

# Producción científica, octubre 2020

Boletín de publicaciones de producción científica de la  
Universidad Pablo de Olavide.

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Nº. Boletín: 8/2020

Biblioteca/CRAI

Servicio de Apoyo a la Investigación

Sevilla, noviembre de 2020



UNIVERSIDAD  
**PABLO<sup>o</sup>  
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## Metodología

El presente Boletín de Producción científica está destinado a la difusión mensual de la producción científica de los investigadores de la Universidad Pablo de Olavide, en Web of Science, Scopus y Dialnet.

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

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

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

Web of Science

Estrategia de búsqueda avanzada:

OG=(Universidad Pablo de Olavide)

Índices=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI

Período de tiempo=Año hasta la fecha

Scopus

Estrategia de búsqueda avanzada:

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

Dialnet

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

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

Fecha de recolección de datos: Web of Science y Scopus: 04/11/2020

Dialnet: 06/11/2020



## Publicaciones

AGUILAR, R., SANTANA, M., LARRANETA, B. y CUEVAS, G., 2020. Flipping the Strategic Management Classroom: Undergraduate Students' Learning Outcomes. *Scandinavian Journal of Educational Research*, ISSN 0031-3831. DOI 10.1080/00313831.2020.1825524.

This study aims to shed more light on our understanding of the learning consequences of an emerging pedagogical approach to teaching: the flipped classroom. This approach proposes a change of paradigm in which students are expected to assimilate concepts prior to attending classes with the objective of dedicating class time to the completion of activities that put those concepts into practice. Building on a sample of 219 undergraduate University students from Pablo de Olavide University enrolled on a course in Strategic Management, we compare students taught using a traditional teaching format (control group) with students taught using a flipped classroom format (experimental group). Our results show that the implementation of the flipped learning method has a significant impact on three important learning outcomes: (1) it increases the student's intrinsic motivation for the topic under study; (2) it results in higher exam grades; and (3) it reduces absenteeism.

ALCÁZAR, B., MOLINA PARÍS, J. y MARTÍN SÁNCHEZ, F.J., 2020. Seguimiento del paciente con enfermedad respiratoria en la era post-COVID-19: ¿estamos preparados? *Archivos de bronconeumología: Órgano oficial de la Sociedad Española de Neumología y Cirugía Torácica SEPAR y la Asociación Latinoamericana de Tórax (ALAT)*, vol. 56, no. 10, pp. 685-686. ISSN 0300-2896.

ALONSO, D., FERNÁNDEZ-ESLAVA, B., EDELAAR, P. y ARIZAGA, J., 2020. Morphological divergence among Spanish Common Crossbill populations and adaptations to different pine species. *Ibis*, vol. 162, no. 4, pp. 1279-1291. ISSN 00191019. DOI 10.1111/ibi.12835.

Crossbills (*Loxia* spp.) provide a classical avian model of ecological specialization on food resources. Previous studies have suggested that morphometric, genetic and vocal diversification among Common Crossbill *Loxia curvirostra* populations is better explained by ecological distance (use of different conifers) than by geographical distance, indicating that populations have diverged adaptatively. We tested for adaptive divergence in Iberian crossbills using bill and body size measurements of 6082 crossbills from 27 sites, each consisting of a dominant or single pine (*Pinus*) of four possible species. Crossbills using different pines differed significantly in body size and bill size and shape. There was no correlation between geographical and morphological distance among sampling sites, consistent with the hypothesis that the morphological divergence of Iberian crossbills is shaped by their ecological differences (foraging on alternative conifers) rather than geographical distance. However, for unknown reasons, Common Crossbills foraging on *Pinus sylvestris* in Iberia have on average much

smaller bills than Parrot Crossbills *Loxia pytyopsittacus* feeding on the same pine species in northern Europe. The extent to which crossbills specialize on Iberian *P. sylvestris* remains to be established. Specialization on conifers with overlapping geographical distributions may be facilitated by matching habitat choice of crossbills as a function of their local intake rates.

ÁVILA-MORENO, F.M., 2020. Los deportes colectivos de invasión en educación secundaria: Propuesta práctica en balonmano. *EmásF: revista digital de educación física*, no. 66, pp. 23-42. ISSN 1989-8304.

Los deportes colectivos son un contenido altamente utilizado y valorado en las clases de Educación Física, tanto por el profesorado, como por el alumnado y las familias (Otero y González, 2016; Fernández, Méndez, y Sánchez, 2018). Dentro de ellos, las modalidades deportivas de invasión constituyen una de las formas más extendidas de entender el fenómeno deportivo en nuestro entorno (Otero, Calvo, y González, 2011). Sin embargo, se sigue percibiendo cierta dispersión la forma de abordarlos en el contexto escolar. El objetivo de este artículo es realizar una propuesta práctica, con la información suficiente organizada, que facilite la puesta en acción de clases eficientes, que creen adherencia al alumnado a este contenido, cumpliendo con los fines y objetivos de la etapa educativa.

BACHERO-MENA, B. y GONZALEZ-BADILLO, J.J., 2020. Mechanical and Metabolic Responses during High-intensity Training in Elite 800-m Runners. *International Journal of Sports Medicine*, ISSN 0172-4622. DOI 10.1055/a-1273-8564.

The purpose of this study was to describe the mechanical and metabolic responses of a typical high-intensity training session in high-level 800-m athletes. Nine male high-level 800-m athletes (personal best 1:43-1:56min:ss) performed a typical high-intensity interval training session consisting of 5x200m with 4min rest. Countermovement jump and blood lactate were measured at rest and after each running bout. Running times, ground contact times, and stride length were also measured. Running times and lactate ( $p < 0.01$ ) progressively increased from the first to the last running bout. Jump height ( $p < 0.01$ ) and stride length ( $p < 0.05$ ) progressively decreased from the first running bout to the last. A significant negative relationship ( $p < 0.001$ ;  $r = -0.83$ ) was found between the individual values of jumping height and blood lactate concentration; and a significant positive relationship ( $p < 0.01$ ;  $r = 0.67$ ) was observed between the time in the 200m and the contact times. In conclusion, the results demonstrated that the typical training session performed by 800-m athletes produced a high level of fatigue as evidenced by significant alterations in the mechanical and metabolic response. The impairments observed in the mechanical and metabolic parameters may indirectly reflect a state of energy deficit of the muscle contractile machinery and a reduction of the force-generating capacity.

BAENA GONZÁLEZ, R., CHAVARRÍA ORTIZ, C., MARTÍNEZ MARTÍN, I., GALLARDO GUERRERO, A.M. y GARCÍA-TASCÓN, M., 2020. Participación y opinión sobre el sistema antivuelco Tutigool: Torneo Internacional de Balonmano 2019. En: *La seguridad deportiva a debate*. Dykinson, pp. 169-176. ISBN 978-84-1324-474-7

BARONI, M.J.L., 2020. The narratives of surrogacy [Las narrativas de la maternidad subrogada]. *FMC Formacion Medica Continuada en Atencion Primaria*, vol. 27, no. 8, pp. 398-402. ISSN 11342072. DOI 10.1016/j.fmc.2019.10.021.

BERGANTINOS, G. y MORENO-TERNERO, J.D., 2020. Allocating extra revenues from broadcasting sports leagues. *Journal of Mathematical Economics*, vol. 90, pp. 65-73. ISSN 0304-4068. DOI 10.1016/j.jmateco.2020.06.002.

We consider the problem of sharing the revenues from broadcasting sports leagues among participating teams. We introduce axioms formalizing alternative ways of allocating the extra revenue obtained from additional viewers. We show that, combined with some other standard axioms, they provide axiomatic characterizations of three focal rules for this problem: the uniform rule, the equal-split rule and concede-and-divide.

BERMUDO, S., KÓRUS, P. y NÁPOLES VALDÉS, J.E., 2020. On q-Hermite–Hadamard inequalities for general convex functions. *Acta Mathematica Hungarica*, vol. 162, no. 1, pp. 364-374. ISSN 02365294. DOI 10.1007/s10474-020-01025-6.

The Hermite–Hadamard inequality was first considered for convex functions and has been studied extensively. Recently, many extensions were given with the use of general convex functions. In this paper we present some variants of the Hermite–Hadamard inequality for general convex functions in the context of q-calculus. From our theorems, we deduce some recent results in the topic.

BLASCO, N., BEÀ, A., BARÉS, G., GIRÓN, C., NAVARIDAS, R., IRAZOKI, A., LÓPEZ-LLUCH, G., ZORZANO, A., DOLCET, X., LLOVERA, M. y SANCHIS, D., 2020. Involvement of the mitochondrial nuclease EndoG in the regulation of cell proliferation through the control of reactive oxygen species. *Redox Biology* [en línea], vol. 37. ISSN 22132317. DOI 10.1016/j.redox.2020.101736.

The apoptotic nuclease EndoG is involved in mitochondrial DNA replication. Previous results suggested that, in addition to regulate cardiomyocyte hypertrophy, EndoG could be involved in cell proliferation. Here, by using in vivo and cell culture

models, we investigated the role of EndoG in cell proliferation. Genetic deletion of Endog both in vivo and in cultured cells or Endog silencing in vitro induced a defect in rodent and human cell proliferation with a tendency of cells to accumulate in the G1 phase of cell cycle and increased reactive oxygen species (ROS) production. The defect in cell proliferation occurred with a decrease in the activity of the AKT/PKB-GSK-3 $\beta$ -Cyclin D axis and was reversed by addition of ROS scavengers. EndoG deficiency did not affect the expression of ROS detoxifying enzymes, nor the expression of the electron transport chain complexes and oxygen consumption rate. Addition of the micropeptide Humanin to EndoG-deficient cells restored AKT phosphorylation and proliferation without lowering ROS levels. Thus, our results show that EndoG is important for cell proliferation through the control of ROS and that Humanin can restore cell division in EndoG-deficient cells and counteracts the effects of ROS on AKT phosphorylation

BLASCO, Victor, PINTO, F.M., FERNANDEZ-ATUCHA, A., GONZALEZ-RAVINA, C., FERNANDEZ-SANCHEZ, M. y CANDENAS, L., 2020. Female infertility is associated with an altered expression of the neurokinin B/neurokinin B receptor and kisspeptin/kisspeptin receptor systems in ovarian granulosa and cumulus cells. *Fertility and Sterility*, vol. 114, no. 4, pp. 869-878. ISSN 0015-0282. DOI 10.1016/j.fertnstert.2020.05.006.

To analyze and compare the expression profile of TAC3, TACR3, KISS1, and KISS1R in mural granulosa and cumulus cells from healthy oocyte donors and patients with different infertility etiologies, including advanced maternal age, endometriosis, and low ovarian response. Design: Genetic association study. Setting: Private fertility clinic and public research laboratory. Patient(s): Healthy oocyte donors and infertile women undergoing in vitro fertilization (IVF) treatment. Intervention(s): IVF. Main Outcome Measure(s): Gene expression levels of KISS1, KISS1R, TAC3, and TACR3 in human mural granulosa and cumulus cells. Result(s): Infertile women showed statistically significantly altered expression levels of KISS1 (-2.57 +/- 2.30 vs. -1.37 +/- 2.11), TAC3 (-1.21 +/- 1.40 vs. -1.49 +/- 1.98), and TACR3 (-0.77 +/- 1.36 vs. -0.03 +/- 0.56) when compared with healthy oocyte donors. Advanced maternal age patients, endometriosis patients, and low responders showed specific and altered expression profiles in comparison with oocyte donors. Conclusion(s): Abnormal expression levels of KISS1/KISS1R and TAC3/TACR3 systems in granulosa cells might be involved in the decreased fertility associated to advanced maternal age, endometriosis, and low ovarian response.

BRAZO-SAYAVERA, J., GONZÁLEZ RAMÍREZ, A., TREJO SILVA, A., CAMACHO CARDEÑOSA, M. y CAMACHO CARDEÑOSA, A., 2020. Offensive performance under numerical inequality during exclusions in female handball. [Rendimiento ofensivo en situaciones de desigualdad numérica durante las exclusiones en balonmano femenino]. *RICYDE. Revista Internacional de Ciencias del Deporte*, vol. 16, no. 62, pp. 396-409. ISSN-e 1885-3137

The aims of this study were: i) to describe the situations of numerical inequality due to exclusions during the Female Handball at Panamerican Games Tournament 2015; ii) to analyse the efficacy to relate these situations with the final performance and results. All matches played by teams ranked 1 to 4 in the tournament were analysed using the observational methodology. An ad hoc tool was created in order to develop the observation. A total of 14 matches were analysed in which 461 situations of numerical inequality occurred. Differences among different categories were analysed using chi-square test. Statistical significance was considered when  $p < 0.05$ . The main number of actions was concentrated during the second part of the matches ( $p < 0.05$ ). Results showed the winners being more efficient than losers in the majority of the variables studied ( $p < 0.05$ ). Winner teams scored a higher percentage of goals and showed a lower percentage of throws out than loser teams. Winner teams showed a more efficient performance in their attack efficacy (number of goals scored in relation to the number of attacks) while playing in inferiority. It was concluded that winner teams convert more goals than loser teams and they are more efficient during actions under numerical inequality.

AGUILAR-MARTÍNEZ, D., CHIROSA, L. J., MARTÍN, I., CHIROSA, I. J., & CUADRADO-REYES, J. (2012). The effect of strength on throwing velocity in team handball. *Revista Internacional de Medicina y Ciencias de La Actividad Física y del Deporte*, 12(48), 729–744. Andersen, V.; Fimland, M. S.; Cumming, K. T.; Vraalsen, O., & Saeterbakken, A. H. (2018). Explosive Resistance Training Using Elastic Bands in Young Female Team Handball Players. *Sports Medicine International Open*, 2(6), 171-178. <https://doi.org/10.1055/a-0755-7398>

ARGUDO, F. M.; RUIZ, E., & ABRALDES, A. Influencia de los valores de eficacia sobre la condición de ganador o perdedor en un mundial de Waterpolo. *Retos*, 17(1), 21-24. Bar-eli, M.; Tenenbaum, G., & Elbaz, G. (1990). Psychological performance crisis in high arousal situations—diagnosticity of rule violations and performance in competitive team-handball. *Anxiety Research*, 2(4), 281-292. <https://doi.org/10.1080/08917779008248734>

CAMPO TEJEDOR, A. del, 2020. El estigma oscuro: la caracterización estereotípica del negroafricano hace medio milenio. En: *Aulas Abiertas. Tomo III: Inmigración, raíces e inclusión social*. Dykinson, pp. 79-137. ISBN 978-84-1324-686-4

CAÑO ORTIGOSA, J.L. y SALINAS, M.L., 2020. Dossier «Fuentes para una historia económica y social de América: metodologías, prácticas e investigaciones en diálogo». *Asociación Española De Americanistas*. no. 25. DOI 10.6018/nav.441401.

Recordar el pasado ayuda a mejorar el futuro de nuestras sociedades. Esta es una máxima que nos obliga no solo a intentar conocer y aclarar los hechos históricos, sino también a cuestionarnos permanentemente si lo explicado



hasta el momento es acertado, si las preguntas respondidas son las únicas, las necesarias y las adecuadas, si la forma de llegar a las respuestas fueron en cada momento las más acertadas, si es posible introducir nuevos métodos para dilucidar mejor cada aspecto estudiado y, por todo ello, si las fuentes utilizadas fueron las idóneas y si existen otras que nos permitan un avance en el esclarecimiento de nuestra historia.

CARUSO FONTÁN, M.V., 2020. La pornografía infantil en la legislación penal española: Apuntes sobre un viaje en retroceso a la superación de concepciones morales. En: *Una década de reformas penales: análisis de diez años de cambios en el Código Penal (2010-2020)*. Bosch, pp. 357-371. ISBN 978-84-122015-9-8

CAVA, M.-J., MARTINEZ-FERRER, B., BUELGA, S. y CARRASCOSA, L., 2020. Sexist attitudes, romantic myths, and offline dating violence as predictors of cyber dating violence perpetration in adolescents. *Computers in Human Behavior*, vol. 111, pp. 106449. ISSN 0747-5632. DOI 10.1016/j.chb.2020.106449.

The objectives of this study were to analyze the prevalence of cyber dating violence perpetration (cyber-control and cyber-aggression) in adolescent boys and girls, and to explore the relations between adolescents' involvement in cyber dating violence perpetration (never, occasional, and frequent) and their sexist attitudes (hostile and benevolent), romantic myths, and offline dating violence perpetration (relational, physical, and verbal-emotional). The predictive weight of these variables in relation to cyber dating violence perpetration (cybercontrol and cyber-aggression) was also analyzed. Of an initial sample of 919 adolescents, who had or had had a dating relationship in the past 12 months, 492 adolescents were included in this study (M age = 15.10, SD = 1.59). The results revealed a higher prevalence of cyber-control behaviors and a different predictive weight of the analyzed variables in relation to cyber-control and cyber-aggression for boys and girls. Physical and relational offline dating violence were significant predictors of cyber-aggression for boys, while sexist attitudes and romantic myths were the main predictors for girls. Hostile sexism and relational offline dating violence were positive predictors of cyber-control for boys, while romantic myths and verbal-emotional offline dating violence were the main predictors of cyber-control for girls. These results highlight the need for gender analyses in cyber dating violence research.

CHECA-RODRIGUEZ, C., CEPEDA-GARCIA, C., RAMON, J., LOPEZ-SAAVEDRA, A., BALESTRA, F.R., DOMINGUEZ-SANCHEZ, M.S., GOMEZ-CABELLO, D. y HUERTAS, P., 2020. Methylation of the central transcriptional regulator KLF4 by PRMT5 is required for DNA end resection and recombination. *Dna Repair*, vol. 94, pp. 102902. ISSN 1568-7864. DOI 10.1016/j.dnarep.2020.102902.

Cell fitness and survival upon exposure to DNA damage depends on the repair of DNA lesions. Interestingly, cellular identity does affect and finetunes such response,

although the molecular basis of such differences between tissues and cell types is not well understood. Thus, a possibility is that DNA repair itself is controlled by the mechanisms that govern cell identity. Here we show that the KLF4, involved in cellular homeostasis, proliferation, cell reprogramming and cancer development, directly regulates resection and homologous recombination proficiency. Indeed, resection efficiency follows KLF4 protein levels, i.e. decreases upon KLF4 downregulation and increases when is overexpressed. Moreover, KLF4 role in resection requires its methylation by the methyltransferase PRMT5. Thus, PRMT5 depletion not only mimics KLF4 downregulation, but also showed an epistatic genetic relationship. Our data support a model in which the methylation of KLF4 by PRMT5 is a priming event required to license DNA resection and homologous recombination.

COBOS SANCHIZ, D., MORÓN MARCHENA, J.A. y CASTILLA, K.-P., 2020. El papel de la educación para la salud en la prevención del VIH/sida: una aproximación desde la educación para el desarrollo en Centroamérica. *Educación*, vol. 56, no. 2, pp. 315-331. ISSN 0211-819X. 10.5565/rev/educar.1084

El treball descriu una experiència d'educació per al desenvolupament en matèria de salut i qualitat de vida implementada en el marc d'una actuació continuada de cooperació universitària a l'Amèrica Central. La creació d'un espai de discussió sobre temes de desenvolupament, qualitat de vida i salut serveix de suport i d'impuls a l'aplicació de polítiques locals; a la prestació de suport tècnic en el disseny, la preparació i l'execució d'investigacions socioeducatives; a la capacitació de persones mediadores en salut, i al propiciament de l'intercanvi d'experiències entre professionals i institucions. Metodològicament, el treball s'aborda en tres fases: anàlisi de la realitat mitjançant investigació aplicada enfocada fonamentalment a la problemàtica del VIH/sida, realització d'un diagnòstic participatiu sobre la situació real dels grups de risc per prendre decisions sobre la construcció d'un discurs preventiu adaptat a la realitat contextual i, finalment, impuls coordinat de les accions d'educació per al desenvolupament que conformen l'experiència. La consolidació d'aquesta aliança interinstitucional, que actua sobre necessitats reals i sol·licitades en aquest context, està generant canvis substancials i tangibles en els hàbits i en la qualitat de vida de la població local.

COLOM PIELLA, G., 2020. La OTAN en el quinto dominio operativo. En: *El paradigma de la seguridad internacional en la consolidación de la paz [XI Jornadas de Estudios de Seguridad]*. UNED, Universidad Nacional de Educación a Distancia pp. 87-105. ISBN 978-84-362-7596-4

CONTRERAS MAZARÍO, J.M., 2020. Festividades religiosas: ¿un ámbito de conflicto por resolver entre mayorías y minorías? (Especial referencia al ámbito laboral). En: *Las minorías en el contexto actual*. Dykinson, pp. 167-196. ISBN 978-84-1324-714-4.

En el presente trabajo se aborda la temática del establecimiento, dentro del calendario laboral, de un conjunto de días festivos o feriados. Parece claro que en un Estado confesional, también los días festivos tengan relación directa con la religión profesada. Las festividades religiosas fijadas serán las de la mayoría, bien porque la población profese la religión oficial, bien porque es reflejo de la cultura de la sociedad, bien porque el derecho y el Estado así lo establecen. Todas las personas tendrán los mismos días festivos (o feriados) y de descanso con independencia de las creencias o convicciones religiosas o filosóficas que profesen, incluidas las minorías religiosas las practiquen o no. Llegados a este punto, nos preguntaremos si este posicionamiento, que puede parecer lógico en un modelo de Estado confesional, puede resultar igualmente lógico en otros tipos de modelos como pueden ser el Estado exclusivista o el Estado laicista e incluso el laico. Amén de cómo juega en esta materia el factor de las mayorías, y –sobre todo– si puede introducirse o no algún tipo de criterio modulador a favor de las minorías, y todo ello con una referencia especial a España.

CORTÉS MARTÍN, J.M., 2020. Sobre los límites a la confianza mutua y la equivalencia intersistémica de la orden europea de detención. En: *Retos actuales de la cooperación penal en la Unión Europea*. Dykinson, pp. 61-94. ISBN 978-84-13-24713-7

CRUZ VILLALÓN, J. y PIERRE-HENRI, C., 2020. El empresario. *Nueva revista española de derecho del trabajo*, no. 234, pp. 61-74. ISSN 2444-3476.

Ante todo, cabe señalar que, en el periodo analizado, debido a la paralización de la actividad judicial por causa de la crisis sanitaria originada por la COVID-19, se han dictado un menor número de pronunciamientos judiciales de lo habitual. De forma resumida, como pronunciamientos más importantes de este período se pueden destacar los siguientes. En primer lugar, en materia de grupo de empresas cabe destacar una sentencia del Tribunal Superior de Justicia de Castilla la Mancha que procede a la aplicación de los requisitos necesarios para apreciar la existencia de responsabilidad solidaria en una empresa de grupo. En materia de contrata, resulta interesante una sentencia del Tribunal Superior de Justicia del Principado de Asturias que constata el incumplimiento del deber de coordinación de la empresa principal y de la contratista y declara la responsabilidad solidaria de ambas en el pago de recargo de prestaciones en aplicación del artículo 164 de la Ley general de Seguridad Social. En materia de sucesión de contratas, una sentencia del Tribunal de Justicia de la Unión Europea, dictada en un supuesto muy peculiar, atribuye a la sucesión de plantilla un papel relevante para calificar la sucesión de contratas como sucesión de empresa, en caso de una actividad que requiere elementos materiales para su desarrollo y que no descansa fundamentalmente en la mano de obra. Finalmente, un auto del Juzgado de lo Social de Madrid se refiere igualmente a la cuestión de la sucesión de empresa, especialmente respecto a la subrogación de personal ex convenio colectivo en el sector de la construcción, para formular tres cuestiones prejudiciales al TJUE.

CUARTERO OTAL, J., 2020. «El valle feliz» de Annemarie Schwarzenbach: la traducción cambió el género del narrador – ma non troppo. *Tropelías: Revista de Teoría de la Literatura y Literatura*. no. 7, pp. 876-884. ISSN 2255-5463

It is an obvious fact that Literary Criticism always offers an effective aid to the translation of literary texts. But what happens if theoretical studies do not agree on a characteristic that seriously conditions the translation of a work? This is the case with the novel *Das glückliche Tal* by the Swiss writer Annemarie Schwarzenbach, since scholars do not agree on the genre of its narrator. In this paper, the translator of that novel into Spanish justifies his approach to the text and his decisions.

DA MATA, E.T., 2020. Un enfoque racial de los planes integrales de inmigración en Andalucía: reflexión desde las raíces negras en/de Andalucía. En: *Aulas Abiertas. Tomo III: Inmigración, raíces e inclusión social*. Dykinson, pp. 57-77. ISBN 978-84-1324-686-4

DA MATA, E.T., MORA GALIANA, J., HEISEL, K. y LARA PALACIOS, M. del Á., 2020. Sentido funcional de la lengua española en ciudades de inmigración. En: *Aulas Abiertas. Tomo III: Inmigración, raíces e inclusión social*. Dykinson, pp.17-27. ISBN 978-84-1324-686-4

DEL ALJARAFE (ALJARAFESA), E.M., RODRÍGUEZ-DELGADO, P., RÍOS VILLEGAS, J.F. y SILVA-ARDANUY, M., 2020. *Vulnerabilidad energética e hidrovulnerabilidad sobre la población general de la Provincia de Sevilla. Alcance y protección constitucional*. Universidad de Sevilla. ISBN 978-84-12-12572-6

DÍAZ-ORDÓÑEZ, M., 2020. El arsenal de Cartagena y Jorge Juan: historia, proyecto, diques y producción de jarcia para la Real Armada. pp. 557-598. En: *Las innovaciones de la Armada en la España del siglo de Jorge Juan*. CSIC. 2020. ISBN 978-84-00-10646-1

DOMÍNGUEZ FERNÁNDEZ, G., PRIETO JIMÉNEZ, E. y LÓPEZ CATALÁN, L., 2020. 10 años de la Educación para el Desarrollo en la Universidad Pablo de Olavide. Tendencias actuales y retos futuros: la Agenda 2030. *Educación*, vol. 56, no. 2, pp. 349-366. ISSN 0211-819X. DOI 10.5565/rev/educar.1100

The 2030 Agenda establishes a framework for action and change for all citizens. The challenge of integrating this agenda in all educational fields has led us to inquire

into how the agenda has been approached in the higher education setting. The aim of this article is to evaluate the impact that the only official master's degree in education for development in Spain—now in its tenth 10 consecutive year—has had in achieving a comprehensive change in students from the perspective of critical citizenship and empowerment in the networked society. We present a study carried out with a population comprising the 221 students who have completed the degree. The results focus on the three essential dimensions: academic progress, employability and the promotion of values and commitment. Based on the data, it is concluded that the natural evolution of the master's degree has achieved the main objectives it initially set out to achieve: training, intervention, awareness- raising, commitment and action for global change.

DORRONSORO RAFAEL, L., EPELDE JAIONE, G., CRISTINA, L. y LASA IBON, S., 2020. An Industry 4.0 maturity model for machine tool companies. *Technological Forecasting and Social Change*, vol. 159, pp. 120203. ISSN 0040-1625. DOI 10.1016/j.techfore.2020.120203.

Industry 4.0 is the new productive paradigm that is driving the 4th industrial revolution. The specific difficulties in adapting to this new approach pose challenges for Machine Tool (MT) companies, mostly Small and Medium Enterprises (SME). In order to implement a route appropriately, tools such as the Maturity Model (MM) can be very useful, since they help to evaluate the initial state of the company and to plan a development road map. Over the last few years, several MMs geared towards Industry 4.0 have been created and released, some of which are specifically aimed at certain sectors. However, there is none specially developed for an industry of such vital importance as the MT sector. This article presents a new MM adapted to this type of company, with a design based on previously validated developments and standards relating to MM. A representative company in the sector was chosen as a case study for testing the new tool, with excellent results. It was decided that the next step should be to disseminate it to more companies so that it could become a standard MM in the sector.

ELORZA-GUERRERO, F., 2020. COVID-19: Legislación Laboral y de la Seguridad Social. *Revista de derecho del transporte: Terrestre, marítimo, aéreo y multimodal*, no. 25, pp. 503-531. ISSN 1889-1810.

EMRI, E., KORTVELY, E., DAMMEIER, S., KLOSE, F., SIMPSON, D., DEN HOLLANDER, 2020. A multi-omics approach identifies key regulatory pathways induced by long-term zinc supplementation in human primary retinal pigment epithelium. *Nutrients*, vol. 12, no. 10, pp. 1-25. ISSN 20726643. DOI 10.3390/nu12103051.

In age-related macular degeneration (AMD), both systemic and local zinc levels decline. Elevation of zinc in clinical studies delayed the progression to end-stage AMD. However, the molecular pathways underpinning this beneficial effect are not yet identified. In this study, we used differentiated primary human fetal retinal pigment epithelium (RPE) cultures and long-term zinc supplementation to carry out a combined transcriptome, proteome and secretome analysis from three genetically different human donors. After combining significant differences, we identified the complex molecular networks using Database for Annotation, Visualization and Integrated Discovery (DAVID) and Ingenuity Pathway Analysis (IPA). The cell cultures from the three donors showed extensive pigmentation, development of microvilli and basal infoldings and responded to zinc supplementation with an increase in transepithelial electrical resistance (TEER) (apical supplementation:  $443.2 \pm 79.3\%$ , basal supplementation:  $424.9 \pm 116.8\%$ , compared to control:  $317.5 \pm 98.2\%$ ). Significant changes were observed in the expression of 1044 genes, 151 cellular proteins and 124 secreted proteins. Gene set enrichment analysis revealed changes in specific molecular pathways related to cell adhesion/polarity, extracellular matrix organization, protein processing/transport, and oxidative stress response by zinc and identified a key upstream regulator effect similar to that of TGF $\beta$ 1.

ESCRIVÁ SELLÉS, F.R. y GONZÁLEZ BADILLO, J.J., 2020. Efecto de dos periodos de entrenamiento de fuerza sobre el rendimiento en los ejercicios de salto vertical, barracuda y boost en natación sincronizada., *Apunts. Educación Física y Deportes*, no. 142, pp. 35-45. DOI 10.5672/apunts.2014-0983.es.(2020/4).142.05

El objetivo de este estudio fue comprobar el efecto de dos periodos de preparación diferenciados por los medios de entrenamiento de la fuerza (con/sin carga externa añadida-pesas), en deportistas de natación sincronizada. Se valoraron las variables rendimiento (altura) en salto vertical (CMJ) y los test específicos de boost y tintorera. Un grupo de nadadoras de categoría infantil/júnior ( $14 \pm 1$  años), sin experiencia en el entrenamiento de fuerza, fueron las participantes en el estudio ( $n = 10$ ). Durante el primer periodo de preparación se trabajó la fuerza sin carga externa añadida. En el segundo, se trabajó la fuerza con carga externa añadida (cargada, sentadilla y saltos con carga). Las deportistas fueron testadas al finalizar la pretemporada (datos referencia) y tras cada periodo de intervención (14 semanas). El análisis estadístico mostró cambios significativos en el boost ( $p < .05$ ) y en el CMJ ( $p < .01$ ) tras el segundo periodo. No se encontraron cambios significativos en la tintorera. No se observó ningún cambio significativo durante el primer periodo. Se encontró relación positiva significativa entre el boost y la tintorera ( $p < .05$ ) y entre el CMJ y el boost ( $p < .01$ ) en todas las ocasiones que se midieron. El CMJ y la tintorera muestran correlación positiva pero nunca llega a la significación. Se encontró correlación significativa ( $r = .643$ ;  $p \leq .05$ ) entre los cambios en CMJ y en la tintorera y, próxima a la significación, con el boost ( $r = .602$ ;  $p = .065$ ). Los resultados muestran un mayor efecto del entrenamiento con carga externa añadida sobre el rendimiento de las nadadoras en el CMJ, existiendo transferencia sobre las acciones específicas, lo que probablemente lleve a la mejora del rendimiento competitivo.



ESPÍNDOLA-HERNÁNDEZ, P., MUELLER, J.C., CARRETE, M., BOERNO, S. y KEMPENAERS, B., 2020. Genomic Evidence for Sensorial Adaptations to a Nocturnal Predatory Lifestyle in Owls. *Genome biology and evolution*, vol. 12, no. 10, pp. 1895-1908. ISSN 17596653. DOI 10.1093/gbe/evaa166.

Owls (Strigiformes) evolved specific adaptations to their nocturnal predatory lifestyle, such as asymmetrical ears, a facial disk, and a feather structure allowing silent flight. Owls also share some traits with diurnal raptors and other nocturnal birds, such as cryptic plumage patterns, reversed sexual size dimorphism, and acute vision and hearing. The genetic basis of some of these adaptations to a nocturnal predatory lifestyle has been studied by candidate gene approaches but rarely with genome-wide scans. Here, we used a genome-wide comparative analysis to test for selection in the early history of the owls. We estimated the substitution rates in the coding regions of 20 bird genomes, including 11 owls of which five were newly sequenced. Then, we tested for functional overrepresentation across the genes that showed signals of selection. In the ancestral branch of the owls, we found traces of positive selection in the evolution of genes functionally related to visual perception, especially to phototransduction, and to chromosome packaging. Several genes that have been previously linked to acoustic perception, circadian rhythm, and feather structure also showed signals of an accelerated evolution in the origin of the owls. We discuss the functions of the genes under positive selection and their putative association with the adaptation to the nocturnal predatory lifestyle of the owls. © The Author(s) 2020. Published by Oxford University Press on behalf of the Society for Molecular Biology and Evolution.

ESPINOSA BAYAL, M.Á., GIMENO MARTÍNEZ, A. y GARCÍA PÉREZ, R., 2020. La educación para el desarrollo y los derechos de la infancia: el papel de las agencias internacionales y el impacto de la formación en la transformación de los contextos. *Educación*, vol. 56, no. 2, pp. 297-314. ISSN 0211-819X. 10.5565/rev/educar.1086

El objetivo del artículo es describir el papel que las agencias internacionales tienen en la educación para el desarrollo desde un enfoque de derechos de la infancia. Considerando, como uno de los principales hitos, la aprobación en 1989 de la Convención de las Naciones Unidas sobre los Derechos del Niño y estableciendo el bienestar infantil como base para la consecución de la Agenda 2030, se detalla una experiencia exitosa, el Programa Ciudades Amigas de la Infancia de UNICEF-Comité Español, y la evaluación del impacto del Programa de Formación de Postgrado en Derechos y Políticas Municipales de Infancia. Los resultados ponen de manifiesto que la formación mejora la estabilidad laboral, las competencias profesionales y el desarrollo de iniciativas integrales de infancia, pero también que no tiene un efecto tan positivo en el reconocimiento que las organizaciones otorgan a los profesionales. Se concluye acerca de la importancia de la formación como una potente herramienta en la transformación de los contextos socioeducativos.

ESTÉVEZ, E., CAÑAS, E., ESTÉVEZ, J.F. y POVEDANO, A., 2020. Continuity and overlap of roles in victims and aggressors of bullying and cyberbullying in adolescence: a systematic review. *International Journal of Environmental Research and Public Health*, vol. 17, no. 20, pp. 1-15. ISSN 16617827. DOI 10.3390/ijerph17207452.

The objective of this study was to conduct a systematic review of research focused on analyzing the overlap and continuity of the roles in victims and aggressors of bullying and cyberbullying, as well as the exchange of roles in both harassment dynamics in adolescents. Searches in the main electronic databases for studies published in the last 20 years identified 19 studies that fulfilled inclusion criteria. The findings of the studies analyzed were not homogeneous, however, the main conclusion of all of them, to a greater or lesser extent, was that there is a component of continuity or superposition in the roles of both forms of bullying. Some studies also found an exchange of roles, especially in the case of victims and cybervictims who decide to reprimand their aggressors in an online context, becoming in cyberaggressors too. It is necessary to continue investigating the coexistence of bullying and cyberbullying and its exchange in certain contexts and people, as well as whether they are part of the same phenomenon with a certain continuity, or if cyberbullying is another expression of traditional bullying. Future intervention programs focusing on traditional school bullying could also evaluate their impact in situations of cyberbullying among peers.

FAN, K., DELGADO-BAQUERIZO, M., GUO, X., WANG, D., ZHU, Y. y CHU, H., 2020. Biodiversity of key-stone phylotypes determines crop production in a 4-decade fertilization experiment. *Isme Journal*, ISSN 1751-7362. DOI 10.1038/s41396-020-00796-8.

Cropping systems have fertilized soils for decades with undetermined consequences for the productivity and functioning of terrestrial ecosystems. One of the critical unknowns is the role of soil biodiversity in controlling crop production after decades of fertilization. This knowledge gap limits our capacity to assess how changes in soil biodiversity could alter crop production and soil health in changing environments. Here, we used multitrophic ecological networks to investigate the importance of soil biodiversity, in particular, the biodiversity of key-stone taxa in controlling soil functioning and wheat production in a 35-year field fertilization experiment. We found strong and positive associations between soil functional genes, crop production and the biodiversity of key-stone phylotypes; soils supporting a larger number of key-stone nematode, bacteria and fungi phylotypes yielded the highest wheat production. These key-stone phylotypes were also positively associated with plant growth (phototrophic bacteria, nitrogen fixers) and multiple functional genes related to nutrient cycling. The retrieved information on the genomes clustered with key-stone bacterial phylotypes indicated that the key-stone taxa had higher gene copies of oxidoreductases (participating most biogeochemical cycles of ecosystems and linking to microbial energetics) and 71 essential functional genes associated with carbon, nitrogen, phosphorus, and sulfur cycling. Altogether, our work highlights the fundamental role of the biodiversity of key-stone phylotypes in maintaining soil functioning and crop production after several decades of fertilization, and provides a list of



key-stone phylotypes linking to crop production and soil nutrient cycling, which could give science-based guidance for sustainable food production.

FERNÁNDEZ ARIAS, P., VERGARA RODRÍGUEZ, D., ORDÓÑEZ OLMEDO, E. y VIDAL RINCÓN, M., 2020. Tratamiento de la ciencia y tecnología nuclear en el sistema educativo español. *Revista Educativa HEKADEMOS*, no. 28, pp. 1-16.

Este artículo analiza el grado de conocimiento sobre la ciencia y la tecnología nuclear (CTN) del alumnado de Educación Secundaria Obligatoria y Bachillerato. Para ello, se ha realizado una doble investigación empírica: (i) análisis cuantitativo del conocimiento y la información que han recibido 180 alumnos sobre CTN durante su etapa educativa, y (ii) análisis cuantitativo sobre el grado de desarrollo de contenidos sobre CTN en los diferentes libros de texto. Se ha realizado una exhaustiva revisión de los libros de texto de las editoriales más relevantes, que contienen dicha temática en materias como: Geografía e Historia, Física y/o Química, Tecnología, Cultura Científica y Ciencias de la Tierra y del Medio Ambiente. Los resultados muestran por un lado, que la percepción del riesgo de las instalaciones nucleares varía de forma independiente al grado de conocimiento sobre CTN y la información que los discentes reciben sobre ello; por otro lado, que la formación educativa en CTN es escasa y que, consecuentemente, debería reforzarse para que el alumnado sea capaz de crear su propia opinión.

FERNÁNDEZ ARRIBAS, G., 2020. La Jurisprudencia del Tribunal Europeo de Derechos Humanos en relación con la expulsión de solicitantes de protección internacional. En: *Migraciones y asilo en la Unión Europea*. Aranzadi, pp. 295-321. ISBN 978-84-13-45109-1

FERNANDEZ-FERNANDEZ, J., GARCIA-TORMO, V., JAVIER SANTOS-ROSA, F., TEIXEIRA, A.S., NAKAMURA, F.Y., GRANACHER, U. y SANZ-RIVAS, D., 2020. The Effect of a Neuromuscular vs. Dynamic Warm-up on Physical Performance in Young Tennis Players. *Journal of Strength and Conditioning Research*, vol. 34, no. 10, pp. 2776-2784. ISSN 1064-8011. DOI 10.1519/JSC.0000000000003703.

The aim of this study was to examine performance-enhancing (i.e., training) effects of a neuromuscular warm-up (NWU) compared with a dynamic WU (DWU) in young tennis players. Twenty-eight well-trained male tennis players with a mean age of 15.09 +/- 1.16 years participated in this study and were assigned to either a training group performing NWU (n= 14), or a group that followed DWU (n= 15) before tennis-specific training, for 8 weeks. Pretest and posttest included: speed (5, 10, and 20 m); modified 5-0-5 change of direction (COD) test; bilateral/unilateral countermovement jump (CMJ); 2 kg overhead, forehand, and backhand-side medicine ball throw performance (MBT); serve velocity, and shoulder strength and range-of-motion (ROM) performance (i.e., internal

[IR]/external [ER] rotation). Results showed that both groups, NWU and DWU, significantly improved their sprint performances (5-20 m; [ $p < 0.05$ ;  $d = 0.83-1.32$ ]), CMJ (bilateral and unilateral [dominant side] [ $p < 0.005$ ;  $d = 1.27-1.59$ ]), overhead MBT ( $p = 0.014$ ;  $d = 1.02$ ), and some shoulder strength (i.e., IR dominant side [D], ER D, ER/IR ratio [ $p < 0.05$ ;  $d = 0.86-1.59$ ]) and ROM (i.e., ER D, total ROM D [ $p < 0.05$ ;  $d = 0.80-1.02$ ]) values. However, the interaction effects revealed that NWU compared with DWU produced greater performance gains in most of the analyzed parameters (i.e., 5-10 m sprint, CMJ, overhead MBT, serve speed). The inclusion of an NWU characterized by a relatively low volume (similar to 20-35 minutes), including general mobility, core, and shoulder strength exercises, combined with neuromuscular-related exercises (e.g., plyometric and acceleration/deceleration/COD drills), can be recommended to obtain positive effects in tennis performance-related variables.

FERNANDEZ-RODRIGUEZ, M.J., DE LA LAMA-CALVENTE, D., JIMENEZ-RODRIGUEZ, A., BORJA, R. y RINCON, B., 2020. Evolution of control parameters in biochemical methane potential tests of olive mill solid waste (OMSW), thermal pre-treated OMSW, and its co-digestion with *Dunaliella salina*. *Journal of Applied Phycology*, ISSN 0921-8971. DOI 10.1007/s10811-020-02297-9.

The aim of the present work was to compare the mesophilic anaerobic digestion of untreated olive mill solid waste (OMSW), soft hydrothermal pre-treated OMSW (SHP OMSW), and a co-digestion mixture of 95% OMSW and 5% microalga *Dunaliella salina* (co-OMSW). During the co-digestion experiment, the volatile fatty acid accumulation decreased in comparison with that obtained for OMSW and SHP OMSW, reducing the slight inhibition observed during the OMSW and SHP OMSW experiments. Final values of methane yield of  $380 \pm 1$  mL  $\text{CH}_4/\text{g}(-1)\text{VS}(\text{added})$  for the OMSW,  $424 \pm 2$  mL  $\text{CH}_4/\text{g}(-1)\text{VS}(\text{added})$  for the SHP OMSW, and  $491 \pm 1$  mL  $\text{CH}_4/\text{g}(-1)\text{VS}(\text{added})$  for the co-OMSW were determined. Two mathematical models, first-order kinetics and modified Gompertz model, were employed to fit the experimental data with the aim of elucidating the anaerobic biodegradation and obtain the kinetic constants. Both models allowed for adequately fitting the experimental results of methane production with time. The kinetic constant,  $k$ , of the first-order model increased by 12% for the co-OMSW compared with the values achieved for OMSW and SHP OMSW. The modified Gompertz model revealed that the maximum methane production rate,  $R_m$ , for the co-OMSW and SHP OMSW increased by 34.7% and 10.3% compared with the value obtained for OMSW.

FILTER, A., OLIVARES-JABALERA, J., SANTALLA, A., MORENTE-SANCHEZ, J., ROBLES-RODRIGUEZ, J., REQUENA, B. y LOTURCO, I., 2020. Curve Sprinting in Soccer: Kinematic and Neuromuscular Analysis. *International Journal of Sports Medicine*, vol. 41, no. 11, pp. 744-750. ISSN 0172-4622. DOI 10.1055/a-1144-3175.

Sprinting in curvilinear trajectories is an important soccer ability, corresponding to

similar to 85 % of the actions performed at maximum velocity in a soccer league. We compared the neuromuscular behavior and foot contact-time between outside leg and inside leg during curve sprinting to both sides in soccer players. Nine soccer players (age = 23 +/- 4.12 years) performed: 3 x Sprint linear, 3 x Sprint right curve, and 3 x Sprint left curve. An ANOVA with repeated measures was used to compare the differences between inside and outside leg, and Cohen's d was used to calculate the effect-size. Considering the average data, the performance classification (from best to worst) was as follows: 1. Curve «good» side (2.45 +/- 0.11 s), 2. Linear (2.47 +/- 0.13 s), and 3. Curve « weak» side (2.56 +/- 0.17 s). Comparing linear with curve sprinting, inside leg recorded significant differences («good» and « weak»; effect size = 1.20 and 2, respectively); in contrast, for outside leg, there were no significant differences («good» and « weak»; effect size = 0.30 and 0.49, respectively). Electromyography activity showed significant differences ( p = 0.05) during curve sprinting between outside (higher in biceps femoris and gluteus medius) and inside leg (higher activity in semitendinosus and adductor). In summary, inside and outside leg play different roles during curved sprints, but inside leg is more affected by the change from straight to curve sprint.

FUENTES-LUQUE, A. y LÓPEZ GONZÁLEZ, R.C., 2020. Animated Films made in Spain: Dubbing and Subtitling of Cultural Elements. *Íkala*, vol. 25, no. 2, pp. 495-511. ISSN 0123-3432, DOI 10.17533/udea.ikala.v25n02a08

Although Translation Studies have dealt with the translation of animated films into the various modes of audiovisual translation (dubbing, subtitling, etc.), such studies have focused almost exclusively on films translated from English into other languages. So far, there are hardly any studies analysing the translation into English of cultural elements contained in animation films produced in Spanish language. This article analyses the dubbing and subtitling of three animation films produced in Spain —Planet 51 (2009), Las aventuras de Tadeo Jones (2012), and Atrapa la bandera (2015), with the aim of finding out which cultural elements have been included in the original Spanish version of each of these productions and how they have been translated into the English dubbed and subtitled versions. To this end, a working methodology was developed based on the classification of cultural elements and on the various translation strategies used for dubbing and subtitling cultural content. Results show that almost half of the cultural elements compiled demand the services of a translator. These cases have been classified under the 'Environment' category and the 'Cinematography' subtype. This final subtype has a major impact on the corpus.

GALLARDO-LÓPEZ, J.A. y LÓPEZ-NOGUERO, F., 2020. Twitter como recurso metodológico en Educación Superior: una experiencia educativa con estudiantes de Trabajo Social. *Alteridad: revista de educación*, vol. 15, no. 2, pp. 174-189. ISSN 1390-8642. DOI 10.17163/alt.v15n2.2020.03

The profile of the university student is undergoing significant changes that are forcing

universities to rethink new methodological strategies to favour teaching-learning processes. In this paper we analyze the main results derived from an innovation project supported by the incorporation of Twitter as a collaborative, collective and innovative methodological resource in Higher Education. The general objective of the study is to explore the educational impact of the use of Twitter as a teaching resource, and how students perceive the usefulness of this instrument integrated into a participatory methodology. The sample is composed of 137 first-year students of the Degree in Social Work of Pablo de Olavide University, Seville (Spain). It is an ex post facto and transversal study, which starts from a descriptive methodology, using instruments for the collection and analysis of qualitative and quantitative information. In general terms, the results obtained after the analysis of participation, of the comments made by the students and of the shared audiovisual content, address questions centred on the influence of the use of Twitter for the improvement of the natural dynamics of academic development in the subject of Introduction to Social Pedagogy, observing how it provides numerous benefits in the collective creation of learning, from collaboration, participation and group cohesion.

GALLEGO HERNÁNDEZ, A.C., 2020. La aplicación de la extensión territorial del Derecho de la Unión Europea. *Cuadernos europeos de Deusto*, no. 63, pp. 297-313. ISSN 1130-8354. DOI 10.18543/ced-63-2020pp297-313

The extraterritorial application of law is consistent with the principle of respect for sovereignty, and correlatively with the principle of nonintervention, when its exercise is based on general interests and when there is proportionality. Despite the fact that the EU has never been a complete defender of extraterritoriality, especially after the last great world economic crisis, the exercise by the aforementioned organization begins to double. Territorial extension is used to control those behaviors that, although carried out abroad, have an impact on the overall EU interests. The doctrine has been in charge of conceptualizing the modality of the territorial extension.

GAMERO CASADO, E. y FERNÁNDEZ RAMOS, S., 2020. *Manual básico de derecho administrativo*. Tecnos. ISBN 978-84-309-7990-5

Una obra excelente para comprender el Derecho Administrativo, por sus cualidades didácticas: aquí se exponen los componentes esenciales del Derecho Administrativo haciendo un especial esfuerzo de claridad, sencillez y exhaustividad, prescindiendo de dogmatismos y centrándose en los elementos nucleares de cada institución jurídica, pero sin renunciar a la calidad y al rigor. La obra resulta idónea para el autoaprendizaje, tanto en el sistema ECTS, como en la actualización continua de conocimientos. Añadida a su utilidad docente, esta obra representa un adecuado material de consulta y referencia para el ejercicio profesional del Derecho, aportándose en cada materia la jurisprudencia más significativa. Por su claridad expositiva es apropiada para quienes preparan pruebas de acceso a los cuerpos de gestión de las Administraciones Públicas, y contribuye además a facilitar la formación continua de los profesionales que se

relacionan frecuentemente con la Administración: Graduados Sociales, Gestores Administrativos, asesores de empresas, etc. Dado que los autores son especialistas en administración electrónica, en este manual se exponen esas nociones con plena solvencia, pero al mismo tiempo con el esfuerzo de síntesis y claridad característico de la obra, erigiéndose en un texto idóneo para comprender cabalmente la nueva legislación administrativa. En esta nueva edición se ha enriquecido la obra con la jurisprudencia más reciente, con el característico equilibrio entre síntesis y exhaustividad que caracteriza a esta obra.

GARCÍA MORENO, S.M. y GARCÍA, M., 2020. Roca, un grupo local. En: *Casos de dirección estratégica de la empresa*. Thomson Reuters-Civitas, pp. 319-330. ISBN 978-84-13-08977-5

GARCÍA-ÁLVAREZ, L., 2020. Las donaciones entre cónyuges en Derecho internacional privado. *Cuadernos de derecho transnacional*, vol. 12, no. 2, pp. 430-474. ISSN 1989-4570. DOI 10.20318/cdt.2020.5616

This paper looks at how donations between spouses with at least one international element are treated from a private international law perspective. The characterisation of these donations is complex and often contested. This is mainly due to its hybrid nature, which can be covered by contract law, family law and at times inheritance law. The paper highlights the need to develop: a) autonomous concepts included in the European legal instruments meant to be applicable to the case, particularly that of “marital economic regime”; and b) regulation’s scopes and the interaction between them in order to clarify the question and to ensure uniformity and legal certainty in the European area of justice.

GARCÍA-TASCÓN, M., SAHELICES-PINTO, C., MENDAÑA-CUERVO, C. y MAGAZ-GONZÁLEZ, A.M., 2020. The impact of the covid-19 confinement on the habits of pa practice according to gender (Male/female): Spanish case. *International Journal of Environmental Research and Public Health*, vol. 17, no. 19, pp. 1-19. ISSN 16617827. DOI 10.3390/ijerph17196961.

The declaration of the COVID-19 pandemic has resulted in drastic changes to life worldwide. In Spain, the state of alarm caused the confinement of 47 million inhabitants, affecting every aspect of life. This study analyzes the impact of such confinement on the health of men and women, as well as the effect on the practice of physical activity (PA) of both genders. An ad hoc questionnaire was administered. A total of 1046 people (48.57% men and 51.43% women) with an average age of 40 years ( $SD \pm 13.35$ ) participated in this study. For both genders, there was a significant decrease in quantity and intensity ( $p = 0.000$ ). There was also an alteration in the type of PA practiced, shifting from cardiorespiratory exercise and muscular fitness to flexibility and neuromotor exercise (especially in women). The most popular way of practicing PA during the confinement was



“autonomously” (statistically higher in men ( $M = 3.58$ ) compared to women ( $M = 3.18$ )) and the most frequent format was “virtual” (statistically higher in women ( $M = 2.81$ ) compared to men ( $M = 1.94$ )). Confinement modifies the habits of PA practice, especially in men. Both genders put their health and quality of life at risk by not following the PA guidelines of the health authorities World Health Organization (WHO) and American College of Sports Medicine ACSM). These conclusions highlight the importance of considering gender when designing programs and PA formats for the promotion of physical activity to reduce the existing gender divide.

GARZÓN DELVAUX, P.A., RIESGO, L. y GOMEZ Y PALOMA, S., 2020. Are small farms more performant than larger ones in developing countries? *Science Advances* [en línea], vol. 6, no. 41. ISSN 23752548. DOI 10.1126/sciadv.abb8235.

Meta-regressions of around 1000 cases published over the period 1997-2018 suggest that the direction of the relationship between land area and agricultural performance strongly depends on the performance indicator selected. Net value and efficiency indicators show that larger farms tend to be more performant than smallholders, while the simpler but ubiquitous gross output indicators support an inverse relationship (IR). In addition, this study also indicates a decreasing record of IR in the literature over time, regardless of the indicator used. This may be partially explained by improvements in assessment techniques but, more importantly, by agricultural structural changes. Our results invite reconsidering IR as a central assumption when formulating agricultural support in rural development policy.

GAUTHIER, B.R., SOLA-GARCIA, A., CALIZ-MOLINA, M. angeles, LORENZO, P.I., COBO-VUILLEUMIER, N., CAPILLA-GONZALEZ, V. y MARTIN-MONTALVO, A., 2020. Thyroid hormones in diabetes, cancer, and aging. *Aging Cell*, pp. e13260. ISSN 1474-9718. DOI 10.1111/accel.13260.

Thyroid function is central in the control of physiological and pathophysiological processes. Studies in animal models and human research have determined that thyroid hormones modulate cellular processes relevant for aging and for the majority of age-related diseases. While several studies have associated mild reductions on thyroid hormone function with exceptional longevity in animals and humans, alterations in thyroid hormones are serious medical conditions associated with unhealthy aging and premature death. Moreover, both hyperthyroidism and hypothyroidism have been associated with the development of certain types of diabetes and cancers, indicating a great complexity of the molecular mechanisms controlled by thyroid hormones. In this review, we describe the latest findings in thyroid hormone research in the field of aging, diabetes, and cancer, with a special focus on hepatocellular carcinomas. While aging studies indicate that the direct modulation of thyroid hormones is not a viable strategy to promote healthy aging or longevity and the development of thyromimetics is challenging due to inefficacy and potential toxicity, we argue that interventions based on the use of modulators of thyroid hormone function might provide therapeutic benefit in

certain types of diabetes and cancers.

GLAVE, L.M., 2020. El archivo indígena y el relato de su historia en los Andes. *Naveg@mérica. Revista electrónica editada por La Asociación Española de Americanistas*, no. 25, pp.8- 0. DOI 10.6018/nav.441421

The study develops the hypothesis that during the centuries of colonial domination, the Indians of the Andes were building an archive in which they kept the memory of their struggles and claims and with it, they created a story about their situation in the Catholic monarchy and the expectations or program about his claims within it. The archive was created with requests for grants, claims on chiefdoms, evidence of lineages and services, memorials of grievances, land titles, relationships and letters. From a very wide universe of documents, covering different regions of the Peruvian viceroyalty, correspondences were established between the negotiations and speeches, exchanges and the representative accumulation of that history of legal struggle. An unknown and representative case, of Pedro Laureano de los Reyes serves to exemplify the central idea.

GOMEZ-GONZALEZ, B. y AGUILERA, A., 2020. Origin matters: spontaneous DNA-RNA hybrids do not form in trans as a source of genome instability. *Current Genetics*, ISSN 0172-8083. DOI 10.1007/s00294-020-01117-4.

Multiple exogenous and endogenous genotoxic agents threaten the integrity of the genome, but one major source of spontaneous DNA damage is the formation of unscheduled DNA-RNA hybrids. These can be genetically detected by their ability to induce recombination. The origin of spontaneous hybrids has been mainly attributed to the nascent RNA formed co-transcriptionally in cis invading its own DNA template. However, it was unclear whether hybrids could also be spontaneously generated by RNA produced in a different locus (in trans). Using new genetic systems in the yeast *Saccharomyces cerevisiae*, we recently tested whether hybrids could be formed in trans and compromise genome integrity. Whereas we detected recombinogenic DNA-RNA hybrids in cis and in a Rad51-independent manner, we found no evidence for recombinogenic DNA-RNA hybrids to be formed with RNAs produced in trans. Here, we further discuss the implications in the field for the origin of genetic instability and the threats coming from RNAs.

GOMEZ-RUIZ, L. y SÁNCHEZ-EXPÓSITO, M.J., 2020. The impact of team identity and gender on free-riding responses to fear and cooperation sustainability. *Sustainability (Switzerland)* [en línea], vol. 12, no. 19. ISSN 20711050. DOI 10.3390/su12198175.

This study explores the interaction effect of team identity and gender on free-riding responses to fear and cooperation sustainability in a social dilemma situation.

Based on differences in inequity aversion, risk preferences, and reaction to competition between men and women, we predict that team identity reduces free-riding behaviors among men when they feel fear to be exploited by others teammates that free-ride, but that it does not affect women in this way. Consequently, we also predict that the effect of team identity on cooperation sustainability differs between the two genders. We conducted an experiment in which dominant incentives to free-ride were held constant over 30 periods and where agents had to make a decision between cooperation and free-riding in each period. After each decision, agents received teammates' contribution and earnings, which facilitates that agents identify whether their team members free-ride. Our findings show no effect for team identity on free-riding response to fear among women. However, team identity affects free-riding response to fear among men, which positively impacts cooperation sustainability. © 2020 by the authors.

GÓMEZ-VELA, F., DIVINA, F. y GARCÍA-TORRES, M., 2020. Computational methods for the analysis of genomic data and biological processes. *Genes*, vol. 11, no. 10, pp. 1-4. ISSN 20734425. DOI 10.3390/genes11101230.

Today, new technologies, such as microarrays or high-performance sequencing, are producing more and more genomic data. This fact has brought new opportunities and challenges in the fields of computational biology and bioinformatics, since this huge number of data need to be analysed in order to be exploited. In this context, new computational methods and tools, such as machine learning approaches or gene expression analysis tools, could provide the solution to such issues. The overall aim of this Special Issue is to compile the latest research and developments in the field of computational methods for the analysis of gene expression data and, in particular, with the modelling of biological processes. Among all the submissions, eleven papers were accepted and published in this Special Issue.

GONZALEZ-GALAN, C., LUNA-TRIGUERO, A., VICENT-LUNA, J.M., ZADERENKO, A.P., SLAWEK, A., SANCHEZ-DE-ARMAS, R. y CALERO, S., 2020. Exploiting the pi-bonding for the separation of benzene and cyclohexane in zeolites. *Chemical Engineering Journal*, vol. 398, pp. 125678. ISSN 1385-8947. DOI 10.1016/j.cej.2020.125678.

Separation of benzene and cyclohexane is one of the greatest challenges in industry. Their close boiling points and similar properties make them difficult compounds to separate. In this context, adsorption-based separation using zeolites or aluminosilicates is a promising technology. In the present work, we combine experimental measurements, density functional theory, and classical simulations to study the targeted separation. We analyse the effect of the sodium content in the adsorption of benzene and cyclohexane in three zeolites with FAU topology; high silica FAU, NaY and NaX. Quasi-equilibrated temperature adsorption and desorption measurements, first principles calculations, and classical simulations reveal the strong interaction between benzene molecules and sodium cations present in aluminosilicates and identify this fact as the key factor for the separation. We have developed a set of parameters to study the targeted separation by fitting to the experimental values and have run Monte Carlo simulations in the Grand-Canonical ensemble to obtain the adsorption isotherms and isobars. In



addition, we have performed density functional theory calculations to analyse the specific interaction between benzene or cyclohexane and extra-framework sodium cations. Our results show that NaY and NaX zeolites are able to separate these compounds with extremely high efficiency.

GONZÁLEZ-ZAMAR, M.-D., ABAD-SEGURA, E., LÓPEZ-MENESES, E. y GÓMEZ-GALÁN, J., 2020. Managing ICT for sustainable education: Research analysis in the context of higher education. *Sustainability (Switzerland)* [en línea], vol. 12, no. 19. ISSN 20711050. DOI 10.3390/su12198254.

The use of information and communication technologies (ICTs) for the benefit of the environment favors the development of a sustainable education, which will help to train more responsible and aware students. The management of educational technology in the context of a sustainable higher education must achieve the internalization of ethics and the sustainable development of humanity. The main objective of this study is to, at a global level, examine the research during the period 2000-2019 on the management of ICTs for sustainable education in the context of higher education. Global research trends on this topic during the period 2000-2019 have been analyzed. Consequently, bibliometric techniques have been applied to a sample of 1814 articles selected from the Scopus database. The results provided data on the scientific productivity of the journal, authors, research institutions, and countries that contribute to the development of this topic. The evidence reveals an exponential trend, mainly in the last five years. In addition, current and future lines of research have been identified. Research at an international level presents a growing trend of publication that allows determination of the relevance of research on ICT management to achieve sustainable education in the context of higher education. This study makes it possible to establish the relationship between science, sustainability, and technology in higher education institutions, and to base the decision-making process for the driving agents of this area of knowledge.

GUERRERO LEÓN, M.J. y SÁNCHEZ BLANCO, M.J., 2020. Crónica de actuaciones relevantes en aviación con motivo de la crisis sanitaria derivada de la COVID-19. *Revista de derecho del transporte: Terrestre, marítimo, aéreo y multimodal*, no. 25, pp. 486-494. ISSN 1889-1810.

La crisis sanitaria derivada de la COVID-19 está teniendo un grave impacto a nivel económico y social. La paralización de gran parte de la actividad aérea en nuestro país, el mantenimiento de vuelos de servicio público, algunos para repatriaciones, y las operaciones especiales de carga para el traslado de material sanitario están marcando el día a día de la aviación a nivel global. Se dedican estas líneas a desarrollar un trabajo de crónica documental que recoja las principales actuaciones de autoridades internacionales, europeas y nacionales del sector de la aviación ante la crisis del COVID19. También se mencionan algunas intervenciones de entidades privadas de gran relevancia. Antes de comenzar manifestamos que en las circunstancias imperantes es prácticamente inviable

mantener el pulso a la actualidad. La información recopilada se estructura en función de la competencia territorial del órgano del que emanan, tratando de abarcar los aspectos más relevantes.

HERNANSANZ-AGUSTÍN, P., CHOYA-FOCES, C., CARREGAL-ROMERO, S., RAMOS, E., OLIVA, T., VILLA-PIÑA, T., MORENO, L., IZQUIERDO-ÁLVAREZ, A., CABRERA-GARCÍA, J.D., CORTÉS, A., LECHUGA-VIECO, A.V., JADIYA, P., NAVARRO, E., PARADA, E., PALOMINO-ANTOLÍN, A., TELLO, D., ACÍN-PÉREZ, R., RODRÍGUEZ-AGUILERA, J.C., NAVAS, P., COGOLLUDO, Á., LÓPEZ-MONTERO, I., MARTÍNEZ-DEL-POZO, Á., EGEE, J., LÓPEZ, M.G., ELROD, J.W., RUÍZ-CABELLO, J., BOGDANOVA, A., ENRÍQUEZ, J.A. y MARTÍNEZ-RUIZ, A., 2020. Na<sup>+</sup> controls hypoxic signalling by the mitochondrial respiratory chain. *Nature*, vol. 586, no. 7828, pp. 287-291. ISSN 00280836. DOI 10.1038/s41586-020-2551-y.

All metazoans depend on the consumption of O<sub>2</sub> by the mitochondrial oxidative phosphorylation system (OXPHOS) to produce energy. In addition, the OXPHOS uses O<sub>2</sub> to produce reactive oxygen species that can drive cell adaptations<sup>1–4</sup>, a phenomenon that occurs in hypoxia<sup>4–8</sup> and whose precise mechanism remains unknown. Ca<sup>2+</sup> is the best known ion that acts as a second messenger<sup>9</sup>, yet the role ascribed to Na<sup>+</sup> is to serve as a mere mediator of membrane potential<sup>10</sup>. Here we show that Na<sup>+</sup> acts as a second messenger that regulates OXPHOS function and the production of reactive oxygen species by modulating the fluidity of the inner mitochondrial membrane. A conformational shift in mitochondrial complex I during acute hypoxia<sup>11</sup> drives acidification of the matrix and the release of free Ca<sup>2+</sup> from calcium phosphate (CaP) precipitates. The concomitant activation of the mitochondrial Na<sup>+</sup>/Ca<sup>2+</sup> exchanger promotes the import of Na<sup>+</sup> into the matrix. Na<sup>+</sup> interacts with phospholipids, reducing inner mitochondrial membrane fluidity and the mobility of free ubiquinone between complex II and complex III, but not inside supercomplexes. As a consequence, superoxide is produced at complex III. The inhibition of Na<sup>+</sup> import through the Na<sup>+</sup>/Ca<sup>2+</sup> exchanger is sufficient to block this pathway, preventing adaptation to hypoxia. These results reveal that Na<sup>+</sup> controls OXPHOS function and redox signalling through an unexpected interaction with phospholipids, with profound consequences for cellular metabolism.

HERRERO SÁNCHEZ, M., 2020. Monarquias Ibéricas em Perspectiva Comparada (Sécs. XVI-XVIII). Dinâmicas Imperiais e Circulação de Modelos Administrativos'. Lisboa: ICS, 2018. 671 pp. *Revista complutense de historia de América*, no. 46, pp. 241-251. ISSN 1132-8312. DOI 10.5209/rcha.69421

IBÁÑEZ, M.E., CID, I.V.L., MUÑOZ, L.V.A. y CLAROS, F.M., 2020. Environmental education, an essential instrument to implement the sustainable development goals in the university context. *Sustainability (Switzerland)*, vol. 12, no. 19, pp. 1-23. ISSN 20711050. DOI 10.3390/su12197883.

The objective of this research is the analysis of sustainable development's incorporation of the Sustainable Development Goals (SDGs) in the university from the environmental education approach. The study includes the necessary strategy to implement environmental contents, as well as the training of individuals to act with environmental responsibility. The descriptive, cross-sectional and quantitative methodology was used to create a questionnaire for university students. Then, we gathered data to achieve the goals proposed in this research: interpret the variations in environmental knowledge and behavior, and understand the conceptual aspects underlying in the students' features, paying attention to the differences between men and women. The results show that many of the students have previous concepts about the environment, and they consider that environmental education is required to solve environmental issues. Finally, a training proposal is presented to introduce the topics of the SDGs and environmental education in the university.

JAENES SÁNCHEZ, J.C., COSTA AGUDO, M., GARCÍA GONZÁLEZ, P., LÓPEZ GONZÁLEZ, J. y GARCÍA ORDOÑEZ, J., 2020. El impacto del confinamiento en nadadores y nadadoras españoles de nivel nacional e internacional. *Comunicaciones técnicas*, no. 2, pp. 41-44. ISSN 1135-111X

JAENES SÁNCHEZ, J.C. y GARCÍA GONZÁLEZ, P., 2020. Seguridad moral y ética: entrenar valores en el deporte. En: *La seguridad deportiva a debate*. Dykinson, pp. 113-120. ISBN 978-84-13-24689-5

JIMÉNEZ-DÍAZ, J.-F., 2020. Liderazgo político y gobernanza en un mundo globalizado. En: *Sociedades y fronteras: xenofobias y xenofilias*. Dykinson, pp. 33-44. ISBN: 978-84-13-24643-7

JORGE BARBUZANO, E., ANTOLÍNEZ DOMÍNGUEZ, I. y ALONSO, A., 2020. ¿Pueden hablar las «víctimas» de trata? Una etnografía multisituada sobre la construcción del silencio y su confrontación en la trata de mujeres nigerianas con fines de explotación sexual. *AIBR: Revista de Antropología Iberoamericana*, vol. 15, no. 3, pp. 463-489. ISSN 1578-9705. DOI 10.11156/aibr.150303

The trafficking of Nigerian women for the purpose of sexual exploitation is a phenomenon that has been visible in Spain since the 2000s. Access to the protection system is linked to their identification as “victims of trafficking” by Spanish law enforcement authorities. Such identification requires the women to narrate their life stories, having to overcome the silences (narrative and bodily) that are imposed on them. From a multi-sited feminist ethnographic research, we have analyzed, with them, how these silences (on which Nigerian trafficking is based) are constructed in the different stages of the journey, as well as confronted.

Results show that, far from being anchored in the victim category as passive and disempowered subjects, participating women have been a fundamental part of the construction of situated knowledge on the phenomenon

KALIL, A., 2020. Los contratos incompletos como mecanismo de gestión de riesgos: tratamiento en los nuevos instrumentos de modernización de derecho de contratos. *Anuario de derecho civil*, vol. 73, no. 3, pp. 1159-1213. ISSN 0210-301X.

En los sistemas de derecho continental, para que el contrato sea válido y eficaz es indispensable la presencia de los elementos esenciales, entendidos como determinados aspectos que otorgan su existencia y validez, de modo que cuando concurre todo ello se haría referencia a un contrato jurídicamente completo. Pero en el tráfico jurídico hay situaciones que obligan al jurista a repensar el modelo clásico de contrato y encontrar una solución jurídicamente válida para las situaciones que se materializan en las transacciones. De esta forma surgió la figura del contrato incompleto, ampliamente discutido desde la perspectiva económica, pero que ahora viene abriéndose paso en el Derecho civil en el contexto de la modernización del derecho contractual. Los instrumentos de modernización abarcan un gran número de previsiones, si bien no obligatorias, que sirven y se aplican en el día a día de los contratos celebrados en Europa y también en el mundo, siendo una de estas previsiones la del contrato incompleto, entendido como el contrato que tiene términos en blanco. Este tipo contractual surge desde un matiz económico para gestionar los riesgos en las operaciones contractuales con grandes inversiones económicas, pero poco a poco, respaldado por los instrumentos de modernización del derecho contractual, se fortalece como expresión de la libertad contractual y como instrumento de asignación negativa de los riesgos.

KLEIN, C.P., HOPPE, J.B., SACCOMORI, A.B., GINDRI DOS SANTOS, B., AUGUST, P.M., KLEIN, I.P., CRESTANI, M.S., BIFI, F., HOZER, R.M., NAVAS, P., SALBEGO, C.G. y MATTE, C., 2020. Protective effect of maternal exercise against amyloid-beta neurotoxicity in the male rat offspring's cerebellum. *Journal of Developmental Origins of Health and Disease*, vol. 11, no. 5, pp. 521-532. ISSN 2040-1744. DOI 10.1017/S2040174420000562.

The Developmental Origins of Health and Disease (DOHaD) states that intrauterine maternal environment influences postnatal life by programming offspring's metabolism. Intrauterine milieu induced by exercise during pregnancy promotes long-lasting benefits to the offspring's health and seems to offer some resistance against chronic diseases in adult life. Alzheimer's disease is a public health concern with limited treatment options. In the present study, we assessed the potential of maternal exercise during pregnancy in long-term programming of young adult male rat offspring's cerebellar metabolism in conferring neuroprotection against amyloid-beta (A beta) neurotoxicity. Female Wistar rats were submitted to a swimming protocol 1 week prior mating and throughout pregnancy (five sessions/a week lasting 30 min). A beta oligomers were infused bilaterally in the brain ventricles of 60-day-old male offspring. Fourteen days after

surgery, we measured parameters related to redox state, mitochondrial function, and the immunocontent of proteins related to synaptic function. We found that maternal exercise during pregnancy attenuated several parameters in the offspring's male rat cerebellum, such as the reactive species rise, the increase of inducible nitric oxide synthase immunocontent and tau phosphorylation induced by A beta oligomers, increased mitochondrial fission indicated by dynamin-related protein 1 (DRP1), and protein oxidation identified by carbonylation. Strikingly, we find that maternal exercise promotes changes in the rat offspring's cerebellum that are still evident in young adult life. These favorable neurochemical changes in offspring's cerebellum induced by maternal exercise may contribute to a protective phenotype against A beta-induced neurotoxicity in young adult male rat offspring.

KRIKKEN, A.M., WU, H., DE BOER, R., DEVOS, D.P., LEVINE, T.P. y VAN DER KLEI, I.J., 2020. Peroxisome retention involves Inp1-dependent peroxisome-plasma membrane contact sites in yeast. *Journal of Cell Biology*, vol. 219, no. 10, pp. e201906023. ISSN 0021-9525. DOI 10.1083/jcb.201906023.

Retention of peroxisomes in yeast mother cells requires Inp1, which is recruited to the organelle by the peroxisomal membrane protein Pex3. Here we show that *Hansenula polymorpha* Inp1 associates peroxisomes to the plasma membrane. Peroxisome-plasma membrane contact sites disappear upon deletion of INP1 but increase upon INP1 overexpression. Analysis of truncated Inp1 variants showed that the C terminus is important for association to the peroxisome, while a stretch of conserved positive charges and a central pleckstrin homology-like domain are important for plasma membrane binding. In cells of a PEX3 deletion, strain Inp1-GFP localizes to the plasma membrane, concentrated in patches near the bud neck and in the cortex of nascent buds. Upon disruption of the actin cytoskeleton by treatment of the cells with latrunculin A, Inp1-GFP became cytosolic, indicating that Inp1 localization is dependent on the presence of an intact actin cytoskeleton.

LAFUENTE, A., RECIO, J., OCHOA-HUESO, R., GALLARDO, A., PEREZ-CORONA, M.E., MANRIQUE, E. y DURAN, J., 2020. Simulated nitrogen deposition influences soil greenhouse gas fluxes in a Mediterranean dryland. *Science of the Total Environment*, vol. 737, pp. 139610. ISSN 0048-9697. DOI 10.1016/j.scitotenv.2020.139610.

Soil nitrogen (N) availability is a key driver of soil-atmosphere greenhouse gas (GHG) exchange, yet we are far from understanding how increases in N deposition due to human activities will influence the net soil-atmosphere fluxes of the three most important GHGs: nitrous oxide (N<sub>2</sub>O), methane (CH<sub>4</sub>) and carbon dioxide (CO<sub>2</sub>). We simulated four levels of N deposition (10, 20 and 50 kg N ha<sup>-1</sup> yr<sup>-1</sup>, plus unfertilised control) to evaluate their effects on N<sub>2</sub>O, CH<sub>4</sub> and CO<sub>2</sub> soil fluxes in a semiarid shrubland in central Spain. After 8 years of experimental fertilisation, increasing N availability led to a consistent increase in N<sub>2</sub>O emissions, likely due to simultaneous increases in soil microbial nitrification and/or denitrification

processes. However, only intermediate levels of N fertilisation reduced CH<sub>4</sub> uptake, while increasing N fertilisation had no effects on CO<sub>2</sub> fluxes, suggesting complex interactions between N deposition loads and GHG fluxes. Our study provides novel insight into the responses of GHGs to N deposition in drylands, forecasting increases in N<sub>2</sub>O emissions, and decreases in CH<sub>4</sub> uptake rates, with likely consequences to the on-going climate change.

LAPORTA-HERRERO, I., JAUREGUI-LOBERA, I., BARAJAS-IGLESIAS, B., SERRANO-TRONCOSO, E., GARCIA-ARGIBAY, M. y SANTED-GERMAN, M. angel, 2020. Attachment to parents and friends and body dissatisfaction in adolescents with eating disorders. *Clinical Child Psychology and Psychiatry*, pp. 1359104520962155. ISSN 1359-1045. DOI 10.1177/1359104520962155.

The study of attachment is a valuable theoretical framework to understand the influence of parents and friends on the evolution and development of adolescents. This study aimed to determine parents' and peers' attachment style, the relationship between parents' and peers' attachment and body dissatisfaction in adolescents with eating disorders (ED), and to compare it with a control group. The sample consisted of 260 adolescents (M-age = 15.35, SDage = 1.461): a control group consisting of 129 non-clinical subjects and an ED group composed by 131 adolescents diagnosed with ED who attended five ED units located in different regions of Spain. They completed the Body Shape Questionnaire (BSQ-34) and the Inventory of Parent and Peer Attachment (IPPA). Adolescents with ED have less trust with their parents, worse communication with their parents and peers, and greater alienation with fathers and peers. The results showed a statistically significant relationship between parents' attachment and body dissatisfaction in both groups. In ED group, peers' alienation was positively correlated to body dissatisfaction. Parental attachment and alienation feelings with peers could influence body dissatisfaction in ED adolescents.

LASARTE ÁLVAREZ, F.J., 2020. Régimen fiscal actual de los planes de pensiones. *BIT plus*, no. 247, pp. 6-30.

El principal objetivo de estas páginas es exponer el régimen fiscal vigente en 21 de junio de 2020 de los planes de pensiones, centrando la atención en los puntos siguientes: -Contribuciones o aportaciones que pueden hacer sus promotores y partícipes, así como terceras personas vinculadas o relacionadas con estos últimos. -Prestaciones que partícipes y beneficiarios pueden recibir de tales planes una vez que se hayan producido las contingencias previstas o las situaciones extraordinarias que pueden permitir hacer efectivo el derecho a su percepción.

LIROLA DELGADO, I. y GARCÍA PÉREZ, R., 2020. *Seguridad y fronteras en el mar*. Tirant lo Blanch. ISBN 978-84-13-36952-5

La presente monografía, fruto del esfuerzo colectivo de un grupo de profesores e investigadores especialistas en el ámbito de la seguridad marítima, tiene como objeto el examen de la conexión entre los conceptos de «seguridad» y «fronteras



marítimas», entendidos como nociones complementarias, en las que lo marítimo contextualiza de manera particular tanto las cuestiones de seguridad que se plantean, como las respuestas individuales y colectivas promovidas por los Estados y las Organizaciones internacionales. Articulada temáticamente en torno a dos bloques, la primera parte de la obra se dedica al examen de los principales retos a la seguridad marítima global. Partiendo de aquellos que conciernen de modo directo a la Unión Europea, se examinan las situaciones en ciertas regiones del mundo, como el Estrecho de Ormuz o el Golfo de Guinea, que no sólo ejemplifican los riesgos y amenazas actuales, sino que anticipan escenarios que previsiblemente se reproduzcan en los próximos años. La segunda parte de la obra se centra en las cuestiones que suscitan las fronteras en el mar en relación con la inmigración irregular con destino a Europa ya que, como sucede en otras partes del mundo, las fronteras marítimas de los Estados meridionales de la Unión Europea se han convertido en «muros» para el control de esta inmigración. Son precisamente en dichos espacios donde entran en conflicto, con mayor nitidez, los enfoques «securitario» y «humanitario» con que suele abordarse el análisis de los flujos migratorios a través del mar, dando lugar a toda una serie de cuestiones que son objeto de examen en las contribuciones que integran esta obra colectiva liderada por el Grupo de Investigación en Estudios Internacionales de la Universidad de Santiago de Compostela (GRESIN).

LOPEZ BARONI, M.J., 2020. Implications for healthcare personnel of the entry into force of the european union data protection regulation. *Atencion Primaria*, vol. 52, no. 8, pp. 521-522. ISSN 0212-6567. DOI 10.1016/j.aprim.2020.01.003.

La entrada en vigor del Reglamento (UE) de Protección de Datos ha supuesto un importante hito en la acelerada historia de Internet, los *big data* y la inteligencia artificial. Esta normativa trata de afrontar, al menos en el territorio de la Unión Europea (UE), uno de los mayores retos de la historia de la humanidad: el tratamiento de la información que generamos los seres humanos, lo que afecta a esferas tan íntimas como la ideología, la genética, la personalidad, la adscripción étnica, etc. La forma en que suministramos esta información puede ser consciente o inconsciente, voluntaria o involuntaria, pero, sin duda, resulta sumamente valiosa tanto para el sistema económico como para quienes monopolizan el poder.

LÓPEZ PEREGRÍN, C., 2020. La prisión permanente revisable. En: *Una década de reformas penales: análisis de diez años de cambios en el Código Penal (2010-2020)*. Bosch, pp. 179-196. ISBN 978-84-122015-9-8.

LU, X., VICENT-LUNA, J.M., CALERO, S., ROLDAN-RUIZ, M.J., JIMENEZ, R., FERRER, M.L., GUTIERREZ, M.C. y DEL MONTE, F., 2020. Aqueous Co-Solvent in Zwitterionic-based Protic Ionic Liquids as Electrolytes in 2.0 V Supercapacitors. *Chemsuschem*, ISSN 1864-5631. DOI 10.1002/cssc.202002028.

High-performance energy-storage devices are receiving great interest in sustainable terms as a required complement to renewable energy sources to level out the imbalances between supply and demand. Besides electrode optimization, a primary objective is also the judicious design of high-performance electrolytes combining novel ionic liquids (ILs) and mixtures of aqueous solvents capable of offering «a la carte» properties. Herein, it is described the stoichiometric addition of a zwitterion such as betaine (BET) to protic ILs (PILs) such as those formed between methane sulfonic acid (MSAH) or p-toluenesulfonic acid (PTSAH) with ethanolamine (EOA). This addition resulted in the formation of zwitterionic-based PILs (ZPILs) containing the original anion and cation as well as the zwitterion. The ZPILs prepared in this work ([EOAH](+)[BET][MSA](-) and [EOAH](+)[BET][PTSA](-)) were liquid at room temperature even though the original PILs ([EOAH](+)[MSA](-) and [EOAH](+)[PTSA](-)) were not. Moreover, ZPILs exhibited a wide electrochemical stability window, up to 3.7 V vs. Ag wire for [EOAH](+)[BET][MSA](-) and 4.0 V vs. Ag wire for [EOAH](+)[BET][PTSA](-) at room temperature, and a high miscibility with both water and aqueous co-solvent (WcS) mixtures. In particular, «WcS-in-ZPIL» mixtures of [EOAH](+)[BET][MSA](-) in 2 H<sub>2</sub>O/ACN/DMSO provided specific capacitances of approximately 83 F g<sup>-1</sup> at current densities of 1 A g<sup>-1</sup>, and capacity retentions of approximately 90 % after 6000 cycles when operating at a voltage of 2.0 V and a current density of 4 A g<sup>-1</sup>.

MACARRO OSUNA, J.M., 2020. Alternativas a la eliminación del impuesto sobre sucesiones y donaciones y el diferente trato tributario a parientes por consanguinidad y afinidad. *Civitas. Revista española de derecho financiero*, no. 186, pp. 231-246. ISSN 0210-8453.

En el periodo comprendido entre 2001 y 2006, Italia derogó el Impuesto sobre Sucesiones y Donaciones. Las primeras quedaron exentas de todo gravamen, mientras que las adquisiciones lucrativas inter-vivos quedaron sujetas al impuesto sobre transacciones onerosas, aunque solo cuando el donatario no fuese el cónyuge o un pariente por consanguinidad en línea vertical o colateral hasta el cuarto grado. Los parientes por afinidad quedaron sujetos al nuevo impuesto, lo que motivó que la Corte Costituzionale italiana tuviera que pronunciarse sobre si este trato diferenciado resulta compatible con el principio constitucional de igualdad. Analizaremos los resultados de la jurisprudencia constitucional italiana, trayendo a colación pronunciamientos del Tribunal Supremo español y reflexionaremos, a la luz de la experiencia transalpina, sobre las posibles consecuencias de la eliminación del ISD

MACÍA ARCE, X.C., GALLARDO, A.M., SÁNCHEZ SÁNCHEZ, J. y GALLARDO, A.M., 2020. Análisis de la seguridad del equipamiento deportivo en ESO. *Apunts: Educación física y deportes*, no. 142, pp. 67-75. ISSB 1577-4015. DOI 10.5672/apunts.2014-0983.es.(2020/4).142.08

El objetivo del presente estudio fue analizar el cumplimiento de los requisitos de seguridad de los equipamientos deportivos utilizados en las clases de educación



física en los Institutos de ESO de la Región de Murcia, en base a la normativa NIDE, UNE-EN y manuales de buenas prácticas. El registro de los datos se llevó a cabo a través de una serie de listas de control ad hoc de respuesta dicotómica (0 = no cumple / 1 = cumple), analizando un total de 582 equipamientos de los centros pertenecientes a la muestra (n=45). Los resultados mostraron un porcentaje general de cumplimiento del  $70.94\pm 8.44$ , presentando las canastas la valoración más alta con un resultado del  $72.18\pm 12.20$  y los postes de voleibol la más baja con el  $65.79\pm 18.34$ , así como diferencias estadísticamente significativas en función de la titularidad de los espacios donde se localizaban y respecto a su ubicación, en función de si se encontraban a cubierto o al aire libre. Se detectaron numerosos riesgos en los equipamientos evaluados, recomendando por ello intervenir para eliminarlos o reducirlos, así como un mejor control y cumplimiento de la normativa aplicable para mantener un estado correcto.

MACÍAS CARO, V.M., 2020. La incidencia de la «ley mordaza» en la regulación de los desórdenes públicos y la criminalización de la protesta. En: *Una década de reformas penales: análisis de diez años de cambios en el Código Penal (2010-2020)*. Bosch, pp. 877-895. ISBN 978-84-122015-9-8

MARTINEZ-CANTON, M., GALLEGRO-SELLES, A., GELABERT-REBATO, M., MARTIN-RINCON, M., PAREJA-BLANCO, F., RODRIGUEZ-ROSELL, D., MORALES-ALAMO, D., SANCHIS-MOYSI, J., DORADO, C., JOSE GONZALEZ-BADILLO, J. y CALBET, J.A.L., 2020. Role of CaMKII and sarcolipin in muscle adaptations to strength training with different levels of fatigue in the set. *Scandinavian Journal of Medicine & Science in Sports*, ISSN 0905-7188. DOI 10.1111/sms.13828.

Strength training promotes a IIX-to-IIA shift in myosin heavy chain (MHC) composition, likely due to changes in sarcoplasmic  $[Ca^{2+}]$  which are sensed by CaMKII. Sarcoplasmic  $[Ca^{2+}]$  is in part regulated by sarcolipin (SLN), a small protein that when overexpressed in rodents stimulates mitochondrial biogenesis and a fast-to-slow fiber type shift. The purpose of this study was to determine whether CaMKII and SLN are involved in muscle phenotype and performance changes elicited by strength training. Twenty-two men followed an 8-week velocity-based resistance training program using the full squat exercise while monitoring repetition velocity. Subjects were randomly assigned to two resistance training programs differing in the repetition velocity loss allowed in each set: 20% (VL20) vs 40% (VL40). Strength training caused muscle hypertrophy, improved 1RM and increased total CaMKII protein expression, particularly of the delta(D) isoform. Phospho-Thr(287)-CaMKII delta(D) expression increased only in VL40 (+89%), which experienced greater muscle hypertrophy, and a reduction in MHC-IIX percentage. SLN expression was increased in VL20 (+33%) remaining unaltered in VL40. The changes in phospho-Thr(287)-CaMKII delta(D) were positively associated with muscle hypertrophy and the number of repetitions during training,

and negatively with the changes in MHC-IIX and SLN. Most OXPHOS proteins remained unchanged, except for NDUFB8 (Complex I), which was reduced after training (-22%) in both groups. The amount of fatigue allowed in each set critically influences muscle CaMKII and SLN responses and determines muscle phenotype changes. With lower intra-set fatigue, the IIX-to-IIA MHC shift is attenuated.

MOLEÓN, M., CORTÉS-AVIZANDA, A., PÉREZ-GARCÍA, J.M., BAUTISTA, J., GEOGHEGAN, C., CARRETE, M., AMAR, A., SÁNCHEZ-ZAPATA, J.A. y DONÁZAR, J.A., 2020. Distribution of avian scavengers inside and outside of protected areas: contrasting patterns between two areas of Spain and South Africa. *Biodiversity and Conservation*, vol. 29, no. 11-12, pp. 3349-3368. ISSN 09603115. DOI 10.1007/s10531-020-02027-0.

Protected areas are central to the conservation of biodiversity across the globe. However, their performance, especially in relation to highly mobile species, is largely dependent on the socio-ecological characteristics of the landscape that surrounds them. Here, we assess the patterns of avian scavenger distribution, including both obligate (i.e., vultures) and facultative (corvids and other raptors) scavenger species, inside and outside of protected areas. We contrast the situation between an African area, which has protected areas surrounded by mostly subsistence stockbreeding (KwaZulu-Natal Province, South Africa) and a European area, which has protected areas surrounded by commercial farming (Ebro Valley, Spain). We found large differences between the two areas. In the South African area, the richness and abundance of vultures, but not of facultative scavengers, were higher inside than outside of protected areas; as a result, the richness and abundance of vultures were negatively related to the distance to the nearest protected area in South Africa. In contrast, the richness and abundance of vultures in the Spanish area were similar inside and outside of protected areas. We obtained similar results when focusing solely on presence and abundance of Gyps vultures. The contrasting effects of protected areas in the distribution of avian scavengers, especially vultures, in the studied areas may be due to differences in agro-systems and socio-economical models that lead to differential availability of ungulate carcasses. We suggest that carrion shortage in the subsistence farming systems in the South African area, whereby domestic livestock carcasses are generally used by householders and thus rarely become available to vultures, should be considered alongside poisoning prevention to help conserve African vulture populations.

MORA, R.M.S., OLIVER, A.J.S., CARMONA, W.S. y JURADO, J.A.G., 2020. Effect of a physical exercise program on physical fitness and visceral fat in people with obesity [Efecto de un programa de ejercicio físico sobre la condición física y la grasa visceral en personas con obesidad]. *Retos*, no. 39, pp. 723-730. ISSN 15791726. DOI 10.47197/retos.v0i39.78997.

Background. Obesity can be defined as an imbalance between calorie intake and energy expenditure as a result weight gain. Currently is accepted that obesity is one of

the major social and health problems worldwide and its prevalence is continuously increasing. Visceral fat is considered as a pathogenic factor in obesity. Objective. The main was to evaluate the effect of concurrent training on physical fitness in people with obesity, body composition and visceral fat area. Methods. 30 obese people participated in this study. They conducted an adapted and controlled concurrent training program during eight weeks. Physical fitness tests (muscular resistance, cardiorespiratory fitness, flexibility) and body composition measure were applied before and after the intervention period. Results. Improvement was observed on physical fitness variables. Muscle strength, both in the lower extremities ( $p = .001$ ) and upper extremities (right arm  $p = .001$  and left arm  $p = .002$ ). Also, the walking speed ( $p = .001$ ) and agility ( $p = .001$ ) increased significantly. All body composition variables improved significantly. While fat mass, body weight, BMI and visceral fat area decreased considerably ( $p < .001$ ), fat free mass and muscle mass increased significantly ( $p = .001$ ). Conclusion. Concurrent training program improves significantly body composition in obese people, which are related with levels muscular strength enhanced, and conduces significant decrease in visceral fat. Keywords. Obesity. Physical exercise. Body composition. Visceral fat. Senior Fitness Test. © Copyright: Federación Española de Asociaciones de Docentes de Educación Física (FEADEF).

MORALES-SÁNCHEZ, R., ORTA-PÉREZ, M. y RODRÍGUEZ-SERRANO, M.Á., 2020. The Benefits of Auditors' Sustained Ethical Behavior: Increased Trust and Reduced Costs. *Journal of Business Ethics*, vol. 166, no. 2, pp. 441-459. ISSN 01674544. DOI 10.1007/s10551-019-04298-2.

Studies demonstrating the benefits of ethical behavior at an individual level are scarce. The business ethics literature centers its analysis on unethical behaviors and their consequences, rather than ethical behaviors and their benefits. There is now considerable debate on the role of auditors in society and the function of accounting firms in the free market capitalist system. Specifically, the eminently ethical nature of the auditor's work has been highlighted. Therefore, the aim of our paper is to show the impact of auditors' sustained ethical behavior: the trust it generates. This trust results in considerable benefits for the firm due to a reduction in the costs of the partner's supervision of the auditor. The methodology chosen to validate these claims is a survey of partner of the audit firm in auditing companies. The results of this research confirm the hypotheses raised in the theoretical model.

MORELLI, F., RODRÍGUEZ, R.A., BENEDETTI, Y. y DELGADO, J.D., 2020. Avian roadkills occur regardless of bird evolutionary uniqueness across Europe. *Transportation Research Part D: Transport and Environment* [en línea], vol. 87. ISSN 13619209. DOI 10.1016/j.trd.2020.102531.

Through an extensive literature review and using a large dataset collected from several European studies, we explored the frequency of occurrence of road bird casualties. First, we modelled the inter-specific variation in roadkill' frequency across the

avian phylogeny, testing for phylogenetic signal. Then, we explored the association between frequency of roadkill and some avian traits and evolutionary distinctiveness score of species. The rate of roadkill did not show a phylogenetic signal, indicating that the incidence of avian casualties is independent of the phylogenetic position of species. The incidence of roadkill was unrelated to the evolutionary distinctiveness, distribution range size, type of diet, or period of activity of species, but was slightly negatively associated with the species' body mass. This result implies that roadkill is a form of anthropogenic mortality widely generalized concerning avian phylogeny. We highlight that roadkill mitigation measures could benefit from incorporating peculiarities of local or regional avifauna.

MORENO PANTOJA, A., 2020. Xospata, nuevo fármaco huérfano. *MoleQla revista de Ciencias de la Universidad Pablo de Olavide*, no. 39, pp. 12- 0. ISSN 2173-0903

La utilización de fármacos huérfanos como Xospata es imprescindible para el tratamiento de enfermedades poco comunes. En este caso, la enfermedad a tratar es la leucemia mieloide aguda, la cual presenta una mutación en FTL3. Este fármaco presenta ciertos efectos secundarios, aunque está dando muy buenos resultados hasta la fecha.

NUVIALA NUVIALA, R., MORÁN GÁMEZ, G., MAÑÉ BARGALLÓ, J. y AZNAR CEBAMANOS, M., 2020. Influencia de la formación deportiva del técnico deportivo en las intenciones de práctica deportiva extraescolar. *Revista Internacional de Deportes Colectivos*, no. 43, pp. 99-112. ISSN-e 1989-841.

The technician is a key figure in sports initiation. Their sports training is a major factor to improve the service in order to gain the loyalty of the young athletes. Objectives: To know the profile of sports technicians in charge of driving extracurricular sports practices and its relationship with the future intentions of the young athletes. Method: The study sample consisted of 95 technicians' extracurricular sports practices and 25.752 young athletes. The questionnaire used included socio-demographic variables, the DOCS scale and the EPO2. Results: A 36.6 % of the technician did not have any qualification. Sports disciplines that obtained more qualified technicians were hockey and handball, with 22% and 100% of third level respectively. Conclusion: It has not been possible to demonstrate the relationship between the sports training of the coaches and the intentions of the students to stay in the activity.

OCHOA-HUESO, R., ARCA, V., DELGADO-BAQUERIZO, M., HAMONTS, K., PINEIRO, J., SERRANO-GRIJALVA, L., SHAWYER, J. y POWER, S.A., 2020. Links between soil microbial communities, functioning, and plant nutrition under

altered rainfall in Australian grassland. *Ecological Monographs*, ISSN 0012-9615. DOI 10.1002/ecm.1424.

The size, frequency, and timing of precipitation events are predicted to become more variable worldwide. Despite these predictions, the importance of changes in precipitation in driving multiple above- and belowground ecosystem attributes simultaneously remains largely underexplored. Here, we carried out 3 yr of rainfall manipulations at the DRI-Grass facility, located in a mesic grassland in eastern Australia. Treatments were implemented through automated water reapplication and included +50% and -50% amount, reduced frequency of events, and an extreme summer drought. We evaluated the spatiotemporal responses of multiple ecosystem attributes including microbial biomass, community composition and activity, soil nutrient content and availability, and plant nutritional status to altered rainfall regimes. We found that changing precipitation patterns resulted in multiple direct and indirect changes in microbial communities and soil and plant nutrient content. Main results included greater availability of soil macronutrients and reduced availability of micronutrients under drought, and taxon-specific changes in the composition of soil microbial communities in response to altered rainfall. Moreover, using structural equation modeling, we showed that, in summer 2015, plant macronutrient contents, a widely used ecological indicator of pasture quality, were simultaneously explained by greater soil nutrient availability and the structure of soil microbial communities, and significantly reduced by lower rainfall. Plant micronutrients were also reduced by lower rainfall and explained by changes in microbial attributes. Despite treatment effects on many of the soil, microbial, and plant variables analyzed across the 3 yr of study, many of these ecosystem attributes varied greatly across sampling events. This resulted in many significant interactions between the rainfall treatments and experimental duration, suggesting complex system-level responses to changing rainfall in our grassland, and a high natural buffering capacity of the ecosystem to varying rainfall conditions. Some interactions manifested as changes in the coefficient of variation of ecosystem attributes, particularly in response to changes in the timing of precipitation events and the extreme summer drought. Finally, we posit that a detailed understanding of plant-soil-microbial interactions, and the role of climate in modifying these linkages, will be key for adapting the sustainability of grasslands to a future that will be shaped by climate change.

PABLO SERRANO, A. de, 2020. Matrimonios forzados (art. 172 bis CP): Otro delito cultural en el Código Penal. *Una década de reformas penales: análisis de diez años de cambios en el Código Penal (2010-2020)*, pp. 321-339. ISSN 978-84-122015-9-8.

PALACIOS, I., VICENTE-CRESPO, M., MARTÍN-BERMUDO, M.D. y DROSAFRICA, 2020. The humble fruit fly is helping the African science community to thrive. *Nature Reviews Molecular Cell Biology*, vol. 21, no. 10, pp. 558-559. ISSN 14710072. DOI 10.1038/s41580-020-00283-0.

Using the powerful model system *Drosophila melanogaster* (fruit fly), DrosAfrica is



helping to create an interconnected community of biomedical scientists. DrosAfrica is now aiming at creating African institutes that will allow researchers to run impactful biomedical projects. For this, long term sustainable funding is urgently needed. How DrosAfrica is contributing to shaping research and promoting equality in science on the African continent using fruit flies.

PAREDES-FUENTES, A.J., MONTERO, R., CODINA, A., JOU, C., FERNÁNDEZ, G., MAYNOU, J., SANTOS-OCAÑA, C., RIERA, J., NAVAS, P., DROBNIC, F. y ARTUCH, R., 2020. Coenzyme Q10 treatment monitoring in different human biological samples. *Antioxidants*, vol. 9, no. 10, pp. 1-10. ISSN 20763921. DOI 10.3390/antiox9100979.

Coenzyme Q10 (CoQ) treatment monitoring is a matter of debate since CoQ distribution from plasma to blood cells and tissues is not fully understood. We aimed to analyze the CoQ levels in a wide set of human biological samples (plasma, blood mononuclear cells (BMCs), platelets, urinary cells, and skeletal muscle) from a group of 11 healthy male runners before and after CoQ supplementation. The CoQ content in the different samples was analyzed by HPLC coupled to electrochemical detection. No significant differences were observed in the CoQ levels measured in the BMCs, platelets, and urine after the one-month treatment period. Plasma CoQ (expressed in absolute values and values relative to total cholesterol) significantly increased after CoQ supplementation ( $p = 0.003$  in both cases), and the increase in CoQ in muscle approached significance ( $p = 0.074$ ). CoQ levels were increased in the plasma of all supplemented subjects, and muscle CoQ levels were increased in 8 out of 10 supplemented subjects. In conclusion, the analysis of CoQ in plasma samples seems to be the best surrogate biomarker for CoQ treatment monitoring. Moreover, oral CoQ administration was effective for increasing muscle CoQ concentrations in most subjects.

PAREJA-BLANCO, F., RODRIGUEZ-ROSELL, D., AAGAARD, P., SANCHEZ-MEDINA, L., RIBAS-SERNA, J., MORA-CUSTODIO, R., OTERO-ESQUINA, C., MANUEL YANEZ-GARCIA, J. y JOSE GONZALEZ-BADILLO, J., 2020. Time Course of Recovery From Resistance Exercise With Different Set Configurations. *Journal of Strength and Conditioning Research*, vol. 34, no. 10, pp. 2867-2876. ISSN 1064-8011. DOI 10.1519/JSC.0000000000002756.

Pareja-Blanco, F, Rodríguez-Rosell, D, Aagaard, P, Sánchez-Medina, L, Ribas-Serna, J, Mora-Custodio, R, Otero-Esquina, C, Yáñez-García, JM, and González-Badillo, JJ. Time course of recovery from resistance exercise with different set configurations. *J Strength Cond Res* 34(10): 2867-2876, 2020-This study analyzed the response to 10 resistance exercise protocols differing in the number of repetitions performed in each set (R) with respect to the maximum predicted number (P). Ten males performed 10 protocols (R(P): 6(12), 12(12), 5(10), 10(10), 4(8), 8(8), 3(6), 6(6), 2(4), and 4(4)). Three sets with 5-minute interset rests were performed in each protocol in bench press and squat. Mechanical muscle function (countermovement jump height and velocity against a 1 m·s load,

V1-load) and biochemical plasma profile (testosterone, cortisol, growth hormone, prolactin, IGF-1, and creatine kinase) were assessed at several time points from 24-hour pre-exercise to 48-hour post-exercise. Protocols to failure, especially those in which the number of repetitions performed was high, resulted in larger reductions in mechanical muscle function, which remained reduced up to 48-hour post-exercise. Protocols to failure also showed greater increments in plasma growth hormone, IGF-1, prolactin, and creatine kinase concentrations. In conclusion, resistance exercise to failure resulted in greater fatigue accumulation and slower rates of neuromuscular recovery, as well as higher hormonal responses and greater muscle damage, especially when the maximal number of repetitions in the set was high.

PASS, J., 2020. China's Institutional Statecraft Within the Liberal International Order: The Asian Infrastructure Investment Bank. *Revista Española de Derecho Internacional*. vol. 72, no. 2, pp. DOI 89-115. 10.17103/redi.72.2.2020.1a.03

A key debate amongst international relations theorists is how China's rise will affect the liberal international order (LIO). The launching of the Asian Infrastructure Investment Bank (AIIB) by Beijing, unsurprisingly, has generated much interest. The aim of this paper is to shed light on the claim that the AIIB constitutes a «counter-hegemonic» initiative (or «external innovation» in liberal terminology). After showing the complexity of Chinese institutional statecraft, the study reviews mainstream theoretical accounts of the AIIB. Both neorealism and neoliberalism, we hold, have contributed to a better understanding of the institution, but ontological and epistemological deficiencies prevent them from satisfactorily explaining the complex social processes underway. By contrast, we set out a Neo neo-Gramscian perspective, which understands the AIIB as an institutional manifestation of the on-going interaction between the social forces emergent out of China's own statesociety complex on one hand, and their global counterparts, on the other. For the short term, we conclude, the AIIB is likely to reinforce the LIO. Over the medium to long term, however, this internationalisation of the state process, understood in connection with the Belt and Road Initiative, may pose a serious challenge to the LIO and, as a result, to US hegemony itself.

PERALTA-RINCÓN, J.R., AOULAD, F.Z., PRADO, A. y EDELAAR, P., 2020. Phenotype-dependent habitat choice is too weak to cause assortative mating between *Drosophila melanogaster* strains differing in light sensitivity. *PLoS ONE* [en línea], vol. 15, no. 10 October. ISSN 19326203. DOI 10.1371/journal.pone.0234223.

Matching habitat choice is gaining attention as a mechanism for maintaining biodiversity and driving speciation. It revolves around the idea that individuals select the habitat in which they perceive to obtain greater fitness based on a prior evaluation of their local performance across heterogeneous environments. This results in individuals with similar ecologically relevant traits converging to the same patches, and hence it could indirectly cause assortative mating when mating

occurs in those patches. White-eyed mutants of *Drosophila* fruit flies have a series of disadvantages compared to wild type flies, including a poorer performance under bright light. It has been previously reported that, when given a choice, wild type *Drosophila simulans* preferred a brightly lit habitat while white-eyed mutants occupied a dimly lit one. This spatial segregation allowed the eye color polymorphism to be maintained for several generations, whereas normally it is quickly replaced by the wild type. Here we compare the habitat choice decisions of white-eyed and wild type flies in another species, *D. melanogaster*. We released groups of flies in a light gradient and recorded their departure and settlement behavior. Departure depended on sex and phenotype, but not on the light conditions of the release point. Settlement depended on sex, and on the interaction between phenotype and light conditions of the point of settlement. Nonetheless, simulations showed that this differential habitat use by the phenotypes would only cause a minimal degree of assortative mating in this species. Copyright: © 2020 Peralta-Rincón et al. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

PLAZA, P.I., BLANCO, G., WIEMEYER, G., LÓPEZ-RULL, I., HORNERO-MÉNDEZ, D., DONÁZAR, J.A., HIRALDO, F. y LAMBERTUCCI, S.A., 2020. Plasma carotenoids and immunity in a despotic avian scavenger. *Journal of Experimental Zoology Part A: Ecological and Integrative Physiology*, vol. 333, no. 8, pp. 569-578. ISSN 24715638. DOI 10.1002/jez.2397.

Carotenoids are pigmented compounds acquired through diet that have important functions as antioxidants and immune modulators. We studied the association between immunity and circulating carotenoids in Andean condors (*Vultur gryphus*). We evaluated the relationship between  $\alpha$ -,  $\beta$ -, and  $\gamma$ -globulin blood concentrations and different circulating carotenoids in two groups of Andean condors that differ in their mean health status, rehabilitating (suffering different pathologies), and wild individuals (trapped when displaying their physiological behavior). In rehabilitating individuals,  $\alpha$ -,  $\beta$ -, and  $\gamma$ -globulin concentrations were higher than in wild individuals. This shows that rehabilitating individuals were developing an immune response associated with the pathologies that they were suffering at the time of sampling. In addition, circulating carotenoids were lower in rehabilitating than in wild individuals. We found negative correlations between  $\alpha$ -,  $\beta$ -, and  $\gamma$ -globulins and different circulating carotenoids in rehabilitating individuals, but not in wild condors. Xanthophylls were strongly related to  $\alpha$ -,  $\beta$ -, and  $\gamma$ -globulin blood concentrations in rehabilitating, but not in wild condors. Our results suggest that there is a potential relationship between circulating carotenoids and immunity in the Andean condor. Given that this species may display a carotenoid-based pigmentation, our results could suggest that a trade-off between the immune system and external coloration could operate in this species, which may have implications in their access to food resources and mate selection and, thus, in their conservation.



PORRAS NADALES, A.J., 2020a. El Estado social. En: *Manual de derecho constitucional*. Tecnos, pp. 565-585. ISBN 978-84-309-7982-0

En este capítulo analizamos el Estado social o Estado intervencionista. En primer lugar, en una perspectiva general, desde sus orígenes hasta su consolidación tras la segunda posguerra, detectando sus tendencias posteriores de evolución hasta la actualidad. En segundo lugar estudiamos su plasmación en la Constitución española, así como su despliegue en la esfera autonómica.

PORRAS NADALES, A.J., 2020b. La Constitución económica y los derechos de los trabajadores. En: *Manual de derecho constitucional*. Tecnos, pp. 586-607. ISBN 978-84-309-7982-0

En este capítulo analizamos las dos caras de la actividad económica regulada por la Constitución: por una parte, la Constitución económica, conteniendo las reglas fundamentales del sistema económico y los principales mecanismos de intervención del Estado; por otra, la posición de la fuerza de trabajo, representada por los trabajadores y sus organizaciones sindicales, tutelada por una serie de derechos

PORRAS NADALES, A.J., 2020c Los principios rectores de la política social y económica. En: *Manual de derecho constitucional*. Tecnos, pp. 628-652. ISBN: 978-84-309-7982-0

En este capítulo estudiamos los Principios rectores de la política social y económica del Capítulo III del Título I CE. Se trata de una serie relativamente heterogénea donde se integran tanto derechos como principios, afectando al perfil más sustancial del Estado social, con un desarrollo especial en el ámbito autonómico.

PRIETO JIMÉNEZ, E. y DOMÍNGUEZ FERNÁNDEZ, G., 2020. Presentació. Educació per al desenvolupament. *Educar*, vol. 56, no. 2, pp. 265-277. ISSN 0211-819X. DOI 10.5565/rev/educar.1222

RAMÍREZ, D., RIVEROS, G., DÍAZ, P., VERDUGO, J., NÚÑEZ, G., LIZAMA, S., LAZO, P., DALCHIELE, E.A., GAU, D.L., MAROTTI, R.E., ANTA, J.A., CONTRERAS-BERNAL, L., RIQUELME, A. y IDIGORAS, J., 2020. Electrochemically Assisted Growth of CsPbBr<sub>3</sub>-Based Solar Cells Without Selective Contacts. *ChemElectroChem*, vol. 7, no. 19, pp. 3961-3968. ISSN 21960216. DOI 10.1002/celec.202000782.

In this work we report a simple and cost-effective CsPbBr<sub>3</sub>-based solar cell without ordinary selective contacts. To do so we follow an electrochemical approach consisting of three successive steps: (1) electrodeposition of PbO<sub>2</sub> directly on top of FTO substrates, (2) heterogeneous phase reaction with gaseous HBr and (3)

spin-coating of methanolic CsBr solutions followed by annealing. This method is more adequate for large-scale environmentally friendly production as it reduces chemical waste, particularly toxic lead. The resulting films were structurally and optically characterized showing good coverage of the FTO substrates, absence of defects such as pinholes and orthorhombic structure. Photovoltaic and impedance characterization was carried out by pressing a carbon coated metal spring onto the CsPbBr<sub>3</sub> film until obtaining maximized open-circuit potential (V<sub>oc</sub>) and short-circuit photocurrent density (j<sub>sc</sub>) under simulated sunlight. The stabilized current at fixed voltage (SCFV) technique gave a maximum PCE value of 2.70 % close to devices with similar configuration. Impedance measurements demonstrated analogous behavior to that of state-of-art CsPbBr<sub>3</sub> based solar cells, comprising a recombination arc at mid-high frequencies, geometrical capacitance and ideality factors closed to 2, typical of SRH recombination in the perovskite bulk.

RAYA GONZÁLEZ, J. y CASTILLO, D., 2020. Cuantificación del esfuerzo percibido en futbolistas jóvenes de élite durante una temporada. *Apunts: Educación física y deportes*, no. 140, pp. 63-69. ISSN 1577-4015. DOI 10.5672/apunts.2014-0983.es.(2020/2).140.09

Objetivo. Analizar las diferencias existentes entre la carga interna medida mediante el esfuerzo percibido (CI EP) registrada por jugadores jóvenes de élite a lo largo de una temporada. Metodología. Participaron en el estudio diecinueve futbolistas Sub19 pertenecientes a un club profesional. Los jugadores fueron clasificados en titulares y suplentes. El periodo competitivo fue dividido en 2 periodos, 5 bloques y 30 microciclos. Resultados. La CI EP durante el periodo 2 fue significativamente mayor ( $p < .01$ ; TE = .35; bajo) que durante el periodo 1 en los titulares. Además, la CI EP registrada en el bloque 3 fue significativamente menor ( $p < .05$ ; TE = 0,79; moderado) que en el bloque 5 en los titulares. Y por último, se obtuvieron diferencias significativas en la CI EP de los diferentes tipos de microciclos tanto en titulares como suplentes ( $p < .01$ ; TE = 0.68-1.94; moderado-alto). Conclusiones. Los resultados obtenidos muestran que la CI EP se mantiene relativamente estable a lo largo de la temporada en futbolistas jóvenes, sin embargo, la semanal puede variar en función del tipo de microciclo atendiendo a la ubicación del partido previo y posterior.

RÍO, J.M.V. DEL y CÁCERES-FERIA, R., 2020. Social scientific analysis of human-animal sexual interactions. *Animals*, vol. 10, no. 10, pp. 1-12. ISSN 20762615. DOI 10.3390/ani10101780.

An ontological shift has led to a revitalisation of the research area that, within the social sciences, deals with the interactions between humans and animals. However, there are topics which are still taboo: interspecies sexuality. Sexual practices between humans and animals have been fundamentally analysed from a medical perspective, failing to consider the influence of cultural context. Departing from a thorough bibliographical revision, here we revise the approaches that, both from sociology and anthropology, have been used to analyse this phenomenon from different perspectives, including bestiality, zoophilia, and zoosexuality

RIPOLLES, M., SÁNCHEZ-GUERRERO, M.J., PERDOMO-GONZÁLEZ, D.I., AZOR, P. y VALERA, M., 2020. Survey of risk factors and genetic characterization of ewe neck in a world population of pura raza español horses. *Animals*, vol. 10, no. 10, pp. 1-13. ISSN 20762615. DOI 10.3390/ani10101789.

Ewe Neck is a relatively common morphological defect in Pura Raza Español (PRE) horses and other Baroque type horse breeds, which adversely affects the breeding industry; (1) objectives: to establish the within-breed prevalence, possible associated factors, and heritability of Ewe Neck in PRE horses; (2) methods: the database included evaluations of 35,267 PRE horses. The Ewe Neck defect, 16 morphological traits, and 4 body indices were recorded. A Bayesian genetic animal model included the following systematic effects: sex, age, coat color, geographical area of the stud, and birth stud size were used; (3) results: in this PRE population, a total of 27.12% was affected. All the risk factors studied were significantly associated with the Ewe Neck score. The heritability coefficient for Ewe Neck score ranged from 0.23 to 0.34. Morphological traits (height at chest, length of back, head-neck junction, and bottom neck-body junction) and the indices (head and thoracic index) were those most closely related with the appearance of Ewe Neck; (4) conclusions: Ewe Neck is a relatively frequent defect in PRE horses, associated with risk factors and other morphological traits, with a moderate level of heritability. Breeding to select against this condition may therefore be beneficial in this breed.

RIQUELME, A., GALVEZ, F.E., CONTRERAS-BERNAL, L., MIGUEZ, H. y ANTA, J.A., 2020. Internal quantum efficiency and time signals from intensity-modulated photocurrent spectra of perovskite solar cells. *Journal of Applied Physics*, vol. 128, no. 13, pp. 133103. ISSN 0021-8979. DOI 10.1063/5.0013317.

Intensity Modulated Photocurrent Spectroscopy (IMPS) is a small-perturbation optoelectronic technique that measures the quantum efficiency of a photoelectrochemical device as a function of optical excitation frequency. Metal Halide Perovskites (MHPs) are mixed electronic-ionic semiconductors with an extraordinary complex optoelectronic behavior and a record efficiency surpassing 25%. In this paper, we propose a simplified procedure to analyze IMPS data in MHPs based on the analysis of the internal quantum efficiency and the time signals featuring in the frequency spectra. In this procedure, we look at the change of each signal when optical excitation wavelength, photon flux, and temperature are varied for an archetypical methyl ammonium lead iodide solar cell. We use drift-diffusion modeling and comparison with relatively simpler dye-sensitized solar cells (DSC) with viscous and non-viscous electrolytes to help us to understand the origin of the three signals appearing in MHP cells and the measurement of the internal quantum efficiency.

RIVERO GARCÍA, A., NAVARRO DÍAZ, M. y MORENO FERNÁNDEZ, O., 2020. El cambio climático en los libros de texto de educación secundaria obligatoria. *Revista Mexicana de Investigación Educativa* vol. 25, no. 87, pp. 957-985. ISSN-e 1405-6666

This article presents the results of research on the transmission of knowledge about climate change in the textbooks used in Spain's compulsory secondary education. Based on a data collection grid designed expressly for the study, content analysis was conducted of 24 textbooks from various publishers and subject areas, all present in the classroom. The results show that climate change is included in the textbooks of several subjects, primarily from the perspective of applied science in professional activities. However, deficiencies and absences were also identified: certain relevant causes, social and economic consequences, adaptation strategies, and strategies focused on alternate socioeconomic models. These limitations are unhelpful for students' understanding of the climate crisis and their related actions.

RODRIGUEZ CAMACHO, Á. y TOME DA MATA, E., 2020. Imagen e interacción del/con el migrante (negroafricano) en el Instituto de Educación Secundaria de Cantillana (Sevilla). En: *Aulas Abiertas. Tomo III: Inmigración, raíces e inclusión social*. Dykinson, pp. 29-53. ISBN 978-84-1324-686-4

RODRÍGUEZ GUERRERO, M. y BARRERA-ALGARÍN, E., 2020. La criminalización de los movimientos sociales en la disputa por el espacio mediático: el conflicto de Gamonal. *Aposta. Revista de Ciencias Sociales*, no. 86, pp. 29-50. ISSN 1696-7348

El presente trabajo tiene como objetivo analizar la cobertura informativa realizada por el medio de comunicación Antena 3 TV (Grupo Atresmedia) sobre las movilizaciones sociales ocurridas en Gamonal (Burgos) a principios del 2014. A través de una metodología que alterna métodos cuantitativos y cualitativos, se estudian los procesos productivos mediáticos de construcción de la información y los discursos integrados en los 19 vídeo-noticias que dicho corporativo desarrolló para retransmitir los sucesos. Los resultados muestran un proceso de criminalización mediática hacia el movimiento social por medio de un porcentaje alto de tratamiento de contenidos relacionados con la violencia física y como parte de intereses sistémicos latentes que tienden a la reproducción y legitimación del sistema.

ROSARIO PALLARÉS RODRÍGUEZ, M. del, 2020. Constitución Española: Los Presupuestos del Estado y de las Comunidades Autónomas ante la pandemia del Covid-19. *Presupuesto y gasto público*. no.99, pp.187-209. ISSN 0210-5977.

El presente trabajo tiene como objetivo analizar las repercusiones económicas que ya está sufriendo España y las que quedan por venir, tras la declaración constitucional del estado de alarma a consecuencia del COVID-19 y sus salidas. Y ello en relación con

los presupuestos generales del Estado y de las Comunidades Autónomas que deberán aprobarse para 2021. Este análisis parte del estudio constitucional, tanto para la declaración del estado de alarma como para la elaboración de los presupuestos.

ROSILLO LÓPEZ, C., 2020. The Socio-political Experience of the Italians during the Triumviral Period. En: *The triumviral period: civil war, political crisis and socioeconomic transformations*. Universidad de Zaragoza, Prensas Universitarias de Zaragoza: Universidad de Sevilla, Editorial Universidad de Sevilla, pp. 353-378. ISBN 978-84-472-2972-7.

RUEDA AGUILAR, E.F., 2020. Perfil psicosocial de adolescentes consumidores de drogas: un análisis de las diferencias de género. *Revista española de drogodependencias*, no. 45, pp. 55-71. ISSN 0213-7615.

Esta investigación estudia las posibles diferencias de género en una muestra de 176 chicos y chicas adolescentes con consumo abusivo de drogas que recibían tratamiento en un Centro de Tratamiento Ambulatorio, para ello analiza distintos factores psicosociales (personales, familiares y sociales) que pueden estar influyendo de forma diferencial en el consumo de drogas. Las pruebas de efectos inter-sujetos realizadas indicaron que las chicas adolescentes consumidoras de drogas presentan mayor nivel de empatía, más sintomatología depresiva, mayor comunicación ofensiva con padres y madres, menor comunicación abierta con padres, mayor comunicación evitativa con padres, poco sentimiento de cohesión familiar, mayor percepción de conflictividad familiar y menor participación comunitaria en comparación con chicos consumidores de drogas. Estos resultados facilitan parte de la comprensión del fenómeno de las drogodependencias en la adolescencia y de sus diferencias en cuanto al género, y por tanto este conocimiento puede ser válido para que los y las profesionales implicados en la intervención con adolescentes con problemas de consumo de drogas puedan innovar en actuaciones diferenciales, y puedan adaptarse a las necesidades de las personas según su género.

SABARIEGO, J., 2020. Recientes movimientos sociales globales y tecnopolítica desde las Epistemologías del Sur. En: *Democracia digital: De las tecnologías de representación a la expresión ciudadana*. Comunicación Social Ediciones y Publicaciones, pp. 229-242. ISBN 9788417600341.

SALINAS, M.L., 2020. Las encomiendas paraguayas y rioplatenses: categorías y formas laborales según las fuentes del siglo XVII y XVIII. *Naveg@mérica: Navegamericano*. 25, pp. 14- 0. ISSN 1989-211X. DOI 10.6018/nav.442721

The encomienda that were implemented in the Paraguay and Río de la Plata, present

substantial differences in their characteristics and ways of application in some aspects, with other encomiendas that were in force in Peru or in closer territories such as that of the colonial Tucuman or the experiences of Jesuit and Franciscan missions. During many years of research, we have been able to identify those particularities linked to the geographical space, ethnic groups as well as the economic and social logics existing in the territory. From these studies, we can affirm that perhaps there is no specific conceptualization of the world of the Paraguay and Río de la Plata encomienda in dialogue with other spaces, hence the difficulties in achieving comparative analysis. In this article we propose to identify, in light of demographic, fiscal, judicial sources, visits, registers and nominative lists, the fiscal categories and the specific labor forms that are limited to Paraguay and northeast of Río de la Plata space in the XVII and XVIII.

SÁNCHEZ GÓMEZ, R., 2020. El enjuiciamiento de la transmisión deliberada de enfermedades infectocontagiosas (COVID-19). *Revista de derecho y proceso penal*, no. 59, pp. 187-204. ISSN 1575-4022

SÁNCHEZ-SERRANO, J.L.S., JAÉN-MARTÍNEZ, A., MONTENEGRO-RUEDA, M. y FERNÁNDEZ-CERERO, J., 2020. Impact of the information and communication technologies on students with disabilities. A systematic review 2009–2019. *Sustainability (Switzerland)*, vol. 12, no. 20, pp. 1-14. ISSN 20711050. DOI 10.3390/su12208603.

This article provides a bibliographic review of studies undertaken between 2009–2019 regarding the use of Information and Communication Technologies (ICTs) to support the learning of students with disabilities, included in the following databases: Web of Science (WoS,) Scopus, ERIC, SciELO, and Google Scholar. Through a descriptive and quantitative methodology, and using bibliometric maps, the most significant data are presented according to their citation and repercussion index. The results show that ICTs are decisive for student with disabilities but there is evidence of a lack of training by teachers. In this regard, findings show that both the quantity of articles published in the different databases and the citations they receive have a medium-low impact index, as well as a low application of them.

SANTAMARIA-HERNANDO, S., PAUL CERNA-VARGAS, J., MANUEL MARTINEZ-GARCIA, P., FRANCISCO-DE POLANCO, S., NEBREDA, S., RODRIGUEZ-PALENZUELA, P., JUAN RODRIGUEZ-HERVA, J. y LOPEZ-SOLANILLA, E., 2020. Blue-light perception by epiphytic *Pseudomonas syringae* drives chemoreceptor expression, enabling efficient plant infection. *Molecular Plant Pathology*, ISSN 1464-6722. DOI 10.1111/mpp.13001.

Adaptation and efficient colonization of the phyllosphere are essential processes for the switch to an epiphytic stage in foliar bacterial pathogens. Here, we explore the interplay among light perception and global transcriptomic alterations in epiphytic populations of the hemibiotrophic pathogen *Pseudomonas syringae* pv.



tomatoDC3000 (PsPto) following contact with tomato leaves. We found that blue-light perception by PsPto on leaf surfaces is required for optimal colonization. Blue light triggers the activation of metabolic activity and increases the transcript levels of five chemoreceptors through the function of light oxygen voltage and BphP1 photoreceptors. The inactivation of PSPTO\_1008 and PSPTO\_2526 chemoreceptors causes a reduction in virulence. Our results indicate that during PsPto interaction with tomato plants, light perception, chemotaxis, and virulence are highly interwoven processes.

SENDRA ORTIZ, C., GARCÍA-TASCÓN, M. y LÓPEZ, S., 2020. Recomendaciones para reducir accidentes en Educación Física a través de señales y pictogramas. En: *La seguridad deportiva a debate*. Dykinson, pp. 55-65. ISBN 978-84-13-24474-7

SERRANO-FERNÁNDEZ, M., 2020. La Digitalización del patrimonio cultural. La Directiva sobre derechos de autor y derechos afines en el mercado único digital. *InDret. Revista para el Análisis del Derecho* no. 3, pp. 66- 111. ISSN-e 1698-739X

Desde principios del siglo XXI la Unión Europea ha prestado una especial atención a los proyectos de digitalización masiva de las obras y otras prestaciones que integran de forma permanente las colecciones de determinadas instituciones culturales, a fin de conservarlas y ponerlas a disposición del público. El punto de partida de ese conjunto normativo fue la Directiva 2001/29/CE y el último exponente la Directiva 2019/790/ del Parlamento y del Consejo de 17 de abril de 2019 sobre derechos de autor y derechos afines en el mercado único digital (DDAMUD). En la primera parte de este trabajo se analizan dichas disposiciones, prestando una especial atención a las dificultades que han impedido ese proceso de digitalización del patrimonio cultural; dificultades que han estado presentes en las sucesivas normas comunitarias publicadas. Por ello, constituye un paso previo e imprescindible realizar un breve estudio de dicha normativa para comprender el sentido y alcance de la regulación contenida en la Directiva 2019/790. La segunda parte del trabajo se centra en el estudio de esta norma comunitaria; en concreto, se analiza la excepción relativa a la conservación del patrimonio cultural (art. 6 DDAMUD), para, posteriormente, estudiar los dos mecanismos previstos en la DDAMUD para permitir la accesibilidad en línea del material cultural. El principal o preferente es que las entidades de gestión colectiva celebren con las instituciones responsables del patrimonio cultural acuerdos de licencia con efecto ampliado (art. 8.1 DDAMUD); con carácter subsidiario se prevé una excepción obligatoria. Con respecto a dicha normativa, será preciso determinar si se han solventado los problemas enumerados y si las soluciones adoptadas pueden calificarse de satisfactorias.

SUÁREZ PERTIERRA, G., 2020. Garantizar el derecho a la educación en la crisis de la COVID-19: la importancia de la acción tutorial y el diagnóstico temprano. *Temas para el debate*, no. 309, pp. 37-39. ISSN 1134-6574.

La pandemia ha evidenciado lo interconectados que están con la salud los derechos de la infancia. Esta crisis de salud ha derivado inmediatamente en una emergencia educativa en todo el mundo. La educación no puede parar durante una emergencia sanitaria, ya que es una parte esencial de la recuperación en una crisis: aporta normalidad, sentido de la rutina, conocimientos y habilidades necesarias para el desarrollo, protección en casos de especial vulnerabilidad social y económica. Además, sirve de puente para salvar las distintas brechas sociales a las que se enfrenta una parte de la población.

SUAREZ-ARRONES, L., NUNEZ, F.J., LARA-LOPEZ, P., DI SALVO, V. y MENDEZ-VILLANUEVA, A., 2020. Inertial flywheel knee- and hip-dominant hamstring strength exercises in professional soccer players: Muscle use and velocity-based (mechanical) eccentric overload. *Plos One*, vol. 15, no. 10, pp. e0239977. ISSN 1932-6203. DOI 10.1371/journal.pone.0239977.

The primary aim of the present study was to analyze mechanical responses during inertial knee- and hip-dominant hamstring strengthening exercises (flywheel leg-curl and hip-extension in conic-pulley), and the secondary aim was to measure and compare regional muscle use using functional magnetic resonance imaging. Mean power, peak power, mean velocity, peak velocity and time in the concentric (CON) and eccentric (ECC) phases were measured. The transverse relaxation time (T2) shift from pre- to post-exercise were calculated for the biceps femoris long (BFL) and short (BFs) heads, semitendinosus (ST) and semimembranosus (SM) muscles at proximal, middle and distal areas of the muscle length. Peak and mean power in flywheel leg-curl were higher during the CON than the ECC phase ( $p < 0.01$ ). ECC peak power was higher than CON phase ( $p < 0.01$ ) in conic-pulley hip-extension exercise, while mean power was higher during the CON than ECC phase ( $p < 0.01$ ). Flywheel leg-curl showed a higher T2 values in ST and BFs and BFL ( $p < 0.05$ ), while the conic-pulley hip-extension had a higher T2 values in the proximal region of the ST and BFL ( $p < 0.05$ ). In conclusion, ECC overload was only observed in peak power during the conic-pulley hip-extension exercise. Flywheel leg-curl involved a greater overall use of the 4 muscle bellies, more specifically in the ST and BFs, with a selective augmented activity (compared with the conic-pulley) in the 3 regions of the BFs, while conic-pulley hip-extension exercise selectively targeted the proximal and medial regions of the BFL. Physiotherapists and strength and conditioning coaches should consider this when optimizing the training and recovery process for hamstring muscles, especially after injury.

TORRES-SORIANO, M.R., 2020. Lecciones aprendidas en la prevención de la radicalización online. *Cuadernos del Centro Memorial de las Víctimas del Terrorismo*, no. 10, pp. 41-46. ISSN 2445-0774

TOUCEDA-SUÁREZ, M., KITA, E.M., ACEMEL, R.D., FIRBAS, P.N., MAGRI, M.S., NARANJO, S., TENA, J.J., GÓMEZ-SKARMETA, J.L., MAESO, I. y IRIMIA, M., 2020. Ancient Genomic Regulatory Blocks Are a Source for Regulatory Gene Deserts in Vertebrates after Whole-Genome Duplications. *Molecular biology and evolution*, vol. 37, no. 10, pp. 2857-2864. ISSN 15371719. DOI 10.1093/molbev/msaa123.

We investigated how the two rounds of whole-genome duplication that occurred at the base of the vertebrate lineage have impacted ancient microsyntenic associations involving developmental regulators (known as genomic regulatory blocks, GRBs). We showed that the majority of GRBs identified in the last common ancestor of chordates have been maintained as a single copy in humans. We found evidence that dismantling of the duplicated GRB copies occurred early in vertebrate evolution often through the differential retention of the regulatory gene but loss of the bystander gene's exonic sequences. Despite the large evolutionary scale, the presence of duplicated highly conserved noncoding regions provided unambiguous proof for this scenario for multiple ancient GRBs. Remarkably, the dismantling of ancient GRB duplicates has contributed to the creation of large gene deserts associated with regulatory genes in vertebrates, providing a potentially widespread mechanism for the origin of these enigmatic genomic traits.

VANHOENSHOVEN, F., NAPOLES, G., FROELICH, W., SALMERON, J.L. y VANHOOF, K., 2020. Pseudoinverse learning of Fuzzy Cognitive Maps for multivariate time series forecasting. *Applied Soft Computing*, vol. 95, pp. 106461. ISSN 1568-4946. DOI 10.1016/j.asoc.2020.106461.

Forecasting multivariate time series is an important problem considered in many real-world scenarios. To deal with that problem, several forecasting models have already been proposed, where Fuzzy Cognitive Maps (FCMs) are proved to be a suitable alternative. The key limitation of the existing FCM-based forecasting models is the lack of time-efficient learning algorithms. In this paper, we plug that gap by proposing a new FCM learning algorithm which is based on Moore-Penrose inverse. Moreover, we propose an innovative approach that equips FCM with long-term, multistep prediction capabilities. A huge advantage of our method is the lack of parameters which in the case of competitive approaches require laborious adjustment or tuning. The other added value of our method is the reduction of the processing time required to train FCM. The performed experiments revealed that FCM trained using our method outperforms the best FCM-based forecasting model reported in the literature.

VELA SÁNCHEZ, A.J., 2020. Violencia de género sobre la pareja y derecho a cambiar el nombre y los apellidos. *Diario La Ley*, no. 9720, pp. 2- 0.ISSN 1989-6913

El derecho a cambiar los apellidos —y el nombre— está concebido por el legislador como medida de protección de la mujer y de los hijos perjudicados por la violencia de género sobre la pareja, obstaculizando su localización por el agresor, dotándoles de una nueva identidad y procurando que ésta no sea conocida por el violento. Se examinan las cuestiones fundamentales que plantea este derecho y se ofrecen las pautas necesarias para su adecuado ejercicio y efectividad.

YEGUAS ROSA, L., RUBINI, A., FLOR-ALEMANY, M., MORAN FAGUNDEZ, L.J., APARICIO, V.A., FELIX-REDONDO, F.J. y FERNANDEZ-BERGES, D., 2020. Mediterranean diet adherence in an Extremadura population cohort. HERMEX study. *European Journal of Cardiovascular Nursing*, vol. 19, no. 1\_SUPPL, pp. S13-S14. ISSN 1474-5151.

Mediterranean diet adherence (MDA) has been linked to a decrease in cardiovascular diseases, some types of cancer and an increase in life expectancy. Establish MDA in a population of Extremadura (Spain), following three known score indexes.

Population based study of 2,833 subjects between 25 and 79 years old, 54% women, randomly selected from Don Benito-Villanueva de la Serena (Badajoz, Spain). The indexes of Panagiotakos (PI), Gerber (GI) and Trichopoulou (TI) were used to establish MDA. Indexes were compared by sex, age, area of residence, educational level and employment status. The differences were established with chi square method. RESULTS. The MDA was good (60.5%) in general, with a greater adherence between 25 and 49 years ( $p<0.001$ ). Women had a better MDA in GI ( $p<0.001$ ) while men in the PI ( $p=0.048$ ). Greater MDA was found in urban group according to the GI ( $p<0.001$ ), while in TI the adherence was moderate in both populations ( $p<0.001$ ). Population showed a better MDA when evaluated with PI ( $p=.004$ ) and TI ( $p=0.026$ ). CONCLUSION. The only point of coincidence between the 3 indexes assessed was better adherence in the younger population. Rest of variables evaluated did not show uniformity in the association with the different indexes used.