changes, will have important long-term impacts on the structure and function of terrestrial ecosystems across biomes. © 2020, The Author(s).

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* [en línea], vol. 11, no. 1. ISSN 20411723 (ISSN). 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).

DEVOS, D.P., LAGE, O.M. y SUTCLIFFE, I.C., 2020. Bringing the diversity of Planctomycetes into the light: Introduction to papers from the special issue on novel taxa of Planctomycetes. *Antonie van Leeuwenhoek, International Journal of General and Molecular Microbiology*, vol. 113, no. 12, pp. 1715-1726. ISSN 00036072 (ISSN). DOI 10.1007/s10482-020-01499-y

DI FRANCESCO, A., CHOI, Y., BERNIER, M., ZHANG, Y., DIAZ-RUIZ, A., AON, M.A., KALAFUT, K., EHRLICH, M.R., MURT, K., ALI, A., PEARSON, K.J., LEVAN, S., PRESTON, J.D., MARTIN-MONTALVO, A., MARTINDALE, J.L., ABDELMOHSEN, K., MICHEL, C.R., WILLMES, D.M., HENKE, C., NAVAS, P., VILLALBA, J.M., SIEGEL, D., GOROSPE, M., FRITZ, K., BISWAL, S., ROSS, D. y DE CABO, R., 2020. NQO1 protects obese mice through improvements in glucose and lipid metabolism. *npj Aging and Mechanisms of Disease* [en línea], vol. 6, no. 1. ISSN 20563973 (ISSN). DOI 10.1038/s41514-020-00051-6.

Chronic nutrient excess leads to metabolic disorders and insulin resistance. Activation of stress-responsive pathways via Nrf2 activation contributes to energy metabolism regulation. Here, inducible activation of Nrf2 in mice and transgenesis of the Nrf2 target, NQO1, conferred protection from diet-induced metabolic defects through preservation of glucose homeostasis, insulin sensitivity, and lipid handling with improved physiological outcomes. NQO1-RNA interaction mediated the association with and inhibition of the translational machinery in skeletal muscle of NQO1 transgenic mice. NQO1-Tg mice on high-fat diet had lower adipose tissue macrophages and enhanced expression of lipogenic enzymes coincident with reduction in circulating and hepatic lipids. Metabolomics data revealed a systemic metabolic signature of improved glucose handling, cellular redox, and NAD⁺ metabolism while label-free quantitative

mass spectrometry in skeletal muscle uncovered a distinct diet- and genotype-dependent acetylation pattern of SIRT3 targets across the core of intermediary metabolism. Thus, under nutritional excess, NQO1 transgenesis preserves healthful benefits. © 2020, This is a U.S. government work and not under copyright protection in the U.S.; foreign copyright protection may apply.

DOMÍNGUEZ, L., 2020a. Fotografía y flânerie en Auf der anderen Seite der Welt, de Dieter Forte. *Historia, espacio y memoria en la narrativa actual en lengua alemana*. S.l.: Síntesis, pp. 107-120. ISBN 978-84-13-57046-4.

DOMÍNGUEZ, L., 2020b. Viernes o los limbos del Báltico en Kruso, de Lutz Seiler. *Historia, espacio y memoria en la narrativa actual en lengua alemana*. S.l.: Síntesis, pp. 237-248. ISBN 978-84-13-57046-4.

DOMÍNGUEZ, R., LÓPEZ-DOMÍNGUEZ, R., LÓPEZ-SAMANES, Á., GENÉ, P., GONZÁLEZ-JURADO, J.A. y SÁNCHEZ-OLIVER, A.J., 2020. Analysis of sport supplement consumption and body composition in spanish elite rowers. *Nutrients*, vol. 12, no. 12, pp. 1-12. ISSN 20726643 (ISSN). DOI 10.3390/nu12123871

The aim of this study was to analyze the anthropometric characteristics and sport supplement (SS) consumption patterns of heavyweight and lightweight international rowers. Methods: The 13 heavyweights (11 males) and seven lightweights (five males) of the Spanish National Rowing Team were recruited for the study. Body composition was measured by bio-impedance analysis, and the questionnaire used in this investigation was previously validated to assess SS consumption. According to anthropometrics parameters, it was reported that male heavyweight rowers were heavier ($p < 0.001$) and taller ($p < 0.001$), but no statistical differences were reported for % body fat ($p = 0.104$) or % lean body mass ($p = 0.161$). All rowers reported consumption of at least one SS. Based on the Australian Institute of Sport's classification, higher medical supplement consumption was observed when comparing heavyweight rowers to lightweight rowers (2.5 ± 1.1 vs. 1.7 ± 0.5 , $p = 0.040$). There were no differences in the totals of group A (strong scientific evidence for sports scenarios, $p = 0.069$), group B (emerging scientific support, deserving of further research, $p = 0.776$), or group C (scientific evidence not supportive of benefit and/or security amongst athletes, $p = 0.484$). The six most consumed SSs were iron (85%), caffeine (85%), β -alanine (85%), energy bars (85%), vitamin supplements (80%), and isotonic drinks (80%), with no statistical differences between heavyweight and lightweight rowers ($p > 0.05$). These results suggest that the absence of differences in body composition (expressed as a percentage) do not represent anthropometric disadvantages for heavyweight rowers. In addition, SS consumption was similar between rowers, reporting only higher medical supplement consumption in heavyweight rowers. © 2020 by the authors. Licensee MDPI, Basel, Switzerland.

DURÁN, J. y DELGADO-BAQUERIZO, M., 2020. Vegetation structure determines

the spatial variability of soil biodiversity across biomes. *Scientific Reports* [en línea], vol. 10, no. 1. ISSN 20452322 (ISSN). DOI 10.1038/s41598-020-78483-z.

The factors controlling the spatial variability of soil biodiversity remain largely undetermined. We conducted a global field survey to evaluate how and why the within-site spatial variability of soil biodiversity (i.e. richness and community composition) changes across global biomes with contrasting soil ages, climates and vegetation types. We found that the spatial variability of bacteria, fungi, protists, and invertebrates is positively correlated across ecosystems. We also show that the spatial variability of soil biodiversity is mainly controlled by changes in vegetation structure driven by soil age and aridity. Areas with high plant cover, but low spatial heterogeneity, were associated with low levels of spatial variability in soil biodiversity. Further, our work advances the existence of significant, undescribed links between the spatial variability of soil biodiversity and key ecosystem functions. Taken together, our findings indicate that reductions in plant cover (e.g., via desertification, increases in aridity, or deforestation), are likely to increase the spatial variability of multiple soil organisms and that such changes are likely to negatively impact ecosystem functioning across global biomes. © 2020, The Author(s).

ESPINOZA-SALINAS, A., ZAFRA-SANTOS, E., SABATTINI-HERRERA, C., SANCHEZMOLINA, J., BOBADILLA-OLIVARES, M. y ARENAS-SÁNCHEZ, G., 2020. Oxygen uptake kinetics in federated athletes. *Revista Internacional de Medicina y Ciencias de la Actividad Física y del Deporte*, vol. 20, no. 80, pp. 513-527. ISSN 15770354 (ISSN). DOI 10.15366/rimcafd2020.80.003

Oxygen uptake kinetics (VO₂) is an indicator of functional capacity (CF). The objective of this study is to analyze the oxygen uptake kinetics in athletes of different disciplines, according to the predominant energy system in each one of them. A comparative, non-experimental and cross-sectional study was designed in 22 subjects of selected federated sports corresponding to futsal, weightlifting and triathlon through intentional non-probabilistic sampling. The following variables were assessed: weight, height, body mass index (BMI), blood pressure, waist circumference and oxygen uptake kinetics. The main results show that the oxygen uptake kinetics (VO₂) showed that sportsmen who practice futsal, show a better recovery ($p < 0.05$) compared to athletes of triathlon and weightlifting. © 2020, Universidad Autonoma de Madrid y CV Ciencias del Deporte. All rights reserved.

FALCÓN-MOYA, R., PÉREZ-RODRÍGUEZ, M., PRIUS-MENGUAL, J., ANDRADE-TALAVERA, Y., ARROYO-GARCÍA, L.E., PÉREZ-ARTÉS, R., MATEOS-APARICIO, P., GUERRA-GOMES, S., OLIVEIRA, J.F., FLORES, G. y RODRÍGUEZ-MORENO, A., 2020. Astrocyte-mediated switch in spike timing-dependent plasticity during hippocampal development. *Nature Communications* [en línea], vol. 11, no. 1. ISSN 20411723 (ISSN). DOI 10.1038/s41467-020-18024-4.

Presynaptic spike timing-dependent long-term depression (t-LTD) at hippocampal CA3-CA1 synapses is evident until the 3rd postnatal week in mice, disappearing during the 4th week. At more mature stages, we found that the protocol that induced t-LTD induced t-LTP. We characterized this form of t-LTP and the mechanisms involved in its induction, as well as that driving this switch from t-LTD to t-LTP. We found that this t-LTP is expressed presynaptically at CA3-CA1 synapses, as witnessed by coefficient of variation, number of failures, paired-pulse ratio and miniature responses analysis. Additionally, this form of presynaptic t-LTP does not require NMDARs but the activation of mGluRs and the entry of Ca²⁺ into the postsynaptic neuron through L-type voltage-dependent Ca²⁺ channels and the release of Ca²⁺ from intracellular stores. Nitric oxide is also required as a messenger from the postsynaptic neuron. Crucially, the release of adenosine and glutamate by astrocytes is required for t-LTP induction and for the switch from t-LTD to t-LTP. Thus, we have discovered a developmental switch of synaptic transmission from t-LTD to t-LTP at hippocampal CA3-CA1 synapses in which astrocytes play a central role and revealed a form of presynaptic LTP and the rules for its induction. © 2020, The Author(s).

FAN, K., DELGADO-BAQUERIZO, M., ZHU, Y.-G. y CHU, H., 2020. Crop production correlates with soil multitrophic communities at the large spatial scale. *Soil Biology and Biochemistry* [en línea], vol. 151. ISSN 00380717 (ISSN). DOI 10.1016/j.soilbio.2020.108047.

Strong associations exist between microbial communities and soil functions in natural ecosystems at large spatial scales; however, it is unclear whether these linkages are maintained in intensively managed croplands and whether these associations influence plant productivity. We collected bulk and rhizosphere soils from wheat fields –one of the most functionally and economically important crops worldwide –across the North China Plain (~300,000 km²), and examined the relationship between species-level multitrophic taxa, functional genes and wheat productivity. Our work identified significant and positive correlations of wheat productivity to the relative abundance of multitrophic clusters (co-occurring groups of soil biota including bacteria, fungi, arbuscular mycorrhizal fungi, and nematodes), and absolute abundance of functional genes associated with carbon, nitrogen, phosphorus, and sulfur cycles. We observed significant, biologically meaningful correlations between plant productivity and the abundance of specific root-associated microbial taxa and functional genes. These important linkages were robust when considered in combination with spatial, climate, and edaphic variables. Our findings highlight the importance of soil multitrophic communities in regulating soil functional potential and plant productivity, and provide a list of key-stone functional genes, which could be targeted to promote food security and production. © 2020 Elsevier Ltd

FERNÁNDEZ UGALDE, A. y CARRASCO GÓMEZ, I., 2020. El «Vaso de los toros» de Écija (Sevilla): un nuevo ejemplo de cerámica figurada zoomorfa

orientalizante. *Boletín del Museo Arqueológico Nacional*, no. 39, pp. 27-52. ISSN 2341-3409.

We present the discovery of a vase with orientalizing figurative decoration and its archaeological context: an excavation in the southern slope of the Alcázar hill of Écija (Seville, Spain), site of the primitive settlement whose origins date back to the 9th century BC. This vase, decorated with figures of bulls and recently exhibited in the Museo Histórico Municipal de Écija helps to complete a known iconography of this kind of vessels and the chronology assigned to them.

FÍLTER RODRÍGUEZ, J.A. y QUILES GARCÍA, F., 2020. *El paisaje cultural de la ilustración en Andalucía: ciudad, territorio y patrimonio cultural en las Nuevas Poblaciones*. S.l.: Fundación de Municipios Pablo de Olavide. ISBN 978-84-12-01231-6.

FLORES PRADA, I., 2020. Veinte años de vigencia del modelo dual de prueba pericial en el proceso civil (breve balance y propuestas de reforma). *La prueba pericial a examen: propuestas de «lege ferenda»*. S.l.: J. M. Bosch, pp. 367-412. ISBN 978-84-12-21065-1.

FLORISTÁN IMÍZCOZ, A. y BRAVO LOZANO, C., 2020. Como hijos de un mismo padre. Conformación de identidades colectivas en los reinos hispanos (siglos XVI-XVII). *Hispania: Revista española de historia*, vol. 80, no. 266, pp. 679-688. ISSN 0018-2141.

GALÁN MUÑOZ, A., 2020. Unión Europea y represión penal del discurso terrorista: ¿Origen, excusa o posible referente restrictivo? *Estudios jurídicos en memoria de la Profesora Doctora Elena Górriz Royo*. S.l.: Tirant lo Blanch, pp. 351-388. ISBN 9788413780160.

GALMAN, A., ABDALA-ROBERTS, L., WARTALSKA, P., COVELO, F., RODER, G., SZENTECZKI, M.A., MOREIRA, X. y RASMANN, S., 2020. Elevational gradients in constitutive and induced oak defences based on individual traits and their correlated expression patterns. *OIKOS*, ISSN 0030-1299. DOI 10.1111/oik.07588.

Elevational gradients are useful ecological settings for revealing the biotic and abiotic drivers of plant trait variation and plant-insect interactions. However, most work focusing on plant defences has looked at individual traits and few studies have assessed multiple traits simultaneously, their correlated expression patterns, and abiotic factors associated with such patterns across elevations. To address this knowledge gap, we studied elevational variation in direct (phenolic compounds) and indirect (volatile organic compounds) constitutive defences and their inducibility after feeding by a specialist beetle *Altica quercetorum* in saplings of 18 wild populations of *Quercus pyrenaica*. We tested for: 1) clines in each defensive trait individually, 2) their patterns of correlated expression and 3) associations between any such clines and climatic factors. We found that constitutive direct defences (lignins and hydrolysable tannins) decreased with increasing elevation. We observed no elevational gradient for constitutive indirect defences (volatile organic compounds) or the inducibility of direct or

indirect defensive traits when looking at groups of compounds. However, at individual tree-level, increased induction of two monoterpenes (α -fenchene and camphene) at higher elevation was shown. Furthermore, we show a significant pattern of co-expression of constitutive and induced phenolics across populations, which weakened with increasing elevation. Finally, we found no evidence that climatic factors were associated with either individual or correlated trait expression patterns across elevations. Overall, these findings call for moving beyond elevational clines in individual plant defences, and argue that assessing elevational shifts in trait correlated expression patterns and their underlying mechanisms can increase our understanding of plant defence evolution and plant-herbivore interactions along environmental gradients.

GARCÍA COCA, O., 2020a. El registro de la jornada laboral y la privacidad de los trabajadores. *Vigilancia y control en el Derecho del Trabajo Digital*. S.I.: Aranzadi Thomson Reuters, pp. 327-352. ISBN 978-84-13-46551-7.

GARCÍA COCA, O., 2020b. La desconexión digital como garante del bienestar laboral. *Noticias CIELO*, no. 11, pp. 5- 0. ISSN 2532-1226.

GARCÍA RABADÁN, J. y MANUEL TRUJILLO, J., 2020. Las elecciones europeas en España: 32 años de elecciones directas al Parlamento Europeo. *Elecciones europeas 2019 [Recurso electrónico]: campaña electoral, voto y liderazgo*. S.I.: Asociación Latinoamericana de Investigadores en Campañas Electorales (ALICE): Tirant lo Blanch, pp. 71-96. ISBN 978-84-13-55052-7.

GARCÍA-ROMERO, I., NOGALES, J., DÍAZ, E., SANTERO, E. y FLORIANO, B., 2020. Understanding the metabolism of the tetralin degrader *Sphingopyxis granuli* strain TFA through genome-scale metabolic modelling. *Scientific Reports* [en línea], vol. 10, no. 1. ISSN 20452322 (ISSN). DOI 10.1038/s41598-020-65258-9.

Sphingopyxis granuli strain TFA is an α -proteobacterium that belongs to the sphingomonads, a group of bacteria well-known for its degradative capabilities and oligotrophic metabolism. Strain TFA is the only bacterium in which the mineralisation of the aromatic pollutant tetralin has been completely characterized at biochemical, genetic, and regulatory levels and the first *Sphingopyxis* characterised as facultative anaerobe. Here we report additional metabolic features of this α -proteobacterium using metabolic modelling and the functional integration of genomic and transcriptomic data. The genome-scale metabolic model (GEM) of strain TFA, which has been manually curated, includes information on 743 genes, 1114 metabolites and 1397 reactions. This represents the largest metabolic model for a member of the Sphingomonadales order thus far. The predictive potential of this model was validated against experimentally calculated growth rates on different carbon sources and under different growth conditions, including both aerobic and anaerobic metabolisms. Moreover, new carbon and nitrogen sources were predicted and experimentally validated. The constructed metabolic model was used as a platform for the incorporation of transcriptomic data, generating a more robust and accurate model. In silico flux analysis under different metabolic scenarios highlighted the

key role of the glyoxylate cycle in the central metabolism of strain TFA. © 2020, The Author(s).

GARRABOU SEGURA, R., GONZÁLEZ DE MOLINA, M., FERNÁNDEZ PRIETO, L. y GALLEGO MARTÍNEZ, D., 2020. Josep Pujol, una rememoración personal, historiográfica e histórica: Cabeza, sentido y sensación. *Historia agraria: Revista de agricultura e historia rural*, no. 82, pp. 1-6. ISSN 1139-1472.

Años y años de proyectos, congresos, seminarios, comidas, bebidas y conversaciones. Años de buenas ideas y de mejores publicaciones. Un método para debatir institucionalizado en la Sociedad de Estudios de Historia Agraria. Una forma de darnos noticias convertida en revista. Años de debates creativos y de referencias compartidas.

GERRARD, D.T., BERRY, A.A., JENNINGS, R.E., BIRKET, M.J., ZARRINEH, P., GARSTANG, M.G., WITHEY, S.L., SHORT, P., JIMÉNEZ-GANCEDO, S., FIRBAS, P.N., DONALDSON, I., SHARROCKS, A.D., HANLEY, K.P., HURLES, M.E., GOMEZ-SKARMETA, J.L., BOBOLA, N. y HANLEY, N.A., 2020. Dynamic changes in the epigenomic landscape regulate human organogenesis and link to developmental disorders. *Nature Communications* [en línea], vol. 11, no. 1. ISSN 20411723 (ISSN). DOI 10.1038/s41467-020-17305-2.

How the genome activates or silences transcriptional programmes governs organ formation. Little is known in human embryos undermining our ability to benchmark the fidelity of stem cell differentiation or cell programming, or interpret the pathogenicity of noncoding variation. Here, we study histone modifications across thirteen tissues during human organogenesis. We integrate the data with transcription to build an overview of how the human genome differentially regulates alternative organ fates including by repression. Promoters from nearly 20,000 genes partition into discrete states. Key developmental gene sets are actively repressed outside of the appropriate organ without obvious bivalency. Candidate enhancers, functional in zebrafish, allow imputation of tissue-specific and shared patterns of transcription factor binding. Overlaying more than 700 noncoding mutations from patients with developmental disorders allows correlation to unanticipated target genes. Taken together, the data provide a comprehensive genomic framework for investigating normal and abnormal human development. © 2020, The Author(s).

GIANINI, M., BAYONA-FELIU, A., SPROVIERO, D., BARROSO, S.I., CEREDA, C. y AGUILERA, A., 2020. TDP-43 mutations link Amyotrophic Lateral Sclerosis with R-loop homeostasis and R loop mediated DNA damage. *PLoS Genetics* [en línea], vol. 16, no. 12. ISSN 15537390 (ISSN). DOI 10.1371/journal.pgen.1009260.

TDP-43 is a DNA and RNA binding protein involved in RNA processing and with structural resemblance to heterogeneous ribonucleoproteins (hnRNPs), whose depletion sensitizes neurons to double strand DNA breaks (DSBs). Amyotrophic Lateral Sclerosis (ALS) is a neurodegenerative disorder, in which 97% of patients are familial and sporadic cases associated with TDP-43 proteinopathies and conditions clearing TDP-43 from the nucleus, but we know little about the molecular basis of the disease. After showing with the non-neuronal model of HeLa cells that TDP-43 depletion increases R loops and associated genome instability, we prove that mislocalization of mutated TDP-43 (A382T) in transfected neuronal SHSY5Y and lymphoblastoid cell lines (LCLs) from an ALS patient cause R-loop accumulation, and R loop-dependent increased DSBs and Fanconi Anemia repair centers. These results uncover a new role of TDP-43 in the control of co-transcriptional R-loops and the maintenance of genome integrity by preventing harmful R-loop accumulation. Our findings thus link TDP-43 pathology to increased R-loops and R loop-mediated DNA damage opening the possibility that R-loop modulation in TDP-43-defective cells might help develop ALS therapies. © 2020 Gianini et al. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

GÓMEZ GALÁN, J., VÁZQUEZ CANO, E., LÓPEZ MENESES, E. y BURGOS VIDELA, C., 2020. Realidad Aumentada (RA) y Procesos Didácticos en la Universidad: Estudio Descriptivo de Nuevas Aplicaciones para el Desarrollo de Competencias Digitales. *Psychology, Society & Education*, vol. 12, no. 3, pp. 275-290. ISSN 1989-709X. 10.25115/psy.e.v12i3.2826

The inclusion of new digital technologies at university requires an analysis of their advantages and disadvantages. It is necessary to establish experiences from two perspectives: didactic use to achieve different training objectives and the development of digital competences in students, and to allow them to obtain information for their correct employment. This research is based on immersive fieldwork with Augmented Reality (AR) through a sample of university students over two academic years. The methodology used in this exploratory work is descriptive and qualitative, for which different AR applications have been used. As a main result, it has been determined that the integration of these apps contributes significantly to the improvement of digital competence of university students while enhancing motivation in learning. However, the main drawback comes from its low presence in the classroom and the need for training of teachers

GÓMEZ, J.M., PERFECTTI, F., ARMAS, C., NARBONA, E., GONZÁLEZ-MEGÍAS, A., NAVARRO, L., DESOTO, L. y TORICES, R., 2020. Within-individual phenotypic plasticity in flowers fosters pollination niche shift. *Nature Communications* [en línea], vol. 11, no. 1. ISSN 20411723 (ISSN). DOI 10.1038/s41467-020-17875-1.

Phenotypic plasticity, the ability of a genotype of producing different phenotypes when exposed to different environments, may impact ecological interactions. We study here how within-individual plasticity in *Moricandia arvensis* flowers modifies its pollination niche. During spring, this plant produces large, cross-shaped, UV-reflecting lilac flowers attracting mostly long-tongued large bees. However, unlike most co-occurring species, *M. arvensis* keeps flowering during the hot, dry summer due to its plasticity in key vegetative traits. Changes in temperature and photoperiod in summer trigger changes in gene expression and the production of small, rounded, UV-absorbing white flowers that attract a different assemblage of generalist pollinators. This shift in pollination niche potentially allows successful reproduction in harsh conditions, facilitating *M. arvensis* to face anthropogenic perturbations and climate change. © 2020, The Author(s).

GONZÁLEZ-FLORES, Y.E., DE DIOS, R., REYES-RAMÍREZ, F. y SANTERO, E., 2020. Identification of two *fnr* genes and characterisation of their role in the anaerobic switch in *Sphingopyxis granuli* strain TFA. *Scientific Reports* [en línea], vol. 10, no. 1. ISSN 20452322 (ISSN). DOI 10.1038/s41598-020-77927-w.

Sphingopyxis granuli strain TFA is able to grow on the organic solvent tetralin as the only carbon and energy source. The aerobic catabolic pathway for tetralin, the genes involved and their regulation have been fully characterised. Unlike most of the bacteria belonging to the sphingomonads group, this strain is able to grow in anoxic conditions by respiring nitrate, though not nitrite, as the alternative electron acceptor. In this work, two *fnr*-like genes, *fnrN* and *fixK*, have been identified in strain TFA. Both genes are functional in *E. coli* and *Sphingopyxis granuli* although *fixK*, whose expression is apparently activated by *FnrN*, seems to be much less effective than *fnrN* in supporting anaerobic growth. Global transcriptomic analysis of a $\Delta fnrN \Delta fixK$ double mutant and identification of *Fnr* boxes have defined a minimal *Fnr* regulon in this bacterium. However, expression of a substantial number of anaerobically regulated genes was not affected in the double mutant. Additional regulators such *regBA*, whose expression is also activated by *Fnr*, might also be involved in the anaerobic response. Anaerobically induced stress response genes were not regulated by *Fnr* but apparently induced by stress conditions inherent to anaerobic growth, probably due to accumulation of nitrite and nitric oxide. © 2020, The Author(s).

GUERRERO-MARTÍNEZ, J.A., CEBALLOS-CHÁVEZ, M., KOEHLER, F., PEIRÓ, S. y REYES, J.C., 2020. TGF β promotes widespread enhancer chromatin opening and operates on genomic regulatory domains. *Nature Communications* [en línea], vol. 11, no. 1. ISSN 20411723 (ISSN). DOI 10.1038/s41467-020-19877-5.

The Transforming Growth Factor- β (TGF β) signaling pathway controls transcription by regulating enhancer activity. How TGF β -regulated enhancers are selected and what chromatin changes are associated with TGF β -dependent enhancers regulation are still unclear. Here we report that TGF β treatment triggers fast and widespread increase in chromatin accessibility in about 80% of the enhancers of

normal mouse mammary epithelial-gland cells, irrespective of whether they are activated, repressed or not regulated by TGF β . This enhancer opening depends on both the canonical and non-canonical TGF β pathways. Most TGF β -regulated genes are located around enhancers regulated in the same way, often creating domains of several co-regulated genes that we term TGF β regulatory domains (TRD). CRISPR-mediated inactivation of enhancers within TRDs impairs TGF β -dependent regulation of all co-regulated genes, demonstrating that enhancer targeting is more promiscuous than previously anticipated. The area of TRD influence is restricted by topologically associating domains (TADs) borders, causing a bias towards co-regulation within TADs. © 2020, The Author(s).

HERNÁNDEZ JIMÉNEZ, H.M., 2020a. Las licencias urbanísticas y las licencias de apertura. *Actualidad administrativa*, no. 11, pp. 11- 0. ISSN 1130-9946.

HERNÁNDEZ JIMÉNEZ, H.M., 2020b. Reparcelación inversa: cómo actuar cuando está regulada en la normativa autonómica y cuando no lo está. *Consultor de los ayuntamientos y de los juzgados: Revista técnica especializada en administración local y justicia municipal*, no. 12, pp. 21- 0. ISSN 0210-2161.

En la práctica son numerosos los supuestos donde la situación registral de las parcelas resultantes de un proyecto de reparcelación se ve afectada por la anulación judicial del propio proyecto de reparcelación, por la anulación del planeamiento que le sirve de base, o por la concurrencia en la reparcelación aprobada de una infracción de cualquier determinación del ordenamiento jurídico.

HERNÁNDEZ JIMÉNEZ, H.M., 2020c. Va de acrónimos: análisis FODA de las DR y CP. *Actualidad administrativa*, no. 11, pp. 10- 0. ISSN 1130-9946.

HERRERA-OLIVARES, A.M., GARCÍA-MANSO, J.M., RODRÍGUEZ-GÓMEZ, I., ARA, I., LUCIA, A. y SANTALLA, A., 2020. Long-term benefits of tailored exercise in severe sarcoidosis: A case report. *International Journal of Environmental Research and Public Health*, vol. 17, no. 24, pp. 1-14. ISSN 16617827 (ISSN). DOI 10.3390/ijerph17249512

Background: We studied the effects of a supervised, structured exercise program in a severe sarcoidosis patient. Methods: After being clinically stable for two years, a 52-year-old woman (stage IV, American Thoracic Society) who originally had irreversible lung fibrosis, pulmonary arterial hypertension (PAH), mild mitral insufficiency, and atrial dilatation, and was candidate for lung transplant, performed a combined high-intensity interval, high load resistance, and inspiratory muscle training for 4.5 years, and was tested (cardiopulmonary exercise testing and dual X-ray absorptiometry) every six months. Results: Cardiorespiratory fitness (CRF) and maximal pulmonary ventilation increased by 44% and 60%, respectively. Ventilatory efficiency also improved (decrease in the ventilatory equivalent for oxygen by 32% and 14% at the ventilatory threshold and respiratory compensation point, respectively). She improved New

York Heart Association (NYHA) class (from III to II), and cardiac alterations as well as PAH reversed so that she was not in need of lung transplantation anymore. Likewise, she suffered no more episodes of hemoptysis. Bone health was overall maintained despite the post-menopausal status and the corticoid treatment. Conclusions: A long-term combined exercise intervention safely contributed—at least partly—to improve CRF and NYHA class in a patient with severe sarcoidosis, suggesting a potential adjuvant effect to attenuate clinical manifestations. © 2020 by the authors. Licensee MDPI, Basel, Switzerland.

HERRERO, C., PINEDA, J., VILLAR, A. y ZAMBRANO, E., 2020. Tracking progress towards accessible, green and efficient energy: The Inclusive Green Energy index. *Applied Energy*, vol. 279. ISSN 03062619 (ISSN). DOI 10.1016/j.apenergy.2020.115691

This paper presents an index to evaluate progress in achieving the key dimensions of the Sustainable Development Goal 7, which entails ensuring “access to affordable, sustainable and modern energy for all.” The key aspects of this index, called the Inclusive Green Energy index, are: (i) it focuses on changes, rather than on levels, of the access, greenness and use of energy; (ii) it exhibits a decomposability feature that permits integrating several dimensions, both positive and negative, in a friendly way; and (iii) the evaluation of progress is made relative to some reference values (targets and thresholds) that can differ between countries. We calculate the Inclusive Green Energy index of progress for 157 countries using data from 2004 to 2014 on three indicators intended to capture inclusiveness, greenness, and efficiency of energy use. The results show that progress has, on average, been positive across the world, with more than 87 per cent of the sample of countries experiencing some degree of progress. However, progress is smaller for the Middle East and North African and Sub-Saharan African countries and it is negative for most of the countries that exhibit low levels of human development, as measured by the Human Development Index. Furthermore, fewer than one in four of the countries in the sample have an Inclusive Green Energy index commensurate with having met their targets. This suggests that much remains to be done globally with regard to being on track towards meeting their Sustainable Development Goal 7 by 2030. © 2020 The Authors

INFANTE RUIZ, F.J., 2020. La interpretación del contrato de fianza: implicaciones de la forma y de la regla sobre el carácter expreso. *Revista Jurídica del Notariado*, no. 110, pp. 189-222. ISSN 1132-0044.

JAENES SÁNCHEZ, J.C., HOSSIEN MEHRSAFAR, A., GARCÍA GONZÁLEZ, P., LÓPEZ GONZÁLEZ, J., COSTA AGUDO, M. y GARCÍA ORDOÑEZ, J., 2020. ¿Es el entrenamiento, un moderador de reacciones emocionales en el confinamiento por COVID-19, en deportistas de alto rendimiento? *Revista andaluza de medicina del deporte*, vol. 13, no. 3, pp. 120-121. ISSN 1888-7546. 10.33155/j.ramd.2020.06.003

La presente investigación, que forma parte de un estudio más amplio, se ha interesado

por saber cómo han reaccionado los deportistas españoles que compiten a nivel nacional e internacional, a la situación de confinamiento como consecuencia del Coronavirus (SARS-CoV-2), cuando los Centros de deporte de diferentes niveles se cerraron y tuvieron que volver, de repente, a casa. Con las competiciones suspendidas, sin saber que iba a ocurrir en el inmediato futuro. Tras el análisis de los datos obtenidos, se puede apuntar a que los deportistas han aceptado adecuadamente las razones del confinamiento, se han mantenido entrenando en buena medida, y sus reacciones emocionales no son muy extremas, se puede apuntar a que el entrenamiento, quizás la disciplina a la que están acostumbrados, ha ayudado a afrontar de manera bastante adecuada esta compleja situación.

LAFUENTE, A., DURÁN, J., DELGADO-BAQUERIZO, M., RECIO, J., GALLARDO, A., SINGH, B.K. y MAESTRE, F.T., 2020. Biocrusts Modulate Responses of Nitrous Oxide and Methane Soil Fluxes to Simulated Climate Change in a Mediterranean Dryland. *Ecosystems*, vol. 23, no. 8, pp. 1690-1701. ISSN 14329840 (ISSN). DOI 10.1007/s10021-020-00497-5

Little is known about the role of biocrusts in regulating the responses of N₂O and CH₄ fluxes to climate change in drylands. Here, we aim to help filling this knowledge gap by using an 8-year field experiment in central Spain where temperature and rainfall are being manipulated (~ 1.9°C warming, 33% rainfall reduction and their combination) in areas with and without well-developed biocrust communities. Areas with initial high cover of well-developed biocrusts showed lower N₂O emissions, enhanced CH₄ uptake and higher abundances of functional genes linked to N₂O and CH₄ fluxes compared with areas with poorly developed biocrusts. Moreover, biocrusts modulated the responses of gases emissions and related functional genes to warming and rainfall reductions. Specifically, we found under rainfall exclusion and its combination with warming a sharp reduction in N₂O fluxes (~ 96% and ~ 197%, respectively) only under well-developed biocrust cover. Warming and its combination with rainfall exclusion reduced CH₄ consumption in areas with initial low cover of well-developed biocrust, whereas rainfall exclusion enhanced CH₄ uptake only in areas with high initial cover of well-developed biocrusts. Similarly, the combination of warming and rainfall exclusion increased the abundance of the *nosZ* gene compared to the rainfall exclusion treatment and increased the abundance of the *pmoA* gene compared to the control, but only in areas with low biocrust cover. Taken together, our results indicate that well-developed biocrust communities could counteract the impact of warming and altered rainfall patterns on soil N₂O and CH₄ fluxes, highlighting their importance and the need to preserve them to minimize climate change impacts on drylands. © 2020, Springer Science+Business Media, LLC, part of Springer Nature.

LANGA-HERRERO, A. y ARENAL LORA, M.L., 2020. Origen y evolución de la cooperación internacional para el desarrollo. *Estudios contemporáneos sobre geopolítica, conflictos armados y cooperación internacional*. S.l.: Universidad

Internacional de Andalucía, pp. 465-488. ISBN 978-84-7993-360-9.

LANGE, S., VOLKHOLZ, J., GEIGER, T., ZHAO, F., VEGA, I., VELDKAMP, T., REYER, C.P.O., WARSZAWSKI, L., HUBER, V., JÄGERMEYR, J., SCHEWE, J., BRESCH, D.N., BÜCHNER, M., CHANG, J., CIAIS, P., DURY, M., EMANUEL, K., FOLBERTH, C., GERTEN, D., GOSLING, S.N., GRILLAKIS, M., HANASAKI, N., HENROT, A.-J., HICKLER, T., HONDA, Y., ITO, A., KHABAROV, N., KOUTROULIS, A., LIU, W., MÜLLER, C., NISHINA, K., OSTBERG, S., MÜLLER SCHMIED, H., SENEVIRATNE, S.I., STACKE, T., STEINKAMP, J., THIERY, W., WADA, Y., WILLNER, S., YANG, H., YOSHIKAWA, M., YUE, C. y FRIELER, K., 2020. Projecting Exposure to Extreme Climate Impact Events Across Six Event Categories and Three Spatial Scales. *Earth's Future* [en línea], vol. 8, no. 12. ISSN 23284277 (ISSN). DOI 10.1029/2020EF001616.

The extent and impact of climate-related extreme events depend on the underlying meteorological, hydrological, or climatological drivers as well as on human factors such as land use or population density. Here we quantify the pure effect of historical and future climate change on the exposure of land and population to extreme climate impact events using an unprecedentedly large ensemble of harmonized climate impact simulations from the Inter-Sectoral Impact Model Intercomparison Project phase 2b. Our results indicate that global warming has already more than doubled both the global land area and the global population annually exposed to all six categories of extreme events considered: river floods, tropical cyclones, crop failure, wildfires, droughts, and heatwaves. Global warming of 2°C relative to preindustrial conditions is projected to lead to a more than fivefold increase in cross-category aggregate exposure globally. Changes in exposure are unevenly distributed, with tropical and subtropical regions facing larger increases than higher latitudes. The largest increases in overall exposure are projected for the population of South Asia. ©2020. The Authors.

LEHMANN, C.P., JIMÉNEZ-MARTÍN, A., BRANZEI, D. y TERCERO, J.A., 2020. Prevention of unwanted recombination at damaged replication forks. *Current Genetics*, vol. 66, no. 6, pp. 1045-1051. ISSN 01728083 (ISSN). DOI 10.1007/s00294-020-01095-7

Homologous recombination is essential for the maintenance of genome integrity but must be strictly controlled to avoid dangerous outcomes that produce the opposite effect, genomic instability. During unperturbed chromosome replication, recombination is globally inhibited at ongoing DNA replication forks, which helps to prevent deleterious genomic rearrangements. This inhibition is carried out by Srs2, a helicase that binds to SUMOylated PCNA and has an anti-recombinogenic function at replication forks. However, at damaged stalled forks, Srs2 is counteracted and DNA lesion bypass can be achieved by recombination-mediated template switching. In budding yeast, template switching is dependent on Rad5. In the absence of this protein, replication forks stall in the presence of DNA lesions and cells die. Recently, we showed that in cells lacking Rad5 that are exposed to DNA damage or replicative stress, elimination of the conserved Mgs1/WRNIP1 ATPase allows

an alternative mode of DNA damage bypass that is driven by recombination and facilitates completion of chromosome replication and cell viability. We have proposed that Mgs1 is important to prevent a potentially harmful salvage pathway of recombination at damaged stalled forks. In this review, we summarize our current understanding of how unwanted recombination is prevented at damaged stalled replication forks. © 2020, The Author(s).

LÓPEZ DE LEMUS, P.R., 2020. Arts. 19 a 27. *Comentarios a la Nueva Ley de Protección de Datos: Ley Orgánica 3/2018, de 5 de diciembre, de Protección de Datos Personales y Garantía de los Derechos Digitales*. S.l.: Dilex, pp. 5-0. ISBN 978-84-92754-52-6.

LÓPEZ-ESCOBAR, B., FERNÁNDEZ-TORRES, R., VARGAS-LÓPEZ, V., VILLAR-NAVARRO, M., RYBKINA, T., RIVAS-INFANTE, E., HERNÁNDEZ-VIÑAS, A., ÁLVAREZ DEL VAYO, C., CARO-VEGA, J., SÁNCHEZ-ALCÁZAR, J.A., GONZÁLEZ-MENESES, A., CARRIÓN, M.Á. y YBOT-GONZÁLEZ, P., 2020. Lacosamide intake during pregnancy increases the incidence of foetal malformations and symptoms associated with schizophrenia in the offspring of mice. *Scientific Reports* [en línea], vol. 10, no. 1. ISSN 20452322 (ISSN). DOI 10.1038/s41598-020-64626-9.

The use of first and second generation antiepileptic drugs during pregnancy doubles the risk of major congenital malformations and other teratogenic defects. Lacosamide (LCM) is a third-generation antiepileptic drug that interacts with collapsing response mediator protein 2, a protein that has been associated with neurodevelopmental diseases like schizophrenia. The aim of this study was to test the potential teratogenic effects of LCM on developing embryos and its effects on behavioural/histological alterations in adult mice. We administered LCM to pregnant mice, assessing its presence, and that of related compounds, in the mothers' serum and in embryonic tissues using liquid chromatography coupled to quadrupole/time of flight mass spectrometry detection. Embryo morphology was evaluated, and immunohistochemistry was performed on adult offspring. Behavioural studies were carried out during the first two postnatal weeks and on adult mice. We found a high incidence of embryonic lethality and malformations in mice exposed to LCM during embryonic development. Neonatal mice born to dams treated with LCM during gestation displayed clear psychomotor delay and behavioural and morphological alterations in the prefrontal cortex, hippocampus and amygdala that were associated with behaviours associated with schizophrenia spectrum disorders in adulthood. We conclude that LCM and its metabolites may have teratogenic effects on the developing embryos, reflected in embryonic lethality and malformations, as well as behavioural and histological alterations in adult mice that resemble those presented by patients with schizophrenia. © 2020, The Author(s).

LÓPEZ-GONZÁLEZ, P.J., GARCÍA-GARCÍA, F.J. y NÚÑEZ FLORES, M., 2020. Molecular phylogeny and divergence time estimates in pennatulaceans (Cnidaria: Octocorallia: Pennatulacea). *Scientia Marina*, vol. 84, no. 4, pp. 317-

330. ISSN 0214-8358. 10.3989/scimar.05067.28^a

Pennatulaceans are an important component of benthic marine communities usually related to soft bottoms. Despite their important ecological role, as yet little is known about their origin and divergence time. The first attempts to establish phylogenetic relationships among genera date from the early 20th century, when only morphological characters were available. In the last decade, phylogenetic analyses based on mitochondrial DNA sequences from a selected number of species have proposed a different hypothetical ancestor for this group, but their intergeneric relationships remain obscure. The present study is based on a combination of mitochondrial and nuclear markers (mtMutS, Cox1 and 28S rDNA), adding new molecular information about the phylogenetic relationships among the pennatulacean genera, including 38 new sequences belonging to 13 different species. Some of the phylogenetic relationships inferred in the present study question the current classification of sea pens based on morphology (at different taxonomic levels), clearly indicating that the two main groups Sessiliflorae and Subselliiflorae, some of their main families (e.g. Pennatulidae, Umbellulidae, Virgulariidae) and some genera (e.g. Umbellula, Veretillum) are non-monophyletic. In addition, the veretillids, traditionally considered the most primitive pennatulaceans, are not shown as the earliest-diverging taxon. Moreover, an analysis of divergence time performed here suggested that the origin of the pennatulaceans dates from the Lower Cretaceous (Berriasian, ~144 Ma), in agreement with their sparsely known fossil record, while the initial divergence of most extant genera occurred in the Oligocene and Miocene times.

LOTURCO, I., MCGUIGAN, M.R., SUCHOMEL, T., FREITAS, T.T., RODRÍGUEZ-ROSELL, D., PEREIRA, L.A. y PAREJA-BLANCO, F., 2020. Determining the One Repetition Maximum in the Ballistic Bench Press Exercise. *Journal of strength and conditioning research*, vol. 34, no. 12, pp. 3321-3325. ISSN 15334287 (ISSN). DOI 10.1519/JSC.0000000000003845

Loturco, I, McGuigan, MR, Suchomel, T, Freitas, TT, Rodríguez-Rosell, D, Pereira, LA, and Pareja-Blanco, F. Determining the one repetition maximum in the ballistic bench press exercise. *J Strength Cond Res* 34(12): 3321-3325, 2020-The purpose of this study was to determine the relative load (% of one repetition maximum [1RM]) at which the concentric action becomes entirely propulsive in the bench press (BP) exercise and verify whether this relative load varies between athletes with different strength levels. Twenty-eight professional athletes (Olympic boxers, professional mixed martial arts fighters, and elite rugby players) performed a progressive loading test up to their 1RM in the BP exercise (BP-1RM). Athletes were ordered according to their relative strength values and equally divided into 2 different groups: «low» (≤ 1.34) and «high» (≥ 1.38) strength levels. An independent t-test was used to compare the variables between groups. Significance level was set at $p < 0.05$. No significant differences were observed between the groups for the mean propulsive velocity attained at 1RM and for the maximum load that required braking action during the execution of the traditional BP exercise (effect size = 0.27 and 0.15, respectively; $p > 0.05$). Our results revealed that at 80% 1RM the concentric action can already be considered as 100% propulsive in the BP exercise. Importantly, this occurrence was independent of strength level. Therefore, this relative strength measure (i.e., 80% BP-1RM) may be used as a

reference for the 1RM in the BP throw.

LUNA, Á., PALMA, A., SANZ-AGUILAR, A., TELLA, J.L. y CARRETE, M., 2020. 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* [en línea], vol. 10, no. 1. ISSN 20452322 (ISSN). 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), shy rural individuals and birds breeding at higher conspecific densities having a higher probability of changing their breeding sites between successive years than their counterparts ($R^2 = 0.16$). Habitat, and breeding success and productivity in the previous year received strong support to explain variability in the dispersal distance of all individuals ($R^2 = 0.46$), 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).

MACARRO OSUNA, J.M., 2020. Fiscalidad internacional en tiempos de pandemia. *Retos jurídicos ante la crisis del COVID-19*. S.l.: Wolters Kluwer, pp. 197-216. ISBN 9788418349126.

MANUEL TRUJILLO, J. y GARCÍA HÍPOLA, G., 2020. Entre lo nacional y lo comunitario, de nuevo: situándolos resultados de las elecciones al Parlamento Europeo de 2019. *Elecciones europeas 2019 [Recurso electrónico]: campaña electoral, voto y liderazgo*. S.l.: Asociación Latinoamericana de Investigadores en Campañas Electorales (ALICE): Tirant lo Blanch, pp. 37-69. ISBN 978-84-13-55052-7.

MÁRQUEZ RODRÍGUEZ, J., 2020. *Eurydema ventralis Kolenati*, 1846 in the province of Seville, SW Spain (Heteroptera: Pentatomidae: Strachiini). *Archivos Entomológicos*, no. 22, pp. 255-256. ISSN 1989-6581.

MARTÍN RODRÍGUEZ, J.M., 2020a. La modificación de los pagos fraccionados operada mediante el Real Decreto-Ley 2/2016 es inconstitucional, ¿y ahora qué? Análisis de la STC 78/2020, de 1 de julio. *Nueva fiscalidad*, no. 3, pp. 293-308. ISSN 1696-0173.

MARTÍN RODRÍGUEZ, J.M., 2020b. La transformación del principio ne bis in idem a la luz de la reciente jurisprudencia del TEDH y el TJUE en materia tributaria. Valoración de nuestro ordenamiento interno. *Derechos fundamentales y tributación. Monográfico Nueva Fiscalidad*. S.l.: Dykinson, pp. 207-253. ISBN 9788413249636.

MARTÍN RODRÍGUEZ, J.M., 2020c. Medidas fiscales en España frente a la crisis del COVID-19.: Respuesta inmediata a los problemas de liquidez y propuestas para

garantizar la sostenibilidad en el medio y largo plazo. *Retos jurídicos ante la crisis del COVID-19*. S.l.: Wolters Kluwer, pp. 139-158. ISBN 9,7884183491e+012.

MARTÍNEZ-FERRER, B., ROMERO-ABRIO, A., LEÓN-MORENO, C., VILLARREAL-GONZÁLEZ, M.E. y MUSITU-FERRER, D., 2020. Suicidal Ideation, Psychological Distress and Child-To-Parent Violence: A Gender Analysis. *Frontiers in Psychology* [en línea], vol. 11. ISSN 16641078 (ISSN). DOI 10.3389/fpsyg.2020.575388.

Child-to-parent violence (CPV) is a growing public health problem with consequences for perpetrators and families. Most research has focused on individual and family risk factors. However, little is known about its links with individual outcomes. The aim of this study was to analyze the relationships between CPV and psychological distress, suicidal ideation, and self-concept in school-aged adolescents, taking into account the gender perspective. A study was conducted with a sample of 8,115 adolescents, aged between 11 and 16 years ($M = 13.34$; $SD = 1.04$) from the State of Nuevo León, Mexico. A MANOVA 3×2 was performed to analyze the data. The results revealed that adolescents involved in CPV showed higher levels of psychological distress and suicidal ideation and lower levels of family and social self-concept. It was also observed that girls with higher levels of CPV scored the lowest levels of psychological distress and suicidal ideation, as well as the lowest levels of family self-concept. The findings highlight that adolescents and especially girls involved in CPV also report internal maladjustment outcomes. Finally, the results and their implications for research and intervention with adolescents involved in CPV are discussed. © Copyright © 2020 Martínez-Ferrer, Romero-Abrio, León-Moreno, Villarreal-González and Musitu-Ferrer.

MARTÍNEZ-JIMÉNEZ, L., 2020. Neoliberal postfeminism—or some other sexier thing: gender and populism in the Spanish context. *European Journal of Cultural Studies*, vol. 23, no. 6, pp. 998-1004. ISSN 13675494 (ISSN). DOI 10.1177/1367549420902804

The project of developing a contemporary critical populism requires us to discriminate between uncritical populisms that ultimately reinforce unequal social relations, and popular discourses capable of generating counterhegemonic projects. In the field of popular feminisms, this means discriminating between the pseudo-feminist distortions that saturate popular culture and the feminisms that are radically committed to social justice. From this point of view, what has been called neoliberal feminism or postfeminism are clear examples of culturally populist feminisms can be developed in decidedly uncritical ways. As a new populist narrative, neoliberal postfeminism, has gobbled up feminism to regurgitate it as some other thing, which is sexier and more profitable in political, commercial and symbolical terms, and which adapts the rhetoric of neoliberal entrepreneurial subjectivities – free, empowered, sovereign of themselves and their choices – to these new post-recessionary times of popularised feminism. Against this, and with a particular focus on the Spanish context, this paper makes an intersectional case for a truly critical popular/populist feminism, capable of normalising the values of equality,

justice, diversity, wellbeing and freedom, as well as of developing a progressive social project for everyone. © The Author(s) 2020.

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* [en línea], vol. 10, no. 1. ISSN 20452322 (ISSN). 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 diacylglycerols (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).

MEHTA, D., GHAREMANI, M., PEREZ-FERNANDEZ, M., TAN, M., SCHLAPFER, P., PLAXTON, W.C. y UHRIG, R.G., 2020. Phosphate and phosphite have a differential impact on the proteome and phosphoproteome of *Arabidopsis* suspension cell cultures. *PLANT JOURNAL*, ISSN 0960-7412. DOI 10.1111/tpj.15078.

Phosphorus absorbed in the form of phosphate ($H_2PO_4^-$) is an essential but limiting macronutrient for plant growth and agricultural productivity. A comprehensive understanding of how plants respond to phosphate starvation is essential for the development of more phosphate-efficient crops. Here we employed label-free proteomics and phosphoproteomics to quantify protein-level responses to 48 h of phosphate versus phosphite ($H_2PO_3^-$) resupply to phosphate-deprived

Arabidopsis thaliana suspension cells. Phosphite is similarly sensed, taken up and transported by plant cells as phosphate, but cannot be metabolized or used as a nutrient. Phosphite is thus a useful tool for differentiating between non-specific processes related to phosphate sensing and transport and specific responses to phosphorus nutrition. We found that responses to phosphate versus phosphite resupply occurred mainly at the level of protein phosphorylation, complemented by limited changes in protein abundance, primarily in protein translation, phosphate transport and scavenging, and central metabolism proteins. Altered phosphorylation of proteins involved in core processes such as translation, RNA splicing and kinase signaling was especially important. We also found differential phosphorylation in response to phosphate and phosphite in 69 proteins, including splicing factors, translation factors, the PHT1;4 phosphate transporter and the HAT1 histone acetyltransferase - potential phospho-switches signaling changes in phosphorus nutrition. Our study illuminates several new aspects of the phosphate starvation response and identifies important targets for further investigation and potential crop improvement.

MEJÍAS ESTÉVEZ, M., 2020. Atención primaria y domiciliaria al final de la vida en tiempos de COVID-19. *Semergen: revista española de medicina de familia*, no. 8, pp. 507-509. ISSN 1138-3593. 10.1016/j.semERG.2020.08.003

MERINO JARA, I. y MIGUEL MARTÍN RODRÍGUEZ, J., 2020. Impuesto sobre la Renta de las Personas Físicas (I). *Derecho tributario. Parte especial*. S.I.: Tecnos, pp. 151-189. ISBN 978-84-309-7994-3.

MONTES-FERNÁNDEZ, M. ^aA., PÉREZ-VILLEGAS, E.M., GARCIA-GONZALO, F.R., PEDRAZZA, L., ROSA, J.L., DE TOLEDO, G.A. y ARMENGOL, J.A., 2020. The HERC1 ubiquitin ligase regulates presynaptic membrane dynamics of central synapses. *Scientific Reports* [en línea], vol. 10, no. 1. ISSN 20452322 (ISSN). DOI 10.1038/s41598-020-68970-8.

HERC1 is a ubiquitin ligase protein, which, when mutated, induces several malformations and intellectual disability in humans. The animal model of HERC1 mutation is the mouse *tambaleante* characterized by: (1) overproduction of the protein; (2) cerebellar Purkinje cells death by autophagy; (3) dysregulation of autophagy in spinal cord motor neurons, and CA3 and neocortical pyramidal neurons; (4) impairment of associative learning, linked to altered spinogenesis and absence of LTP in the lateral amygdala; and, (5) motor impairment due to delayed action potential transmission, decrease synaptic transmission efficiency and altered myelination in the peripheral nervous system. To investigate the putative role of HERC1 in the presynaptic dynamics we have performed a series of experiments in cultured *tambaleante* hippocampal neurons by using transmission electron microscopy, FM1-43 destaining and immunocytochemistry. Our results show: (1) a decrease in the number of synaptic vesicles; (2) reduced active zones; (3) less clathrin immunoreactivity and less presynaptic endings over the hippocampal main dendritic trees; which contrast with (4) a greater number of endosomes and autophagosomes in the presynaptic endings of the *tambaleante* neurons relative to control ones. Altogether these results show an important role of HERC1 in the regulation of

presynaptic membrane dynamics. © 2020, The Author(s).

MORATÓ AGRAFOJO, Y., 2020. Siri Hustvedt en cinco movimientos. *Turia: Revista cultural*, no. 133, pp. 19-27. ISSN 0213-4373.

MORENO FERNANDEZ-AYALA, D.J., NAVAS, P. y LOPEZ-LLUCH, G., 2020. Age-related mitochondrial dysfunction as a key factor in COVID-19 disease. *EXPERIMENTAL GERONTOLOGY*, vol. 142. ISSN 0531-5565. DOI 10.1016/j.exger.2020.111147.

SARS-CoV-2 causes a severe pneumonia (COVID-19) that affects essentially elderly people. In COVID-19, macrophage infiltration into the lung causes a rapid and intense cytokine storm leading finally to a multi organ failure and death. Comorbidities such as metabolic syndrome, obesity, type 2 diabetes, lung and cardiovascular diseases, all of them age-associated diseases, increase the severity and lethality of COVID-19. Mitochondrial dysfunction is one of the hallmarks of aging and COVID-19 risk factors. Dysfunctional mitochondria is associated with defective immunological response to viral infections and chronic inflammation. This review discuss how mitochondrial dysfunction is associated with defective immune response in aging and different age related diseases, and with many of the comorbidities associated with poor prognosis in the progression of COVID19. We suggest here that chronic inflammation caused by mitochondrial dysfunction is responsible of the explosive release of inflammatory cytokines causing severe pneumonia, multi-organ failure and finally death in COVID-19 patients. Preventive treatments based on therapies improving mitochondrial turnover, dynamics and activity would be essential to protect against COVID-19 severity.

MORENO-TERNERO, J.D., TSAY, M.-H. y YEH, C.-H., 2020. A strategic justification of the Talmud rule based on lower and upper bounds. *International Journal of Game Theory*, vol. 49, no. 4, pp. 1045-1057. ISSN 00207276 (ISSN). DOI 10.1007/s00182-020-00727-z

We follow the Nash program to provide a new strategic justification of the Talmud rule in bankruptcy problems. The design of our game is based on a focal axiomatization of the rule, which combines consistency with meaningful lower and upper bounds to all creditors. Our game actually considers bilateral negotiations, inspired by those bounds, which are extended to an arbitrary number of creditors, by means of consistency. © 2020, Springer-Verlag GmbH Germany, part of Springer Nature.

MUÑOZ-LÓPEZ, A. y NARANJO-ORELLANA, J., 2020. Individual versus team heart rate variability responsiveness analyses in a national soccer team during training camps. *Scientific Reports* [en línea], vol. 10, no. 1. ISSN 20452322 (ISSN). DOI 10.1038/s41598-020-68698-5.

Heart rate variability (HRV) analyses can be performed using group or individual

changes. Individual changes could be of potential interest during training camps for national soccer teams. The purpose of this study was to compare whether analysis of individual daily HRV could detect changes in cardiac autonomic responses during training camps for national soccer teams. During two different training camps, 34 professional soccer players were monitored daily over 9 days, using heart rate monitors. Players were divided into First Eleven (those who participated in the main squad) or Reserves. Daily HRV was individually analyzed using a day-to-day method or a baseline (days prior to first match) method, using the smallest worthwhile change and the typical error in the estimate to establish a trivial (random change) zone. Group changes were also analyzed using an ANOVA one-way repeated measures test. Players' responsiveness was classified as High-, Low- or Non-response depending on individual changes. Both analyses showed substantial daily individual changes after playing a soccer match, regardless of the group. However, group changes showed that only First Eleven players had significant changes after playing a soccer match. In conclusion, individual daily HRV analyses are useful in detecting individual changes in professional soccer players. © 2020, The Author(s).

NARANJO ORELLANA, J., PARDOS MAINER, E., NIETO JIMENEZ, C., RUSO ÁLVAREZ, J.F. y SCHNETTLER RAMÍREZ, M., 2020. Basal and post-exercise heart rate variability correlates with training load in endurance athletes. *Revista andaluza de medicina del deporte*, vol. 13, no. 2, pp. 71-75. ISSN 1888-7546. 10.33155/j.rmd.2020.02.011

Objective: Heart rate variability has been proposed as a valid method to examine the individual response to training load in endurance athletes. Thanks to this tool, the relationship between basal and post-exercise Heart rate variability measurements can be analyzed during a microcycle (one week) using straight values or their coefficients of variation. Method: Ten amateur endurance athletes (n = 5 men, n = 5 women) were monitored during a 7-day microcycle that included three road-cycling sessions, two running sessions and two trail-running sessions. The RR series were measured for 5 minutes upon wake up and after training, in a seating position, using a chest strap. Results: Basal and post-exercise Heart rate variability measurements showed high correlation when weekly mean values were used, very similar to when coefficients of variation values were used. In women, the root mean square of successive differences (RMSSD) was: $r = 0.73$; RMSSD coefficients of variation (RMSSDcv) was: $r = 0.66$; natural logarithm (Ln) RMSSD: $r = 0.68$; LnRMSSDcv: $r = 0.79$; and in men it RMSSD was: $r = 0.78$; RMSSDcv: $r = -0.62$; LnRMSSD: $r = 0.75$; LnRMSSDcv: $r = -0.73$. Conclusion: the relationship between these two measurements could be useful to program the training loads of the following microcycle.

NAVAS-PÉREZ, E., VICENTE-GARCÍA, C., MIRRA, S., BURGUERA, D., FERNÁNDEZ-CASTILLO, N., FERRÁN, J.L., LÓPEZ-MAYORGA, M., ALAIZ-NOYA, M., SUÁREZ-PEREIRA, I., ANTÓN-GALINDO, E., ULLOA, F., HERRERA-ÚBEDA, C., CUSCÓ, P., FALCÓN-MOYA, R., RODRÍGUEZ-MORENO, A., D'ANIELLO, S., CORMAND, B., MARFANY, G., SORIANO,

E., CARRIÓN, Á.M., CARVAJAL, J.J. y GARCIA-FERNÁNDEZ, J., 2020. Characterization of an eutherian gene cluster generated after transposon domestication identifies Bex3 as relevant for advanced neurological functions. *Genome Biology* [en línea], vol. 21, no. 1. ISSN 14747596 (ISSN). DOI 10.1186/s13059-020-02172-3.

Background: One of the most unusual sources of phylogenetically restricted genes is the molecular domestication of transposable elements into a host genome as functional genes. Although these kinds of events are sometimes at the core of key macroevolutionary changes, their origin and organismal function are generally poorly understood. **Results:** Here, we identify several previously unreported transposable element domestication events in the human and mouse genomes. Among them, we find a remarkable molecular domestication that gave rise to a multigenic family in placental mammals, the Bex/Tceal gene cluster. These genes, which act as hub proteins within diverse signaling pathways, have been associated with neurological features of human patients carrying genomic microdeletions in chromosome X. The Bex/Tceal genes display neural-enriched patterns and are differentially expressed in human neurological disorders, such as autism and schizophrenia. Two different murine alleles of the cluster member Bex3 display morphological and physiopathological brain modifications, such as reduced interneuron number and hippocampal electrophysiological imbalance, alterations that translate into distinct behavioral phenotypes. **Conclusions:** We provide an in-depth understanding of the emergence of a gene cluster that originated by transposon domestication and gene duplication at the origin of placental mammals, an evolutionary process that transformed a non-functional transposon sequence into novel components of the eutherian genome. These genes were integrated into existing signaling pathways involved in the development, maintenance, and function of the CNS in eutherians. At least one of its members, Bex3, is relevant for higher brain functions in placental mammals and may be involved in human neurological disorders. © 2020, The Author(s).

NÚÑEZ, J.M.R. y GONZÁLEZ, R.N., 2020. “Genderized” public administrations? *Revista Derecho del Estado*, no. 47, pp. 343-369. ISSN 01229893 (ISSN). DOI 10.18601/01229893.n47.11

Actions designed by States to achieve equality between men and women seek to develop normative instruments and gender policies to break down structural inequalities. This paper, which examines the case study of Spain’s Public Administration, reviews the measures adopted in terms of access to public sector employment and staffing policy during the democratic period, in order answer the questions: When and how were they designed? Which political actors have been driving them? What stage are we at now? The ultimate aim is to identify the advances made and specific measures implemented, bringing to the debate the general and contextual elements that are hampering the effective achievement of equality. The study of the Spanish Public Administration could exemplify a journey, in particular but very illustrative, of the difficulties, challenges and strategies in favor of equality and public policies with a gender perspective. © 2020 Universidad Externado de Colombia. All rights reserved.

NUVIALA NUVIALA, A., GRAO CRUCES, A., IZQUIERDO GÓMEZ, R. y BLANCO LUENGO, D., 2020. Diseño y validación de una escala para medir en profesores de Educación Física el uso responsable de las pruebas de condición física (FITPET). *Cultura, ciencia y deporte*, vol. 15, no. 46, pp. 551-560. ISSN 1696-5043. 10.12800/ccd.v15i46.1646

El presente estudio tuvo como objetivo diseñar y validar una escala para evaluar en profesores de Educación Física el uso responsable de las pruebas de condición física relacionadas con la salud. Método: participaron un total de 374 docentes de secundaria (266 hombres y 108 mujeres) de centros educativos pertenecientes a las ocho provincias andaluzas, con edades comprendidas entre 24 y 67 años (41.92 ± 9.24 años). Resultados: en primer lugar, se diseñó un instrumento de 26 ítems, que obtuvo valores de correlación ítem-total $\geq .35$, exceptuando 5 ítems. Posteriormente, se evaluó la estructura interna de la escala, resultando esta pertinente. El análisis estadístico de los ítems y el posterior análisis factorial exploratorio dio como resultado cinco factores (orientación del resultado, uso de estilos participativos, el enfoque educativo, rigor metodológico y refuerzo positivo), con correlaciones positivas y significativas, constatadas mediante análisis factorial confirmatorio, pruebas de invarianza factorial, así como de fiabilidad y validez convergente y discriminante. Los resultados del análisis de propiedades psicométricas de la escala fueron adecuados y permitieron ofrecer un instrumento ad hoc de 15 ítems, con moderados valores de validez y fiabilidad, acreditando su utilidad para valorar en profesores de Educación Física el uso responsable de las pruebas de condición física en sus clases.====The aim of this study was to design and validate a scale that would allow the evaluation in Physical Education teachers the responsible use of physical fitness tests related to health. Method: The sample was composed of 374 secondary school teachers (266 men and 108 women), from educational centers belonging to the eight Andalusian provinces, aged between 24 and 67 years (41.92 ± 9.24). Results: Firstly, a 26-item instrument was designed, which obtained item-total correlation values of $\geq .35$, except for 5 items. Then, the internal structure of the scale was evaluated and proved to be relevant. The statistical analysis of the items and the subsequent exploratory factor analysis resulted in five factors (orientation of the result, use of participatory styles, the educational approach, methodological rigor, and positive reinforcement), with positive and significant correlations, confirmed by confirmatory factor analysis, factor invariance tests, as well as reliability and convergent and discriminant validity and reliability. The results of the analysis of psychometric properties of the scale were moderate and allowed us to offer a valid and reliable 15-item an ad hoc instrument, with adequate values of validity and reliability, proving its usefulness the evaluation in Physical Education teachers the responsible use of physical fitness tests in their classes.

OÑATE RUBALCABA, P. y MANUEL TRUJILLO, J., 2020. Eficacia de las cuotas de género y paridad en el Congreso de los Diputados y el Senado. *Sistemas electorales en España: caracterización, efectos, rendimientos y propuestas de reforma*. S.l.: Centro de Investigaciones Sociológicas (CIS), pp. 95-119. ISBN 9788474768275.

PABLO SERRANO, A. de, 2020. Hacia la responsabilidad (penal) de empresas multinacionales por corrupción medioambiental. *Criminalidad en un mundo global: Criminalidad de empresa, transnacional, organizada y recuperación de activos*. S.l.: Tirant lo Blanch, pp. 93-129. ISBN 978-84-13-55194-4.

PARADA, S.P., BARRERA, C., BURBI, S. y ROCHA, D., 2020. Agroforestry in the andean araucanía: An experience of agroecological transition with women from cherquén in Southern Chile. *Sustainability (Switzerland)*, vol. 12, no. 24, pp. 1-24. ISSN 20711050 (ISSN). DOI 10.3390/su122410401

Agroforestry is a practice used for the establishment of integrated production systems as an economic alternative. In Chile, the most significant experiences have been developed with rainfed farmers in the central zone, where the arboreal component is the predominant one. This study analyses the agroecological transition process of a group of women from the Andean foothills of southern Chile in the establishment of an agroforestry system based on rosehip. The field work was developed in 4 stages: (1) problem survey and definition of strategy; (2) identification of an alternative market; (3) perception of the data collection work and; (4) implementation of a demonstration unit; which included (a) workshops and meetings for discussion, reflection, and feedback on what had been done and to agree on the actions to be implemented; and (b) the development of different activities to implement the actions agreed in the workshops and meetings. The results of this research show that agroecological projects open doors to the participation, visibility, and valorization of women's work while moving towards sustainable agroforestry systems integrated into the landscape. © 2020 by the authors. Licensee MDPI, Basel, Switzerland.

PAREJA-BLANCO, F., WALKER, S. y HAKKINEN, K., 2020. Validity of Using Velocity to Estimate Intensity in Resistance Exercises in Men and Women. *INTERNATIONAL JOURNAL OF SPORTS MEDICINE*, vol. 41, no. 14, pp. 1047-1055. ISSN 0172-4622. DOI 10.1055/a-1171-2287.

This study aimed to examine the validity of using bar velocity to estimate relative load in squat and bench-press exercises for both young men and women. Twenty-five men and 25 women performed a progressive loading test up to 1-RM in the squat and bench-press exercises, which were repeated after 2-weeks. Relationships between mean propulsive velocity and %1-RM were analysed. A second-order polynomial equation for predicting the corresponding velocity of each percentage of 1-RM was developed for men (validation). This equation was then applied in women (cross-validation). Moreover, a specific equation for women was developed (validation) and was also applied in a sub-sample of women (cross-validation). Close relationships (R^2 : 0.91-0.95) between bar velocity and relative load were observed in both sexes for squat and bench press. Men's equation applied to women showed a high level of agreement, although lower bias and higher level of agreement was observed when a sex-specific equation was applied in women, both validation and cross-validation samples. In conclusion, lifting velocity can be used to accurately prescribe the relative load regardless of sex in both upper-body and lower-body exercises, although when estimating load from velocity measures it will be necessary to use the sex-

specific equation for each exercise.

PÁRRAGA MONTILLA, J.A., JIMÉNEZ REYES, P., CORDERO RODRÍGUEZ, Y., GARCÍA RAMOS, A., GONZÁLEZ HERNÁNDEZ, J.M. y CASTAÑO ZAMBUDIO, A., 2020. Acute and Delayed Effects of a Resistance Training Session Leading to Muscular Failure on Mechanical, Metabolic, and Perceptual Responses. *Journal of strength and conditioning research: the research journal of the NSCA*, vol. 34, no. 8, pp. 2220-2226. ISSN 1064-8011.

This study explored the acute and delayed (24 and 48 hours after exercise) effects of a resistance training session leading to muscular failure. Eleven resistance-trained men completed a training session consisting on 3 sets of repetitions to failure during the back-squat exercise performed at the maximum possible speed with a load equivalent to a mean propulsive velocity (MPV) of 1 m[s]⁻¹ ([almost equal to]60% of 1 repetition maximum). A number of mechanical (number of repetitions and starting MPV of the set, MPV achieved against the 1MPV load, countermovement jump [CMJ] height, and handgrip strength), metabolic (lactate, uric acid, and ammonia concentrations), and perceptual (OMNI-RES perceived exertion) variables were measured. The results revealed (a) a decrease of 38.7% in set 2 and 54.7% in set 3 of the number of repetitions performed compared with the first set ($p < 0.05$), (b) a reduction in the MPV of the repetitions and an increase in lactate concentration and OMNI-RES values with the succession of sets ($p < 0.05$), (c) comparable decrements in CMJ height after the 3 sets (25-32%), (d) a decrease in CMJ height ($p < 0.05$; 6.7-7.9%) and in the MPV attained against the 1MPV load ($p < 0.05$; 13-14%) after 24 and 48 hours of completing the training session, but no significant changes were observed in handgrip strength ($p > 0.05$; <2%), and (e) uric acid and ammonia concentrations above the basal levels ($p < 0.05$). The large decrements in mechanical performance together with the high metabolic stress discourage the frequent use of resistance training sessions leading to muscular failure.

PASAMAR, S., 2020. ¿Por qué es necesario un sistema de conciliación de la vida profesional y personal fuerte? *Management Letters / Cuadernos de Gestión*, vol. 20, no. 3, pp. 99-107. ISSN 1131-6837. 10.5295/cdg.180903sp

Purpose. This paper describes the concept of “strength of the work-life balance system” as a new and more advanced form of involvement in work-life issues, which lead to a stronger relationship with positive outcomes such as performance, commitment or satisfaction. Design/methodology/approach. From a theoretical point of view, and following Bowen and Ostroff (2004; 2016)’s framework of strength, all the features of a strong work-life balance system are described. We define the characteristics that allow the work-life balance system to create strong situations in which clear messages are sent to employees about what appropriate behavior is. Findings. Offering specific practices or specific types of support is not enough; a strong work-life balance system must also be in place. The strength of the system, which refers to the process, allows the firm to convey a consistent message about the content of the practices. Employees’ motivation, attitudes and behaviors towards work-life balance are highly dependent on how they interpret the signals from employers about the work-life balance system

designed but also implemented. Practical implications. Future research and practitioners should pay more attention not only to design work life practices, but also to the implementation process in order not to fail in gaining all the positive outcomes related to work life balance, for employers and employees. Originality/value. This paper is the first step in the exploration of the importance of the implementation process of a work-life balance system, for a better contribution to organization positive outcomes.

PÉREZ CASTAÑOS, S. y RECUERO LÓPEZ, F., 2020. Efectos de los sistemas electorales autonómicos en los partidos políticos. *Sistemas electorales en España: caracterización, efectos, rendimientos y propuestas de reforma*. S.I.: Centro de Investigaciones Sociológicas (CIS), pp. 207-222. ISBN 9788474768275.

PIQUERAS-SANCHIZ, F., MARTÍN-RODRÍGUEZ, S., PAREJA-BLANCO, F., BARAJA-VEGAS, L., BLÁZQUEZ-FERNÁNDEZ, J., BAUTISTA, I.J. y GARCÍA-GARCÍA, Ó., 2020. Mechanomyographic Measures of Muscle Contractile Properties are Influenced by Electrode Size and Stimulation Pulse Duration. *Scientific Reports* [en línea], vol. 10, no. 1. ISSN 20452322 (ISSN). DOI 10.1038/s41598-020-65111-z.

The aim was to determine the effects of changing pulse duration and electrode size on muscle contractile properties. Thirty-six healthy young male participated in the study (age 24.8 ± 5.8 years; height 178.2 ± 0.6 cm; body mass 71.8 ± 7.3 kg; self-reported weekly moderate intensity activity 3.5 ± 1.2 h·week⁻¹). Tensiomyography was used to assess rectus femoris (RF) and vastus medialis (VM) muscles neuromuscular properties of the dominant leg according to the electrode size (3.2–5 cm) and the stimulus length (0.2, 0.5, and 1 ms). Maximal radial displacement (Dm); Contraction time (Tc); Delay time (Td); Sustained time (Ts) and Half relaxation time (Tr) were measured. Relative and absolute reliability was quantified. To analyze the effects of the electrode and the stimulus length, a repeated-measures analysis of variance was used. Dm and Tc parameters showed for both muscles an excellent relative (0.95–0.99) and absolute reliability (1.6–4.2%). However, Ts and Tr showed low values of absolute reliability (4.4–40.9%). The duration of the stimulus length applied to the RF and VM and electrode size significantly influences muscle's contractile properties ($p < 0.05$; $\eta^2 p = 0.09–0.60$). The Dm increases substantially as the duration of the stimulus increases and with the use of the larger electrode in both muscles. However, Tc and Td are less affected by both conditions and not entirely clear. Practically, our study suggests that a stimulus pulse duration of 1 ms together with a 5×5 cm electrode is necessary to reach a reliable and reproducible assessment of both RF and VM muscles contractile properties. © 2020, The Author(s).

POMA, A. y TOMMASO GRAVANTE, 2020a. El activismo urbano frente a la crisis socioambiental y climática. *Agua y territorio*, no. 16, pp. 7-10. ISSN 2340-8472. 10.17561/at.16.5668

POMA, A. y TOMMASO GRAVANTE, 2020b. El papel del activismo socioambiental de base en la nueva ola del movimiento climático (2018-2020). *Agua y territorio*, no. 16, pp. 11-22. ISSN 2340-8472. 10.17561/at.16.5109

Since 2018, the new wave of the climate movement represents a new stage in environmental activism thanks in part to the participation of local actors who can regroup under the umbrella of grassroots socio-environmental activism experiences. The main objective of the article is to highlight the role of this type of activism within the new wave of the climate movement. The article presents three elements that characterize socio-environmental activism and which we consider to be decisive in the development of strategies to deal with the climate emergency: the presence of attachments to the local and global place, the prioritization of altruistic and biospheric values, and the prefigurative nature of these practices. In the analysis we will compare the results of the international project Protest for a Future: Composition, Mobilization and Motives of the Participants in Fridays For Future Climate Protests (2018-2020) with the results of different experiences of socio-environmental activism.

PRIETO JIMÉNEZ, E. y ARENAL LORA, M.L., 2020. Educación para la Ciudadanía Global (ECG). *Estudios contemporáneos sobre geopolítica, conflictos armados y cooperación internacional*. S.l.: Universidad Internacional de Andalucía, pp. 513-532. ISBN 978-84-7993-360-9.

QUILES GARCÍA, F., 2020. Entre mediano y pequeño, entre la capilla y el hogar: Consumo privado de escultura menuda en la Sevilla barroca. *Semata: Ciencias sociais e humanidades*, no. 32, pp. 243-264. ISSN 1137-9669. 10.15304/s.32.6605

An approach to the demand for small sculpture in the mid-17th century, based on the data extracted from documentary sources. There is talk of the consumption of this type of works that enter the domestic sphere as «objects» of diverse use besides devotional.

RAMIREZ-CAMPILLO, R., CASTILLO, D., RAYA-GONZÁLEZ, J., MORAN, J., DE VILLARREAL, E.S. y LLOYD, R.S., 2020. Effects of Plyometric Jump Training on Jump and Sprint Performance in Young Male Soccer Players: A Systematic Review and Meta-analysis. *Sports Medicine*, vol. 50, no. 12, pp. 2125-2143. ISSN 01121642 (ISSN). DOI 10.1007/s40279-020-01337-1

Background: Even from a young age, modern soccer requires high levels of physical fitness development, particularly jumping and sprinting. Plyometric jump training (PJT), combined with young athletes' regular soccer sessions, has the potential to improve jumping and sprinting. However, studies exploring the effects of PJT are generally limited by small sample sizes. This problem of underpowered studies may, thus, be resolved by pooling study results in a meta-analysis. Objective: The objective of this systematic review with meta-analysis (SRMA) was to assess the effects of plyometric jump training (PJT) on jumping and sprinting among young male soccer players. Methods: The SRMA included peer-reviewed articles that incorporated PJT in healthy players (i.e., < 23 years

of age), a control group, and a measure of jumping or sprinting. Means and standard deviations of outcomes were converted to Hedges' g effect sizes (ES), using the inverse variance random-effects model. Moderator analyses were conducted for PJT duration, frequency, total number of sessions, participants' chronological age, and FIFA age categories (i.e., U-17 vs. U-20 vs. U-23). A multivariate random-effects meta-regression was also conducted. Results: Thirty-three studies were included, comprising 1499 participants. PJT improved vertical jump tests (ES = 0.60–0.98; all $p < 0.01$) and linear sprint performance (ES = 0.60–0.98; $p < 0.03$). Interventions of > 7 weeks and > 14 PJT sessions induced greater effects compared to PJT with ≤ 7 weeks and ≤ 14 total sessions on 10-m sprint performance (between group $p = 0.038$). Conclusion: PJT is effective in improving jumping and sprinting performance among young male soccer players. Greater 10-m linear sprinting improvements were noted after interventions > 7 -week duration and > 14 sessions, suggesting a greater return from exposure to longer PJT interventions, partially in support for the adoption of a long-term approach to athletic development in young athletes. However, with reference to the findings of the meta-regression, and those from the remaining subgroup and single factors analysis, a robust confirmation regarding the moderator role of participant's age or PJT configuration effects on young soccer player's fitness qualities needed. © 2020, Springer Nature Switzerland AG.

REQUENA-RAMÍREZ, M.D., ATIENZA, S.G., HORNERO-MÉNDEZ, D. y RODRÍGUEZ-SUÁREZ, C., 2020. Mediation of a GDSL Esterase/Lipase in Carotenoid Esterification in Tritordeum Suggests a Common Mechanism of Carotenoid Esterification in Triticeae Species. *Frontiers in Plant Science* [en línea], vol. 11. ISSN 1664462X (ISSN). DOI 10.3389/fpls.2020.592515.

Carotenoids are essential in human diet, so that the development of programs toward carotenoid enhancement has been promoted in several crops. The cereal tritordeum, the amphiploid derived from the cross between *Hordeum chilense* Roem. et Schulz. and durum wheat has a remarkable carotenoid content in the endosperm. Besides, a high proportion of these carotenoids are esterified with fatty acids. The identification of the gene(s) responsible for xanthophyll esterification would be useful for breeding as esterified carotenoids show an increased ability to accumulate within plant cells and have a higher stability during post-harvest storage. In this work, we analyzed five genes identified as candidates for coding the xanthophyll acyltransferase (XAT) enzyme responsible for lutein esterification in *H. chilense* genome. All these genes were expressed during grain development in tritordeum, but only HORCH7HG021460 was highly upregulated. Sequence analysis of HORCH7HG021460 revealed a G-to-T transversion, causing a Glycine to Cysteine substitution in the protein of H290 (the only accession not producing quantifiable amounts of lutein esters, hereinafter referred as zero-ester) of *H. chilense* compared to the esterifying genotypes. An allele-specific marker was designed for the SNP detection in the *H. chilense* diversity panel. From the 93 accessions, only H290 showed the T allele and the zero-ester phenotype. Furthermore, HORCH7HG021460 is the orthologue of XAT-7D, which encodes a XAT enzyme responsible for carotenoid esterification in wheat. Thus,

HORCH7HG021460 (XAT-7Hch) is a strong candidate for lutein esterification in *H. chilense* and tritordeum, suggesting a common mechanism of carotenoid esterification in Triticeae species. The transference of XAT-7Hch to wheat may be useful for the enhancement of lutein esters in biofortification programs. © Copyright © 2020 Requena-Ramírez, Atienza, Hornero-Méndez and Rodríguez-Suárez.

RIVAS-MARIN, E., PEETERS, S.H., CLARET FERNÁNDEZ, L., 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* [en línea], vol. 10, no. 1. ISSN 20452322 (ISSN). 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. © 2020, The Author(s).

RIVAS-MARIN, E., WIEGAND, S., KALLSCHEUER, N., JOGLER, M., PEETERS, S.H., HEUER, A., JETTEN, M.S.M., BOEDEKER, C., ROHDE, M., DEVOS, D.P. y JOGLER, C., 2020a. *Maioricimonas rarisocia* gen. nov., sp. nov., a novel planctomycete isolated from marine sediments close to Mallorca Island. *Antonie van Leeuwenhoek, International Journal of General and Molecular Microbiology*, vol. 113, no. 12, pp. 1901-1913. ISSN 00036072 (ISSN). DOI 10.1007/s10482-020-01436-z

Planctomycetes are ubiquitous bacteria with environmental and biotechnological relevance. Axenic cultures of planctomycetal strains are the basis to analyse their unusual biology and largely uncharacterised metabolism in more detail. Here, we describe strain Mal4T isolated from marine sediments close to Palma de Mallorca, Spain. Strain Mal4T displays common planctomycetal features, such as division by polar budding and the presence of fimbriae and crateriform structures on the cell surface. Cell growth was observed at ranges of 10–39 °C (optimum at 31 °C) and pH 6.5–9.0 (optimum at 7.5). The novel strain shows as pear-shaped cells of $2.0 \pm 0.2 \times 1.4 \pm 0.1 \mu\text{m}$ and is one of the rare examples of orange colony-forming Planctomycetes. Its genome has a size of 7.7 Mb with a G+C content of 63.4%. Phylogenetically, we conclude that strain Mal4T (= DSM 100296T= LMG 29133T) is the type strain representing the type species of a novel genus, for which we propose the name *Maioricimonas rarisocia* gen.

nov., sp. nov. © 2020, The Author(s).

RIVAS-MARIN, E., WIEGAND, S., KALLSCHEUER, N., JOGLER, M., PEETERS, S.H., HEUER, A., JETTEN, M.S.M., BOEDEKER, C., ROHDE, M., DEVOS, D.P. y JOGLER, C., 2020b. *Thalassoglobus polymorphus* sp. nov., a novel Planctomycete isolated close to a public beach of Mallorca Island. *Antonie van Leeuwenhoek, International Journal of General and Molecular Microbiology*, vol. 113, no. 12, pp. 1915-1926. ISSN 00036072 (ISSN). DOI 10.1007/s10482-020-01437-y

Access to axenic cultures is crucial to extend the knowledge of the biology, lifestyle or metabolic capabilities of bacteria from different phyla. The phylum Planctomycetes is an excellent example since its members display an unusual cell biology and complex lifestyles. As a contribution to the current collection of axenic planctomycete cultures, here we describe strain Mal48T isolated from phytoplankton material sampled at the coast of S'Arenal close to Palma de Mallorca (Spain). The isolated strain shows optimal growth at pH 7.0–7.5 and 30 °C and exhibits typical features of Planctomycetes. Cells of the strain are spherical to pear-shaped, divide by polar budding with daughter cells showing the same shape as the mother cell, tend to aggregate, display a stalk and produce matrix or fimbriae. Strain Mal48T showed 95.8% 16S rRNA gene sequence similarity with the recently described *Thalassoglobus neptunius* KOR42T. The genome sequence of the novel isolate has a size of 6,357,355 bp with a G+C content of 50.3%. A total of 4874 protein-coding genes, 41 tRNA genes and 2 copies of the 16S rRNA gene are encoded in the genome. Based on phylogenetic, morphological and physiological analyses, we conclude that strain Mal48T (= DSM 100737T = LMG 29019T) should be classified as the type strain of a new species in the genus *Thalassoglobus*, for which the name *Thalassoglobus polymorphus* sp. nov. is proposed. © 2020, The Author(s).

RIVASPLATA VARILLAS, P.E., 2020. Honor entre iguales en el Antiguo Régimen: las dotes de la Casa de la Misericordia de Sevilla. *Investigaciones históricas: Época moderna y contemporánea*, no. 40, pp. 315-352. ISSN 0210-9425. 10.24197/ihemc.40.2020.315-352

This work deals with the Casa Pia de la Misericordia of Seville, an institution that delivered different types of pious dowries according to testamentary wills from the late Middle Ages to the beginning of the Contemporaneity. This research seeks to find out who delivered and received these dowries and why they deserved to do so, as well as reveal some of the characteristics of the dowries given by this institution.

RIVERA-OCHOA, M., BRAZO-SAYAVERA, J., VIZMANOS-LAMOTTE, B., MAÑAS, A., LÓPEZ-TAYLOR, J.R., GONZÁLEZ-GROSS, M. y GUADALUPE-GRAU, A., 2020. Health-related factors in rural and urban Mexican adolescents from the state of Jalisco: The HELENA-MEX study. *International Journal of Environmental Research and Public Health*, vol. 17,

no. 23, pp. 1-16. ISSN 16617827 (ISSN). DOI 10.3390/ijerph17238959

Mexico shows a high prevalence of obesity in children and adolescents. Geographical location and cultural environment could play a role in the promotion of healthy lifestyles in terms of physical activity (PA), sedentary behavior (SB) and nutrition. The purpose of this study was to assess rural and urban differences in body composition (BC), physical fitness (PF), PA and nutritional status of adolescents from the state of Jalisco (Mexico). The study involved 469 students aged 13–17 years (55.0% girls) from eight high schools. BC was analyzed by bioimpedance and PF by standardized field tests. Objective measurements of PA and SB were taken in a subsample ($n = 240$). Energy intake (EI) was calculated from two 24h recalls. Rural residents presented a higher prevalence of overweight, waist circumference, trunk fat mass, regional fat free mass and muscle handgrip strength (all $p < 0.05$, $\eta^2p < 0.06$). Cardiorespiratory fitness was similar among participants, whereas urban adolescents showed higher muscle power, speed-agility and flexibility scores (all $p < 0.05$, $\eta^2p < 0.07$). Overall lifestyle behavior in urban adolescents was more sedentary ($p < 0.05$, $\eta^2p = 0.11$). EI was similar in both locations. In conclusion, rural Mexican adolescents presented a generally lower sedentary behavior and a lower fitness and fatness profile than their urban peers. © 2020 by the authors. Licensee MDPI, Basel, Switzerland.

RODRÍGUEZ BENOT, A., 2020. Los reglamentos europeos sobre consecuencias patrimoniales de los matrimonios y de las uniones registradas: justificación, caracteres generales, ámbito de aplicación y definiciones. *Los Reglamentos UE 2016/1103 y 2016/1104 de regímenes económicos matrimoniales y efectos patrimoniales de las uniones registradas*. S.l.: Marcial Pons : Colegio Notarial de Cataluña, pp. 15-48. ISBN 978-84-9123-869-0.

RODRÍGUEZ BENOT, A. y YBARRA BORES, A., 2020. Competencia de los órganos judiciales españoles para conocer de una demanda relativa a un contrato de multipropiedad cuando el demandado está domiciliado fuera de la UE. *Bitácora Millennium DIPr: Derecho Internacional Privado*, no. 12, pp. 4- 0. ISSN 2444-3220.

En el presente trabajo se analiza, en el marco del Reglamento (UE) 1215/2012, la competencia de los órganos judiciales españoles para conocer de demandas relativas a contratos de multipropiedad que recaen sobre bienes situados en España cuando los demandantes son consumidores con residencia en el Reino Unido y los demandados tienen su domicilio fuera de la UE.

ROMERO-MUNIZ, C., MARIA GAVIRA-VALLEJO, J., MERKLING, P.J. y CALERO, S., 2020. Impact of Small Adsorbates in the Vibrational Spectra of Mg- and Zn-MOF-74 Revealed by First-Principles Calculations. *ACS APPLIED MATERIALS & INTERFACES*, vol. 12, no. 49, pp. 54980-54990. ISSN 1944-8244. DOI 10.1021/acsami.0c16629.

In this work, we analyze the influence of small adsorbates on the vibrational spectra of Mg- and Zn-metal-organic framework MOF-74 by means of first-principles

calculations. In particular, we consider the adsorption of four representative species of different interaction strengths: Ar, CO₂, H₂O, and NH₃. Apart from a comprehensive characterization of the structural and energetic aspects of empty and loaded MOFs, we use a fully quantum ab initio approach to evaluate the Raman and IR activities of the normal modes, leading to the construction of the whole vibrational spectra. Under this approach, not only are we able to proceed with the complete assignment of the spectra in terms of the usual internal coordinates but also we can discern the most relevant vibrational fingerprints of the adsorbates and their impact on the whole MOF spectra. On the one hand, some of the typical vibrational modes of the small molecules are slightly shifted but still visible when adsorbed on the MOFs, especially those appearing at high wavenumbers where the empty MOFs lack IR/Raman signals. On the other hand, some bands arising from the organic ligands are affected by the presence of the adsorbates, displaying non-negligible frequency shifts, in agreement with recent experiments. We find a strong correlation between all of these frequency shifts and the interaction strength of the adsorbate with the hosting framework. The findings presented in this work expand the capabilities of vibrational spectroscopy techniques to analyze porous materials and can be useful for the design of sensors and new devices based on MOF technology.

RUIZ JIMÉNEZ, A.M. y ROMERO PORTILLO, D., 2020. La distribución territorial de la identidad nacional y su relación con el poder político y la democracia en España: la reproducción de la identidad a través del nacionalismo del bienestar. *El sistema político español: entre la memoria y el devenir*. S.l.: Tirant lo Blanch, pp. 95-136. ISBN 978-84-13-36430-8.

RUIZ-GARZÓN, G., OSUNA-GÓMEZ, R., RUIFIÁN-LIZANA, A. y HERNÁNDEZ-JIMÉNEZ, B., 2020. Approximate efficient solutions of the vector optimization problem on hadamard manifolds via vector variational inequalities. *Mathematics*, vol. 8, no. 12, pp. 1-19. ISSN 22277390 (ISSN). DOI 10.3390/math8122196

This article has two objectives. Firstly, we use the vector variational-like inequalities problems to achieve local approximate (weakly) efficient solutions of the vector optimization problem within the novel field of the Hadamard manifolds. Previously, we introduced the concepts of generalized approximate geodesic convex functions and illustrated them with examples. We see the minimum requirements under which critical points, solutions of Stampacchia, and Minty weak variational-like inequalities and local approximate weakly efficient solutions can be identified, extending previous results from the literature for linear Euclidean spaces. Secondly, we show an economical application, again using solutions of the variational problems to identify Stackelberg equilibrium points on Hadamard manifolds and under geodesic convexity assumptions. © 2020 by the authors. Licensee MDPI, Basel, Switzerland.

SANTAMARÍA-HERNANDO, S., CERNA-VARGAS, J.P., MARTÍNEZ-GARCÍA, P.M., DE FRANCISCO-DE POLANCO, S., NEBRED, S., RODRÍGUEZ-PALENZUELA, P., RODRÍGUEZ-HERVA, J.J. y LÓPEZ-SOLANILLA, E.,

2020. Blue-light perception by epiphytic *Pseudomonas syringae* drives chemoreceptor expression, enabling efficient plant infection. *Molecular Plant Pathology*, vol. 21, no. 12, pp. 1606-1619. ISSN 14646722 (ISSN). DOI 10.1111/mpp.13001

Adaptation and efficient colonization of the phyllosphere are essential processes for the switch to an epiphytic stage in foliar bacterial pathogens. Here, we explore the interplay among light perception and global transcriptomic alterations in epiphytic populations of the hemibiotrophic pathogen *Pseudomonas syringae* pv. tomato DC3000 (PsPto) following contact with tomato leaves. We found that blue-light perception by PsPto on leaf surfaces is required for optimal colonization. Blue light triggers the activation of metabolic activity and increases the transcript levels of five chemoreceptors through the function of light oxygen voltage and BphP1 photoreceptors. The inactivation of PSPTO_1008 and PSPTO_2526 chemoreceptors causes a reduction in virulence. Our results indicate that during PsPto interaction with tomato plants, light perception, chemotaxis, and virulence are highly interwoven processes. © 2020 The Authors. *Molecular Plant Pathology* published by British Society for Plant Pathology and John Wiley & Sons Ltd

SANTANA, M. y COBO, M.J., 2020. What is the future of work? A science mapping analysis. *European Management Journal*, vol. 38, no. 6, pp. 846-862. ISSN 02632373 (ISSN). DOI 10.1016/j.emj.2020.04.010

This article aims to systematise and provide a structure for research into the Future of Work (FoW). We used SciMAT to conduct a science mapping analysis based on co-word bibliographic networks. The Web of Science (WoS) database was used for article retrieval, and a total of 2,286 documents were identified from 1959 to 2019. Our results are counterintuitive, as concerns over satisfaction, leadership values or corporate social responsibility (CSR) appear alongside traditional human resource management (HRM) themes, such as organisational commitment or careers, as well as more current FoW themes, such as the impact of technological change on employment, wage inequality, vulnerable workers, telework or talent management. In addition, we offer a classification of the most prolific FoW research themes and challenges into technological, social, economic and political categories. © 2020 Elsevier Ltd

SANTOS-ROLDÁN, L., PALACIOS-FLORENCIO, B. y BERBEL-PINEDA, J.M., 2020. The textile products labelling analysis and requirements. *Fashion and Textiles* [en línea], vol. 7, no. 1. ISSN 21980802 (ISSN). DOI 10.1186/s40691-019-0202-4.

The textile sector is one of the most representative of Spanish industry, contributing to the wealth of the country with close to 10% of the business fabric in Spain. However, in spite of this daily consumption little is known about the guarantees of traceability clothes labelling must inform about. The purpose of this study is to present a work of analysis of the compliance with the content of the labelling in this sector. For his objective, a research was developed through the consideration of 32 businesses of the textile sector in the city of Córdoba (Spain)

where were photographed each label for its later analysis and a confirmation of the regulation. The results show that the majority of labels are incomplete and insufficient. Therefore, it's necessary the existence of an European public organism with a competence to accredit the manufacturing, distribution and commercialization of textile garments, protecting the rights of workers and the consumers' access to information. © 2020, The Author(s).

SCALCO, R.S., LUCIA, A., SANTALLA, A., MARTINUZZI, A., VAVLA, M., RENI, G., TOSCANO, A., MUSUMECI, O., VOERMANS, N.C., KOUWENBERG, C.V., LAFORET, P., SAN-MILLAN, B., VIEITEZ, I., SICILIANO, G., KUHNLE, E., TROST, R., SACCONI, S., STEMMERIK, M.G., DURMUS, H., KIERDASZUK, B., WAKELIN, A., ANDREU, A.L., PINOS, T., MARTI, R., QUINLIVAN, R., VISSING, J. y CONSORTIUM, E., 2020. Data from the European registry for patients with McArdle disease and other muscle glycogenoses (EUROMAC). *ORPHANET JOURNAL OF RARE DISEASES*, vol. 15, no. 1. DOI 10.1186/s13023-020-01562-x.

Background The European registry for patients with McArdle disease and other muscle glycogenoses (EUROMAC) was launched to register rare muscle glycogenoses in Europe, to facilitate recruitment for research trials and to learn about the phenotypes and disseminate knowledge about the diseases through workshops and websites. A network of twenty full and collaborating partners from eight European countries and the US contributed data on rare muscle glycogenosis in the EUROMAC registry. After approximately 3 years of data collection, the data in the registry was analysed. Results Of 282 patients with confirmed diagnoses of muscle glycogenosis, 269 had McArdle disease. New phenotypic features of McArdle disease were suggested, including a higher frequency (51.4%) of fixed weakness than reported before, normal CK values in a minority of patients (6.8%), ptosis in 8 patients, body mass index above background population and number of comorbidities with a higher frequency than in the background population (hypothyroidism, coronary heart disease). **Conclusions** The EUROMAC project and registry have provided insight into new phenotypic features of McArdle disease and the variety of co-comorbidities affecting people with McArdle disease. This should lead to better management of these disorders in the future, including controlling weight, and preventive screening for thyroid and coronary artery diseases, as well as physical examination with attention on occurrence of ptosis and fixed muscle weakness. Normal serum creatine kinase in a minority of patients stresses the need to not discard a diagnosis of McArdle disease even though creatine kinase is normal and episodes of myoglobinuria are absent.

SERRANO, D., MARGALIDA, A., PÉREZ-GARCÍA, J.M., JUSTE, J., TRABA, J., VALERA, F., CARRETE, M., AIHARTZA, J., REAL, J., MAÑOSA, S., FLAQUER, C., GARIN, I., MORALES, M.B., ALCALDE, J.T., ARROYO, B., SÁNCHEZ-ZAPATA, J.A., BLANCO, G., NEGRO, J.J., TELLA, J.L., IBÁÑEZ, C., TELLERÍA, J.L., HIRALDO, F. y DONÁZAR, J.A., 2020. Renewables in Spain threaten biodiversity. *Science*, vol. 370, no. 6522, pp. 1182-1183. ISSN 00368075 (ISSN). DOI 10.1126/science.abf6509

SERUGGIA, D., FERNÁNDEZ, A., CANTERO, M., FERNÁNDEZ-MIÑÁN, A., GOMEZ-SKARMETA, J.L., PELCZAR, P. y MONTOLIU, L., 2020. Boundary sequences flanking the mouse tyrosinase locus ensure faithful pattern of gene expression. *Scientific Reports* [en línea], vol. 10, no. 1. ISSN 20452322 (ISSN). DOI 10.1038/s41598-020-72543-0.

Control of gene expression is dictated by cell-type specific regulatory sequences that physically organize the structure of chromatin, including promoters, enhancers and insulators. While promoters and enhancers convey cell-type specific activating signals, insulators prevent the cross-talk of regulatory elements within adjacent loci and safeguard the specificity of action of promoters and enhancers towards their targets in a tissue specific manner. Using the mouse tyrosinase (Tyr) locus as an experimental model, a gene whose mutations are associated with albinism, we described the chromatin structure in cells at two distinct transcriptional states. Guided by chromatin structure, through the use of Chromosome Conformation Capture (3C), we identified sequences at the 5' and 3' boundaries of this mammalian gene that function as enhancers and insulators. By CRISPR/Cas9-mediated chromosomal deletion, we dissected the functions of these two regulatory elements in vivo in the mouse, at the endogenous chromosomal context, and proved their mechanistic role as genomic insulators, shielding the Tyr locus from the expression patterns of adjacent genes. © 2020, The Author(s).

SERVERA-FRANCÉS, D., FUENTES-BLASCO, M. y PIQUERAS-TOMÁS, L., 2020. The importance of sustainable practices in value creation and consumers' commitment with companies' commercial format. *Sustainability (Switzerland)*, vol. 12, no. 23, pp. 1-14. ISSN 20711050 (ISSN). DOI 10.3390/su12239852

Sustainable economic models are essential for any economic sector of the country. Companies must manage their relationships with the agents involved in their economic activity through a strategy based on dialogue and the constant pursuit of a balance among economic, social and environmental interests. In this regard, there has been an increase in customers' interest in products or businesses that display a comparatively higher commitment with workers, the environment, or society as a whole. This study aims at gaining further insight into the relationship between the committed customer and the company by analyzing the influence of corporate social responsibility on key variables such as customer perceived value or customer commitment as regards its engagement dimension (customer motivations). In order to reach this goal, we perform a review of the literature, followed by a structural equation model that incorporates said variables. This model is tested on a sample of 707 customers of supermarkets and hypermarkets. The results confirm that Corporate Social Responsibility (CSR) directly affects commitment and that customer perceived value influences both variables (CSR and commitment). In addition, the study confirms the indirect effect of perceived value on customers' commitment with the commercial format, which is mediated by CSR. © 2020 by the authors. Licensee MDPI, Basel, Switzerland.

SILVA-ARDANUY, M., 2020a. Arts. 51 a 56. *Comentarios a la Nueva Ley de*

Protección de Datos: Ley Orgánica 3/2018, de 5 de diciembre, de Protección de Datos Personales y Garantía de los Derechos Digitales. S.l.: Dilex, pp. 11-0. ISBN 978-84-92754-52-6.

SILVA-ARDANUY, M., 2020b. *Estudio del impacto de la pobreza energética en los municipios menores de 20.000 habitantes de la provincia de Jaén: avance de propuestas para el diseño de políticas públicas basadas en la protección de los derechos sociales*. S.l.: Diputación Provincial de Jaén. ISBN 9788412125719.

SILVA-ARDANUY, M., 2020c. *Pobreza energética en España (2015-2020) protección constitucional en contexto de aplicación del art.116.2 CE por COVID-19*. S.l.: Tirant lo Blanch. ISBN 9788413556802.

SOTILLOS, S., AGUILAR-ARAGON, M. y HOMBRÍA, J.C.-G., 2020. Author Correction: Functional analysis of the Drosophila RhoGAP Cv-c protein and its equivalence to the human DLC3 and DLC1 proteins (Scientific Reports, (2018), 8, 1, (4601), 10.1038/s41598-018-22794-9). *Scientific Reports* [en línea], vol. 10, no. 1. ISSN 20452322 (ISSN). DOI 10.1038/s41598-020-68551-9.

An amendment to this paper has been published and can be accessed via a link at the top of the paper. © 2020, The Author(s).

TÉLLEZ VALLE, C., MARTÍN GARCÍA, M., RAMÓN JERÓNIMO, M.Á. y MARTÍN MARÍN, J.L., 2020. Diferenciales de bonos soberanos y primas de CDS en la zona euro: un análisis de causalidad. *Revista de métodos cuantitativos para la economía y la empresa*, no. 30, pp. 58-78. ISSN 1886-516X. 10.46661/revmetodoscuanteconempresa.3872

This article presents an analysis of the possible relationship between the spreads of sovereign bonds and the premia of credit default swaps (CDS) to determine whether they are useful tools for the measurement of the sovereign risk either separately or by taking into account the joint evolution of their values. The data refer to ten countries in the Eurozone along 2008–2016. By applying the causality Granger test for these variables, after six different ways of proxy, CDS premia are found to be the cause of the risk spreads in certain cases, although a bidirectional relationship is predominant in many other cases. So the CDS market contains clear and highly useful information on the sovereign risk

TORRES, J.F., HADJOUT, D., SEBAA, A., MARTINEZ-ALVAREZ, F. y TRONCOSO, A., 2020. Deep Learning for Time Series Forecasting: A Survey. *BIG DATA*, ISSN 2167-6461. DOI 10.1089/big.2020.0159.

Time series forecasting has become a very intensive field of research, which is even increasing in recent years. Deep neural networks have proved to be powerful and are achieving high accuracy in many application fields. For these reasons, they are one of the most widely used methods of machine learning to solve problems dealing with big data nowadays. In this work, the time series forecasting

problem is initially formulated along with its mathematical fundamentals. Then, the most common deep learning architectures that are currently being successfully applied to predict time series are described, highlighting their advantages and limitations. Particular attention is given to feed forward networks, recurrent neural networks (including Elman, long-short term memory, gated recurrent units, and bidirectional networks), and convolutional neural networks. Practical aspects, such as the setting of values for hyper-parameters and the choice of the most suitable frameworks, for the successful application of deep learning to time series are also provided and discussed. Several fruitful research fields in which the architectures analyzed have obtained a good performance are reviewed. As a result, research gaps have been identified in the literature for several domains of application, thus expecting to inspire new and better forms of knowledge.

TSCHAKERT, J., ZHONG, Q., MARTIN-JIMENEZ, D., CARRACEDO-COSME, J., ROMERO-MUÑIZ, C., HENKEL, P., SCHLÖDER, T., AHLES, S., MOLLENHAUER, D., WEGNER, H.A., POU, P., PÉREZ, R., SCHIRMEISEN, A. y EBELING, D., 2020. Surface-controlled reversal of the selectivity of halogen bonds. *Nature Communications* [en línea], vol. 11, no. 1. ISSN 20411723 (ISSN). DOI 10.1038/s41467-020-19379-4.

Intermolecular halogen bonds are ideally suited for designing new molecular assemblies because of their strong directionality and the possibility of tuning the interactions by using different types of halogens or molecular moieties. Due to these unique properties of the halogen bonds, numerous areas of application have recently been identified and are still emerging. Here, we present an approach for controlling the 2D self-assembly process of organic molecules by adsorption to reactive vs. inert metal surfaces. Therewith, the order of halogen bond strengths that is known from gas phase or liquids can be reversed. Our approach relies on adjusting the molecular charge distribution, i.e., the σ -hole, by molecule-substrate interactions. The polarizability of the halogen and the reactivity of the metal substrate are serving as control parameters. Our results establish the surface as a control knob for tuning molecular assemblies by reversing the selectivity of bonding sites, which is interesting for future applications. © 2020, The Author(s).

TURKEŠ, R., SÖRENSEN, K., HVATTUM, L.M., BARRENA, E., CHENTLI, H., COELHO, L.C., DAYARIAN, I., GRIMAULT, A., GULLHAV, A.N., IRIS, Ç., KESKIN, M., KIEFER, A., LUSBY, R.M., MAURI, G.R., MONROY-LICHT, M., PARRAGH, S.N., RIQUELME-RODRÍGUEZ, J.-P., SANTINI, A., SANTOS, V.G.M. y THOMAS, C., 2020. Data for a meta-analysis of the adaptive layer in adaptive large neighborhood search. *Data in Brief* [en línea], vol. 33. ISSN 23523409 (ISSN). DOI 10.1016/j.dib.2020.106568.

Meta-analysis, a systematic statistical examination that combines the results of several independent studies, has the potential of obtaining problem- and implementation-independent knowledge and understanding of metaheuristic

algorithms, but has not yet been applied in the domain of operations research. To illustrate the procedure, we carried out a meta-analysis of the adaptive layer in adaptive large neighborhood search (ALNS). Although ALNS has been widely used to solve a broad range of problems, it has not yet been established whether or not adaptiveness actually contributes to the performance of an ALNS algorithm. A total of 134 studies were identified through Google Scholar or personal e-mail correspondence with researchers in the domain, 63 of which fit a set of predefined eligibility criteria. The results for 25 different implementations of ALNS solving a variety of problems were collected and analyzed using a random effects model. This dataset contains a detailed comparison of ALNS with the non-adaptive variant per study and per instance, together with the meta-analysis summary results. The data enable to replicate the analysis, to evaluate the algorithms using other metrics, to revisit the importance of ALNS adaptive layer if results from more studies become available, or to simply consult the ready-to-use formulas in the summary file to carry out a meta-analysis of any research question. The individual studies, the meta-analysis and its results are described and interpreted in detail in Renata Turkeš, Kenneth Sörensen, Lars Magnus Hvattum, Meta-analysis of Metaheuristics: Quantifying the Effect of Adaptiveness in Adaptive Large Neighborhood Search, in the European Journal of Operational Research. © 2020 The Author(s)

VAN DE WALLE, P., MUÑOZ-JIMÉNEZ, C., ASKJAER, P., SCHOOF, L. y TEMMERMAN, L., 2020. DamID identifies targets of CEH-60/PBX that are associated with neuron development and muscle structure in *Caenorhabditis elegans*. *PLoS ONE* [en línea], vol. 15, no. 12 December. ISSN 19326203 (ISSN). DOI 10.1371/journal.pone.0242939.

Transcription factors govern many of the time- and tissue-specific gene expression events in living organisms. CEH-60, a homolog of the TALE transcription factor PBX in vertebrates, was recently characterized as a new regulator of intestinal lipid mobilization in *Caenorhabditis elegans*. Because CEH-60's orthologs and paralogs exhibit several other functions, notably in neuron and muscle development, and because *ceh-60* expression is not limited to the *C. elegans* intestine, we sought to identify additional functions of CEH-60 through DNA adenine methyltransferase identification (DamID). DamID identifies protein-genome interaction sites through GATC-specific methylation. We here report 872 putative CEH-60 gene targets in young adult animals, and 587 in L2 larvae, many of which are associated with neuron development or muscle structure. In light of this, we investigate morphology and function of *ceh-60* expressing AWC neurons, and contraction of pharyngeal muscles. We find no clear functional consequences of loss of *ceh-60* in these assays, suggesting that in AWC neurons and pharyngeal muscle, CEH-60 function is likely more subtle or redundant with other factors. © 2020 Van de Walle et al. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

YANG, L.-K., LUO, X.-F., SEGOVIA, J. y ZONG, H.-S., 2020. A brief review of chiral chemical potential and its physical effects. *Symmetry*, vol. 12, no. 12, pp. 1-19. ISSN 20738994 (ISSN). DOI 10.3390/sym12122095

Nontrivial topological gluon configuration is one of the remarkable features of the Quantum Chromodynamics (QCD). Due to chiral anomaly, the chiral imbalance between right-and left-hand quarks can be induced by the transition of the nontrivial gluon configurations between different vacuums. In this review, we will introduce the origin of the chiral chemical potential and its physical effects. These include: (1) the chiral imbalance in the presence of strong magnetic and related physical phenomena; (2) the influence of chiral chemical potential on the QCD phase structure; and (3) the effects of chiral chemical potential on quark stars. Moreover, we propose for the first time that quark stars are likely to be a natural laboratory for testing the destruction of strong interaction CP. © 2020 by the authors. Licensee MDPI, Basel, Switzerland.