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OG = (CSIC - Andalusian Center for Developmental Biology (CABD) OR CSIC - Centro Andaluz de Biología Molecular y Medicina Regenerativa (CABIMER) OR Universidad Pablo de Olavide)
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 (LIMITTO (PUBYEAR , 2021))

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Fecha de recolección de datos: 14/12/2021



Publicaciones

AGUILAR MARTÍN, C. y VARGAS RUIZ, M., 2021. El consumo de pornografía durante el confinamiento domiciliario por Covid-19. *Pandemia y COVID 19: experiencias investigadoras desde la educación social*. S.l.: Dykinson, pp. 96-106. ISBN 978-84-13-77891-4.

ALBA QUIÑONES, V. de, 2021. La prosodia valorativa en narraciones históricas de aprendices de ELE: Análisis del campo de la actitud. *El español académico en L2 y LE: Perspectivas desde la educación bilingüe*. S.l.: Peter Lang, pp. 95-118. ISBN 978-2-8076-1946-3.

ALCARAZ RODRÍGUEZ, V. y MUÑOZ LLERENA, A., 2021. Formación y percepción del profesorado de Educación Física en Diversidad Afectivo- Sexual: Revisión Sistemática. En: la F. y las A. (DIVERYGEN). I.C.I. de D.S. y G. en la E. Congreso Internacional de Diversidad Sexual y Género en la Educación la Filología y las Artes (DIVERYGEN) (ed.), *Libro de Actas del II Congreso Internacional de Diversidad Sexual y Género en la Educación, la Filología y las Artes*. S.l.: Dykinson, pp. 57-58. ISBN 978-84-13-77611-8.

ALMANSA MORENO, J.M., 2021. *Pintura mural en el Nuevo Reino de Granada*. S.l.: Enredars. ISBN 978-84-09-35287-6.

Centrándonos en la pintura mural novogranadina, hay que comentar que su fama ha quedado eclipsada frente a la de México y Perú. A pesar de ello, podemos afirmar que en Colombia se encuentran algunos de los programas iconográficos más interesantes y relevantes de toda Iberoamérica, debido a su variedad y riqueza simbólica, y en donde se hacen patentes las raíces de la tradición europea (difundida especialmente a través de estampas y otras fuentes grabadas), así como el propio aporte indígena, creando una expresión artística de gran originalidad. A la hora de sintetizar la iconografía de la pintura mural en el Nuevo Reino de Granada podríamos crear cuatro grandes tipologías, atendiendo a las distintas funciones que ésta cumple: evangelizadora, propagandística, humanista y decorativa.

ÁLVAREZ GARCÍA, H., 2021. Los precursores de la tolerancia en la España del siglo XVI. *Revista de derecho político*, no. 112, pp. 215-261. ISSN 0211-979X. 10.5944/rdp.112.2021.32221

Este trabajo tiene por objeto rastrear los orígenes doctrinales de la tolerancia en España, radicados en el humanismo cristiano representado por Erasmo de Rotterdam, oráculo de la Reforma de protestante. Las humanistas españoles alzaron sus

plumas para reprobador la violencia religiosa de los católicos y de las iglesias reformadas y la colonización del Nuevo Mundo, protagonizada por codiciosos aventureros que asolaron con su vileza las poblaciones indígenas a pesar de los imperativos piadosos de la Monarquía Hispánica.

ÁLVAREZ HOLGADO, C., BASCÓN ALCALÁ, J. y GALLEGO ZAYAS, C., 2021. Relaciones afectivas y sexuales de la pareja en tiempo de pandemia. *Pandemia y COVID 19: experiencias investigadoras desde la educación social*. S.l.: Dykinson, pp. 83-95. ISBN 978-84-13-77891-4.

ALVAREZ-DELGADO, A., GARCIA, M., GARCIA-GONZALEZ, J., DE SENA, H., CHAMORRO, A., GOMEZ, M., MARCOS, M. y MIRON-CANELO, J., 2021. Improvements in the Effectiveness of Early Detection in Colorectal Cancer with Open-Label Randomised Study. *Journal of Clinical Medicine*, vol. 10, no. 21. ISSN 2077-0383. DOI 10.3390/jcm10215072.

Introduction: The general objective of this research is to improve the quality of colorectal cancer screening (CRC) by assessing, as an indicator of effectiveness, the ability of colonoscopy to detect more advanced adenomas in the exposed group than in the control group. Material and Methods: The present work is designed as an open-label randomized study on cancer screening, using two groups based on their exposure to the protocol: an exposed to intervention group (EIG, 167), and a control group (CG, 167), without the intervention of the protocol and by 1:1 matching. Results: In 167 patients in the GEI, 449 polyps are visualized and 274 are adenomas (80.58%), of which 100 (36.49%) are advanced adenomas. In the CG (n = 174), there are 321 polyps and 152 adenomas (82.60%). The variables significantly associated by logistic regression to the detection of adenomas are the male sex with an OR of 2.52. The variable time to withdrawal, & GE;9 min, is significant at 99% confidence (p = 0.002/OR 34.67) and the fractional dose is significant at 99% (p = 0.009, OR 7.81). Conclusion: Based on the observations made, our study suggests that the intervention in collaboration between primary care and hospital care is effective from a preventive point of view and achieves the objective of effectiveness and quality of the PCCR.

AMOO, A.E., DELGADO-BAQUERIZO, M. y BABALOLA, O.O., 2021. Forest plantations reduce soil functioning in terrestrial ecosystems from South Africa. *Pedobiologia* [en línea], vol. 89. DOI 10.1016/j.pedobi.2021.150757.

The role of forest plantations in regulating soil ecosystem functions remains poorly understood in terrestrial ecosystems from Africa. Here, we evaluated the importance of forest plantations in regulating soil microbial functional profiles, community-level physiological profiles (CLPPs) and activities of soil microbial communities compared with native forests in two contrasting seasons. We found that forest plantations consistently reduced the rates of multiple soil functions

associated with soil nutrient and carbon (C) cycling and shifted the activity and functional profile of microbial communities in two contrasting seasons and two independent regions from South Africa. Our results suggest land use changes from natural forests to plantations to maintain a continuously growing human population will have important negative consequences for soil functions in forest ecosystems from Africa with implications for ecosystem functioning under changing environments. © 2021 The Author(s)

ANDRÉS CRESPO, L. y GONZÁLEZ CORTÉS, M. del C., 2021. Hábitos saludables y Covid19: implicaciones en la alimentación y en la actividad física deportiva de jóvenes sevillanos. *Pandemia y COVID 19: experiencias investigadoras desde la educación social*. S.l.: Dykinson, pp. 68-82. ISBN 978-84-13-77891-4.

ARROYO-CEREZO, A., CERRILLO, I., ORTEGA, A. y FERNANDEZ-PACHON, M., 2021. Intake of branched chain amino acids favors post-exercise muscle recovery and may improve muscle function: optimal dosage regimens and consumption conditions. *JOURNAL OF SPORTS MEDICINE AND PHYSICAL FITNESS*, vol. 61, no. 11, pp. 1478-1489. ISSN 0022-4707. DOI 10.23736/S0022-4707.21.11843-2.

INTRODUCTION: Numerous sportspeople consume nutritional ergogenic aids, including branched chain amino acids (BCAA), considered to favor post-exercise muscle recovery. The purpose of this study was to assess the effect of BCAA on recovery from muscle damage produced by high-intensity exercise and muscle function. This allowed to define the optimal dosage regimen and consumption conditions taking into account the combination of BCAA with other products. **EVIDENCE ACQUISITION:** A systematic review of the scientific literature published over the past 15 years using the PubMed/MEDLINE, Scopus and Web of Science databases was carried out. Nineteen articles were selected. **EVIDENCE SYNTHESIS:** The most optimal regimen for post-exercise muscle recovery and/or muscle function after high-intensity resistance exercise was 2-10 g BCAA/day (leucine: isoleucine: valine at 2:1:1), consumed as a supplement alone or combined with arginine and carbohydrates, 3 previous days before exercise, immediately before and after exercise, regardless of training level. This treatment can improve perceived muscle damage, fatigue, circumference of arm/leg, counter movement jump, maximum muscle strength and maximum voluntary contraction, and reduce creatine kinase and lactate dehydrogenase levels, mainly in young males. **CONCLUSIONS:** Intake of BCAA favors post-exercise muscle recovery and may improve muscle function. The present review can serve as a guidance for high intensity endurance athletes who need to reduce post-exercise muscle damage and maintain or improve muscle function, especially in training periods and competition events planned with short rest periods.

BAENA, D., CANTERO, J.L. y ATIENZA, M., 2021. Stability of neural encoding moderates the contribution of sleep and repeated testing to memory consolidation.

Neurobiology of Learning and Memory [en línea], vol. 185. DOI 10.1016/j.nlm.2021.107529.

There is evidence suggesting that online consolidation during retrieval-mediated learning interacts with offline consolidation during subsequent sleep to transform memory. Here we investigate whether this interaction persists when retrieval-mediated learning follows post-training sleep and whether the direction of this interaction is conditioned by the quality of encoding resulting from manipulation of the amount of sleep on the previous night. The quality of encoding was determined by computing the degree of similarity between EEG-activity patterns across restudy of face pairs in two groups of young participants, one who slept the last 4 h of the pre-training night, and another who slept 8 h. The offline consolidation was assessed by computing the degree of coupling between slow oscillations (SOs) and spindles (SPs) during post-training sleep, while the online consolidation was evaluated by determining the degree of similarity between EEG-activity patterns recorded during the study phase and during repeated recognition of either the same face pair (i.e., specific similarity) or face pairs sharing sex and profession (i.e., categorical similarity) to evaluate differentiation and generalization, respectively. The study and recognition phases were separated by a night of normal sleep duration. Mixed-effects models revealed that the stability of neural encoding moderated the relationship between sleep- and retrieval-mediated consolidation processes over left frontal regions. For memories showing lower encoding stability, the enhanced SO-SP coupling was associated with increased reinstatement of category-specific encoding-related activity at the expense of content-specific activity, whilst the opposite occurred for memories showing greater encoding stability. Overall, these results suggest that offline consolidation during post-training sleep interacts with online consolidation during retrieval the next day to favor the reorganization of memory contents, by increasing specificity of stronger memories and generalization of the weaker ones.

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BAENA GONZÁLEZ, R., GARCÍA TASCÓN, M., CHAVARRÍA ORTIZ, C., JOSÉ MACIÁ-ANDREU, M. y GALLARDO GUERRERO, A.M., 2021. Estudio preliminar para el diseño y validación de un cuestionario sobre la percepción de la seguridad según el sistema antivuelco de las porterías en eventos deportivos. *Cultura, ciencia y deporte*, vol. 16, no. 50, pp. 583-592. ISSN 1696-5043. 10.12800/ccd.v16i50.1613

En los eventos deportivos la seguridad de los deportistas es fundamental y el sistema antivuelco de las porterías es un elemento imprescindible para evitar lesiones y accidentes en el balonmano/futsal. El objetivo de este estudio fue realizar un estudio preliminar del diseño y validación de un nuevo cuestionario para conocer la opinión de los agentes implicados en los eventos deportivos acerca de la percepción en el rendimiento del juego del balonmano/futsal del sistema antivuelco de las porterías. La validación de contenido se ha llevado a cabo a través de dieciséis expertos mediante entrevista estructurada y la validez de comprensión determinada por la aplicación del cuestionario a una muestra de 60 participantes en el Torneo Internacional 4 Naciones de Balonmano en el año 2019. El alfa de Cronbach sobre la base de 18 ítems es de .860 en una escala 0-1, lo que indica una

consistencia interna adecuada de los ítems, la prueba χ^2 de Friedman es de $p < .05$, lo cual indica que de forma individual cada pregunta incluida en el instrumento aporta información relevante. Este estudio preliminar indica que el instrumento podría considerarse válido y fiable para valorar la opinión de los agentes deportivos sobre el sistema antivuelco de las porterías.

BAYONA-FELIU, A. y AGUILERA, A., 2021. The role of chromatin at transcription-replication conflicts as a genome safeguard. *Biochemical Society Transactions*, ISSN 0300-5127. DOI 10.1042/BST20210691.

DNA replication ensures the correct copying of the genome and the faithful transfer of the genetic information to the offspring. However, obstacles to replication fork (RF) progression cause RF stalling and compromise efficient genome duplication. Since replication uses the same DNA template as transcription, both transcription and replication must be coordinated to prevent Transcription-Replication Conflicts (TRCs) that could stall RF progression. Several factors contribute to limit the occurrence of such conflicts and their harmful impact on genome integrity. Increasing evidence indicates that chromatin homeostasis plays a key role in the cellular response to TRCs as well as in the preservation of genome integrity. Indeed, chromatin regulating enzymes are frequently mutated in cancer cells, a common characteristic of which is genome instability. Therefore, understanding the role of chromatin in TRC occurrence and resolution may help identify the molecular mechanism by which chromatin protects genome integrity, and the causes and physiological relevance of the high mutation rates of chromatin regulating factors in cancer. Here we review the current knowledge in the field, as well as the perspectives and future applications.

BEA, A., VALERO, J., IRAZOKI, A., LANA, C., LOPEZ-LLUCH, G., PORTERO-OTIN, M., PEREZ-GALAN, P., INSERTE, J., RUIZ-MEANA, M., ZORZANO, A., LLOVERA, M. y SANCHIS, D., 2021. Cardiac fibroblasts display endurance to ischemia, high ROS control and elevated respiration regulated by the JAK2/STAT pathway. *Febs Journal*, ISSN 1742-464X. DOI 10.1111/febs.16283.

Cardiovascular diseases are the leading cause of death globally and more than four out of five cases are due to ischemic events. Cardiac fibroblasts (CF) contribute to normal heart development and function, and produce the post-ischemic scar. Here, we characterize the biochemical and functional aspects related to CF endurance to ischemia-like conditions. Expression data mining showed that cultured human CF (HCF) express more BCL2 than pulmonary and dermal fibroblasts. In addition, gene set enrichment analysis showed overrepresentation of genes involved in the response to hypoxia and oxidative stress, respiration and Janus kinase (JAK)/Signal transducer and Activator of Transcription (STAT) signaling pathways in HCF. BCL2 sustained survival and proliferation of cultured rat CF, which also had higher respiration capacity and reactive oxygen species (ROS) production than pulmonary and dermal fibroblasts. This was associated with higher expression of the electron transport chain (ETC) and antioxidant enzymes. CF had high phosphorylation of JAK2 and its effectors STAT3 and STAT5, and their inhibition reduced viability and respiration, impaired ROS control and reduced the expression of BCL2, ETC complexes and antioxidant enzymes.

Together, our results identify molecular and biochemical mechanisms conferring survival advantage to experimental ischemia in CF and show their control by the JAK2/STAT signaling pathway. The presented data point to potential targets for the regulation of cardiac fibrosis and also open the possibility of a general mechanism by which somatic cells required to acutely respond to ischemia are constitutively adapted to survive it.

BEJARANO BACHE, M.A. y RIES, F., 2021. La evaluación como medio de aprendizaje de destrezas complejas y competencias digitales. *Educación siglo XXI: nuevos retos, nuevas soluciones*. S.l.: Dykinson, pp. 11-26. ISBN 978-84-13-77858-7.

BELTRÁN MARTÍNEZ, L., 2021. La importancia de los matrimonios dentro del taller. Algunos ejemplos dentro del gremio de pintores en la Sevilla de la segunda mitad del siglo XVII. En: Asociación de Amigos del Archivo Histórico Diocesano de Jaén. Congreso Virtual sobre Historia de las Mujeres. XIII Congreso Virtual sobre Historia de las Mujeres (15 Al 31 De Octubre De 2021). Comunicaciones. (ed.), *XIII Congreso virtual sobre Historia de las Mujeres*. S.l.: Archivo Histórico Diocesano de Jaén, pp. 103-113.

BENÍTEZ-BENÍTEZ, C., OTERO, A., FORD, K.A., GARCÍA-MORO, P., DONADÍO, S., LUCEÑO, M., MARTÍN-BRAVO, S. y JIMÉNEZ-MEJÍAS, P., 2021. An Evolutionary Study of *Carex* Subg. *Psyllophorae* (Cyperaceae) Sheds Light on a Strikingly Disjunct Distribution in the Southern Hemisphere, With Emphasis on Its Patagonian Diversification. *Frontiers in Plant Science* [en línea], vol. 12. DOI 10.3389/fpls.2021.735302.

Carex subgenus *Psyllophorae* is an engaging study group due to its early diversification compared to most *Carex* lineages, and its remarkable disjunct distribution in four continents corresponding to three independent sections: sect. *Psyllophorae* in Western Palearctic, sect. *Schoenoxiphium* in Afrotropical region, and sect. *Junciformes* in South America (SA) and SW Pacific. The latter section is mainly distributed in Patagonia and the Andes, where it is one of the few *Carex* groups with a significant in situ diversification. We assess the role of historical geoclimatic events in the evolutionary history of the group, particularly intercontinental colonization events and diversification processes, with an emphasis on SA. We performed an integrative study using phylogenetic (four DNA regions), divergence times, diversification rates, biogeographic reconstruction, and bioclimatic niche evolution analyses. The crown age of subg. *Psyllophorae* (early Miocene) supports this lineage as one of the oldest within *Carex*. The diversification rate probably decreased over time in the whole subgenus. Geography seems to have played a primary role in the diversification of subg. *Psyllophorae*. Inferred divergence times imply a diversification scenario away from primary Gondwanan vicariance hypotheses and suggest long-distance dispersal-mediated allopatric diversification. Section *Junciformes* remained in

Northern Patagonia since its divergence until Plio-Pleistocene glaciations. Andean orogeny appears to have acted as a northward corridor, which contrasts with the general pattern of North-to-South migration for temperate-adapted organisms. A striking niche conservatism characterizes the evolution of this section. Colonization of the SW Pacific took place on a single long-distance dispersal event from SA. The little ecological changes involved in the trans-Pacific disjunction imply the preadaptation of the group prior to the colonization of the SW Pacific. The high species number of the section results from simple accumulation of morphological changes (disparification), rather than shifts in ecological niche related to increased diversification rates (radiation). © Copyright © 2021 Benítez-Benítez, Otero, Ford, García-Moro, Donadío, Luceño, Martín-Bravo and Jiménez-Mejías.

BERNÁLDEZ SÁNCHEZ, E., 2021. Siempre al filo de lo imposible. *Arqueología e interdisciplinariedad: la microhistoria de una revolución en la arqueología española (1970-2020)*. S.l.: Universitat de Barcelona, pp. 125-132. ISBN 978-84-9168-386-5.

BONSÓN PONTE, E. y BEDNÁROVÁ, M., 2021. Transparencia e inteligencia artificial: la necesidad de un marco de información de referencia. *AECA: Revista de la Asociación Española de Contabilidad y Administración de Empresas*, no. 135, pp. 4-5. ISSN 1577-2403.

BOTELLO HERMOSA, P.I., 2021. *El Derecho real de habitación a favor de la persona con discapacidad*. S.l.: Aranzadi. ISBN 978-84-13-46240-0.

¿Saben los familiares de las personas con discapacidad que pueden establecer a favor de estas, mediante donación o legado testamentario, un derecho de habitación vitalicio sobre la vivienda en la que convivan, sin que dicho derecho compute en la legítima del habitacionista? ¿Conocen las personas con discapacidad el derecho de habitación que tienen por ley sobre la vivienda en la que convivían con su legitimario cuando este fallezca, siempre y cuando se cumplan unos requisitos? Si la Ley 5/2019, de regulación de contratos de créditos inmobiliarios, impone al notario con carácter previo a la firma de la escritura de préstamo hipotecario la obligación de asesorar e informar claramente al consumidor respecto al alcance de lo que va a firmar, debiendo incluso elaborarse un acta notarial que así lo refleje, ¿por qué no exigir igualmente que, con carácter previo a la firma de la aceptación de una herencia en la que el causante conviviese con un legitimario con discapacidad, el notario tenga que informar a dicho legitimario del derecho de habitación vitalicio que puede corresponderle por ley en caso de necesitarlo, y sin que se compute en su legítima?

BRAVO LOZANO, C., 2021. Desafíos al Imperio: crisis y resiliencia. *La Aventura de la historia*, no. 277, pp. 68-73. ISSN 1579-427X.

BRAVO LOZANO, C. y QUIRÓS ROSADO, R., 2021. Visiones de Las Indias: la monarquía de «dos mundos». *La Aventura de la historia*, no. 277, pp. 52-53. ISSN 1579-427X.

BRIALES BELLÓN, I. y FILSINGER, G., 2021. Análisis de la narrativa sobre el populismo de derecha en España en la prensa francesa: Lengua, política y medios. *Las redes de la comunicación: estudios multidisciplinares actuales*. S.I.: Dykinson, pp. 183-203. ISBN 978-84-13-77560-9.

CABALLANO INFANTES, E., ZEO SÁNCHEZ, D.E.D., SÁNCHEZ NÚÑEZ, P. y GABRIEL BORREGO, L., 2021. Investigación sobre la metodología pedagógica basada en el aula invertida durante la pandemia por la COVID-19: Un estudio cuantitativo. *In-Red 2021. VII Congreso nacional de innovación educativa y docencia en red: Lecciones aprendidas, ideas compartidas*. S.I.: Universitat Politècnica de València, pp. 1585-1596. ISBN 978-84-9048-638-2.

CAMARERO, J.J., GAZOL, A., LINARES, J.C., FAJARDO, A., COLANGELO, M., VALERIANO, C., SÁNCHEZ-SALGUERO, R., SANGÜESA-BARREDA, G., GRANDA, E. y GIMENO, T.E., 2021. Differences in temperature sensitivity and drought recovery between natural stands and plantations of conifers are species-specific. *Science of the Total Environment* [en línea], vol. 796. DOI 10.1016/j.scitotenv.2021.148930.

Forests are being impacted by climate and land-use changes which have altered their productivity and growth. Understanding how tree growth responds to climate in natural and planted stands may provide valuable information to prepare management in sight of climate change. Plantations are expected to show higher sensitivity to climate and lower post-drought resilience than natural stands, due to their lower compositional and structural diversity. We reconstructed and compared the radial growth of six conifers with contrasting ecological and climatic niches (*Abies pinsapo*, *Cedrus atlantica*, *Pinus sylvestris*, *Pinus nigra*, *Pinus pinea*, *Pinus pinaster*) in natural and planted stands subjected to seasonal drought in 40 sites. We quantified the relationships between individual growth variability and climate variables (temperature, precipitation and the SPEI drought index), as well as post-drought resilience. Elevated precipitation during the previous autumn-winter and current spring to early summer enhanced growth in both natural and planted stands of all species. Temperature effects on growth were less consistent: only plantations of *A. pinsapo*, *C. atlantica*, *P. nigra*, *P. pinea*, *P. sylvestris* and a natural stand of *P. nigra* showed negative impacts of summer temperature on growth. Drought reduced growth of all species in both plantations and natural stands, with variations in the temporal scale of the response. Drought constrained growth more severely in natural stands than in plantations of *C.*

atlantica, *P. pinaster* and *P. nigra*, whereas the inverse pattern was found for *A. pinsapo*. Resilience to drought varied between species: natural stands of *A. pinsapo*, *C. atlantica* and *P. pinaster* recovered faster than plantations, while *P. pinea* plantations recovered faster than natural stands. Overall, plantations did not consistently show a higher sensitivity to climate and a lower capacity to recover after drought. Therefore, plantations are potential tools for mitigating climate warming. © 2021 The Authors

CANTERO GARCÍA, V., 2021. Miguel Hernández o la llamada de la sangre: del deseo sexual incontenible al impulso erótico irrefrenable. *Cuadernos de investigación filológica*, no. 49, pp. 77-106. ISSN 0211-0547. 10.18172/cif.4925

Mucho se ha especulado sobre el influjo que las experiencias amorosas de Miguel Hernández pudieron tener en la composición de sus poemas. Sin embargo, poco se ha explicado el alcance y la repercusión de las mismas en la construcción de su equilibrio emocional y en la plena satisfacción de sus deseos sexuales y sus impulsos eróticos. Este es el objeto de la presente contribución: ¿logró Miguel Hernández realizarse sexualmente en las relaciones amorosas que mantuvo con Josefina Manresa, Maruja Mallo y María Cegarra o más bien dichas relaciones le dejaron insatisfecho sexualmente y emocionalmente decepcionado? Mediante un análisis testimonial contrastivo ponemos de manifiesto que con ninguna de las mujeres citadas colmó el poeta oriolano sus deseos sexuales, a través de la entrega incondicional, en lo físico y en lo espiritual, por parte de ambos amantes. De aquí que el sinsabor y la decepción mantuvieran abierta la “herida del amor” hasta el final de sus días.

CASTEJON-VEGA, B., RUBIO, A., PEREZ-PULIDO, A., QUILES, J., LANE, J., FERNANDEZ-DOMINGUEZ, B., CACHON-GONZALEZ, M., MARTIN-RUIZ, C., SANZ, A., COX, T., ALCOCER-GOMEZ, E. y CORDERO, M., 2021. L-Arginine Ameliorates Defective Autophagy in GM2 Gangliosidosis by mTOR Modulation. *Cells*, vol. 10, no. 11. ISSN 2073-4409. DOI 10.3390/cells10113122.

Aims: Tay-Sachs and Sandhoff diseases (GM2 gangliosidosis) are autosomal recessive disorders of lysosomal function that cause progressive neurodegeneration in infants and young children. Impaired hydrolysis catalysed by beta-hexosaminidase A (HexA) leads to the accumulation of GM2 ganglioside in neuronal lysosomes. Despite the storage phenotype, the role of autophagy and its regulation by mTOR has yet to be explored in the neuropathogenesis. Accordingly, we investigated the effects on autophagy and lysosomal integrity using skin fibroblasts obtained from patients with Tay-Sachs and Sandhoff diseases. **Results:** Pathological autophagosomes with impaired autophagic flux, an abnormality confirmed by electron microscopy and biochemical studies revealing the accelerated release of mature cathepsins and HexA into the cytosol, indicating increased lysosomal permeability. GM2 fibroblasts showed diminished mTOR signalling with reduced basal mTOR activity. Accordingly, provision of a positive nutrient signal by L-arginine supplementation partially restored mTOR activity and ameliorated the cytopathological abnormalities. **Innovation:** Our data

provide a novel molecular mechanism underlying GM2 gangliosidosis. Impaired autophagy caused by insufficient lysosomal function might represent a new therapeutic target for these diseases. Conclusions: We contend that the expression of autophagy/lysosome/mTOR-associated molecules may prove useful peripheral biomarkers for facile monitoring of treatment of GM2 gangliosidosis and neurodegenerative disorders that affect the lysosomal function and disrupt autophagy.

CASTILLO, D., RODRÍGUEZ FERNÁNDEZ, A., YUZO NAKAMURA, F., SÁNCHEZ SÁNCHEZ, J., RAMÍREZ CAMPILLO, R. y YANCI IRIGOYEN, J., 2021. Influence of Different Small-Sided Game Formats on Physical and Physiological Demands and Physical Performance in Young Soccer Players. *Journal of strength and conditioning research: the research journal of the NSCA*, vol. 35, no. 8, pp. 2287-2293. ISSN 1064-8011.

The aim of this study was to quantify the acute impact of bout duration and individual interaction space on physical and physiological demands and on physical performance. Ten young male soccer players (age: 14.8 +/- 0.6 years) from the same team playing in the National U-16 Division participated. Physical (total distance [TD]; distance covered at different speeds; and maximum velocity [Velmax]) and physiological (peak [HRpeak] and mean [HRmean] heart rate) parameters were collected for every bout during each small-sided game (SSG) format. Moreover, the effects of SSGs on horizontal jump (HJ) and 30-m sprint performances were evaluated. The SSG formats were composed of 6 players a side (including goalkeepers) and included 4 repetitions of 6 minutes in a space of 100 m² (SSG1) or 200 m² (SSG2) and 6 repetitions of 4 minutes in 100 m² (SSG3) or 200 m² (SSG4). The TD, the distance covered at different speeds, and Velmax were greater ($p < 0.01$, effect size [ES] = 1.25-5.95, large) in SSG2 and SSG4 than SSG1 and SSG3, respectively. Furthermore, the HRmean and HRpeak were lower ($p < 0.05$, ES = 1.53-2.23, large) during SSG3 than other SSGs. In addition, while a significant ($p < 0.05$, ES = 0.70-2.04, moderate to large) increase in SPR30 time in SSG1 and SSG3 was observed, HJ performance was not affected ($p > 0.05$, ES = 0.03-0.54, trivial to moderate) by any SSG format. These findings suggest increasing pitch size to induce greater physical demands and to use SSGs with smaller pitch size, and independently of the bout duration, to induce neuromuscular fatigue.

CASTO-REBOLLO, C., MARTÍNEZ-PAREDES, E., MARTÍNEZ LLORENS, S., VICENTE ANTÓN, J.S., MARCO JIMÉNEZ, F. y SÁNCHEZ PEÑARANDA, D., 2021. Blending learning: Una nueva forma de enfocar las sesiones prácticas. *Innovaciones docentes en tiempos de pandemia. Actas del VI congreso internacional sobre aprendizaje, innovación y cooperación, CINAIC 2021*. S.I.: Universidad de Zaragoza, pp. 324-329. ISBN 978-84-18321-17-7.

Competencies are highly appreciated by employers, especially those related to practical thinking. This reality is more evident in laboratory practical sessions, where

students should apply theoretical knowledge to practical cases. The current work aims to apply the teaching methodology «Blended learning» that combines face-to-face teaching with online, in order to improve the acquisition of transversal competence «Application and practical thinking», as well as a greater internalization of learned concepts. The teaching methodology was implemented in undergraduate students, specifically in the laboratory sessions of the subject: Animal and Human Physiology (11109) of the second year of the Degree in Biotechnology at the Universitat Politècnica de València. The results obtained showed that the application of the teaching methodology allowed the development of practical thinking, since the categorical average grade was «A: Excellent». In addition, there was an improvement in the qualification of the note of the theoretical-practical evaluation, indicating a better internalization of the learned concepts. Therefore, it can be concluded that the “Blended learning” methodology has been an effective methodology for not only improving the acquisition of transversal competence, but also for academic qualification.

COSTA, C., GARCIA-CINTADOS, A. y HIDALGO-PEREZ, M., 2021. Political Cycles in Latin America: More Evidence on the Brazilian Economy. *LATIN AMERICAN ECONOMIC REVIEW*, vol. 30, no. 8. ISSN 2198-3526. DOI 10.47872/laer.v30.28.

This paper aims to shed additional light on the existence of opportunistic and partisan political-business cycles in the Brazilian economy over the 1996-2016 period. To that end, it relies on two different approaches: (I) an Oaxaca model in the spirit of Blinder and Watson (2016); and (II) a DSGE model where fiscal and monetary policies are treated as political-regime dependent (Milani, 2010). By and large, our results from both exercises show that there existed an opportunistic behavior by all the governments studied as regards fiscal policy, and that political ideology played a role in shaping macroeconomic policies in some of the administrations that ran the country within the time span considered. Specifically, as our DSGE exercise illustrates, President Dilma Rouseff’s fiscal management differed significantly from previous governments’. In addition, we do not find any evidence of political business cycle of any type when it comes to monetary policy, in line with what the consensus in this literature states for the case of Brazil.

CUTIÑO RAYA, S., 2021. Peticiones y quejas de las personas presas. *Indret: Revista para el Análisis del Derecho*, no. 4, pp. 13- 0. ISSN 1698-739X.

DASMAHAPATRA, A., MARTINEZ-CASADO, R., ROMERO-MUN, C., SGROI, M., FERRARI, A. y MASCHIO, L., 2021. Doping the permanent magnet CeFe₁₁Ti with Co and Ni using ab-initio density functional methods. *Physica B: Condensed Matter*, vol. 620. ISSN 0921-4526. DOI 10.1016/j.physb.2021.413241.

High performance magnets are valuable in the light of the modern energy crunch in the world primarily because of their applicability in electric motor vehicles. We study

two compounds: CeCoFe10Ti and CeNiFe10Ti using hybrid density functional computations. Our aim is to observe effects of adding Co and Ni to the parent compound CeFe11Ti, which is a well-known permanent magnet. Using a solid solution algorithm in the ab-initio CRYSTAL code, we determine 16 symmetrically distinct ways in which Ni or Co can be added. These 32 configurations (16 for each Co and Ni) are then further analyzed for their total energies, spin configurations, partial density of states (PDOS) and magnetic anisotropic energies (MAE). Our work shows that addition of Co slightly enhances magnetic properties. The addition of Ni weakens the hybridization between Ce-f and Fe-d orbitals and leads to a decrease in saturation magnetic values and MAE.

DEL CAMPO, A.D., SEGURA-ORENGA, G., BAUTISTA, I., CEACERO, C.J., GONZÁLEZ-SANCHIS, M., MOLINA, A.J. y HERMOSO, J., 2021. Assessing reforestation failure at the project scale: The margin for technical improvement under harsh conditions. A case study in a Mediterranean Dryland. *Science of the Total Environment* [en línea], vol. 796. DOI 10.1016/j.scitotenv.2021.148952.

Poor reforestation outcomes imply failure to fulfill program goals and tend to erode institutional willpower and political momentum towards reforestation efforts, affecting both public and private support. However, program improvement in real reforestation projects is challenging, due to the conjunction of many different variables that mutually interact and feed back on each other inextricably. This study develops a comprehensive assessment framework for reforestation programs, for which technical and environmental information is gathered and related to indicators of performance in both the short- and mid-term. This assessment, tested on a case study, aimed to provide reliable end-results for survival and growth, revealed pitfalls in successful plantation establishment and taught us how to improve plantation performance and what the margin for this improvement was. The selected project was carried out on harsh site conditions, with different species, cultivation treatments and contractors, and was affected by the driest year on record. Plantation mortality was high and increased progressively over time, particularly in the short-term when the rate was 53% (rising to 83% after ten years), showing high variation between sites and species (Pinus pinaster and Quercus faginea died more than 94% after ten years while Juniperus phoenicea only 40%). All the hardwoods and the juniper showed lower growth rate after ten years (average stem volume $\approx 40\text{ cm}^3$) than pines (stem volume >math>\approx 470\text{ cm}^3</math>). Technical variables (project planning and execution) had a relatively important impact on plantation performance in the first two years (11–29%), but decreased with time, whilst environmental variables (site and meteorological) were more important ten years after planting (>math>\approx 50\%</math>). In the short-term, soil moisture and meteorology during the planting season were identified as key factors that triggered the effects of both technical decisions (planting date and planting technique) and other environmental variables on performance. In the design phase, some decisions related to zoning, species selection and cultural treatments were related to poor performance. The results provide practical information and guidelines about all potential drivers of plantation performance and contribute to identify those aspects more related to

success of forest restoration in Mediterranean drylands. © 2021 Elsevier B.V.

DÍAZ DIEGO, J., 2021. Ni tierras para jornaleros ni límites al latifundio. A 10 años de la derogación de la reforma agraria andaluza. *Mejorar la vida en tu territorio: IDL, 25 años trabajando en los ámbitos municipales*. S.l.: Universidad de Huelva, pp. 97-110. ISBN 978-84-18628-06-1.

DÍAZ RODRÍGUEZ, M. del C., ARMAS DÍAZ, A., SABATÉ BEL, F. y TORRES GUTIÉRREZ, F.J., 2021. Luz Marina García Herrera, pionera de la geografía urbana crítica en España. *Scripta Nova: Revista electrónica de geografía y ciencias sociales*, vol. 25, no. 3, pp. 8- 0. ISSN 1138-9788. 10.1344/sn2021.25.35251

El artículo explora los inicios en España de la geografía urbana crítica y marxista de raíz anglosajona, a partir de las contribuciones pioneras que bajo este enfoque introduce la geógrafa Luz Marina García Herrera (1953-2020). Sus investigaciones sobre periferias urbanas, relaciones de propiedad del suelo y agentes urbanos son hoy un referente obligado en el panorama de la geografía radical española. Este análisis trata de reconstruir un capítulo del pensamiento geográfico, centrando la atención en los trabajos sobre periferias urbanas, objeto destacado de estudio de la geografía urbana crítica, y en las innovadoras aportaciones teóricas y empíricas que sobre tales ámbitos debemos a la profesora García Herrera. Para ello se analizan en profundidad sus dos monografías principales centradas en esta temática; se revisa la producción bibliográfica desde 1970; y se realizan entrevistas a personas del entorno académico y sociopolítico de esta investigadora, prematuramente fallecida, a quien rendimos homenaje desde estas líneas.

ESPINAR CABELLO, A. y VILLA CONTRERAS, A., 2021. Relaciones sociales y pandemia: ¿cómo me relaciono en tiempos del Covid-19? *Pandemia y COVID 19: experiencias investigadoras desde la educación social*. S.l.: Dykinson, pp. 45-57. ISBN 978-84-13-77891-4.

FALCES-PRieto, M., SÁEZ DE VILLARREAL-SÁEZ, E., RAYA-GONZÁLEZ, J., GONZÁLEZ-FERNÁNDEZ, F.T., CLEMENTE, F.M., BADICU, G. y MURAWSKA-CIAŁOWICZ, E., 2021. The Differentiate Effects of Resistance Training With or Without External Load on Young Soccer Players' Performance and Body Composition. *Frontiers in Physiology* [en línea], vol. 12. DOI 10.3389/fphys.2021.771684.

Purpose: The purpose of this study was to examine the effects of 15 weeks (2/week) of two different resistance training (RT) programs [the self-load group (SG) vs. the overload group (OG)] on selected measures of physical performance in young male soccer players. Methods: The countermovement jump (CMJ), aerobic

endurance (VO₂ max), and body composition [body mass (BM), height (H), body fat percentage (% BF), and lean mass (LM)] were measured before and after the 15-week RT interventions. Subjects were randomized to treatments: 1. SG [age = 15.34 ± 1.34 years]; 2. OG [age = 16.28 ± 1.21 years]. Results: The level of significance set for the study ($p \leq 0.05$). Within-group analysis did report significant differences in all variables for the SG ($p = 0.008$ to 0.001 ; ES = -0.33 to 1.41, small to large) as in the OG ($p = 0.001$; ES = 0.82 to 1.30, large). Between-groups analysis reported differences in CMJ ($F = 4.32$; $p = 0.004$) for the OG. Conclusion: The main findings of this study indicated that RT with and without external load was effective in improving the measures of physical performance in young soccer players, with special attention to jumping ability, where the OG group was more effective. Furthermore, there is no interference to aerobic endurance. It is recommended that soccer coaches implement RT without external load in the early stages of training or in players with late maturation development and in those soccer clubs with limited material resources. Copyright © 2021 Falces-Prieto, Sáez de Villarreal-Sáez, Raya-González, González-Fernández, Clemente, Badicu and Murawska-Ciałowicz.

FERNÁNDEZ MÁRQUEZ, E. y ENCARNACIÓN PEDRERO-GARCÍA, 2021. La influencia del Covid-19 en la vida cotidiana de la ciudadanía española. *Pandemia y COVID 19: experiencias investigadoras desde la educación social*. S.l.: Dykinson, pp. 3-17. ISBN 978-84-13-77891-4.

FERNÁNDEZ MÁRQUEZ, E. y PEDRERO-GARCÍA, E., 2021. *Pandemia y COVID 19: experiencias investigadoras desde la educación social*. S.l.: Dykinson. ISBN 978-84-13-77891-4.

FERNÁNDEZ NICOLÁS, D., GIL PÉREZ, J. y COLOM PIELLA, G., 2021. *Gobierno de los Hermanos Musulmanes 2012-2013: Análisis del auge y caída del Islam político en Egipto*. S.l.: s.n.

FERNANDEZ-BATANERO, J., ROMAN-GRAVAN, P., MONTENEGRO-RUEDA, M., LOPEZ-MENESES, E. y FERNANDEZ-CERERO, J., 2021. Digital Teaching Competence in Higher Education: A Systematic Review. *Education Sciences*, vol. 11, no. 11. ISSN 2227-7102. DOI 10.3390/educsci11110689.

Higher education is one of the educational stages most affected by digital technologies, whose constant development has produced a favourable atmosphere for new approaches regarding the teaching-learning processes. The aim of the study was to identify the most relevant findings that specialists have analysed in terms of the digital competences of university teachers, through the analysis of the scientific production of the specialised literature in the last decade (2009-2019). A search was carried out on the Web of Science (WoS) and Scopus databases following the guidelines of the PRISMA statement (Preferred Reporting Items for Systematic reviews and Meta-Analyses). After applying the inclusion and exclusion criteria,

the sample was made up of 20 articles. The main findings show the low level of digital competence among teachers and the need for training in both technological and pedagogical areas.

FERNÁNDEZ-VIAGAS ESCUDERO, P., 2021. Jerarquía de mujeres en las Partidas: Las mujeres castellanas ante los delitos de rapto, fuerza, sonsacamiento y otros relacionados. Entre la protección y desprotección del legislador. *El devenir de las civilizaciones: interacciones entre el entorno humano, natural y cultural*. S.l.: Dykinson, pp. 132-154. ISBN 978-84-13-77324-7.

FILSINGER, G., 2021. Traductores automáticos en la era digital: ¿escollo o apoyo? *Las redes de la comunicación: estudios multidisciplinares actuales*. S.l.: Dykinson, pp. 362-385. ISBN 978-84-13-77560-9.

FLORES BORJABAD, S.A., 2021. El reflejo de la cultura árabe contemporánea a través del humor gráfico. *El devenir de las civilizaciones: interacciones entre el entorno humano, natural y cultural*. S.l.: Dykinson, pp. 724-747. ISBN 978-84-13-77324-7.

The sense of humor in the Arab world has manifested itself from multiple points of view. However, political cartoons are considered as the most important form of graphic expression which has been used to reflect society and politics from a double perspective. On the one hand, it seeks to analyze the current situation, criticizing the different inequalities and atrocities that governments commit. On the other hand, it resorts to political humor to reflect a relief for the society. Therefore, the main aims of this research are to analyze the development of political cartoons and their influence on society. Moreover, this research is an attempt to study the development of humor within Arab society. Consequently, a qualitative methodology has been used as it is a theoretical approach. In addition to this, an ethnographic visual method has been applied to study and analyze the sample of cartoons. Furthermore, a grounded theory based on data collection and coding has been developed in order to carry out a theory that explains the phenomenon of Arab cartoons as a form of political humor. In view of this, the results and the discussion are to show that political cartoons are a form of political humor that contains a way of life and thinking of human beings which gives us a sense of the true situation of the Arab world.

GAETANI, M., POHL, B., ALVAREZ CASTRO, M.D.C., FLAMANT, C. y FORMENTI, P., 2021. A weather regime characterisation of winter biomass aerosol transport from southern Africa. *Atmospheric Chemistry and Physics*, vol. 21, no. 21, pp. 16575-16591. DOI 10.5194/acp-21-16575-2021.

During austral winter, a compact low cloud deck over the South Atlantic contrasts with clear sky over southern Africa, where forest fires triggered by dry conditions emit large amounts of biomass burning aerosols (BBAs) in the free troposphere. Most

of the BBA burden crosses the South Atlantic embedded in the tropical easterly flow. However, midlatitude synoptic disturbances can deflect part of the aerosol from the main transport path towards southern extratropics. In this study, the first objective classification of the synoptic variability controlling the spatial distribution of BBA in southern Africa and the South Atlantic during austral winter (August to October) is presented. By analysing atmospheric circulation data from reanalysis products, a six-class weather regime (WR) classification of the region is constructed. The classification reveals that the synoptic variability is composed of four WRs, representing disturbances travelling at midlatitudes, and two WRs accounting for pressure anomalies in the South Atlantic. The WR classification is then successfully used to characterise the aerosol spatial distribution in the region in the period 2003-2017, in both reanalysis products and station data. Results show that the BBA transport towards southern extratropics is controlled by weather regimes associated with midlatitude synoptic disturbances. In particular, depending on the relative position of the pressure anomalies along the midlatitude westerly flow, the BBA transport is deflected from the main tropical route towards southern Africa or the South Atlantic. Moreover, the WRs accounting for midlatitude disturbances show organised transition sequences, which allow one to illustrate the evolution of the BBA northerly transport across the region in the context of a wave pattern. The skill in characterising the BBA transport shown by the WR classification indicates the potential for using it as a diagnostic/predictive tool for the aerosol dynamics, which is a key component for the full understanding and modelling of the complex radiation-aerosol-cloud interactions controlling the atmospheric radiative budget in the region. © 2021 Marco Gaetani et al.

GALLARDO GUERRERO, A.M., CONDE PASCUAL, E., JOSÉ MACIÁ ANDREU, M., SÁNCHEZ-SÁEZ, J.A., ZURITA ORTIZ, B. y GARCÍA TASCÓN, M., 2021. «Flipped Classroom» como aprendizaje activo en las asignaturas del Área de Gestión Deportiva en Ciencias de la Actividad Física y del Deporte. *Educación universitaria en ecosistemas de aprendizaje*. S.l.: Dykinson, pp. 87-96. ISBN 978-84-13-77914-0.

GÁLVEZ PICHARDO, A. y MARÍA VARELA GARAY, R., 2021. Capítulo 8. Uso problemático de las redes sociales en la adolescencia. Revisión sistemática de los programas de prevención del ciberbullying en España. *Prosumidores emergentes: redes sociales, alfabetización y creación de contenidos*. S.l.: Dykinson, pp. 170-190. ISBN 978-84-13-77586-9.

GARCIA, A., RIVERA, J. y GUTIERREZ, F., 2021. Luz Marina has left us like lightning. *HABITAT Y SOCIEDAD*, no. 14, pp. 353-358. ISSN 2173-125X. DOI 10.12795/HabitatySociedad.2021.i14.19.

Luz Marina Garcia Herrera, professor at the University of La Laguna, colleague, teacher

and friend, passed away in June 2020. A reference in Spanish Urban Geography, her contribution to the debate on the shaping of the city and the social dynamics inherent to it has opened up timely and necessary lines of work. She anchors her background in the interpretation of urban social processes under capitalism, focusing on key issues such as marginal developments, gentrification mechanisms or different facets of urban segregation. In addition she also approaches other issues in which we have been able to share time and space with her. Among them the constant and changing conditioning between physical and social environments in the city and consequences, or the reading of public spaces, their use and appropriation keys, as an indicator of cohesion as well as an instrument for the transformation of specific realities. All of this, and even more his commitment and his profound humanity, which we are proud to have learned from, motivate these lines.

GARCIA RIO, E., BAENA-LUNA, P., SÁNCHEZ TORNÉ, I. y PÉREZ SUÁREZ, M., 2021. Emprendimiento en tiempos de COVID-19: una revisión bibliométrica. *Revista de ciencias sociales*, vol. 27, no. 4, pp. 76-93. ISSN 1315-9518.

The COVID-19 pandemic has caused an unprecedented global crisis, which, in addition to the health crisis, has had significant psychosocial and economic effects. However, it represents great opportunities if one considers the importance of entrepreneurship during a period of crisis. Therefore, the aim of this study was to determine the scientific production on the entrepreneurial phenomenon from the beginning of COVID-19 to the present. The methodology used was a bibliometric review of the literature, analyzing 31 papers published in the Web of Science database during this period. The results obtained show that almost 50% of the scientific production has been concentrated in four publications, that two countries have the highest production, the United States and Australia, and that the presence of women is relevant with respect to the total number of authors, with two women authors being specifically those who have published the greatest number of related papers during this period. As conclusions of this work, it can be established that it is a feminized topic, where the publications that refer to the important role of the entrepreneurship in moments of uncertainty are highlighted as the one who lives.

GARCÍA RODRÍGUEZ, M.J., 2021. Normas mínimas comunes a escala de la Unión Europea para garantizar los derechos de los menores sospechosos o acusados en los procesos penales ¿cómo implementarlas en la ley española de responsabilidad penal del menor? *La Ley Unión Europea*, no. 96, pp. 3- 0. ISSN 2255-551X.

La finalidad del presente trabajo es ofrecer una visión general del contenido de la Directiva (UE) 2016/800 del Parlamento Europeo y del Consejo, de 11 de mayo. Mediante la cual, se persigue establecer unas normas mínimas comunes sobre la protección de los derechos y garantías de los menores sospechosos o acusados en los procesos penales en la Unión Europea, y reforzar la confianza mutua entre los sistemas judiciales de los distintos Estados miembros. Para a continuación delimitar el alcance de cada uno de los derechos reconocidos, valorando en qué

medida se contemplan en nuestro ordenamiento, a través de la LO 5/2000, 12 de enero, reguladora de la responsabilidad penal de los menores (LORPM).

GARCÍA SANTIAGO, M. y REQUEJO BOUZADA, R., 2021. Aspectos emocionales y psicológicos en tiempos de pandemia: ¿cómo me siento? *Pandemia y COVID 19: experiencias investigadoras desde la educación social*. S.l.: Dykinson, pp. 32-44. ISBN 978-84-13-77891-4.

GARRIDO-FERNÁNDEZ, A. y LEÓN-CAMACHO, M., 2021. Effect of season, feeding, and anatomical region on the triacylglycerol profile of Iberian pig fat. *Food Chemistry* [en línea], vol. 361. DOI 10.1016/j.foodchem.2021.130070.

The work studies the effects of season, feeding type, and anatomical region on the Iberian pig fat triacylglycerol (TAG) profiles, considered as compositional data (CoDa). The analysis consisted of applying exploratory tools in the simplex and standard multivariate techniques to data transformed into the Euclidean space (ilr coordinates). Compositional biplot showed differences in TAG containing palmitic (P) and oleic (O) acids between the 2005 and 2003/2004 seasons but not within these. PPP (clr variance, 0.139), OLL (0.095), PPS (0.075), POPo + PLP (0.074), and PSS (0.629) showed high CoDa variability among treatments. The ANOVA analysis found significant ($p \leq 0.05$) effects of season, feeding type, and anatomical region on pig fat TAG profile, but only that for 2005 season was well predicted (97.5%) by discriminant analysis (DA). Overall, season was more influential on the Iberian pig fat TAG profile than montanera length and sampling region, which effects were not significant for some statistical techniques. © 2021 Elsevier Ltd

GOMEZ, J., GONZALEZ-MEGIAS, A., NARBONA, E., NAVARRO, L., PERFECTTI, F. y ARMAS, C., 2021. Phenotypic plasticity guides *Moricandia arvensis* divergence and convergence across the Brassicaceae floral morphospace. *NEW PHYTOLOGIST*, ISSN 0028-646X. DOI 10.1111/nph.17807.

Many flowers exhibit phenotypic plasticity. By inducing the production of several phenotypes, plasticity may favour the rapid exploration of different regions of the floral morphospace. We investigated how plasticity drives *Moricandia arvensis*, a species displaying within-individual floral polyphenism, across the floral morphospace of the entire Brassicaceae family. We compiled the multidimensional floral phenotype, the phylogenetic relationships, and the pollination niche of over 3000 species to construct a family-wide floral morphospace. We assessed the disparity between the two *M. arvensis* floral morphs (as the distance between the phenotypic spaces occupied by each morph) and compared it with the family-wide disparity. We measured floral divergence by comparing disparity with the most common ancestor, and estimated the convergence of each floral morph with other species belonging to the same pollination niches. *Moricandia arvensis* exhibits a plasticity-mediated floral

disparity greater than that found between species, genera and tribes. The novel phenotype of *M. arvensis* moves outside the region occupied by its ancestors and relatives, crosses into a new region where it encounters a different pollination niche, and converges with distant Brassicaceae lineages. Our study suggests that phenotypic plasticity favours floral divergence and rapid appearance of convergent flowers, a process which facilitates the evolution of generalist pollination systems.

GÓMEZ VILLEGAS, P. del R., LEÓN BAÑARES, R.M. y VIGARA FERNÁNDEZ, J., 2021. *Metagenomic characterization, bioactive properties and biotechnological applications of the extremophilic microorganisms inhabiting Odiel saltern ponds*. S.l.: s.n.

Los microorganismos extremófilos son aquellos que viven bajo las condiciones más severas para la vida en la Tierra, incluyendo valores extremos de temperatura, presión, pH, radiación, o salinidad, entre otros. Lo realmente sorprendente es que estos microorganismos, no solo toleran, sino que requieren para su proliferación condiciones que se consideran letales para la mayoría de los individuos. Dentro de los microorganismos extremófilos, esta tesis doctoral se ha centrado en el estudio de un tipo concreto de ellos, los denominados halófilos, que habitan en ambientes hipersalinos, donde la concentración de sal llega a superar en diez veces la salinidad del mar. Estos microorganismos proliferan en lugares como lagos salados, minas de sal, salmueras y salinas. Este trabajo está centrado en el estudio de la población microbiana de salinas del Odiel, ubicadas en las marismas del río Odiel en la ciudad de Huelva (España). La diversidad microbiana en ambientes hipersalinos ha estado subestimada por la falta de métodos adecuados para su estudio, dado que por su carácter extremófilo muchos de estos microorganismos no proliferan bien en laboratorio. Sin embargo, los halófilos suponen una excelente fuente de recursos, ya que poseen enzimas especialmente adaptadas y una gran batería de metabolitos con potencial interés biotecnológico, que utilizan para hacer frente a las condiciones extremas en las que viven. En este trabajo se realiza una caracterización completa de las comunidades microbianas que habitan en las balsas de las salinas del Odiel, y se estudian las aplicaciones de algunos de los compuestos producidos por los microorganismos halófilos aislados. Se abordan distintos métodos para la caracterización de la población microbiana a salinidad extrema (Capítulo 1), seguido del análisis de las propiedades bioactivas (Capítulo 2) y aplicaciones biotecnológicas (Capítulo 3) de los metabolitos producidos por los microorganismos aislados, para concluir con el estudio de la evolución de la biodiversidad microbiana a lo largo del gradiente de salinidad (Capítulo 4). En el Capítulo 1 se presenta la caracterización de la población de microorganismos procariotas en las balsas de mayor salinidad (33% NaCl). Se combinaron dos estrategias independientes de cultivo basadas en técnicas moleculares, la generación de genotecas y la secuenciación masiva, ambas centradas en el gen codificante del ARNr 16S. Los resultados mostraron que ambos métodos son comparables en cuanto a la determinación de los géneros mayoritarios, aunque la metagenómica otorga más información sobre los minoritarios. Dentro de los microorganismos más abundantes, se encontraron haloarqueas de los géneros *Haloarubrum* y *Haloquadratum*, además de la bacteria *Salinibacter ruber*. Por otro lado, se evaluó la capacidad de la biomasa recolectada

de las balsas de cristalización para producir distintas hidrolasas extracelulares y halocinas, sobre lo que se profundiza en los dos siguientes capítulos. En el Capítulo 2 se relata la evaluación de las propiedades antioxidantes, antimicrobianas y bioactivas de diversos extractos de dos cepas de arqueas halófilas aisladas de las salinas del Odiel. Estas haloarqueas se clasificaron filogenéticamente como Haloarcula sp. HM1 y Halobacterium sp. HM2. Los resultados más destacables se encontraron en los extractos de acetona de ambas especies, los cuales presentaron alta capacidad antioxidante, antimicrobiana, anti-inflamatoria y melanogénica. Además, los extractos acuosos de ambas haloarqueas exhibieron inhibición sobre la enzima acetilcolinesterasa, relacionada con desórdenes neurológicos. En el Capítulo 3, se detalla la caracterización bioquímica y proteómica de la actividad amilasa de una arquea halófila aislada. Las amilasas son unas de las enzimas más empleadas en la industria, donde las proteínas de halófilos pueden resultar útiles al tolerar condiciones muy extremas. Tras realizar un cribado con distintas cepas de haloarqueas aisladas, se identificó la que presentaba mayor actividad amilasa como Haloarcula sp. HS. Este microorganismo mostró actividad amilasa tanto en el extracto celular como extracelular, con máximos a 60°C y 25% NaCl. Se identificaron hasta tres amilasas distintas de la familia de las denominadas α -amilasas. Además, se probó la efectividad de la actividad amilasa extracelular para tratar residuos de panadería bajo elevada salinidad. Finalmente, en el Capítulo 4 se describe el estudio de la diversidad microbiana en las balsas de las salinas del Odiel a lo largo del gradiente de salinidad (3,5; 7,5; 15 y 30% NaCl). Las comunidades microbianas de eucariotas y procariotas se caracterizaron mediante la secuenciación masiva de los genes codificantes para el ARNr 16S y 18S, junto al análisis de los pigmentos más abundantes. Se comprobó que las microalgas verdes (Chlorophyta) dominan el fitoplancton en todas las salinidades y que el filo Proteobacteria es desplazado por los filos Bacteroidetes y Euryarchaeota conforme aumenta la salinidad. Por último, la evaluación del papel de los carotenoides microbianos en la cadena trófica indicó que estos pigmentos podrían pasar a organismos superiores como los flamencos a través del pequeño crustáceo Artemia.

GÓMEZ-MILLÁN HERENCIA, M.J., 2021. Notas, indicios y presunciones en la calificación del trabajo asalariado. *Nueva revista española de derecho del trabajo*, no. 246, pp. 155-162. ISSN 2444-3476.

GONZÁLEZ-BORJA, I., ALORS-PÉREZ, E., AMAT, I., ALONSO, L., VIYUELA-GARCÍA, C., GOÑI, S., REYES, J.C., CEBALLOS-CHÁVEZ, M., HERNÁNDEZ-GARCÍA, I., SÁNCHEZ-FRÍAS, M.E., SANTAMARÍA, E., RAZQUIN, S., ARJONA-SÁNCHEZ, Á., ARRAZUBI, V., PÉREZ-SANZ, J., VERA, R., FERNÁNDEZ-IRIGOYEN, J., CASTAÑO, J.P. y VIÚDEZ, A., 2021. Deciphering CHFR Role in Pancreatic Ductal Adenocarcinoma. *Frontiers in Medicine* [en línea], vol. 8. DOI 10.3389/fmed.2021.720128.

Checkpoint with forkhead-associated and ring finger domains (CHFR) has been proposed as a predictive and prognosis biomarker for different tumor types, but its role in

pancreatic ductal adenocarcinoma (PDAC) remains unknown. The aim of this study was two-pronged: to review the role of CHFR in PDAC and evaluating CHFR as a potential predictive biomarker in this disease. For this purpose, we first explored the CHFR messenger (m)RNA expression and promoter methylation through the TCGA database. Secondly, the CHFR expression and promoter methylation were prospectively evaluated in a cohort of patients diagnosed with borderline (n = 19) or resectable (n = 16) PDAC by immunohistochemistry (IHC), methylation specific-PCR (MSP), and pyrosequencing. The results from the TCGA database showed significant differences in terms of progression-free survival (PFS) and overall survival (OS) based on the CHFR mRNA expression, which was likely independent from the promoter methylation. Importantly, our results showed that in primarily resected patients and also the entire cohort, a higher CHFR expression as indicated by the higher IHC staining intensity might identify patients with longer disease-free survival (DFS) and OS, respectively. Similarly, in the same cohorts, patients with lower methylation levels by pyrosequencing showed significantly longer OS than patients without this pattern. Both, the CHFR expression intensity and its promoter methylation were established as independent prognostic factors for PFS and OS in the entire cohort. In contrast, no significant differences were found between different methylation patterns for CHFR and the response to taxane-based neoadjuvant treatment. These results suggest the potential role of the higher expression of CHFR and the methylation pattern of its promoter as potential prognostic biomarkers in PDAC, thus warranting further comprehensive studies to extend and confirm our preliminary findings. Copyright © 2021 González-Borja, Alors-Pérez, Amat, Alonso, Viyuela-García, Goñi, Reyes, Ceballos-Chávez, Hernández-García, Sánchez-Frías, Santamaría, Razquin, Arjona-Sánchez, Arrazubi, Pérez-Sanz, Vera, Fernández-Irigoyen, Castaño and Viúdez.

GRANADOS, A., LORENZO-ESPEJO, A. y LORENZO, F., 2021. Evidence for the interdependence hypothesis: a longitudinal study of biliteracy development in a CLIL/bilingual setting. *International Journal of Bilingual Education and Bilingualism*, ISSN 1367-0050. DOI 10.1080/13670050.2021.2001428.

However influential the interdependence hypothesis has become in bilingual research, it still lacks full empirical support. This longitudinal study explores the parallels in the biliteracy development (L1 Spanish and L2 English) of 20 students in a European immersion programme (i.e. CLIL) over a two-year period. A bilingual learner corpus of history narratives, based on history curriculum content, was collected during ninth and tenth grade. These essays were processed with MultiAzterTest, a state-of-the-art language analysis tool, and a Pearson correlation analysis was conducted to determine if any dimensions evolved in unison in both languages. The results show that some dimensions - length measures, nominalisation, subordination and lexical development - evolve in a similar fashion, thus supporting the interdependence and the common underlying proficiency hypotheses. Additionally, the results of a mixed-model analysis confirm that the fixed effect of time and language on such progress is significant, unlike the random effects introduced by the students.

GRANADOS NAVARRO, A., 2021. Análisis computacional de corpus de español avanzado:: claves para una descripción. *El español académico en L2 y LE: Perspectivas desde la educación bilingüe*. S.l.: Peter Lang, pp. 137-166. ISBN 978-2-8076-1946-3.

GRILLO, S., NOGUERA, J., ROMAN, J., GARCIA-TORRES, M., FACON, J., PINTO-ROA, D., ROMERO, L., GOMEZ-VELA, F., PANIAGUA, L. y CORREA, D., 2021. Redundancy Is Not Necessarily Detrimental in Classification Problems. *Mathematics*, vol. 9, no. 22. ISSN 2227-7390. DOI 10.3390/math9222899.

In feature selection, redundancy is one of the major concerns since the removal of redundancy in data is connected with dimensionality reduction. Despite the evidence of such a connection, few works present theoretical studies regarding redundancy. In this work, we analyze the effect of redundant features on the performance of classification models. We can summarize the contribution of this work as follows: (i) develop a theoretical framework to analyze feature construction and selection, (ii) show that certain properly defined features are redundant but make the data linearly separable, and (iii) propose a formal criterion to validate feature construction methods. The results of experiments suggest that a large number of redundant features can reduce the classification error. The results imply that it is not enough to analyze features solely using criteria that measure the amount of information provided by such features.

GUERRERO, M., 2021a. D. 50, 6, 6, 3 (Call. 1 de Cogn.). Los privilegios a favor de los navicularii: entre iniciativa privada e intervencionismo estatal (Murcia-Cartagena, 2014). *Fundamentos romanísticos del derecho contemporáneo*. S.l.: Asociación Iberoamericana de Derecho Romano : Boletín Oficial del Estado, BOE, pp. 1191-1200. ISBN 978-84-340-2725-1.

GUERRERO, M., 2021b. La idea de materfamilias en el edictum de adtemptata pudicitia. *Fundamentos romanísticos del derecho contemporáneo*. S.l.: Asociación Iberoamericana de Derecho Romano : Boletín Oficial del Estado, BOE, pp. 21-33. ISBN 978-84-340-2719-0.

GUERRERO, M., 2021c. La legitimación activa del heredero ante la iniuria contra el difunto (Coimbra, 2005). *Fundamentos romanísticos del derecho contemporáneo*. S.l.: Asociación Iberoamericana de Derecho Romano : Boletín Oficial del Estado, BOE, pp. 469-480. ISBN 978-84-340-2720-6.

GUIJO-RUBIO, D., DURAN-ROSAL, A., GUTIERREZ, P., TRONCOSO, A. y HERVAS-MARTINEZ, C., 2021. Time-Series Clustering Based on the Characterization of Segment Typologies. *IEEE Transactions on Cybernetics*, vol.

51, no. 11, pp. 5409-5422. ISSN 2168-2267. DOI 10.1109/TCYB.2019.2962584.

Time-series clustering is the process of grouping time series with respect to their similarity or characteristics. Previous approaches usually combine a specific distance measure for time series and a standard clustering method. However, these approaches do not take the similarity of the different subsequences of each time series into account, which can be used to better compare the time-series objects of the dataset. In this article, we propose a novel technique of time-series clustering consisting of two clustering stages. In a first step, a least-squares polynomial segmentation procedure is applied to each time series, which is based on a growing window technique that returns different-length segments. Then, all of the segments are projected into the same dimensional space, based on the coefficients of the model that approximates the segment and a set of statistical features. After mapping, a first hierarchical clustering phase is applied to all mapped segments, returning groups of segments for each time series. These clusters are used to represent all time series in the same dimensional space, after defining another specific mapping process. In a second and final clustering stage, all the time-series objects are grouped. We consider internal clustering quality to automatically adjust the main parameter of the algorithm, which is an error threshold for the segmentation. The results obtained on 84 datasets from the UCR Time Series Classification Archive have been compared against three state-of-the-art methods, showing that the performance of this methodology is very promising, especially on larger datasets.

GUO, D., MORENO-RAMÍREZ, L.M., ROMERO-MUÑIZ, C., ZHANG, Y., LAW, J.-Y., FRANCO, V., WANG, J. y REN, Z., 2021. First- and second-order phase transitions in RE₆Co₂Ga (RE = Ho, Dy or Gd) cryogenic magnetocaloric materials [RE₆Co₂Ga (RE = Ho, Dy or Gd) 低温磁制冷材料的一级相变和二级相变]. *Science China Materials*, vol. 64, no. 11, pp. 2846-2857. DOI 10.1007/s40843-021-1711-5.

Rare-earth (RE) rich intermetallics crystallizing in orthorhombic Ho₆Co₂Ga-type crystal structure exhibit peculiar magnetic properties that are not widely reported for their magnetic ordering, order of magnetic phase transition, and related magnetocaloric behavior. By tuning the type of RE element in RE₆Co₂Ga (RE = Ho, Dy or Gd) compounds, metamagnetic anti-to-paramagnetic (AF to PM) phase transitions could be tuned to ferro-to-paramagnetic (FM to PM) phase transitions. Furthermore, the FM ground state for Gd₆Co₂Ga is confirmed by density functional theory calculations in addition to experimental observations. The field dependence magnetocaloric and Banerjee's criteria demonstrate that Ho₆Co₂Ga and Dy₆Co₂Ga undergo a first-order phase transition in addition to a second-order phase transition, whereas only the latter is observed for Gd₆Co₂Ga. The two extreme alloys of the series, Ho₆Co₂Ga and Gd₆Co₂Ga, show maximum isothermal entropy change ($|\Delta S_{\text{isomax}}(5\text{ T})|$) of 10.1 and 9.1 J kg⁻¹K⁻¹ at 26 and 75 K, close to H₂ and N₂ liquefaction, respectively. This outstanding magnetocaloric effect performance makes the RE₆Co₂Ga series of potential for cryogenic magnetic refrigeration applications. © 2021, The Author(s).

GUTIERREZ, L., FOLCH, A., ROJAS, M., CANTERO, J., ATIENZA, M., FOLCH, J., CAMINS, A., RUIZ, A., PAPANDREOU, C. y BULLO, M., 2021. Effects of Nutrition on Cognitive Function in Adults with or without Cognitive Impairment: A Systematic Review of Randomized Controlled Clinical Trials. *Nutrients*, vol. 13, no. 11. ISSN 2072-6643. DOI 10.3390/nu13113728.

New dietary approaches for the prevention of cognitive impairment are being investigated. However, evidence from dietary interventions is mainly from food and nutrient supplement interventions, with inconsistent results and high heterogeneity between trials. We conducted a comprehensive systematic search of randomized controlled trials (RCTs) published in MEDLINE-PubMed, from January 2018 to July 2021, investigating the impact of dietary counseling, as well as food-based and dietary supplement interventions on cognitive function in adults with or without cognitive impairment. Based on the search strategy, 197 eligible publications were used for data abstraction. Finally, 61 articles were included in the analysis. There was reasonable evidence that dietary patterns, as well as food and dietary supplements improved cognitive domains or measures of brain integrity. The Mediterranean diet showed promising results, whereas the role of the DASH diet was not clear. Healthy food consumption improved cognitive function, although the quality of these studies was relatively low. The role of dietary supplements was mixed, with strong evidence of the benefits of polyphenols and combinations of nutrients, but with low evidence for PUFAs, vitamin D, specific protein, amino acids, and other types of supplements. Further well-designed RCTs are needed to guide the development of dietary approaches for the prevention of cognitive impairment.

GUZMAN, M., RUBIA, B., PERIS, P. y ALFALLA-LUQUE, R., 2021. Methodological development for the optimisation of electricity cost in cement factories: the use of artificial intelligence in process variables. *Electrical Engineering*, ISSN 0948-7921. DOI 10.1007/s00202-021-01409-z.

Cement factories require large amounts of energy. 70% of the variable cost goes to energy-33% to kiln thermal energy and 37% to electrical energy. This paper represents the second stage of a broader research study which aims at optimising electricity cost in a cement factory by means of using artificial intelligence. After an analysis of the different tools that could be highly useful for the optimisation of electricity cost, for which a systematic review of the literature and surveys and an expert panel of 42 professionals in the cement sector were carried out, a methodology was developed in order to reduce electricity cost by optimising not only different variables of the production process, but also regulated electricity costs and electricity market costs. Artificial neural networks and genetic algorithms will be the tools to be used in this methodology, which can be applied to any cement plant in the world, and, by extension, to any electro-intensive consumer. The innovation of this research work is based on the use of a methodology that not only combines two different variables at the same time-process variables and regulated prices-but also makes use of artificial intelligence tools techniques.

HERAS, M., GALAFASSI, D., OTEROS-ROZAS, E., RAVERA, F., BERRAQUERO-DÍAZ, L. y RUIZ-MALLÉN, I., 2021. Realising potentials for arts-based sustainability science. *Sustainability Science*, vol. 16, no. 6, pp. 1875-1889. DOI 10.1007/s11625-021-01002-0.

In recent years, a profusion of methods, practices, and experiences has emerged in the interface between arts and sustainability science. Drawing from two strong currents within sustainability science, namely, the emphasis on transdisciplinary approaches and the need to move towards societal transformations, such hybrid approaches seemingly contribute with unique methods to sustainability research. Despite repeated claims from sustainability scientists about art's role in sustainability transformations, joint analyses with artists and practitioners are still rare. We conveyed a collaborative and exploratory workshop with scientists, artists, and practitioners from the fields of education, public engagement, and activism to identify the potentials for arts-based sustainability research. Participants were invited to facilitate and trial various artistic practices from disciplines of performative, literary, narrative, audio-visual and plastic arts. In this paper, we present five key areas identified in the workshop, where arts-based methods can significantly contribute to sustainability research: embracing more-than-cognitive aspects of knowledge, improving communication, grappling with power dynamics, shifting relationships to nature, and facilitating futures visioning. Workshop participants also identified challenges related to power dynamics, tensions across paradigms, and implementation conditions, providing insights into how to leverage arts' potential to respond to global environmental challenges while boosting societal transformations. We then discuss research questions identified that address challenges and limitations for arts-based research in sustainability. Overall, these results suggest there are yet untapped resources and experiences within the field of arts-based sustainability science. (Audio-visual abstract available on S1) © 2021, The Author(s).

HERNÁNDEZ GONZÁLEZ, S., 2021. Los Reales Alcázares de Sevilla: de la función áulica y cortesana al turismo masivo en un enclave Patrimonio de la Humanidad. *La historiografía medieval en España y la conformación de equipos de trabajo: los proyectos de investigación I+D+i: Congreso Internacional celebrado en Madrid con ocasión de la XXXII Asamblea General de la Sociedad Española de Estudios Medievales*(24-25 octu. S.l.: s.n., pp. 1635-1646. ISBN 978-84-7797-673-8.

HERNÁNDEZ JIMÉNEZ, H.M., 2021a. Compatibilidad de las reducciones de las sanciones urbanísticas con las previstas en la Ley 39/2015. *Actualidad administrativa*, no. 11, pp. 9- 0. ISSN 1130-9946.

La legislación básica del procedimiento administrativo común prevé reducciones de las sanciones propuestas en los supuestos que regula: reconocimiento de la responsabilidad y pago voluntario, constituyéndose dichas circunstancias en

causas de resolución anticipada del procedimiento sancionador. Estas reducciones pueden compatibilizarse con otras previstas en la normativa urbanística por restitución voluntaria de la actuación que motivó la infracción.

HERNÁNDEZ JIMÉNEZ, H.M., 2021b. El régimen específico de las edificaciones sin licencia en suelo no urbanizable anteriores a 1975. *Actualidad administrativa*, no. 11, pp. 10- 0. ISSN 1130-9946.

Entre la casuística de las edificaciones construidas sin licencia, en orden a determinar su régimen jurídico, pueden distinguirse las terminadas sin que haya transcurrido el plazo de la Administración para el ejercicio de la acción de restitución de la legalidad urbanística, las terminadas habiendo transcurrido dicho plazo y, éstas últimas si, además, se terminaron con anterioridad a 1975.

HERNÁNDEZ JIMÉNEZ, H.M., 2021c. La figura del agente urbanizador en el derecho comparado autonómico. Modelo valenciano y afines. *Consultor de los ayuntamientos y de los juzgados: Revista técnica especializada en administración local y justicia municipal*, no. 12, pp. 19- 0. ISSN 0210-2161.

Introducido en la década de los 90 por la legislación urbanística valenciana, la figura del agente urbanizador ha permitido participar en desarrollos urbanísticos resultando adjudicatario de parcelas resultantes sin tener propiedad de terrenos en el ámbito de actuación. El desarrollo normativo de esta figura en las legislaciones de las diferentes comunidades autónomas no ha sido homogéneo, siendo objeto dicha figura de un tratamiento jurídico diferenciado.

HERNÁNDEZ JIMÉNEZ, H.M., 2021d. Ordenanzas municipales reguladoras de las órdenes de ejecución. *Consultor de los ayuntamientos y de los juzgados: Revista técnica especializada en administración local y justicia municipal*, no. 12, pp. 20- 0. ISSN 0210-2161.

Las ordenanzas reguladoras de las ordenes de ejecución permiten complementar la regulación legal y reglamentaria estatal o autonómica, al objeto de conseguir una mayor funcionalidad en la actuación administrativa, lo que repercutirá, siempre y en todo caso, en beneficio del interés general.

HERNANDEZ, M., MORETTI, S., SICARDO, M., GARCIA, U., PEREZ, A., SEBASTIANI, L. y MARTINEZ-RIVAS, J., 2021. Distinct Physiological Roles of Three Phospholipid:Diacylglycerol Acyltransferase Genes in Olive Fruit with Respect to Oil Accumulation and the Response to Abiotic Stress. *FRONTIERS IN PLANT SCIENCE*, vol. 12. ISSN 1664-462X. DOI 10.3389/fpls.2021.751959.

Three different cDNA sequences, designated OepPDAT1-1, OepPDAT1-2, and OepPDAT2, encoding three phospholipid:diacylglycerol acyltransferases

(PDAT) have been isolated from olive (*Olea europaea* cv. Picual). Sequence analysis showed the distinctive features typical of the PDAT family and together with phylogenetic analysis indicated that they encode PDAT. Gene expression analysis in different olive tissues showed that transcript levels of these three PDAT genes are spatially and temporally regulated and suggested that, in addition to acyl-CoA:diacylglycerol acyltransferase, OePDAT1-1 may contribute to the biosynthesis of triacylglycerols in the seed, whereas OePDAT1-2 could be involved in the triacylglycerols content in the mesocarp and, therefore, in the olive oil. The relative contribution of PDAT and acyl-CoA:diacylglycerol acyltransferase enzymes to the triacylglycerols content in olive appears to be tissue-dependent. Furthermore, water regime, temperature, light, and wounding regulate PDAT genes at transcriptional level in the olive fruit mesocarp, indicating that PDAT could be involved in the response to abiotic stresses. Altogether, this study represents an advance in our knowledge on the regulation of oil accumulation in oil fruit.

HERNANDEZ-CAMACHO, J., GARCIA-CORZO, L., FERNANDEZ-AYALA, D., NAVAS, P. y LOPEZ-LLUCH, G., 2021. Coenzyme Q at the Hinge of Health and Metabolic Diseases. *Antioxidants*, vol. 10, no. 11. ISSN 2076-3921. DOI 10.3390/antiox10111785.

Coenzyme Q is a unique lipidic molecule highly conserved in evolution and essential to maintaining aerobic metabolism. It is endogenously synthesized in all cells by a very complex pathway involving a group of nuclear genes that share high homology among species. This pathway is tightly regulated at transcription and translation, but also by environment and energy requirements. Here, we review how coenzyme Q reacts within mitochondria to promote ATP synthesis and also integrates a plethora of metabolic pathways and regulates mitochondrial oxidative stress. Coenzyme Q is also located in all cellular membranes and plasma lipoproteins in which it exerts antioxidant function, and its reaction with different extramitochondrial oxidoreductases contributes to regulate the cellular redox homeostasis and cytosolic oxidative stress, providing a key factor in controlling various apoptosis mechanisms. Coenzyme Q levels can be decreased in humans by defects in the biosynthesis pathway or by mitochondrial or cytosolic dysfunctions, leading to a highly heterogeneous group of mitochondrial diseases included in the coenzyme Q deficiency syndrome. We also review the importance of coenzyme Q levels and its reactions involved in aging and age-associated metabolic disorders, and how the strategy of its supplementation has had benefits for combating these diseases and for physical performance in aging.

HORNERO MÉNDEZ, C. y PERIÑÁN GÓMEZ, B., 2021. La presencia del testamento romano en el sistema sucesorio español. (Una reflexión desde la revocación testamentaria tácita ex art. 739.1 CC.) (Ourense, 1998). *Fundamentos romanísticos del derecho contemporáneo*. S.l.: Asociación Iberoamericana de Derecho Romano : Boletín Oficial del Estado, BOE, pp. 935-952. ISBN 978-84-340-2724-4.

HOYO LORA, M. de, NUÑEZ, F.J., SAÑUDO CORRALES, F. de B., GONZALO SKOK, O., MUÑOZ LÓPEZ, A. y ROMERO BOZA, S., 2021. Predicting Loading Intensity Measuring Velocity in Barbell Hip Thrust Exercise. *Journal of strength and conditioning research: the research journal of the NSCA*, vol. 35, no. 8, pp. 2075-2081. ISSN 1064-8011.

The barbell hip thrust is an increasingly used exercise to target the hip extensors. Direct and indirect measurement of 1 repetition maximum (1RM) to determine the relative load of each exercise is time-consuming; therefore, practitioners may be more in favor of monitoring velocity and determining relative load through velocity-based prediction models for an exercise. This study aimed to assess the relationship between mean velocity (MV) and mean propulsive velocity (MPV) at different relative training loads (% 1RM) in the barbell hip thrust exercise. One hundred two male sport science students performed an incremental 1RM testing protocol for the barbell hip thrust exercise, and a linear position transducer measured MV and MPV of the barbell. The 1RM was reached at 0.25 ± 0.03 m[s]⁻¹, and the regression model generated to estimate a relative load showed an acceptable standard error of estimate ($7.01 \pm 1.05\%$ 1RM and $7.36 \pm 1.05\%$ 1RM for MV and MPV, respectively) with a very large explained variance ($R^2 = 0.94$). These results may have important practical applications for the prescription and monitoring of the accessory exercise of the hip thrust for monitoring training load and predicting 1RM without undertaking a RM test.

HURTADO-BERMÚDEZ, S.J., EXPÓSITO, J.C. y VILLA-ALFAGEME, M., 2021. Correlation of phytoplankton satellite observations and radiological doses in molluscs. *Marine Pollution Bulletin* [en línea], vol. 172. DOI 10.1016/j.marpolbul.2021.112911.

In this work data of salinity, temperature, suspended particulate matter (SPM), chlorophyll-a, and phytoplankton concentration in the Gibraltar Strait coast, in the confluence of the Mediterranean Sea and the Atlantic Ocean, were analyzed together with ²¹⁰Po, ⁴⁰K, ²¹⁰Pb and ²³⁴Th activity concentration in different types of bivalve molluscs at the same time-period. The physicochemical parameters were evaluated using the Copernicus Marine Environment Monitoring Service (CMEMS) products based on satellite observations. A multivariate statistical analysis, including contrasted natural radioactivity contents, allowed the discrimination of bivalve molluscs from Atlantic and Mediterranean coasts. Additionally, a cluster analysis determined a highly significant negative correlation ²¹⁰Po concentration in molluscs and phytoplankton concentration suggesting that phytoplankton concentration in the water column is a determinant factor to regulate ²¹⁰Po concentration in those animals. These results introduce a useful tool to calculate the radiological doses in seafood from chlorophyll satellite image. © 2021 Elsevier Ltd

IÁÑEZ-DOMÍNGUEZ, A., DÍAZ-JIMÉNEZ, R.M. y RODRÍGUEZ IZQUIERDO, R.M., 2021. Perception of social actors about diversity policies in spanish universities. *Convergencia: Revista de ciencias sociales*, vol. 28, no. 1, pp. 2- 0. ISSN 1405-1435. 10.29101/crcs.v28i0.16662

La diversidad es una realidad cada vez más presente en las instituciones de educación superior, vinculada a la globalización y a la presencia de estudiantes no convencionales. Investigaciones previas han explorado la percepción de los estudiantes y del profesorado sobre la diversidad en el contexto universitario. Sin embargo, se tienen pocas evidencias sobre cómo perciben la diversidad actores sociales que colaboran con las instituciones de educación superior. Este artículo indaga acerca de las percepciones de actores sociales respecto a la diversidad en la universidad; en concreto, se analizan las percepciones sobre las medidas que las universidades ponen en marcha para responder a la diversidad y sobre los retos que presenta la diversidad para las instituciones de educación superior. Utilizando una metodología cualitativa, se realizan 18 entrevistas semiestructuradas a actores sociales vinculados a ocho universidades españolas. Los resultados indican que los actores sociales interpretan la diversidad de manera diferente, aunque sus concepciones, en general, suelen estar vinculadas a los colectivos tradicionalmente asociados a la diversidad: género y discapacidad. Esto muestra la invisibilización de ciertos grupos y sobre todo la relación percibida entre diversidad y cuestiones relacionadas con las desigualdades y la equidad. Las conclusiones analizan iniciativas que podrían facilitar la colaboración con los agentes sociales para avanzar en la agenda de compromiso social en las universidades.

IBÁÑEZ ESCRICHE, N., CASTO-REBOLLO, C., FORMOSO RAFFERTY CASTILLA, N., GONZÁLEZ RECIO, Ó. y CASELLAS VIDAL, J., 2021. Aprendizaje basado en retos: Implementación interuniversitaria en la asignatura de Mejora Genética Animal. *Innovaciones docentes en tiempos de pandemia. Actas del VI congreso internacional sobre aprendizaje, innovación y cooperación, CINAIC 2021*. S.l.: Universidad de Zaragoza, pp. 290-294. ISBN 978-84-18321-17-7.

This paper examines the results obtained from the interuniversity implementation of challenge-based learning (RBL) using information and communication technologies (ICTs) in animal breeding. The challenge faced by students consisted of managing the genetic improvement of a dairy cattle herd in an environment with real management and economic constraints using an online software online. The students achieved a positive evolution of the results along the challenge, confirming the PBA as a useful tool in learning the application of animal breeding. On the other hand, the student surveys showed, in all universities, a high satisfaction with this type of learning, although they indicated possible improvements in the initial explanation of the challenge. The application of ABR has been very positive both from the point of view of student participation and motivation, as well as with the development of critical thinking by the practical application of theoretical concepts.

J. NAVARRO, C., 2021. Recensión sobre la obra: La nueva Agenda Urbana: municipio y Objetivos de Desarrollo Sostenible. *Revista de Estudios Locales* N.º 232, 2020. *Revista española de control externo*, vol. 23, no. 67, pp. 137-139. ISSN 1575-1333.

JIMÉNEZ NAHARRO, M., 2021. La complejidad sintáctica en la escritura académica de estudiantes de español en programas internacionales. *El español académico en L2 y LE: Perspectivas desde la educación bilingüe*. S.l.: Peter Lang, pp. 19-42. ISBN 978-2-8076-1946-3.

KUYYAMUDI, C., MENON, S., CASARES, F. y SINHA, S., 2021. Disorder in cellular packing can alter proliferation dynamics to regulate growth. *Physical Review E*, vol. 104, no. 5. ISSN 2470-0045. DOI 10.1103/PhysRevE.104.L052401.

The mechanisms by which an organ regulates its growth are not yet fully understood, especially when the cells are closely packed as in epithelial tissues. We explain growth arrest as a collective dynamical transition in coupled oscillators on disordered lattices. As the cellular morphologies become homogeneous over the course of development, the signals induced by cell-cell contact increase beyond a critical value that triggers coordinated cessation of the cell-cycle oscillators driving cell division. Thus, control of cell proliferation is causally related to the geometry of cellular packing.

LEON-PRADOS, J. y JEMNI, M., , 2021. Reliability and agreement in technical and artistic scores during real-time judging in two European acrobatic gymnastic events. *INTERNATIONAL JOURNAL OF PERFORMANCE ANALYSIS IN SPORT*, ISSN 2474-8668. DOI 10.1080/24748668.2021.1996913.

The study investigates reliability measures for performance scores given by random judges (Execution and Artistic scores) and the agreement between more expert judges (Control Scores) and the two middle Execution/Artistic scores (Panel scores) during Qualifying and Final competitions performed at the 10th European Age Group Competition (EAGC) and at the 29th European Acrobatic Gymnastics Championships (ECh). To assess agreement, mean absolute Control-Panel score deviations were calculated using Bland-Altman and Kaplan-Meier plots. Reliability average measures ranged from 0.88 to 0.97. Control Score reliability was higher in ECh for Execution and Artistic scores. Artistic scores showed higher variability and lower agreement between judges in Qualification for ECh. Significant differences were found in Control and Panel score mean deviations for Execution scores at the EAGC and for Artistic scores at the ECh. No significant reliability differences were found between competitions. Control-and-Panel score correlations ranged from 0.862 to 0.915 for Execution scores and from 0.864 to 0.899 for Artistic scores. Overall results exceeded 80% agreement for Execution and Artistic scores. Reliability and strength of agreement of judging were high

and very acceptable respectively. We suggest that judging reliability should be regularly examined to optimise technical and artistic criteria set by FIG for fairer competition.

LETELIER, J., NARANJO, S., SOSPEDRA-ARRUFAT, I., RAMON MARTINEZ-MORALES, J., LOPEZ-RIOS, J., SHUBIN, N. y GOMEZ-SKARMETA, J.L., 2021. The Shh/Gli3 gene regulatory network precedes the origin of paired fins and reveals the deep homology between distal fins and digits. *Proceedings of the National Academy of Sciences of the United States of America* [en línea], vol. 118, no. 46. DOI 10.1073/pnas.2100575118.

One of the central problems of vertebrate evolution is understanding the relationship among the distal portions of fins and limbs. Lacking comparable morphological markers of these regions in fish and tetrapods, these relationships have remained uncertain for the past century and a half. Here we show that Gli3 functions in controlling the proliferative expansion of distal progenitors are shared among dorsal and paired fins as well as tetrapod limbs. Mutant knockout gli3 fins in medaka (*Oryzias latipes*) form multiple radials and rays, in a pattern reminiscent of the polydactyly observed in Gli3-null mutant mice. In limbs, Gli3 controls both anterior-posterior patterning and cell proliferation, two processes that can be genetically uncoupled. In situ hybridization, quantification of proliferation markers, and analysis of regulatory regions reveal that in paired and dorsal fins, gli3 plays a main role in controlling proliferation but not in patterning. Moreover, gli3 downregulation in shh mutant fins rescues fin loss in a manner similar to how Gli3 deficiency restores digits in the limbs of Shh mutant mouse embryos. We hypothesize that the Gli3/Shh gene pathway preceded the origin of paired appendages and was originally involved in modulating cell proliferation. Accordingly, the distal regions of dorsal fins, paired fins, and limbs retain a deep regulatory and functional homology that predates the origin of paired appendages. © 2021 National Academy of Sciences. All rights reserved.

LIPSIUS, J. y BALLESTEROS, J.R., 2021. *Admiranda: cuatro libros sobre La Grandeza Romana*. S.l.: Universidad de Huelva. ISBN 978-84-18628-10-8.

Admiranda sive de Magnitudine romana libri IV es una descripción del Imperio romano en 48 capítulos monográficos que tratan distintas instituciones romanas. Fue escrita en la transición de los siglos XVI al XVII por el humanista Justo Lipsio. El conjunto de la obra se divide en 4 libros cada uno de los cuales desarrolla una condición que explica la grandeza de Roma: el poder territorial, militar y demográfico; los edificios monumentales y obras públicas; los recursos económicos y financieros del Estado, de los particulares y la política de gasto; y las virtudes cívicas y militares de los romanos. El libro está precedido por dos textos introductorios de gran valor histórico e historiográfico: una carta dedicatoria de la obra al Archiduque Alberto y un preámbulo al lector, y concluye con 17 notas que fueron objeto de sucesivas revisiones y ampliaciones a lo largo de las tres ediciones de la obra (1598, 1599 y 1605). Al igual que otros trabajos de Lipsio, los *Admiranda* fueron redactados como un diálogo anticuario. En este caso, los protagonistas son el propio Lipsio y un anónimo discípulo que,

aprovechando un periodo de vacaciones y a lo largo de cuatro jornadas, se reúnen para discutir sobre la grandeza de Roma. Además de un ejercicio literario, los *Admiranda* constituyen una singular combinación de varias vocaciones humanísticas presentes en el conjunto de la obra de Justo Lipsio: la crítica textual, la reconstrucción histórica y la reflexión política. En consonancia con la personalidad y el recorrido intelectual de su autor, *Admiranda* constituye, en definitiva, un discurso histórico y político de intenciones inciertas sobre el Estado y el poder imperial de Roma. *Admiranda* propicia, en efecto, lecturas plurales y ambiguas sobre el imperialismo romano y sobre sus significados presentes, y plantea en términos históricos un debate nunca completamente resuelto sobre las formas, las posibilidades y los peligros de la utopía política.

LÓPEZ GÜETO, A., 2021. *Mater intestata: la herencia de la madre desde la etapa arcaica al gobierno de Marco Aurelio* (Barcelona, 2017). *Fundamentos romanísticos del derecho contemporáneo*. S.l.: Asociación Iberoamericana de Derecho Romano

: Boletín Oficial del Estado, BOE, pp. 2283-2296. ISBN 978-84-340-2724-4.

LÓPEZ MÁRQUEZ, A.M., CRUZ MOYA, O. y DE LA TORRE GARCÍA, M., 2021. La competencia histórica en un corpus de textos de aprendientes universitarios italianos.: Un acercamiento a la metáfora gramatical experimental. *El español académico en L2 y LE: Perspectivas desde la educación bilingüe*. S.l.: Peter Lang, pp. 69-94. ISBN 978-2-8076-1946-3.

LÓPEZ-CATALÁN, B. y LÓPEZ CATALÁN, L., 2021. “Actitud innovadora” y “Capacidad de innovar” como objetivos de desarrollo profesional. *Educación universitaria en ecosistemas de aprendizaje*. S.l.: Dykinson, pp. 35-45. ISBN 978-84-13-77914-0.

LOPEZ-VILARET, K.M., CANTERO, J.L., FERNANDEZ-ALVAREZ, M., CALERO, M., CALERO, O., LINDÍN, M., ZURRÓN, M., DÍAZ, F. y ATIENZA, M., 2021. Impaired glucose metabolism reduces the neuroprotective action of adipocytokines in cognitively normal older adults with insulin resistance. *Aging*, vol. 13, no. 21, pp. 23936-23952. DOI 10.18632/aging.203668.

Evidence suggests that aging-related dysfunctions of adipose tissue and metabolic disturbances increase the risk of diabetes and metabolic syndrome (MtbS), eventually leading to cognitive impairment and dementia. However, the neuroprotective role of adipocytokines in this process has not been specifically investigated. The present study aims to identify metabolic alterations that may prevent adipocytokines from exerting their neuroprotective action in normal ageing. We hypothesize that neuroprotection may occur under insulin resistance (IR) conditions as long as there are no other metabolic alterations that indirectly

impair the action of adipocytokines, such as hyperglycemia. This hypothesis was tested in 239 cognitively normal older adults (149 females) aged 52 to 87 years (67.4 ± 5.9 yr). We assessed whether the homeostasis model assessment estimated insulin resistance (HOMA-IR) and the presence of different components of MetS moderated the association of plasma adipocytokines (i.e., adiponectin, leptin and the adiponectin to leptin [Ad/L] ratio) with cognitive functioning and cortical thickness. The results showed that HOMA-IR, circulating triglyceride and glucose levels moderated the neuroprotective effect of adipocytokines. In particular, elevated triglyceride levels reduced the beneficial effect of Ad/L ratio on cognitive functioning in insulin-sensitive individuals; whereas under high IR conditions, it was elevated glucose levels that weakened the association of the Ad/L ratio with cognitive functioning and with cortical thickness of prefrontal regions. Taken together, these findings suggest that the neuroprotective action of adipocytokines is conditioned not only by whether cognitively normal older adults are insulin-sensitive or not, but also by the circulating levels of triglycerides and glucose, respectively. © 2021. Lopez-Vilaret et al. This is an open access article distributed under the terms of the Creative Commons Attribution License (CC BY 3.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

LORENZO, F., DE ALBA QUIÑONES, V. y CRUZ MOYA, O., 2021. *El español académico en L2 y LE: Perspectivas desde la educación bilingüe*. S.l.: Peter Lang. ISBN 978-2-8076-1946-3.

No existe en la actualidad una descripción constante de la evolución de la lengua académica: sus ritmos, etapas y límites; una descripción estructural y funcional del español en el ámbito educativo. Este es el propósito de este libro: una exploración del territorio, un mapa de los contornos lingüísticos a partir del análisis de las producciones escritas de estudiantes que aprenden en distintos modelos de enseñanza multilingüe. Para ello, considera en sus distintos capítulos, distintos escenarios en los que el bilingüismo puede desarrollarse: modelos de inmersión clásicos (sheltered-instruction), aprendizaje integrado de lengua y contenidos (AICLE) o programas duales (two-way bilingual programs). También, programas transicionales para minorías lingüísticas o para hablantes de herencia hispánicos. Por último, programas de consolidación de segundas lenguas: programas de estudiantes internacionales como los study-abroad o los programas de movilidad europeos. Todos ellos tienen algo en común aunque en ocasiones la investigación los presente separados: necesitan de una lengua académica sólida para ser eficaces.

MACARRO OSUNA, J.M., 2021. Modelo 720, ¿el principio del fin? *Nueva fiscalidad*, no. 3, pp. 255-273. ISSN 1696-0173.

MAĆKIEWICZ, B. y ASUERO, R.P., 2021. Public versus private: Juxtaposing urban allotment gardens as multifunctional nature-based Solutions. Insights from Seville. *Urban Forestry and Urban Greening* [en línea], vol. 65. DOI 10.1016/j.ufug.2021.127309.

Many European countries witness growing interest in allotment gardening. Thus, private allotment gardens (AGs) have been created in some countries, including Spain. As a result, there are places where non-consumptive and commodified allotment gardens coexist. The paper presents an in-depth comparison of public and private AGs through the lens of the nature-based solutions (NBS) concept. First, we assess the importance that gardeners attribute to the spectrum of environmental and socio-economic impacts provided by both types of AGs; we identify differences and similarities in their development and management, and assess the demographic and socioeconomic profile of gardeners. Subsequently, we discuss gardeners' and other stakeholders' opinions on both types of AGs and explore the roles that they can play as solutions for urban policy challenges. Our results show that both types of AGs are nature-based solutions with particularly positive impacts on the health and well-being of their users. These gardens do not compete but complement each other, fostered by their role as multifunctional nature-based solutions. Moreover, the option of cultivating a private or a public AG seems to be more linked to the freedom of cultivation and the freedom of access rather than economic reasons. We conclude that in the current complex scenario, public and private AGs must have territorial, legal and institutional frameworks within all urban policies that explore NBS. © 2021 The Author(s)

MADUEÑO ÁLVAREZ, M., LUIS VELASCO-MARTÍNEZ y AZCONA PASTOR, J.M., 2021. *Camisas azules en Hispanoamérica (1936-1978). Organización política y prosopografía del falangismo en Ultramar*. S.l.: Universidad Rey Juan Carlos : Dykinson. ISBN 978-84-13-77800-6.

MADUREIRA, T., NUNES, F., VEIGA, J. y SARALEGUI-DIEZ, P., 2021. Choices in Sustainable Food Consumption: How Spanish Low Intake Organic Consumers Behave. *Agriculture (Switzerland)*, vol. 11, no. 11. ISSN 2077-0472. DOI 10.3390/agriculture11111125.

The consumption of organic products has consistently increased over the last decades, covering increasingly diversified consumers, both in the characteristics and the reasons associated with consumption. This heterogeneity evidences the need to examine in depth the reasons for the purchase and consumption of these products. The core aim of this study is related to the motivational drivers of organic consumption. The survey included 250 respondents from Andalusia (Spain) who completed an online questionnaire and personal interviews. A convenience sampling method was applied, and the best-worst scaling method allowed us to analyze ten attributes of organic purchasing behavior. Health benefits and environmental impact are the key attributes explaining the consumption of organic products. To deeply understand organic consumer motivations, we studied the influence of six classification variables over the studied attributes. Applying

ordinal regressions, we found that having children under 18 at home and a consumer's academic level contribute in a relevant way to explain the valorization of the health benefits attribute. Also, the place to purchase organic food and academic level correlates with the valuation of GMOs in food. Andalusia is one of the largest European regions for organic production but with minor relevance in consumption. Nevertheless, despite this apparent paradox, the results of the present study point to a consumer profile very similar to other European countries with consolidated organic consumption.

MARTÍ-GARCIA, S., VÁZQUEZ AGUADO, O., ANGELA FERNÁNDEZ BORRERO, M. y RELINQUE MEDINA, F., 2021. *Servicios Sociales y apoyo a las familias: un análisis a partir de la experiencia de los Equipos de Tratamiento Familiar en la provincia de Huelva*. S.l.: Universidad de Huelva.

La realización de esta tesis doctoral se ha contado con la financiación del Ministerio de Educación, Cultura y Deporte del Gobierno de España mediante una Ayuda para la Formación de Profesorado Universitario (FPU15/03909) en el Área Científica ANEP de Ciencias Sociales. La intervención y apoyo familiar es una de las principales áreas de actividad en los Servicios Sociales. Las familias con menores a cargo en situación de riesgo o desprotección constituyen un objeto de intervención que requiere una perspectiva preventiva, específica y de tratamiento. Este proceso es realizado por profesionales de las áreas psicológica, social y educativa que, de forma interdisciplinar, crean, gestionan y evalúan de forma sistemática un proyecto de intervención familiar con carácter científico, único y dinámico. Su labor gira en torno a dos líneas de acción: los casos en situación de riesgo o desprotección y los que precisan reunificación familiar. La presente tesis doctoral tiene como finalidad el estudio del servicio de apoyo a las familias desde el Sistema Público de Servicios Sociales bajo la perspectiva de los Equipos de Tratamiento Familiar onubenses y sus familias atendidas, ambos insertos en el Programa de Tratamiento a Familias con Menores en situación de riesgo o desprotección de la Junta de Andalucía. Para ello, se establecen objetivos dirigidos hacia el análisis de las características de los casos, la interpretación de los genogramas familiares y la exploración de los discursos profesionales. Con base en los discursos, se diseña un mapa de propuestas para la toma de decisiones estratégicas que impulsen la eficiencia y eficacia del Programa. En la metodología empleada se han realizado análisis cualitativos y de redes de coocurrencias. Para los análisis cualitativos se crearon dos proyectos. El primero con 26 informes interdisciplinares y el segundo con 26 entrevistas a profesionales. Posteriormente, se han realizado los genogramas por medio del programa informático Genopro, explorando los 75 informes individuales. Finalmente, se establecieron estrategias de acción para la mejora del servicio por medio del análisis de redes causales. En primer lugar, los resultados giran en torno a la caracterización estructural y funcional de las familias. Dentro del aspecto funcional, se distinguen las dinámicas transgeneracionales, entre ellas el ciclo vital familiar, la repetición de pautas a través de las generaciones y los sucesos vitales y funcionamiento familiar. Aquí, también se encuentran las relaciones e interacciones, formando resultados sobre pautas vinculares y tríadas. En segundo lugar, los resultados de los genogramas versan sobre los equipos y las dimensiones familiares relacionadas con su estructura y función de una forma más detallada y precisa. En tercer lugar, los resultados de los discursos profesionales se presentan en cuatro

grupos de datos: experiencia profesional, intervención técnica, perfiles familiares atendidos y percepción de los elementos de mejora del servicio. Dentro de su experiencia como profesionales, se han obtenido resultados de temporalidad y tipología de actividad. En relación a su intervención técnica, se han generado resultados sobre las funciones y tareas que realizan de forma individual, interdisciplinar y en coordinación con otros agentes, además de la percepción de los aspectos que aparecen en su labor, comentando qué métodos de afrontamiento generan ante las dificultades y qué necesidades detectan. Los resultados sobre sus percepciones acerca de las familias, arrojan resultados sobre sus parámetros descriptores, necesidades detectadas, problemáticas y pautas vinculares. Referente a la mejora del servicio de tratamiento, se han logrado propuestas que tienen que ver con sus funciones y tareas. Por último, se alcanzaron resultados acerca de la centralidad, generando índices de rango, cercanía y grado de intermediación que nos dirigen hacia la posición sobre la que incidir para obtener cambios en el sistema.

MARTÍN PADILLA, A.H., INMACULADA PEDRERA RODRÍGUEZ, M., LÓPEZ CATALÁN, L. y JOSÉ MORENO GUERRERO, A., 2021. *Educación universitaria en ecosistemas de aprendizaje*. S.l.: Dykinson. ISBN 978-84-13-77914-0.

La generación de ecosistemas de aprendizajes innovadores son unos de los pilares para la transformación de los procesos de enseñanza y el aprendizaje en instituciones de Educación Superior en la Sociedad del Conocimiento y la Comunicación. En este sentido, los estilos de enseñanza, las estrategias metodológicas activas, las comunidades colaborativas educativas, los recursos tecno-didácticos son ejes vertebradores curriculares significativos que se integran en los nuevos ecosistemas de aprendizaje frente a los entornos educativos tradicionales. El libro está constituido por ocho capítulos que describen diversas temáticas formativas, pero que tienen como denominador común la innovación y la mejora del aprendizaje en el ámbito de la Educación Superior. En ella se desgranar aspectos novedosos como el uso de la Inteligencia Artificial en entornos educativos universitarios ubicuos, la importancia de la competencia digital en los discentes para hacer frente a las dificultades sobrevenidas por la crisis de emergencia sanitaria o el uso de las redes sociales en la praxis educativa. En última instancia, en el ocaso de la obra científica, además del pilar tecnológico se vislumbran cuestiones, igual de relevantes para el desarrollo sostenible de la innovación educativa: el desarrollo de actitudes y capacidades innovadoras, el desarrollo de la inteligencia emocional y la atención plena por parte de futuros docentes o el empleo de metodologías de aprendizaje activo para favorecer el desarrollo competencial y los procesos formativos.

MARTÍN RODRÍGUEZ, J.M., 2021a. La limitación de pagos en efectivo ante el espejo. Especial atención a su discutido régimen sancionador y a las modificaciones introducidas por la Ley 11/2021, de 9 de julio. *Estudios financieros. Revista de contabilidad y tributación: Comentarios, casos prácticos*, no. 464, pp. 71-120.

ISSN 1138-9540.

La limitación de pagos en efectivo fue introducida en nuestro ordenamiento mediante el artículo 7 de la Ley 7/2012, de 29 de octubre. A pesar de su relevancia, ha recibido poca atención doctrinal desde entonces, tal vez por su naturaleza híbrida tributaria-administrativa. Para entenderla es oportuno empezar por un breve repaso al momento y a los motivos de su introducción en nuestro ordenamiento, como medida destinada a reducir la circulación de billetes de alta denominación y las bolsas de fraude fiscal. Posteriormente, situaremos esta medida en el contexto de la zona euro, donde a pesar de no estar extendida, sí está consolidada en los países de nuestro entorno más cercano (Portugal, Francia o Italia); prestando especial atención a la posición expresada por el Banco Central Europeo en sus dictámenes. En los dos siguientes epígrafes realizamos un repaso a la regulación actual de la limitación de pagos en efectivo, deteniéndonos, por supuesto, en las modificaciones introducidas en su régimen mediante la Ley 11/2021, de 9 de julio, de medidas de prevención y lucha contra el fraude fiscal. En el último epígrafe analizamos con detalle los aspectos más conflictivos de su régimen sancionador a la luz de la jurisprudencia, haciendo hincapié en las lagunas en la motivación del elemento subjetivo y en los reproches a su proporcionalidad. Particularmente, esta última cuestión, tras la reciente jurisprudencia del TJUE, aconseja a nuestro juicio cambios técnicos en su regulación que mejoren su aplicación en algunos supuestos como el empleo de cheques.

MARTÍN RODRÍGUEZ, J.M., 2021b. Reflexiones en torno a la posible ocupación de un nuevo «espacio aéreo municipal urbano» por las actividades con drones y su incidencia medioambiental. *Documentos - Instituto de Estudios Fiscales*, no. 7, pp. 24- 0. ISSN 1578-0244.

MARTINEZ-LOPEZ, D., 2021. Subnational borrowing and bailouts: When the federal government looks at the votes (differently) and its borrowing matters. *JOURNAL OF PUBLIC ECONOMIC THEORY*, ISSN 1097-3923. DOI 10.1111/jpet.12559.

Sometimes it is difficult to find a rationale for episodes of bailouts in which the political motivations of the federal government are not clear cut. In other cases, the soft-budget constraint of subnational governments (SNGs) seems to be based on unlimited federal resources. This paper aims to shed some light on both issues taking as a reference the workhorse model developed by Goodspeed. The principal change in its basic assumptions lies in allowing the federal government to borrow to finance its grants to SNGs. The results indicate that the way in which the federal government translates voters' preferences into electoral probabilities is crucial to determine grants. Moreover, the SNGs do not borrow excessively. When the model is extended to consider risk premium spreads in the SNGs debt and the option of transferring part of their borrowing to the upper level, the main outcomes remain.

MENA CABEZAS, I.R., 2021. Núñez Beltrán, M. A. (Coord.), *Synodicon baeticum IV. Constituciones sinodales de la Abadía de Alcalá La Real y de las Diócesis de Jaén y Málaga*. Sevilla, Universidad de Sevilla, Sevilla 2021, ISBN 978-84-472-3017-4, 422 pp. + 2.224 pp. (CD)- *Revista General de Derecho Canónico y Derecho Eclesiástico del Estado*, no. 57, pp. 31- 0. ISSN 1696-9669.

MORALES BELANDO, M. de la T., MARTÍNEZ LÓPEZ, A.N., JIMÉNEZ REYES, P. y ARIAS ESTERO, J.L., 2021. Estudio piloto para la validación de criterio y convergente de la escala de esfuerzo percibido ep-fs para niñas jugadoras de fútbol sala. *EmásF: revista digital de educación física*, no. 73, pp. 37-47. ISSN 1989-8304.

The aim of the study was to obtain the criterion and convergent validity of the EP-FS scale to measure the perceived exertion of youth futsal players. For this purpose, a pilot study was done to obtain criterion and convergent validity by performing an incremental test and measuring oxygen consumption, heart rate and perceived exertion with two validated scales. Participants were three girls. There were correlations between the values of perceived exertion with those of heart rate ($r = .90$, $p < .001$), oxygen consumption ($r = .92$, $p < .001$) and the other two scales ($r = 1$, $p < .001$). Consequently, the EP-FS could be a valid instrument for assessing the perceived exertion of 9–12-year-olds futsal players. Nevertheless, the results of the present study should be interpreted with caution because only three girls participated.

MORALES-ESTEBAN, A., MARTÍNEZ-ÁLVAREZ, F., SCITOVSKI, S. y SCITOVSKI, R., 2021. Mahalanobis clustering for the determination of incidence-magnitude seismic parameters for the Iberian Peninsula and the Republic of Croatia. *Computers and Geosciences* [en línea], vol. 156. DOI 10.1016/j.cageo.2021.104873.

The aim of this paper is to analyse the seismic activity of the Iberian Peninsula and a wide area of the Republic of Croatia. To do so, two incidence-magnitude seismic parameters have been defined. First, the areas have been divided into several ellipsoidal clusters using Mahalanobis clustering. Four generalised indexes (Mahalanobis Calinski Harabasz, Mahalanobis Davies–Bouldin, Mahalanobis Simplified Silhouette Width Criterion and Mahalanobis Area) have been used to determine the most appropriate number of ellipsoidal clusters, on the basis of which a partition with four and a partition with eleven clusters have been considered. For the wide area of the Republic of Croatia there are fourteen clusters and the five areas that just affect Croatia have been analysed in detail. Then, to analyse the seismic activity of the areas, two incidence-magnitude seismic parameters have been defined and calculated: a) $\Delta(4)$, that represents the minimal number of successive years in which at least one earthquake of magnitude between 4 and 5 has been registered; b) $\Delta(5)$, that shows the number of years in which at least one earthquake of magnitude larger than 5 occurred. The calculation

of $\Delta(4)$ for the South-west and the South-east of the Iberian Peninsula has provided two years for both. Regarding $\Delta(5)$, 10 and 12 years have been obtained for the South-west and the South-east of the Iberian Peninsula, respectively. The analysis of Croatia has shown that the Ston–Metković area has the highest seismic activity. The following results have been determined: 5 years for $\Delta(4)$ and 22 for $\Delta(5)$. It should be mentioned that these results cannot be used for predicting earthquakes. However, data about the incidences of earthquake events and their magnitudes can certainly serve as useful information in civil engineering. © 2021 Elsevier Ltd

MORENO, E., 2021. The Crime Glorifying of Terrorism as a Limit to Freedom of Expression. *Revista General de Derecho Penal*, no. 36. ISSN 1698-1189.

currently the public manifestation of offensive or provocative expressions by twitterers, puppeteers or rappers has once again put on the table the debate on whether this type of conduct should be prosecuted and punished with the criminal code in hand, under the rubric of crimes of exaltation and apology of terrorism, because they are included in what is known as hate crimes, or if, on the contrary, these behaviors are a manifestation of the constitutionally recognized freedom of expression. In this study we intend to analyze the importance and regulation of freedom of expression in our legal system, as well as the regulation in our criminal legislation of terrorist exaltation, in order to answer the question that many are asking about whether typifying these behaviors can be understood as an instrument of protection against hate speech or if it is a mere mechanism of repression of freedom of expression.

MUÑIZ GRIJALVO, E., 2021. Christopher de Lisle, *The Ephebate in Roman Athens: Outline and Catalogue of Inscriptions*, AIO Papers 12, Attic Inscriptions Online, 2020, vii + 103 pp. ISSN: 2054-6777. *Archivo español de arqueología*, no. 94, pp. 23-0. ISSN 0066-6742.

MUÑOZ CONDE, F., 2021. La difícil «objetivación» de los elementos subjetivos del delito. *Las garantías penales: Un homenaje a Javier Boix Reig*. S.l.: Iustel, pp. 363-396. ISBN 978-84-9890-418-5.

NABI, D., DRECHSLER, H., PSCHIRER, J., KORN, F., SCHULER, N., DIEZ, S., JESSBERGER, R. y CHACON, M., 2021. CENP-V is required for proper chromosome segregation through interaction with spindle microtubules in mouse oocytes. *Nature Communications*, vol. 12, no. 1. ISSN 2041-1723. DOI 10.1038/s41467-021-26826-3.

Proper chromosome segregation is essential to avoid aneuploidy, yet this process fails with increasing age in mammalian oocytes. Here we report a role for the scarcely described protein CENP-V in oocyte spindle formation and chromosome

segregation. We show that depending on the oocyte maturation state, CENP-V localizes to centromeres, to microtubule organizing centers, and to spindle microtubules. We find that Cnp-V^{-/-} oocytes feature severe deficiencies, including metaphase I arrest, strongly reduced polar body extrusion, increased numbers of mis-aligned chromosomes and aneuploidy, multipolar spindles, unfocused spindle poles and loss of kinetochore spindle fibres. We also show that CENP-V protein binds, diffuses along, and bundles microtubules in vitro. The spindle assembly checkpoint arrests about half of metaphase I Cnp-V^{-/-} oocytes from young adults only. This finding suggests checkpoint weakening in ageing oocytes, which mature despite carrying mis-aligned chromosomes. Thus, CENP-V is a microtubule bundling protein crucial to faithful oocyte meiosis, and Cnp-V^{-/-} oocytes reveal age-dependent weakening of the spindle assembly checkpoint. Chromosome segregation is essential to avoid aneuploidy, yet in mammalian oocytes it progressively fails in an age-dependent manner. Here the authors identify CENP-V as a microtubule binding and bundling protein crucial to faithful oocyte meiosis, and present Cnp-V^{-/-} oocytes as revealing age-dependent weakening of the spindle assembly checkpoint.

NIETO CABRERA, M.E. y NIETO-MORALES, C., 2021a. ¿Las personas mayores víctimas sociales por la edad? *Víctimas sociales y víctimas de delitos: La promoción personal y social a través de la intervención*. S.l.: Dykinson, pp. 88-99. ISBN 978-84-13-77689-7.

La experiencia profesional de quince años de trabajo con personas mayores siendo bastante joven te marca y sitúa en una visión personal y profesional sobre la “vejez”, aunque no sobre las personas mayores. La vida de las personas mayores ha mejorado en el último medio siglo en todos los ámbitos, aunque esta generación a la que se referirá este trabajo ha soportado sobre sus hombros una carga excesiva y pienso que se encuentran satisfechos por el trabajo realizado y algunas personas también se consideran maltratadas institucionalmente y posiblemente también familiar. A pesar de todo hay que reconocer que, en el fondo, el deterioro tanto físico en general como en algunas ocasiones psicológico provoca desasosiego, nostalgia, expectativas de desamparo y abandono, etc. además de gran miedo y rabia debido a convertirse en persona dependiente. Aunque la etapa que por edad marca la recta final de una vida más o menos larga que se produce desde la jubilación hasta la partida no siempre produce víctimas, si que en un porcentaje importante hay quienes se sienten víctimas sociales de la edad por la situación vivencial, maltrato por ser mayor y por las circunstancias personales, sociales, económicas, etc.

NIETO CABRERA, M.E. y NIETO-MORALES, C., 2021b. Sociología de las víctimas y victimología. *Víctimas sociales y víctimas de delitos: La promoción personal y social a través de la intervención*. S.l.: Dykinson, pp. 8-19. ISBN 978-84-13-77689-7.

NIETO-MORALES, C., 2021. *Análisis y valoración de la prueba pericial: Social, Educativa, Psicológica y Médica. El Perito Judicial*. S.l.: Dykinson. ISBN 978-84-13-77890-7.

NIETO-MORALES, C. y NIETO CABRERA, M.E., 2021a. Delincuencia juvenil: ¿El menor delincuente: víctima o verdugo? Un desafío en el s. XXI. En: *Víctimas sociales y víctimas de delitos: La promoción personal y social a través de la intervención*. S.l.: Dykinson, pp. 127-142. ISBN 978-84-13-77689-7.

Este trabajo pretende reflejar como en muchos de los casos, la delincuencia juvenil y quienes la consuman son víctimas de las circunstancias, familia, educación, sociales, etc. que desencadenan actos y acciones ilícitas penadas por Ley y que la sociedad ha dispuesto los mecanismos que permitan reeducar, aunque en muchos de los casos no sea una resocialización sino una primera educación por el déficit educativo que ha supuesto sus conductas. La prevención en todo o casi todas las acciones de la vida presenta menor coste desde económico a personal, siendo el personal el más importante y que menor daño produce en la persona que ha sido condenada por dichos actos ilícitos. ¿Son los menores / jóvenes que delinquen víctimas o verdugos? En ocasiones víctimas de circunstancias de estar en el momento inoportuno en el lugar inadecuado y otras víctimas de la deficiente o equivocada educación familiar o social recibida. No es una opinión personal es una reflexión causada por la experiencia de más de 20 años trabajando, reflexionando e investigando sobre delincuencia juvenil, efectos, consecuencias, y respecto al trabajo que se realiza y el que se debería de realizar para promocionar a los jóvenes que han sido condenado por delitos a tenor de la Ley Organica de Responsabilidad Penal del Menor (LORPM) 5/2000; 8/2006 y demás leyes internacionales y nacionales que afecten.

NIETO-MORALES, C. y NIETO CABRERA, M.E., 2021b. El servicio de atención a la víctima. *Víctimas sociales y víctimas de delitos: La promoción personal y social a través de la intervención*. S.l.: Dykinson, pp. 120-126. ISBN 978-84-13-77689-7.

Existen víctimas sociales y víctimas de delitos, aunque solo son reconocidas las víctimas de delitos e históricamente hayan pasado por diferentes fases de reconocimiento. La legislación internacional ha ido tomando fuerza de forma amplia, obligando a las legislaciones nacionales a legislar. Se deja de poner exclusivamente el acento en la criminalización de conductas delictiva y se comienza a reconocer la situación de las víctimas de dichas conductas. En España se comenzó a reconocer legislativamente a las víctimas de delitos en la Ley 35/1995, de 11 de diciembre, de ayudas y asistencia a las víctimas de delitos violentos y contra la libertad sexual, continuo con Ley 4/2015, de 27 de abril, del Estatuto de la víctima del delito, y el Real Decreto 1109/2015, de 11 de diciembre, por el que se desarrolla la Ley 4/2015, de 27 de abril, del Estatuto de la víctima del delito, y se regulan las Oficinas de Asistencia a las Víctimas del Delito.

OLIMPIA LAPADATU, A., 2021. La conciliación de la mujer durante la crisis sanitaria de la Covid-19. *Pandemia y COVID 19: experiencias investigadoras desde la educación social*. S.l.: Dykinson, pp. 107-122. ISBN 978-84-13-77891-4.

ORTEGA, P., GÓMEZ-GONZÁLEZ, B. y AGUILERA, A., 2021. Heterogeneity of DNA damage incidence and repair in different chromatin contexts. *DNA Repair* [en línea], vol. 107. DOI 10.1016/j.dnarep.2021.103210.

It has been long known that some regions of the genome are more susceptible to damage and mutagenicity than others. Recent advances have determined a critical role of chromatin both in the incidence of damage and in its repair. Thus, chromatin arises as a guardian of the stability of the genome, which is altered in cancer cells. In this review, we focus into the mechanisms by which chromatin influences the occurrence and repair of the most cytotoxic DNA lesions, double-strand breaks, in particular at actively transcribed chromatin or related to DNA replication. © 2021 The Author(s)

ORTEGA, P.G., SEGOVIA, J. y FERNÁNDEZ, F., 2021. Zb structures in a constituent quark model coupled-channels calculation. *Physical Review D* [en línea], vol. 104, no. 9. DOI 10.1103/PhysRevD.104.094004.

The $Z_b(10610)^\pm$ and $Z_b(10650)^\pm$ are two bottomoniumlike structures discovered in the $\pi h_b(mP)$, π (nS) and $B^*B^-(*)+H.c.$ invariant mass spectra, where $m=1,2$ and $n=1,2,3$. Their nature is puzzling due to their charge, which forces its minimal quark content to be bb^-ud^- ($bb^-d\bar{u}$). Thus, it is necessary to explore four-quark systems in order to understand their inner structure. Additionally, their strong coupling to channels such as π and the closeness of their mass to $B^*B^-(*)$ thresholds stimulates a molecular interpretation. Within the framework of a constituent quark model which satisfactorily describes a wide range of properties of (non)conventional hadrons containing heavy quarks, we perform a coupled-channels calculation of the $IG(JPC)=1+(1+-)$ hidden-bottom sector including $B^*B^-*+H.c.$, πh_b , π , and ρh_b channels. We analyze the line shapes in the different channels, describing the $(5S)\rightarrow\pi B^*B^-(*)$ by means of the P03 model. Since our description of the line shapes is promising, we perform the same coupled-channels calculation for the Z_b 's with J^- , where $J=0,1,2$. This allows us to obtain a fair description of the corresponding line shapes. The study of the analytic structure of the S-matrix suggests that the experimental Z_b structures arise as a combination of several poles with $JPC=0^-$, 1^\pm and 2^- quantum numbers nearby the BB^-* and B^*B^-* thresholds. © 2021 authors.

OSORIO, M.L., CENTENO-VELÁZQUEZ, E., LÓPEZ-PÉREZ, M.E. y DEL CASTILLO, E., 2021. Authenticity, fit and product type: Testing a celebrity brand extension model cross-culturally. *Journal of Retailing and Consumer Services* [en línea], vol. 63. DOI 10.1016/j.jretconser.2021.102736.

This study investigates the applicability of a celebrity brand extension model cross-culturally in Mexico and Spain. The model grounded in brand extension and celebrity endorsement theories is empirically verified in functional and hedonic products with data collected from a survey and SEM analysis. This study demonstrates how the cultural dimensions of power distance belief and individualism account for differences in the acceptance of celebrity brand extensions across cultures. Brand extension authenticity is identified as a universal and reliable antecedent of brand extension acceptance. Moreover, asymmetries by product type were identified in Spain but not in Mexico. © 2021 Elsevier Ltd

PAREJA BLANCO, F., ASIÁN CLEMENTE, J.A. y SÁEZ DE VILLARREAL SÁEZ, E., 2021. Combined Squat and Light-Load Resisted Sprint Training for Improving Athletic Performance . *Journal of strength and conditioning research: the research journal of the NSCA*, vol. 35, no. 9, pp. 2457-2463. ISSN 1064-8011.

This study aimed to analyze the effects of 5 training methods: squat (SQ), light-load sled towing (LST), heavy-load sled towing (HST), squat combined with LST (SQ + LST), and squat combined with HST (SQ + HST) on physical performance. Ninety-one physically active men were randomly assigned to one of the aforementioned training methods or a control group. Before and after the training period, a battery of tests was completed: 30-m sprint; change of direction (COD); countermovement jump (CMJ) and Abalakov jump (ABK); and estimated 1 repetition maximum (1RM) in squat. Training took place once per week for 8 weeks. SQ trained the squat exercise, HST trained resisted sprints with 80% body mass (BM) load, LST trained resisted sprints with 12.5% BM load, SQ + HST combined squat with 80% BM load resisted sprint, and SQ + LST combined squat with 12.5% BM load resisted sprint. The loads used in squat ranged from 40 to 55% 1RM. After the training program, SQ + LST showed improvements in 0- to 30-, 10- to 20-, and 10- to 30-m sprint times, whereas SQ + HST did not achieve significant enhancements over any sprint time. LST and HST improved over 0-20 and 10-30 m, respectively. SQ showed improvements in 20- to 30-m sprint time. Change of direction and CMJ performance were increased for HST, SQ + HST, and SQ + LST, whereas only SQ + LST improved ABK height. SQ, HST, SQ + HST, and SQ + LST increased 1RM. Squat training with low/moderate loads combined with LST (12.5% BM) may be an effective stimulus for improving leg strength, jump ability, COD, and sprint performance.

PARRA, R., OJEDA, V., NOGUERA, J., GARCIA-TORRES, M., MELLO-ROMAN, J., VILLALBA, C., FACON, J., DIVINA, F., CARDOZO, O., CASTILLO, V. y MATTO, I., 2021. A Trust-Based Methodology to Evaluate Deep Learning Models for Automatic Diagnosis of Ocular Toxoplasmosis from Fundus Images. *Diagnostics*, vol. 11, no. 11. ISSN 2075-4418. DOI 10.3390/diagnostics11111951.

In the automatic diagnosis of ocular toxoplasmosis (OT), Deep Learning (DL) has arisen as a powerful and promising approach for diagnosis. However, despite the good

performance of the models, decision rules should be interpretable to elicit trust from the medical community. Therefore, the development of an evaluation methodology to assess DL models based on interpretability methods is a challenging task that is necessary to extend the use of AI among clinicians. In this work, we propose a novel methodology to quantify the similarity between the decision rules used by a DL model and an ophthalmologist, based on the assumption that doctors are more likely to trust a prediction that was based on decision rules they can understand. Given an eye fundus image with OT, the proposed methodology compares the segmentation mask of OT lesions labeled by an ophthalmologist with the attribution matrix produced by interpretability methods. Furthermore, an open dataset that includes the eye fundus images and the segmentation masks is shared with the community. The proposal was tested on three different DL architectures. The results suggest that complex models tend to perform worse in terms of likelihood to be trusted while achieving better results in sensitivity and specificity.

PARRA RUIZ, G., 2021a. Aspectos fiscales básicos en la compra-venta de empresas. *Carta tributaria. Revista de opinión*, no. 80, pp. 2- 0. ISSN 2443-9843.

Companies need to resort more and more frequently (mainly due to globalization and digitization) to business restructuring operations, buying and selling of shares, branches of activity or assets and liabilities, mainly to improve competitiveness and thereby increase profits. From a tax perspective, the inherent, latent or derived costs of the operation have to be taken into account a priori, in order to properly determine what the price of the transfer of shares or assets should be, since it will depend on numerous occasions the success or failure of the operation. We will analyze in this article the most common assumptions: purchase of shares and purchase of assets and liabilities, and the fiscal consequences of both operations in the direct and indirect taxation of our current tax system.

PARRA RUIZ, G., 2021b. Fiscalidad ambiental en el ámbito local: brainstorming medioambiental para las entidades locales. *Documentos - Instituto de Estudios Fiscales*, no. 7, pp. 22- 0. ISSN 1578-0244.

Las corporaciones Locales comienzan a explorar tímidamente las posibilidades de una tributación medioambiental muy mermadas por el escaso margen de actuación que les permite el Real Decreto Legislativo 2/2004, de 5 de marzo, por el que se aprueba el texto refundido de la Ley Reguladora de las Haciendas Locales y también por la necesidad de recursos financieros en épocas de crisis como las que padecemos desde 2008, ahora incentivada por el COVID-19, circunstancias estas que no favorecen el interés por bonificar o premiar conductas respetuosas con el medioambiente que conlleven externalidades positivas para el resto de la sociedad, por encima de atender su propias necesidades inmediatas. En términos de porcentajes del PIB, España se encuentra en el puesto 25 en el ranking de fiscalidad ambiental de la UE -28 (aún no se había marchado el Reino Unido — <https://es.greenpeace.org/es/noticias/fiscalidad-ecologica-una-reforma-fiscal->

muy-necesaria/—)

PEDRERO-GARCÍA, E. y FERNÁNDEZ MÁRQUEZ, E., 2021. A modo de conclusión. Repercusiones de la pandemia en nuestras vidas. *Pandemia y COVID 19: experiencias investigadoras desde la educación social*. S.l.: Dykinson, pp. 123-135. ISBN 978-84-13-77891-4.

PÉREZ BERNAL, M., 2021a. «Si hubiera sobrevivido en Praga, Ámsterdam o Lodz...» Las políticas de localización en el pensamiento de Adrienne Rich. *Lectora: revista de dones i textualitat*, no. 27, pp. 291-307. ISSN 1136-5781. 10.1344/Lectora2021.27.15

En este artículo reflexionamos sobre el concepto «políticas de localización» de Adrienne Rich, que consideramos muy fructífero para pensar la identidad. Partimos del concepto de experiencia de Rich con sumo cuidado de evitar caer en discursos esencialistas de la identidad y teniendo en todo momento presente la importancia del lenguaje y de la narración en la construcción de la identidad. Las políticas de localización nos permiten ver nuestra identidad como una intersección de múltiples hilos que construye la trama cambiante, rica y en ocasiones confusa de nuestra identidad. Tomar conciencia de esto puede ser de ayuda para entablar el diálogo, construir experiencias compartidas y establecer alianzas entre las diferentes corrientes del feminismo.

PÉREZ BERNAL, M., 2021b. Wikiproyecto.: Biografías para avanzar en el ciberfeminismo en la universidad. Las filósofas en la wikipedia. *Estudios de Género en tiempos de amenaza*. S.l.: Dykinson, pp. 942-960. ISBN 978-84-13-77327-8.

PÉREZ GONZÁLEZ, B., LUIS GÓMEZ CARMONA, J., LEÓN-QUISMONDO, J., BURILLO, P., TEVA VILLÉN, M.R. y FERNÁNDEZ LUNA, Á., 2021. Impacto económico, valoración de evento y recuerdo de patrocinio en un maratón popular. *Cultura, ciencia y deporte*, vol. 16, no. 50, pp. 617-630. ISSN 1696-5043. 10.12800/ccd.v16i50.1616

El objetivo de este estudio fue medir el impacto económico, la satisfacción, el impacto turístico y el retorno de objetivos de patrocinio de las marcas colaboradoras en un maratón celebrado en 2019 en una ciudad española de cerca de 200.000 habitantes. El evento incluyó las pruebas de maratón, media maratón y maratón por relevos. Se realizó un total de 293 encuestas de un total de 1276 inscritos. La mayor parte de estos residían en la ciudad del evento (58%, n=740), en otros puntos de España (40%, n=510) y un grupo más pequeño (2%) en el extranjero (n=26). El impacto directo se midió utilizando la metodología de análisis coste beneficio (ACB) y alcanzó la cifra de 134,057.42 €. Adicionalmente se evaluó el impacto indirecto utilizando tablas Input-Output obteniendo una estimación de

73,866.83 €. Para el análisis del impacto turístico y satisfacción se aplicaron estadísticos descriptivos y test no paramétricos de comparación de medias. No se observaron diferencias significativas en la mayoría de variables, con valoraciones elevadas en reconocimiento promocional de la ciudad del evento, orgullo, turismo y vinculación de dicha ciudad con el deporte. Finalmente, el recuerdo de patrocinio de las marcas participantes es superior en los recuerdos inducidos respecto a los espontáneos, salvo en el caso del patrocinador principal, con elevado recuerdo en ambos tipos de recuerdo.

PÉREZ ORDÁS, R., M. MUR CAMÓN, J., CASTRO VIÑUALES, I. y MARTÍNEZ OLMEDO, N., 2021. Método, orientación y evaluación del bienestar con el programa NEREU: Educación para la Salud de familias y niños/as. Implicación con los Objetivos de Desarrollo Sostenible. *Educación comprometida con los objetivos de desarrollo sostenible: Calidad, equidad educativa y metodología aprendizaje servicio*. S.l.: Universidad de Zaragoza, pp. 274-284. ISBN 978-84-18321-15-3.

PÉREZ ORDÁS, R., MOYANO MUÑOZ, N. y ALCARAZ IBORRA, M., 2021. Competencias personales, bienestar y gestión emocional a través de la metodología Dragon Dreaming. Proyecto de innovación docente. En: CONGRESO INTERNACIONAL DE INTELIGENCIA EMOCIONAL Y BIENESTAR. CONGRESO INTERNACIONAL DE INTELIGENCIA EMOCIONAL Y BIENESTAR (ed.), *Inteligencia Emocional y Bienestar IV: reflexiones, experiencias profesionales e investigaciones*. S.l.: Ediciones Universidad de San Jorge, pp. 244-253. ISBN 978-84-09-32613-6.

This work explains the development of a teaching innovation project carried out with senior students of undergraduate university studies. This project consisted in the creation of a working group of students led by a teacher who carried out tutoring and accompaniment tasks. The participants have been enrolled into the educational system since they were 3 years old and suddenly, when they are about to finish their degree, the world stands up in front of them and for the first time, they have to face the uncertainty of the working world. The project was carried out under the Dragon Dreaming methodology (initially aimed at creating common projects). This methodology was applied for the personal and professional individual projects of the participating students. This methodology is based on awakening their creativity and connection with oneself and others. Objectives related to the development of inter and intrapersonal skills for decision making and emotional management related to overcoming the last year of their degree and their prospects for career opportunities were addressed. Communication skills were also approached and concerns not only professional, but also personal. The document we present addresses the proposed objectives, methodology, evaluation of the project and possible projection in other contexts or degrees.

PÉREZ ORDÁS, R., SALAMANCA VILLATE, A. y AYLÓN NEGRILLO, E., 2021. Metodología Aprendizaje Servicio Virtual y Competencias de Tecnologías de la Información, Aprendizaje y la Comunicación en Tiempos de Covid y Colegio en Casa. Orientación a los Alumnos/as Universitarios: Experiencia Didáctica. *Educación comprometida con los objetivos de desarrollo sostenible: Calidad, equidad educativa y metodología aprendizaje servicio*. S.l.: Universidad de Zaragoza, pp. 39-49. ISBN 978-84-18321-15-3.

PÉREZ TOSTADO, I., 2021. Alejandro O'Reilly, inspector general: poder militar, familia y territorio en el reinado de Carlos III. *Atalanta: Revista de las Letras Barrocas*, vol. 9, no. 2, pp. 190-194. ISSN 2340-1176.

PERFECTO-IRIGARAY, M., BEOBIDE, G., CALERO, S., CASTILLO, O., DA SILVA, I., GUTIERREZ SEVILLANO, J.J., LUQUE, A., PÉREZ-YÁÑEZ, S. y VELASCO, L.F., 2021. Metastable Zr/Hf-MOFs: The hexagonal family of EHU-30 and their water-sorption induced structural transformation. *Inorganic Chemistry Frontiers*, vol. 8, no. 22, pp. 4767-4779. DOI 10.1039/d1qi00997d.

UiO-66, reported in 2008, inspired the ongoing chemistry of group 4 metal-organic frameworks and it is still one of the most studied MOFs due to its exceptional stability. The tightness of their building blocks and bond strength make it tough to access new topologies, unless the building blocks are changed or defect engineering is employed, which in turn lead to different nominal stoichiometries. However, well selected structure directing agents and harsh synthesis conditions allowed the isolation of the first polymorph of UiO-66, named EHU-30. Herein, we provide evidence for the generalization of the synthetic approach with four new EHU-30 isorecticular compounds, based on amino-functionalized linkers and zirconium and hafnium as metal centres: EHU-30-NH₂(M) and EHU-30-NHR(M) (M: Zr, Hf; R: 2-carboxypropyl). The crystal structure analysis reveals that their framework is more porous than that of their polymorphic counterpart. Furthermore, due to the current relevance of MOFs in greenhouse gas capture and in water harvesting methodologies, we have explored CO₂ and water vapour adsorption on the new polymorphic phases, by means of experimental and computational resources, and compared to the parent EHU-30. The amino functionalization makes the EHU-30 series more prone to CO₂ and water vapour adsorption. Besides, the water adsorption isotherms show an interesting crossing sensitive to temperature, sorption cycles and functionalization of the linker, which has been attributed to a localized structural transformation from EHU-30 to UiO-66. Finally, time-of-flight (TOF) powder neutron diffraction experiments were also conducted to locate the preferred adsorption sites for water in functionalized and parent EHU-30 structures. This journal is © the Partner Organisations.

PERIÑÁN GÓMEZ, B., 2021a. El legado denotandi legatarii gratia en Apul. Apol. 97 y D. 30, 54 pr. (Pomp. 8 ad Sab.) (Barcelona, 2017). *Fundamentos romanísticos del derecho contemporáneo*. S.l.: Asociación Iberoamericana de Derecho Romano :

Boletín Oficial del Estado, BOE, pp. 1821-1832. ISBN 978-84-340-2724-4.

PERIÑÁN GÓMEZ, B., 2021b. El primer tratado romano-gaditano: interrogantes e hipótesis (Murcia-Cartagena, 2014). *Fundamentos romanísticos del derecho contemporáneo*. S.l.: Asociación Iberoamericana de Derecho Romano : Boletín Oficial del Estado, BOE, pp. 213-220. ISBN 978-84-340-2725-1.

PERIÑÁN GÓMEZ, B., 2021c. Reminiscencias del SC. Macedoniano en Derecho Civil español (Murcia, 1996). *Fundamentos romanísticos del derecho contemporáneo*. S.l.: Asociación Iberoamericana de Derecho Romano : Boletín Oficial del Estado, BOE, pp. 559-572. ISBN 978-84-340-2723-7.

PERIÑÁN GÓMEZ, B., 2021d. Semel heres semper heres y la confusión de las obligaciones: un ejemplo de la coherencia interna del Derecho romano clásico (Coimbra, 2005). *Fundamentos romanísticos del derecho contemporáneo*. S.l.: Asociación Iberoamericana de Derecho Romano : Boletín Oficial del Estado, BOE, pp. 1041-1050. ISBN 978-84-340-2724-4.

POZO CUEVAS, F., 2021. Los servicios públicos de empleo y la transmisión de los paradigmas de la activación y el emprendimiento. *La revolución de las formas de empleo en el siglo XXI*. S.l.: Laborum, pp. 295-312. ISBN 978-84-17789-93-0.

QUILES GARCÍA, F., MAIER ALLENDE, J. y LÓPEZ LUJÁN, L., 2021. *La arqueología ilustrada americana: La universalidad de una disciplina*. S.l.: Enredars. ISBN 978-84-09-34997-5.

Sobre el origen y desarrollo del Museo Nacional Mexicano. En las raíces de culturas antiguas mexicanas.

REN, C., WANG, JY, BASTIDA, F., DELGADO-BAQUERIZO, M., YANG, Y., WANG, J, ZHONG, Z., ZHOU, Z., ZHANG, S., GUO, Y., ZHOU, S., WEI, G., HAN, X., YANG, G. y ZHAO, F., 2021. Microbial traits determine soil C emission in response to fresh carbon inputs in forests across biomes. *Global Change Biology*, ISSN 1354-1013. DOI 10.1111/gcb.16004.

Soil priming is a microbial-driven process, which determines key soil-climate feedbacks in response to fresh carbon inputs. Despite its importance, the microbial traits behind this process are largely undetermined. Knowledge of the role of these traits is integral to advance our understanding of how soil microbes regulate carbon (C)

emissions in forests, which support the largest soil carbon stocks globally. Using metagenomic sequencing and C-13-glucose, we provide unprecedented evidence that microbial traits explain a unique portion of the variation in soil priming across forest biomes from tropical to cold temperature regions. We show that microbial functional profiles associated with the degradation of labile C, especially rapid simple sugar metabolism, drive soil priming in different forests. Genes involved in the degradation of lignin and aromatic compounds were negatively associated with priming effects in temperate forests, whereas the highest level of soil priming was associated with beta-glucosidase genes in tropical/subtropical forests. Moreover, we reconstructed, for the first time, 42 whole bacterial genomes associated with the soil priming effect and found that these organisms support important gene machinery involved in priming effect. Collectively, our work demonstrates the importance of microbial traits to explain soil priming across forest biomes and suggests that rapid carbon metabolism is responsible for priming effects in forests. This knowledge is important because it advances our understanding on the microbial mechanisms mediating soil-climate feedbacks at a continental scale.

RODRIGUEZ, M., 2021. The Probation Measure and Its Suitability to be Applied to Certain Violent Crime Phenomena in Juvenile Criminal Law. *Revista General De Derecho Penal*, no. 36. ISSN 1698-1189.

After examining the basic content of the probation measure, and the various functions that it can perform in the context of LO 5/2000, January 12, regulating the criminal responsibility of minors, and its development regulations in all regarding its execution, the main objective of this study is to analyze its suitability to be applied to certain phenomena of violent crime that occur in the area of the jurisdiction of minors. That we have limited to child-parent violence, gender violence and school bullying, due to their expansive nature and the social interest generated around them in recent years. And assess its advantages when it comes to individualizing the response of juvenile criminal justice to the needs of those minors who commit this type of crime, without forgetting the needs of the victims who suffer them.

RODRÍGUEZ-ECHEVERRÍA, S., DELGADO-BAQUERIZO, M., MORILLO, J.A., GAXIOLA, A., MANZANO, M., MARQUET, P.A., GONZÁLEZ, L., CAVIERES, L.A., PUGNAIRE, F.I. y ARMAS, C., 2021. Azorella Cushion Plants and Aridity are Important Drivers of Soil Microbial Communities in Andean Ecosystems. *Ecosystems*, vol. 24, no. 7, pp. 1576-1590. DOI 10.1007/s10021-021-00603-1.

Cushion plants are specialized keystone species of alpine environments that can have a positive effect on ecosystem structure and function. However, we know relatively little about how cushion plants regulate the diversity and composition of soil microbial communities, major drivers of soil processes and ecosystem functioning. Identifying what factors drive the diversity and composition of soil microbial communities in high-elevation ecosystems is also fundamental to predict how global changes will affect their conservation and the services and functions they provide. Thus, we sampled four sites along the southern Andes

following the vegetation belt of Azorella cushion species. The field sites spread along a latitudinal gradient and had contrasting levels of aridity, UV-B radiation, mean temperature and soil properties. Overall, Azorella, as well as aridity and UV-B radiation, were the major drivers of the distribution, composition and diversity of soil microbial communities in the studied ecosystems of the Chilean Andes. UV-B radiation affected particularly soil fungi, while soil properties such as pH, total C and N content, essential predictors of microbial diversity globally, had a much lower effect on the composition of soil microbial communities. Understanding the factors driving the structure and composition of microbial communities, particularly the role of cushion plants and the feedbacks between plant, climate and soil is of uttermost importance for the preservation of the functionality of high-elevation ecosystems threatened by climate change. © 2021, The Author(s), under exclusive licence to Springer Science+Business Media, LLC part of Springer Nature.

ROSILLO LÓPEZ, C. y GARCÍA MORCILLO, M., 2021. *Managing Information in the Roman Economy*. S.l.: Palgrave Macmillan. ISBN 978-3-030-54099-9.

ROURA SEVILLA, M. y ENCARNACIÓN PEDRERO-GARCÍA, 2021. Capítulo 9. Estudio sobre el uso de instagram y la imagen corporal en mujeres jóvenes españolas: La necesidad de reapropiación del cuerpo femenino. *Prosumidores emergentes: redes sociales, alfabetización y creación de contenidos*. S.l.: Dykinson, pp. 191-209. ISBN 978-84-13-77586-9.

RUIZ-LOSADA, M., GONZALEZ, R., PEROPADRE, A., GIL-GALVEZ, A., TENA, J., BAONZA, A. y ESTELLA, C., 2021. Coordination between cell proliferation and apoptosis after DNA damage in *Drosophila*. *Cell Death and Differentiation*, ISSN 1350-9047. DOI 10.1038/s41418-021-00898-6.

Exposure to genotoxic stress promotes cell cycle arrest and DNA repair or apoptosis. These «life» or «death» cell fate decisions often rely on the activity of the tumor suppressor gene p53. Therefore, the precise regulation of p53 is essential to maintain tissue homeostasis and to prevent cancer development. However, how cell cycle progression has an impact on p53 cell fate decision-making is mostly unknown. In this work, we demonstrate that *Drosophila* p53 proapoptotic activity can be impacted by the G2/M kinase Cdk1. We find that cell cycle arrested or endocycle-induced cells are refractory to ionizing radiation-induced apoptosis. We show that p53 binding to the regulatory elements of the proapoptotic genes and its ability to activate their expression is compromised in experimentally arrested cells. Our results indicate that p53 genetically and physically interacts with Cdk1 and that p53 proapoptotic role is regulated by the cell cycle status of the cell. We propose a model in which cell cycle progression and p53 proapoptotic activity are molecularly connected to coordinate the appropriate response after DNA damage.

RUIZ-PALOMINO, P., MORALES-SÁNCHEZ, R. y MARTÍNEZ-CAÑAS, R., 2021. Corporate sustainability, ethics and employee satisfaction. *Sustainability (Switzerland)* [en línea], vol. 13, no. 21. DOI 10.3390/su132111964.

SALAMANCA VILLATE, A., AZUCENA LOZANO ROY, R.M., AYLLÓN NEGRILLO, E., ISABEL BAÑARES VÁZQUEZ, L. y PÉREZ ORDÁS, R., 2021. La contribución y didáctica de los Objetivos de Desarrollo Sostenible, desde el proyecto de “La Ciudad de las Niñas y los Niños” de Huesca, en su décimo aniversario. *Educación comprometida con los objetivos de desarrollo sostenible: Calidad, equidad educativa y metodología aprendizaje servicio*. S.l.: Universidad de Zaragoza, pp. 11-21. ISBN 978-84-18321-15-3.

SÁNCHEZ LERÍA, R., 2021. Mercado digital y protección del consumidor: a propósito de la Directiva 770/2019 y su transposición al ordenamiento jurídico español. *Indret: Revista para el Análisis del Derecho*, no. 4, pp. 4- 0. ISSN 1698-739X.

La Directiva 770/2019, relativa a algunos aspectos de los contratos de suministro y contenidos digitales ha supuesto un importante paso en relación con la unificación del Derecho de contratos en la Unión Europea y la protección de los consumidores en el Mercado Digital. En ella se consagra, por primera vez, una regulación específica en materia de incumplimiento y remedios puestos a disposición del consumidor de contenidos y servicios digitales, con el objetivo fundamental de unificar las legislaciones nacionales, reforzando así el Mercado Europeo Digital. Esta norma ha sido recientemente incorporada a nuestro ordenamiento jurídico mediante el Real Decreto-ley 7/2021, de 27 de abril, que ha modificado el TRLGDCU para adaptarlo a esta nueva regulación. En este trabajo se analizan las principales novedades de la citada normativa, resaltando sus carencias y sus virtudes, con el fin de comprobar cuáles son los principales pasos dados por el legislador en orden a proteger los intereses del consumidor.

SÁNCHEZ RUBIO, D., 2021. Análisis crítico del poder constituyente. *Sensibilidad, sociología y derecho: Libro homenaje al Prof. Dr. José Alcebiades de Oliveira Junior*. S.l.: Álvaro Sánchez Bravo, pp. 157-184. ISBN 978-84-19090-86-7.

SANTOS ROLDÁN, L., PALACIOS FLORENCIO, B., y PETER BOLCHA, 2021. Características de los turistas con relación a las expectativas, satisfacción y lealtad en la industria hotelera. *Esic market*, no. 170, pp. 603-625. ISSN 0212-1867.

Los resultados reflejan que todas las variables dependientes con las que contamos guardan una relación con las variables explicativas, a menudo en direcciones asumidas por la teoría o por estudios empíricos previos. De manera específica, encontramos que la edad, el estatus económico y el país de origen guardan una

relación significativamente estadística con la evaluación del consumidor. Una de las novedades de nuestro estudio es la inclusión de la variable de “superación de las expectativas” que trata de medir la sorpresa con el servicio, bien sea positiva o negativa. Conclusión: El conocimiento de la existencia de incidencias de las variables demográficas sobre la satisfacción, lealtad y expectativas no solo podría, sino que debería conducir a la formulación e implementación de estrategias diferenciadas, segmentadas de acuerdo con los grupos de individuos, y centradas en la mejora de dichos indicadores, adaptando los servicios a las características demográficas de los clientes.

SEGOVIA, J., 2021. Special Issue on Advances in Chiral Quark Models. *Symmetry*, vol. 13, no. 11. ISSN 2073-8994. DOI 10.3390/sym13112046.

SZYMYSLIK, R., 2021. Visibilización de un corpus de español académico bilingüe a través de la plataforma LYNEAL:: aplicaciones lingüísticas y traductológicas. *El español académico en L2 y LE: Perspectivas desde la educación bilingüe*. S.l.: Peter Lang, pp. 167-186. ISBN 978-2-8076-1946-3.

TELLO LÁZARO, J.C., 2021. La concesión discrecional por princeps del ius trium liberorum y su reflejo en Marcial (Huelva, 2003). *Fundamentos romanísticos del derecho contemporáneo*. S.l.: Asociación Iberoamericana de Derecho Romano : Boletín Oficial del Estado, BOE, pp. 579-588. ISBN 978-84-340-2719-0.

URBANO CERRO, E., 2021. Las relaciones sociales de las mujeres durante la pandemia por Covid-19. *Pandemia y COVID 19: experiencias investigadoras desde la educación social*. S.l.: Dykinson, pp. 58-67. ISBN 978-84-13-77891-4.

VALIENTE GONZÁLEZ, C., HORMIGO GÓMEZ, I. y LOZANO MALLÉN, S., 2021. Vida académica en tiempos del Covid: repercusiones en estudiantes y profesorado universitario. *Pandemia y COVID 19: experiencias investigadoras desde la educación social*. S.l.: Dykinson, pp. 18-31. ISBN 978-84-13-77891-4.

VARGAS, A.P., ALMEIDA, J., GÁMEZ, F., ROALES, J., QUEIRÓS, C., RANGEL, M., LOPES-COSTA, T., SILVA, A.M.G. y PEDROSA, J.M., 2021. Synthesis of a highly emissive carboxylated pyrrolidine-fused chlorin for optical sensing of TATP vapours. *Dyes and Pigments* [en línea], vol. 195. DOI 10.1016/j.dyepig.2021.109721.

We describe the synthesis and characterization of a new N-methylpyrrolidine-fused meso-tetracarboxyphenylchlorin with highly emissive features. The synthetic approach to obtain the fluorescent chlorin involves the microwave-assisted synthesis of meso-tetrakis (4-methoxycarbonylphenyl)porphyrin, followed by a 1,3-dipolar cycloaddition reaction of this porphyrin with azomethine ylide and, finally, ester hydrolysis under basic conditions. The incorporation and anchoring of the chlorin to a nanostructured porous TiO₂ matrix is achieved and optimized for its use as a fluorescent sensor. In particular, we found an efficient detection of the explosive triacetone triperoxide (TATP) in the gas phase. The optical response after analyte exposure is selective and fast, with response time t₅₀ values of less than 10 min under exposure to TATP saturated vapours. © 2021

VÁZQUEZ CANO, E., LÓPEZ MENESES, E., BERNAL BRAVO, C. y HILARIO MARTÍN PADILLA, A., 2021. Innovación e inteligencia artificial en los ecosistemas educativos universitarios ubicuos. *Educación universitaria en ecosistemas de aprendizaje*. S.l.: Dykinson, pp. 8-19. ISBN 978-84-13-77914-0.

VELASCO PERDIGONES, J.C., ÁLVAREZ ALARCÓN, A. y AMALIA BLANDINO GARRIDO, M., 2021. *La responsabilidad civil del compliance officer*. S.l.: s.n.

La responsabilidad penal de las personas jurídicas y la cultura ética corporativa han supuesto la génesis de un nuevo perfil profesional carente de regulación: el oficial de cumplimiento normativo o compliance officer. Las corporaciones, cada vez más, demandan los servicios especializados de Compliance, afrontándose por el ordenamiento jurídico-privado nuevos retos. El objeto de esta investigación ha sido estudiar y delimitar la responsabilidad civil a la que puede enfrentarse este nuevo profesional, profundizándose en la naturaleza y elementos de la responsabilidad, así como en su relación jurídica. Una exégesis normativa, el análisis de la doctrina y la jurisprudencia, junto con los usos del sector, han ayudado a la consecución del objetivo propuesto. La prestación del oficial de cumplimiento normativo deriva de una relación personal intuitu personae. El vínculo entre este y su cliente puede tener naturaleza de servicios o de obra y, su responsabilidad, generalmente, va a ser de carácter contractual, aunque en determinados supuestos se determine como extracontractual. Cobra especial interés en el estudio los elementos configuradores de la responsabilidad, poniéndose la atención en la conducta del profesional, el daño reputacional, la relación de causalidad y los criterios de atribución. El ordenamiento puede afrontar algunos de los aspectos de la relación de Compliance, sin embargo, cierto desarrollo normativo podría conceder una mayor seguridad jurídica.

VELASCO-MARTÍNEZ, L., 2021. Reclutamiento y organización de la Falange en Argentina durante la guerra Civil y la Posguerra: la construcción de una red de información. *Camisas azules en Hispanoamérica (1936-1978). Organización política y prosopografía del falangismo en Ultramar*. S.l.: Universidad Rey Juan Carlos : Dykinson, pp. 233-256. ISBN 978-84-13-77800-6.

YANG, G., PING, J. y SEGOVIA, J., 2021. Hidden-charm tetraquarks with strangeness in the chiral quark model. *Physical Review D* [en línea], vol. 104, no. 9. DOI 10.1103/PhysRevD.104.094035.

The hidden-charm tetraquarks with strangeness, cc^-sq^- ($q=u, d$), in $JP=0^+, 1^+$, and 2^+ are systematically investigated in the framework of real- and complex-scaling range of a chiral quark model, whose parameters have been fixed in advance describing hadron, hadron-hadron, and multi-quark phenomenology. Each tetraquark configuration, compatible with the quantum numbers studied, is taken into account; this includes meson-meson, diquark-antidiquark, and K-type arrangements of quarks with all possible color wave functions in the four-body sector. Among the different numerical techniques to solve the Schrödinger-like four-body bound state equation, we use a variational method in which the trial wave function is expanded in complex-range Gaussian basis functions, which is characterized by its simplicity and flexibility. This theoretical framework has already been used to study different kinds of multi-quark systems, such as the hidden-charm pentaquarks Pc^+ and doubly charmed tetraquarks T_{cc}^+ . The recently reported Z_{cs} states by the BESIII and LHCb Collaborations could be associated, in our investigation, with either compact tetraquark or hadronic molecular resonance configurations. However, it is fair to recognize that our complex poles survive when either the $(cc^-)(sq^-)$ or $(cq^-)(sc^-)$ configuration is preserved, but most of them get diluted when both are considered at the same time, indicating that such states seem to be very unstable. Finally, we mention that similar types of structures are also found in the mass range between 3.8 and 4.6 GeV. © 2021 authors. Published by the American Physical Society.

YUAN, S., HAHN, S.A., MILLER, M.P., SANKER, S., CALDERON, M.J., SULLIVAN, M., DOSUNMU-OGUNBI, A.M., FAZZARI, M., LI, Y., REYNOLDS, M., WOOD, K.C., ST CROIX, C.M., STOLZ, D., CIFUENTES-PAGANO, E., NAVAS, P., SHIVA, S., SCHOPFER, F.J., PAGANO, P.J. y STRAUB, A.C., 2021. Cooperation between CYB5R3 and NOX4 via coenzyme Q mitigates endothelial inflammation. *Redox Biology* [en línea], vol. 47. DOI 10.1016/j.redox.2021.102166.

NADPH oxidase 4 (NOX4) regulates endothelial inflammation by producing hydrogen peroxide (H_2O_2) and to a lesser extent $O_2^{\bullet-}$. The ratio of NOX4-derived H_2O_2 and $O_2^{\bullet-}$ can be altered by coenzyme Q (CoQ) mimics. Therefore, we hypothesize that cytochrome b5 reductase 3 (CYB5R3), a CoQ reductase abundant in vascular endothelial cells, regulates inflammatory activation. To examine endothelial CYB5R3 in vivo, we created tamoxifen-inducible endothelium-specific Cyb5r3 knockout mice (R3 KO). Radiotelemetry measurements of systolic blood pressure showed systemic hypotension in lipopolysaccharides (LPS) challenged mice, which was exacerbated in R3 KO mice. Meanwhile, LPS treatment caused greater endothelial dysfunction in R3 KO mice, evaluated by acetylcholine-induced vasodilation in the isolated aorta, accompanied by elevated mRNA expression of vascular adhesion molecule 1 (Vcam-1). Similarly, in cultured human aortic endothelial cells (HAEC), LPS and tumor necrosis factor α (TNF- α) induced VCAM-1 protein expression was enhanced by Cyb5r3 siRNA, which was ablated by silencing the Nox4 gene simultaneously. Moreover, super-resolution confocal

microscopy indicated mitochondrial co-localization of CYB5R3 and NOX4 in HAECs. APEX2-based electron microscopy and proximity biotinylation also demonstrated CYB5R3's localization on the mitochondrial outer membrane and its interaction with NOX4, which was further confirmed by the proximity ligation assay. Notably, Cyb5r3 knockdown HAECs showed less total H₂O₂ but more mitochondrial O₂^{•-}. Using inactive or non-membrane bound active CYB5R3, we found that CYB5R3 activity and membrane translocation are needed for optimal generation of H₂O₂ by NOX4. Lastly, cells lacking the CoQ synthesizing enzyme COQ6 showed decreased NOX4-derived H₂O₂, indicating a requirement for endogenous CoQ in NOX4 activity. In conclusion, CYB5R3 mitigates endothelial inflammatory activation by assisting in NOX4-dependent H₂O₂ generation via CoQ. © 2021

ZAHL, P., YAKUTOVICH, A.V., VENTURA-MACÍAS, E., CARRACEDO-COSME, J., ROMERO-MUÑIZ, C., POU, P., SADOWSKI, J.T., HYBERTSEN, M.S. y PÉREZ, R., 2021. Hydrogen bonded trimesic acid networks on Cu(111) reveal how basic chemical properties are imprinted in HR-AFM images. *Nanoscale*, vol. 13, no. 44, pp. 18473-18482. DOI 10.1039/d1nr04471k.

High resolution non-contact atomic force microscopy measurements characterize assemblies of trimesic acid molecules on Cu(111) and the link group interactions, providing the first fingerprints utilizing CO-based probes for this widely studied paradigm for hydrogen bond driven molecular self assembly. The enhanced submolecular resolution offered by this technique uniquely reveals key aspects of the competing interactions. Accurate comparison between full-density-based modeled images and experiment allows to identify key structural elements in the assembly in terms of the electron-withdrawing character of the carboxylic groups, interactions of those groups with Cu atoms in the surface, and the valence electron density in the intermolecular region of the hydrogen bonds. This study of trimesic acid assemblies on Cu(111) combining high resolution atomic force microscopy measurements with theory and simulation forges clear connections between fundamental chemical properties of molecules and key features imprinted in force images with submolecular resolution. © 2021 The Royal Society of Chemistry.

ZERVA, A., 2021. *La enseñanza del español en Grecia: las relaciones interpersonales*. S.l.: Dykinson. ISBN 978-84-13-77897-6.

En el presente estudio, ahondamos en algunos contenidos de la lengua española y su enseñanza a aprendientes griegos. Concretamente, nos centramos en los aspectos relacionados con los saludos y las despedidas que desempeñan un papel importante en las relaciones interpersonales. Nuestro enfoque se basa en una aproximación sociolingüística y pragmática de los aspectos que son especialmente contrastables entre las dos lenguas, el griego y el español.