

XL CONGRESS OF THE SPANISH SOCIETY OF PHYSIOLOGICAL SCIENCES

(joint meeting between Spanish and Portuguese physiologists)



Badajoz, 19-22 September 2022

Congress venue: Parque Científico y Tecnológico de Extremadura
(FUNDECYT-PCTEX), Campus Universitario

Scientific Programme

*Recognized of Health Interest by Consejería de Sanidad y Servicios
Sociales (Junta de Extremadura)*

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COLLABORATING INSTITUTIONS

Consejería de Economía, Ciencia y Agenda Digital (Junta Extremadura)

Consejería de Cultura, Turismo y Deporte (Junta Extremadura)

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Programme at a glance

MONDAY, 19th SEPTEMBER

15:30 h	Reception and Delivery of Documentation	
16:30 h	SYMPOSIUM 1: “Physiological determinants of food choices and consumption” (E. Lamy/F. Capela e Silva, University of Evora) Room 1	ORAL SESSION 1: Neurophysiology Room 2
18:00 h		
18:00 h	Coffee Break	
19:00 h	OPENING CEREMONY/PLENARY LECTURE “Aging is physiological: Reflections of an optimistic gerontologist” José Viña (Department of Physiology, Universidad de Valencia) (Salón de Grados, Edificio Juan Ramón Camacho, Facultad de Ciencias, UEx)	
20:30 h	WELCOME RECEPTION (Claustro Edificio Juan Ramón Camacho, Facultad de Ciencias, UEx)	

TUESDAY, 20th SEPTEMBER

9:00 h	SYMPOSIUM 2: “Immunosenescence and cancer immunotherapy” (R. Solana, Universidad de Córdoba) Room 1	SYMPOSIUM 3: “Autonomic nervous system in disease: From sensors, to circuits, to reflex” (S.V. Conde/I. Rocha, University of Lisbon) Room 2	SYMPOSIUM 4: “Physiopathological role of intestinal microbiota: A new player in health and disease” (S. Sánchez, Instituto de Biomedicina IBIOMED, Universidad de León and CIBEREHD). Room 3
11:00 h			
11:00 h	Coffee Break/Poster Viewing 1 (from P1-01 to P1-47)		
12:00 h	ORAL SESSION 2: Cellular physiology Room 1	ORAL SESSION 3: Cardiovascular physiology Room 2	ORAL SESSION 4: Endocrinology and Reproduction Room 3
14:00 h			
14:00 h	Network Lunch Time (Comedor Facultad Económicas, UEx)		
16:00 h	SYMPOSIUM 5: “Molecular pathophysiology of cancer” (G.M. Salido, Universidad de Extremadura) Room 1	SYMPOSIUM 6: “Cardiovascular physiology: Pulmonary hypertension - the right ventricle under pressure” (C. Brás-Silva/M. Santos, University of Porto) Room 2	SYMPOSIUM 7: “Multi-organ damage: Role of inflammasome” (M. López-Gallardo, Universidad Complutense de Madrid) Room 3 <i>Dedicado in memoriam al Dr. Alberto Tejedor</i>
18:00 h			
18:00 h	Coffee Break/Poster Viewing 1 (from P1-01 to P1-47)		
19:00 h	SECF Annual Meeting Antonio Gallego Award 2020, María A. Ilundáin (Universidad de Sevilla) Antonio Gallego Award 2022, Rafael Alonso (Universidad de La Laguna) (Salón de Grados, Edificio Juan Ramón Camacho, Facultad de Ciencias, UEx)		
20:30 h	SOCIAL PROGRAMME (Transfer and visit to the old town. Reception and cocktail at <i>Jardines de la Galera</i>)		

WEDNESDAY, 21st SEPTEMBER

9:00 h	<p align="center">SYMPOSIUM 8: “Circadian rhythms: Clock, sleep and metabolism” (M. Meira e Cruz, University of Lisbon) Room 1</p>	<p align="center">SYMPOSIUM 9: “Animal research in the 21st century” (A. González, Universidad de Extremadura) Room 2 <i>Válido como actividad formativa para el mantenimiento de la capacitación y manejo de animales de experimentación</i></p>	<p align="center">ORAL SESSION 5: Metabolism and Nutrition Room 3</p>
11:00 h			
11:00 h	Coffee Break/Poster Viewing 2 (from P2-01 to P2-43)		
11:30 h	<p align="center">ORAL SESSION 6: “Final Degree/Master Projects & Teaching in Physiology” Room 1 <i>Presentación del certamen FisioComic para estudiantes universitarios</i></p>	<p align="center">“Escape Room Fisiológico” Computer Room</p>	<p align="center">ORAL SESSION 7: Animal research Room 3</p>
13:30 h			
13:30 h	<p align="center">Juan Negrín Award 2020, Vicente Notario (Universidad de Georgetown, USA) Juan Negrín Award 2022 Lecture, “Selective autophagy in the physiology of healthy aging” Ana M. Cuervo (Department of Developmental and Molecular Biology, Albert Einstein College of Medicine, USA) (Salón de Grados, Edificio Juan Ramón Camacho, Facultad de Ciencias, UEx)</p>		
14:30 h	<p align="center">Network Lunch Time (Comedor Facultad Económicas, UEx)</p>		
14:30 h			
16:00 h	<p align="center">SYMPOSIUM 10: “Teaching in Physiology” (J.J. García, Universidad Complutense de Madrid) Room 1</p>	<p align="center">SYMPOSIUM 11: “Environmental physiology” (V. Geraldes, University of Lisbon) Room 2</p>	<p align="center">SYMPOSIUM 12: “Physiological aspects of assisted reproduction” (A. Ortiz/G. Lozano, Hospital Universitario de Badajoz) Room 3</p>
18:00 h			
18:00 h	Coffee Break/Poster Viewing 2 (from P2-01 to P2-43)		
19:00 h			
21:00 h	<p align="center">GALA DINNER (NH Gran Hotel Casino Extremadura)</p>		

THURSDAY, 22nd SEPTEMBER

9:00 h	<p align="center">ROUNDTABLE: “Young pre-/post- doctoral researchers” (E. Fernández- Delgado/S. Estirado, Universidad de Extremadura) Room 1</p>	<p align="center">ORAL SESSION 8: Neurophysiology & Cellular physiology II Room 2</p>	<p align="center">ORAL SESSION 9: Miscellaneous Room 3</p>
11:30 h			
11:30 h	Coffee Break/Poster Viewing 3 (from P3-01 to P3-22)		
12:30 h	<p align="center">Closing ceremony (Salón de Grados, Edificio Juan Ramón Camacho, Facultad de Ciencias, UEx) <i>Entrega del premio BIOMOL a la mejor comunicación extremeña</i></p>		
14:00 h	<p align="center">Farewell Snack (Comedor Facultad Económicas, UEx)</p>		
14:00 h			
16:00 h	<p align="center">Workshop “Autonomic nervous system evaluation: From the Ewing battery till the signal processing methodologies” (I. Rocha, University of Lisbon; M.S. Dawid, Universidad de Málaga) Computer Room</p>		
18:00 h			

Monday, 19th September

15.30-20.30 h Reception and delivery of documentation.

16.30-18.00 h Room 1: Symposium 1: “**Physiological determinants of food choices and consumption**”

Chairman: Elsa Lamy and Fernando Capela e Silva, Institute for Agriculture and Development-MED, University of Evora.

16.30-17.00 h “*Food-saliva interactions: Mechanisms and implications*” Elsa Lamy, University of Evora.

17.00-17.30 h “*Health eating: The importance of the first 8000 days of life*” Pedro Moreira, University of Porto.

17.30-18.00 h “*Mechanisms involved in the control of feeding behavior and food intake in relation to food flavor*” Emilio Martinez de Victoria, Universidad de Granada.

16.30-18.00 h Room 2: Oral Session 1 “**Neurophysiology**”

Chairman: M.A. Gómez Zubeldia, Departamento de Fisiología, Universidad de Extremadura.

16.30-16.45 h “*Serum myeloperoxidase, but not the cerebrospinal-fluid enzyme, is closely linked to neuronal loss in the substantia nigra and motor severity degree in Parkinson’s disease*” E. Fernández Espejo, Reial Acadèmia de Medicina de Catalunya & Real Colegio Oficial de Médicos de Sevilla.

16.45-17.00 h “*Changes in chemokines and their receptors involved in phagocytosis, demyelination, chemotaxis, and coagulation contribute to explain the differences between APP/PS1 and Wild Type mice*” S.L. Valles, Department of Physiology, University of Valencia.

17.00-17.15 h “*Ablation of carotid body activity improves cognitive function and attenuates the levels of neurodegenerative markers in prediabetic rats*” A.M. Capucho, NOVA Medical School, Universidade NOVA de Lisboa.

17.15-17.30 h “*Repaglinide as a potential treatment against motor and cognitive decline associated with neurodegeneration in C. elegans and Mus musculus*” I. Sánchez Romero, Departamento de Anatomía, Fisiología y Biología Celular, Universidad Pablo de Olavide, Sevilla.

17.30-17.45 h h “*Rat duodenal nerve plexuses degeneration in physiological aging*” L. López-Pingarrón, Departamento de Farmacología, Fisiología, Medicina Forense y Legal, Universidad de Zaragoza.

17.45-18.00 h “*Cellular proliferation of the rat duodenal nervous plexus in physiological aging*” L. López-Pingarrón, Departamento de Farmacología, Fisiología, Medicina Forense y Legal, Universidad de Zaragoza.

18.00-19.00 h Coffee break.

19.00-20:30 h Salón de Grados (Edificio Juan Ramón Camacho, Facultad de Ciencias, UEx): Opening Ceremony/Plenary Lecture: “**Aging is physiological: Reflections of an**

optimistic gerontologist” José Viña (Department of Physiology, Universidad de Valencia).

20:30 h Welcome reception (Claustro Edificio Juan Ramón Camacho, Facultad de Ciencias, UEx).

Tuesday, 20th September

9.00-11.00 h Room 1: Symposium 2: “**Immunosenescence and cancer immunotherapy**”
Chairman: Rafael Solana, Universidad de Córdoba.

9.00-9.20 h “*Immunosenescence and cancer immunology: study in acute myeloid leukaemia patients*” Raquel Tarazona, Unidad de Inmunología, Departamento de Fisiología, Universidad de Extremadura.

9.20-9.40 h “*Regulatory T cells, immunosenescence and cancer. Prospects for vaccine development*” Alexander Batista-Duharte, Instituto Maimonides de Investigación Biomédica de Córdoba (IMIBIC).

9.40-10.00 h “*Monitoring immunodynamics in cancer immunotherapy*” Paulo Rodrigues Santos, Immunology and Oncology Laboratory, Center for Neurosciences and Cell Biology, University of Coimbra.

10.00-10.20 h “*Methods for the optimization of new chimeric antigen receptors*” Francisco García-Cózar, Departamento de Biomedicina, Biotecnología y Salud Pública, Universidad de Cádiz.

10.20-10.40 h “*Role of gene therapy in cancer immunotherapy*” Francisco Martín, Departamento de Medicina Genómica, Centro Pfizer-Universidad de Granada de Genómica e Investigación Oncológica, GENYO.

9.00-11.00 h Room 2: Symposium 3: “**Autonomic nervous system in disease: From sensors, to circuits, to reflex**”

Chairman’s: Silvia V. Conde, Faculdade de Ciências Médicas, Universidade Nova de Lisboa, and Isabel Rocha, Instituto de Fisiologia, Faculdade de Medicina, Universidade de Lisboa.

9.00-9.30 h “*Leptin: Beyond the hunger paradigm*” Candela Caballero-Eraso, Hospital Universitario Virgen de Rocío/Instituto de Investigación Biomédica de Sevilla (IBIS).

9.30-10.00 h “*Viscerosensorial pathways in nutrient postingestive signalling*” Ana B. Fernandes, Champalimaud Centre for the Unknown, Lisboa.

10.00-10.30 h “*Critical role of the interaction gut microbiota - sympathetic nervous system in the regulation of blood pressure in rat*” Iñaki Robles-Vera, Centro Nacional de Investigaciones Cardiovasculares Carlos III (CNIC), Madrid.

10.30-11.00 h “*Carotid body: coupling oxygen sensing with energy homeostasis*” Silvia V. Conde, Instituto de Fisiologia, Faculdade de Medicina, Universidade de Lisboa.

9.00-11.00 h Room 3: Symposium 4: “**Physiopathological role of intestinal microbiota: A new player in health and disease**”

Chairman: Sonia Sánchez Campos, Institute of Biomedicine (IBIOMED), Universidad de León and CIBEREHD.

9.00-9.30 h *“Influence of lifestyle on gut microbiota: how can help each other”* Mar Larrosa, Department of Nutrition and Food Science, Universidad Complutense de Madrid.

9.30-10.00 h *“Modulation of intestinal microbiota in the development of non-alcoholic fatty liver disease (NAFLD)”* Sonia Sánchez Campos, Institute of Biomedicine (IBIOMED), Universidad de León and CIBEREHD.

10.00-10.30 h *“Importance of intestinal microbiota in obesity”* Francisco J. Tinahones Madueño, Virgen de la Victoria Hospital, Málaga and CIBEROBN.

10.30-11.00 h *“Role of microbiota in the control of arterial hypertension and its modulation by probiotics”* Miguel Romero, Department of Pharmacology, Universidad de Granada.

11.00-12.00 h Coffee break/Poster viewing 1 (from P1-01 to P1-47) (Reviewers: L. Franco, Universidad de Extremadura; S.V. Conde, Universidade Nova de Lisboa).

12.00-14.00 h Room 1: Oral Session 2 **“Cellular physiology”**

Chairman: P.J. Camello, Departamento de Fisiología, Universidad de Extremadura.

12.00-12.15 h *“Role of STIMATE and STIMATE-MUSTN1 during SOCE activation in HEK293 cells”* A. Berna-Erro, Departamento de Fisiología, Universidad de Extremadura, Cáceres.

12.15-12.30 h *“TRPM2 channel mediated JNK/mTOR signaling pathway regulates autophagy in off springs’ heart tissue of high dose alcohol exposure during pregnancy: Impact of gender difference”* A.C. Uğuz, Department of Biophysics, Faculty of Medicine, Karamanoğlu Mehmetbey University, Turkey.

12.30-12.45 h *“Functional consequences of the Kv1.3-KCNE4 complex in leukocyte physiology”* M. Colomer-Molera, Departament de Bioquímica i Biomedicina Molecular, Institut de Biomedicina (IBUB), Universitat de Barcelona.

12.45-13.00 h *“The spatial organization and membrane targeting of the regulatory Kvβ2.1 subunit is mediated by S-palmitoylation”* S. Cassinelli, Departament de Bioquímica i Biomedicina Molecular, Institut de Biomedicina (IBUB), Universitat de Barcelona.

13.00-13.15 h *“Comparison between proapoptotic effects of Pt(II) and Pd(II) complexes with thiazoline or thiazine-based ligands in tumour cell lines”* E. Fernández-Delgado, Departamento de Fisiología, Universidad de Extremadura, Badajoz.

13.15-13.30 h *“Melatonin-conjugated formulations of metaldrug-functionalized mesoporous silica drug delivery systems produce cytotoxicity and apoptosis in HeLa cells”* S. Estirado, Departamento de Fisiología, Universidad de Extremadura, Badajoz.

13.30-13.45 h *“Demyelinating disease: Focus on oligodendrocytes and TRPA1 channel”* B. Cig, Wolfson Centre for Age-Related Diseases, King's College London, UK.

13.45-14.00 h *“Regulation of potassium ion channels by 17β-estradiol and the endocrine disruptor Bisphenol-A in the human beta cell line EndoC-βHI”* R. Sempere-Navarro, Instituto de Investigación, Desarrollo e Innovación en Biotecnología Sanitaria de Elche (IDiBE), Universitas Miguel Hernández.

12.00-14.00 h Room 2: Oral Session 3 **“Cardiovascular physiology”**

Chairman: L. Such, Departamento de Fisiología, Universidad de Valencia.

12.00-12.15 h *“Effects of the inhibitor of Ca²⁺/calmodulin-dependent protein kinase II, KN-93, on intrinsic ventricular electrophysiological modifications produced by local*

stretch” G. Parra, Departamento de Fisiología, Universidad de Valencia.

12.15-12.30 h “*Nitric oxide inhibits the calcium entry through T-type voltage gated-calcium channels in response to phenylephrine in the renal artery from healthy rabbits*” A. Suarez, Departamento de Fisiología, Universidad de Valencia.

12.30-12.45 h “*Effects of KN93 on the modifications of the functional refractory period and its dispersion produced by ventricular local stretch*” L. Such-Miquel, Departamento de Fisioterapia, Universidad de Valencia.

12.45-13.00 h “*Effectiveness of an R-based software to detect closed-loop cardiovascular interactions and baroreflex impairment in human subjects from the EUROBAVAR data set*” A. Chao-Ecija, Departamento de Fisiología, Universidad de Málaga.

13.00-13.15 h “*Role of carotid body in the control of adipose tissue catecholamine resistance in obesity*” F.O. Martins, NOVA Medical School, Universidade NOVA de Lisboa, Portugal.

13.15-13.30 h “*MPO as a surrogate inflammation biomarker for physiological changes induced by doxorubicin in rats*” A.I. Afonso, Faculdade de Medicina, Universidade de Lisboa, Portugal.

13.30-13.45 h “*Effect of CaMKII inhibition by KN-93 on intrinsic myocardial ventricular refractoriness and sinus chronotropism in an isolated and perfused rabbit heart model*” J.E. Ortiz, Departamento de Fisiología, Universidad de Valencia.

12.00-14.00 h Room 3: Oral Session 4 “**Endocrinology and Reproduction**”

Chairman: J.A. Tapia, Departamento de Fisiología, Universidad de Extremadura, Cáceres.

12.00-12.15 h “*Interaction between oxidative stress and NLRP3 inflammasome pathway after Bisphenol F treatment in the liver of Long Evans lactating dams and its perinatal effect on postnatal day 6 offspring*” B. Linillos-Pradillo, Department of Biochemistry and Molecular Biology, Complutense University of Madrid.

12.15-12.30 h “*Effect of developmental exposure to Bisphenol F (BPF) on behavior of adult Long Evans rat’s offspring*” B. Linillos-Pradillo, Department of Biochemistry and Molecular Biology, Complutense University of Madrid

12.30-12.45 h “*Effect of permethrin (PMT) on the liver of Long Evans lactating dams and their offspring related to inflammation, glutathione system, and insulin signaling pathways*” B. Linillos-Pradillo, Department of Biochemistry and Molecular Biology, Complutense University of Madrid.

12.45-13.00 h “*Low doses of Bisphenol A induce hepatotoxicity through oxidative stress, inflammation and apoptosis in Long Evans lactating rats and its perinatal effect on female postnatal day 6 offspring*” B. Linillos-Pradillo, Department of Biochemistry and Molecular Biology, Complutense University of Madrid.

13.00-13.15 h “*Morphometric study of the umbilical cord in in-vitro-derived pigs*” E. Párraga-Ros, Departamento de Anatomía y Patología Comparativa, Universidad de Murcia.

13.15-13.30 h “*Deepening into the early onset pathogenic mechanisms of preeclampsia: NADPH oxidase isoforms and oxidative disbalance in a rodent model with excess sFlt-1*” Á. Santana-Garrido, Departamento de Fisiología, Universidad de Sevilla.

13.45-14.00 h “*Reproductive fluids reduce the rate of telomere shortening during the first year of life in in-vitro derived-pigs and cattle*” C. García Cobarro, Departamento de Fisiología, Universidad de Murcia.

13.30-13.45 h “*Statistical analysis of the self-reported persistence of long-COVID19*”

symptoms in naturally cycling women depending on the phase of the menstrual cycle in which they tested positive” A. Rodríguez, Departamento de Filosofía, Universidad del País Vasco.

14.00-16.00 h Network lunch time (Comedor Facultad Económicas, UEx).

16.00-18.00 h Room 1: Symposium 5: “**Molecular pathophysiology of cancer**”

Chairman: Ginés M. Salido, Departamento de Fisiología, Universidad de Extremadura.

16.00-16.30 h “*Essential role of Orai1 and Notch1 activation in angiogenesis*” Tarik Smani, IBiS, Instituto de Biomedicina de Sevilla.

16.30-17.00 h “*Molecular basic of Ca²⁺ remodeling in colorectal cancer and its reversal by polyamine depletion*” Carlos Villalobos, Instituto de Biología y Genética Molecular (IBGM), Universidad de Valladolid-CSIC.

17.00-17.30 h “*Stress kinases in liver cancer*” Guadalupe Sabio, Centro Nacional de Investigaciones Cardiovasculares, Madrid.

17.30-18.00 h “*Orai1 α modulates TRPC1 channel function*” Juan Antonio Rosado, Departamento de Fisiología, Instituto de Biomarcadores de Patología Molecular (IBPM), Universidad de Extremadura.

16.00-18.00 h Room 2: Symposium 6: “**Cardiovascular physiology: Pulmonary hypertension - the right ventricle under pressure**”

Chairman: Carmen Brás-Silva and Mário Santos, Department of Surgery and Physiology, Faculty of Medicine, University of Porto.

16.00-16.30 h “*Experimental models of right ventricular dysfunction: a window for investigating translation in pulmonary hypertension*” Rui Adao, Dept. Surgery and Physiology, Faculty of Medicine, University of Porto.

16.30-17.00 h “*Is exercise good for the right ventricle in pulmonary hypertension: what the animal studies show?*” Daniel Moreira Gonçalves, Dept. Surgery and Physiology, Faculty of Medicine, University of Porto.

17.00-17.30 h “*Novel mechanisms in pulmonary hypertension: microRNAs and right ventricular dysfunction*” Carla Marques, Department of Cardiology, Faculty of Medicine, University of Coimbra.

17.30-18.00 h “*How to preserve the right ventricle in pulmonary hypertension: insights from animal studies*” Carmen Brás-Silva, Dept. Surgery and Physiology, Faculty of Medicine, University of Porto.

16.00-18.00 h Room 3: Symposium 7: “**Multi-organ damage: Role of inflammasome**”
(*Dedicado in memoriam al Dr. Alberto Tejedor*)

Chairman: Meritxell López Gallardo, Departamento de Fisiología, Universidad Complutense de Madrid.

16.00-16.30 h: “*Inflammasome and renal damage*” Alberto Lázaro, Departamento de Fisiología, Universidad Complutense de Madrid.

16.30-17.00 h “*Inflammasome and lung damage*” Luis Puente Maestu, Servicio de Neumología, Hospital General Universitario Gregorio Marañón.

17.00-17.30 h “*Inflammasome and cardiac damage*” Javier Díez Martínez, Servicio de

Nefrología, Clínica Universidad de Navarra y CIMA Universidad de Navarra.

17.30-18.00 h “*Inflammasome and neuronal damage*” Diego San Felipe, Departamento de Fisiología, Universidad Complutense de Madrid.

18.00-19.00 h Coffee break/Poster viewing 1 (from P1-01 to P1-47) (Reviewers: L. Franco, Universidad de Extremadura; S.V. Conde, Universidade Nova de Lisboa).

19.00-20.30 h SECF Annual Meeting, Antonio Gallego Award. Rafael Alonso Solís, Universidad de La Laguna, “*La conspiración del 91*”. (Salón de Grados, Edificio Juan Ramón Camacho, Facultad de Ciencias, UEX).

20.30 h Social Programme (Transfer and visit to the old town. Reception and cocktail at *Jardines de la Galera*).

Wednesday, 21st September

9.00-11.00 h Room 1: Symposium 8: “**Circadian rhythms: Clock, sleep and metabolism**”

Chairman: Miguel Meira e Cruz, Sleep Unit, Cardiovascular Centre of University of Lisbon.

9.00-9.30 h “*Circadian timing system: From physiology to clinic*” Miguel Meira e Cruz, Sleep Unit, Cardiovascular Centre, University of Lisbon.

9.30-10.00 h “*Melatonin and circadian rhythms: Cardio-metabolic impact*” Dario Acuña-Castroviejo, Instituto de la Melatonina, Universidad de Granada.

10.00-10.30 h “*The clock in extreme environments: Lessons from physiology to the clinic*” Michele Gomes da Rosa, Cardiovascular Centre, University of Lisbon.

10.30-11.00 h “*Chronodisruption in cancer*” César Rodríguez, Instituto de la Melatonina, Universidad de Granada.

9.00-11.00 h Room 2: Symposium 9: “**Animal research in the 21st century**”

(Válido como actividad formativa para el mantenimiento de la capacitación y manejo de animales de experimentación)

Chairman: Antonio González, Departamento de Fisiología, Universidad de Extremadura.

9.00-9.20 h “*The legal requirements in research with animals*” María Reyes, Servicio de Animalario y Experimentación Animal, Universidad de Extremadura.

9.20-9.40 h “*Studies about oral physiology and ingestive behavior using animal models*” Elsa Lamy and Fernando Capela e Silva, Institute for Agriculture and Development-MED, University of Evora.

9.40-10.00 h “*Animal models in biomedicine, a key piece with countless possibilities*” Patricia Santofimia-Castaño, Centre de Recherche en Cancérologie de Marseille, CRCM INSERM, France.

10.00-10.20 h “*Gnotobiotic Animals Facility of the Center for Scientific Instrumentation of the University of Granada. How to work with these animals and what to expect from them*” Ana I. Nieto, Unidad de Experimentación Animal, Centro de Investigaciones Biomédicas, Universidad de Granada.

10.20-10.40 h “*Animal research in the 21st century: the challenge of including sex as a biological variable*” Eva M. Marco, Departamento de Genética, Fisiología y Microbiología, Universidad Complutense de Madrid.

9.00-11.00 h Room 3: Oral Session 5 “**Metabolism and Nutrition**”

Chairman: P. Terrón, Departamento de Fisiología, Universidad de Extremadura.

9.00-9.15 h “*Enteral feeding of human milk MCP-1, EPA and DHA alter the risk of BPD in preterm infants*” C.R. Martín, Department of Neonatology, Harvard Medical School.

9.15-9.30 h “*Maternal nutritional pattern and gestational age is associated with secretion of cytokines in breastmilk*” D. Ramiro-Cortijo, Departamento de Fisiología, Universidad Autónoma de Madrid.

9.30-9.45 h “*Unveiling the preventive role of wild olive oil (acebuche) in ocular hypertension and fibrosis in L-NAME-induced hypertension*” Á. Santana-Garrido, Departamento de Fisiología, Universidad de Sevilla.

9.45-10.00 h “*Effects of exposure to high amounts of carrageenan on the nervous and immune systems and redox state of young mice*” J. Félix, Departamento de Genética, Fisiología y Microbiología, Universidad Complutense de Madrid.

10.00-10.15 h “*Associations between adherence to unhealthy dietary patterns with body composition, liver, metabolic and inflammatory biomarkers in the UK Biobank study*” C. Piernas, Departamento de Bioquímica y Biología Molecular II, Universidad de Granada.

10.15-10.30 h “*Binge drinking reduces adolescent Wistar rats’ adipose tissue mass contributing to insulin resistance*” I. Romero-Herrera, Departamento de Fisiología, Universidad de Sevilla.

10.30-10.45 h “*Folic acid by modulating antioxidant enzyme balance avoids binge drinking-oxidative damage in liver, kidney and heart of adolescent rats*” M.C. Gallego-López, Departamento de Fisiología, Universidad de Sevilla.

10.45-11.00 h “*Alterations in NO metabolism do not explain hypertension induced by fetal undernutrition in rats but associate with nitrosative damage*” P. Rodríguez-Rodríguez, Departamento de Fisiología, Universidad Autónoma de Madrid.

11.00-11.30 h Coffee break/Poster viewing 2 (from P2-01 to P2-43) (Reviewers: I. Rocha, Universidade Nova de Lisboa; P.C. Redondo, Universidad de Extremadura).

11.30-13.30 h Room 1: Oral Session 6: “**Final Degree/Master Projects & Teaching in Physiology**”

(*Presentación del certamen FisoComic para estudiantes universitarios*)

Chairman: Jorge Juan García, Departamento de Fisiología, Universidad Complutense de Madrid.

11.30-11.45 h “*Adjuvant effect of melatonin and a Pt(II) thiazoline complex in HeLa cells. Results of the use of mesoporous silica nanoparticles as drug delivery system on the cytotoxic activity of both compounds*” A. Verdasco, Departamento de Fisiología, Universidad de Extremadura.

11.45-12.00 h “*Influence of lifestyle habits on university academic performance*” C. Esteban, Departamento de Fisiología, Universidad de Extremadura.

12.00-12.15 h “*Relationship between dioxine receptor (Ahr) expression and pluripotency markers in human hepatocellular carcinoma patients*” S. Calderón-Vicente, Departamento

de Bioquímica y Biología Molecular, Universidad de Extremadura.

12.15-12.30 h “*Virus and autoimmunity*” I. Rodríguez, Departamento de Fisiología, Universidad de Extremadura.

12.30-12.45 h “*A simulation laboratory for the study of countercurrent oxygen transport across fish gills. Insights on physiological variables and environmental factors*” M. Díaz, Departamento de Física, Universidad de La Laguna, Tenerife.

12.45-13.00 h “*Peer-to-peer medical student education: design, experience and evaluation of the impact in learning of 2nd year medical students from the University of Malaga*” D. Carrasco-Gomez, Departamento de Fisiología, Universidad de Málaga.

13.00-13.15 h “*An educational project for teaching Physiology along with science university degrees*” I. Sánchez-Vera, Departamento de Ciencias Médicas Básicas, Universidad CEU-San Pablo, Madrid.

11.30-13.30 h Computer Room: “**Escape Room Fisiológico**”

11.30-13.30 h Room 3: Oral Session 7 “**Animal research**”

Chairman: P.C. Redondo, Departamento de Fisiología, Universidad de Extremadura.

11.30-11.45 h “*Cannibalism/infanticide and maternal aggression towards pups in laboratory animals: a bibliometric approach*” J.C. Bravo, Departamento de Fisiología, Universidad de Extremadura.

11.45-12.00 h “*The protective effect of dexpanthenol and tocopherol in an experimental model of liver toxicity induced by paracetamol*” A. Karanfil, Department of Physiology, Aydin Adnan Menderes University Turkey.

12.00-12.15 h “*A review on the analysis of six different experimental anemia models*” F. Şirinyıldız, Department of Physiology, Aydin Adnan Menderes University Turkey

12.15-12.30 h “*Modulatory effects of rifaximin on inflammation and gut commensal microbiota during dextran sulfate sodium (DSS)-induced colitis in mice*” V. Martínez, Departamento de Biología Celular, Fisiología e Inmunología, Universidad Autónoma de Barcelona.

12.30-12.45 h “*Characterization of parameters that influence acceptance of a new food in rats*” S. Ruvira, Departamento de Fisiología, Universidad Autónoma de Madrid.

12.45-13.00 h “*Cystine and glutathione (GSH) promote metastatic dissemination of human melanoma xenografts in mice*” E. Obrador, Departamento de Fisiología, Universidad de Valencia.

13.00-13.15 h “*Long-lasting visceral hypersensitivity in a model of dextran sulfate sodium (DSS)-induced colitis in rats*” S. López-Estévez, Departamento de Biología Celular, Fisiología e Inmunología, Universidad Autónoma de Barcelona.

13.30-14.30 h Juan Negrín Award Lecture: “**Selective autophagy in the physiology of healthy aging**” Ana María Cuervo (Department of Developmental and Molecular Biology, Albert Einstein College of Medicine, USA) (Salón de Grados, Edificio Juan Ramón Camacho, Facultad de Ciencias, UEx).

14.30-16.00 h Network lunch time (Comedor Facultad Económicas, UEx)

16.00-18.00 h Room 1: Symposium 10: **“Teaching in Physiology”**

Chairman: Jorge Juan García, Departamento de Fisiología, Universidad Complutense de Madrid.

16.00-16.30 h *“Scape Room as a tool to improve motivation in science-based subjects”* Silvia M. Arribas, Departamento de Fisiología, Facultad de Medicina, Universidad Autónoma de Madrid.

16.30-17.00 h *“Development of an inter-university competition (FisioCómico) as a tool to promote creative learning in Physiology”* Beatriz Gal, Facultad de Salud, Universidad Camilo José Cela.

17.00-17.30 h *“Use of Twitter to promote the critical analysis of scientific knowledge among undergraduate students of Medicine”* Gregorio Segovia, Departamento de Fisiología, Facultad de Medicina, Universidad Complutense de Madrid.

17.30-18.00 h *“Biomedical research divulgation as a learning hub in Physiology”* Teresa Fernández, Departamento de Ciencias Básicas de la Salud, Universidad Rey Juan Carlos.

16.00-18.00 h Room 2: Symposium 11: **“Environmental physiology”**

Chairman: Vera Geraldés, Dept Physiology, Lisbon School of Medicine, University of Lisbon

16.00-16.30 h *“The role of the microbiome – Retrospective and future perspectives in a One Health model”* Pedro Brogueira, University of Évora.

16.30-17.00 h *“Physiological ramifications of human exposure to the micro-nano-plastics invasion”* Ramiro Pastorinho, University of Évora.

17.00-17.30 h *“How human physiology reacts to a long-term microgravity”* Michele Gomes da Rosa, Cardiovascular Centre of University of Lisbon, University of Lisbon.

17.30-18.00 h *“Physiopathological effects upon heavy metals exposure: focus in environmental lead exposure”* Liana Shvachiy, Center for Biostructural Imaging of Neurodegeneration, University Medical Center Göttingen.

16.00-18.00 h Room 3: Symposium 12: **“Physiological aspects of assisted reproduction”**

Chairmans: Agueda Ortiz and Graciela Lozano, Hospital Universitario de Badajoz.

16.00-16.30 h *“Surplus embryos from IVF cycles. Unprecedented research possibilities”* José Luis Cortés, Eppendorf.

16.30-17.00 h *“Study of gametes and embryos with implantation failure”* Susana Cortés Gallego, Clínica Tambre, Madrid.

17.00-17.30 h *“Importance of the culture medium and its influence on the state of blastocyst”* Yosú Franco, Hospital Ruber Internacional, Madrid.

17.30-18.00 h *“Influence of vitamin D levels in assisted reproduction treatments”* Juana María Molina, Hospital Clínico Universitario de Valladolid.

18.00-19.00 h Coffee break/Poster viewing 2 (from P2-01 to P2-43) (Reviewers: I. Rocha, Universidade Nova de Lisboa; P.C. Redondo, Universidad de Extremadura).

21.00 h Gala dinner (NH Gran Hotel Casino Extremadura).

Thursday, 22nd September

9.00-10.30 h Room 1: Roundtable: “Young Pre-/Post-doctoral Researchers”

Chairman: Elena Fernández-Delgado and Samuel Estirado, Departamento de Fisiología, Universidad de Extremadura

9.00-11.30 h Room 2: Oral Session 8 “Neurophysiology & Cellular physiology II”

Chairman: E. Ortega, Departamento de Fisiología, Universidad de Extremadura.

9.00-9.15 h “*Role of quercetin and low-level laser therapy in chemotherapy-induced peripheral neuropathy*” U. Simge, Department of Biophysics, Aydin Adnan Menderes University, Turkey.

9.15-9.30 h “*DREAM protein inhibition as a potential treatment against NAFLD and metabolic syndrome and its associated neurologic signs*” J.M. Hernández Curiel, Departamento de Fisiología, Anatomía y Biología Celular, Universidad Pablo de Olavide, Sevilla.

9.30-9.45 h “*The effects of curcumin on peripheral nerves in the statin-administered rats*” F. Sırıken, Department of Physiology, University of Aydın Adnan Menderes, Turkey.

9.45-10.00 h “*The steroid sulfatase inhibitor STX64 improves mice aging-associated deficiencies in cognition*” J.A. Fernández-Cabrera, Departamento de Fisiología, Anatomía y Biología Celular, Universidad Pablo de Olavide, Sevilla.

10.00-10.15 h “*Galanin and neuropeptide Y interaction enhances proliferation of granule precursor cells and expression of neuroprotective factors in the rat hippocampus: role in depression and memory*” M. Mirchandani-Duque, Instituto de Investigación Biomédica de Málaga, Universidad de Málaga.

10.15-10.30 h “*Role of insulin-growth factor II on mitochondrial recovery in a cellular model of Parkinson's disease*” N. Valverde, Departamento de Farmacología y Pediatría, Universidad de Málaga.

10.30-10.45 h “*Hypoxia induces the activation of pancreatic stellate cells through modulation of antioxidant response and glycolytic metabolic shift*” M. Estarás, Instituto de Biomarcadores de Patología Molecular, Universidad de Extremadura.

10.45-11.00 h “*G protein-coupled estrogen receptor activation by Bisphenol-A disrupts protection from apoptosis conferred by estrogen receptors ER α and ER β in pancreatic beta cells*” I. Babiloni-Chust, Instituto de Investigación, Desarrollo e Innovación en Biotecnología Sanitaria de Elche (IDiBE), Universitat Miguel Hernández.

11.00-11.15 h “*Role of ND-13, a DJ-1/Nrf2 pathway activator, in the prevention of inflammasome activation in diabetic nephropathy*” V. Celdran, Instituto Murciano de Investigación Biosanitaria (IMIB-Arrixaca).

11.15-11.30 h “*Immunomodulation of pancreatic cells/macrophage interaction and its effect in a diabetes mellitus type 1 progression in a BB rat model*” M.C. González-Montelongo, Instituto de Investigación e Innovación en Ciencias Biomédicas de la Provincia de Cádiz (INiBICA).

9.00-11.30 h Room 3: Oral Session 9 “Miscellaneous”

Chairman: M. Maynar and L. Franco, Departamento de Fisiología, Universidad de Extremadura.

9.00-9.15 h “*Chrono saliva: circadian changes in salivary protein profile*” E. Lamy,

Mediterranean Institute for Agriculture, Environment and Development, University of Evora, Portugal.

9.15-9.30 h “*Differences in extracellular and intracellular iron concentrations between athletic and physically inactive young people*” M. Maynar-Mariño, Laboratorio de Fisiología del Ejercicio, Universidad de Extremadura.

9.30-9.45 h “*Acute effect of exposure to high temperature on performance in the Wingate test*” V. Toro-Román, Laboratorio de Fisiología del Ejercicio, Universidad de Extremadura.

9.45-10.00 h “*Effects of seawater consumption on IL-6 release after a triathlon event*” J. Aragón-Vela, Departamento de Fisiología, Universidad de Granada.

10.00-10.15 h “*An interesting clinical case of a patient with autoimmune polyglandular syndrome type II (Schmidt’s syndrome)*” J.M. Pacheco, Hospital Universitario Río Hortega, Valladolid.

10.15-10.30 h “*Immunology response to lipids and the lipidic profile are prognosis biomarkers in COVID-19 patients*” I. Sánchez-Vera, Instituto de Medicina Molecular Aplicada (IMMA), Universidad San Pablo-CEU, Madrid.

10.30-10.45 h “*Increased glycosaminoglycans content induces changes in fibroblasts cell physiology in mucopolysaccharidosis patients*” A. Diaz-Pizarro, Departamento de Bioquímica, Biología Molecular y Genética, Universidad de Extremadura.

10.45-11.00 h “*Non-invasive induction and electrographic detection of cortical spreading depolarization (CSD) using graphene micro-transistor arrays to investigate CSD induced inflammation*” K. Ağan, Department of Clinical and Experimental Epilepsy, University College of London, London, United Kingdom

11.00-11.15 h “*Determination of antibacterial activity of propolis extract obtained from Amasya province of Turkey*” B. Sırken, Department of Aquatic Animal Diseases, Ondokuz Mayıs University, Turkey.

11.15-11.30 h “*Nutritional supplementation in premenstrual syndrome*” A. Herrera, Departamento de Fisiología, Universidad de Extremadura.

11.30-12.30 h Coffee break/Poster viewing 3 (from P3-01 to P3-22) (Reviewers: M. Maynar, Universidad de Extremadura; I. Rocha, Universidade Nova de Lisboa).

12.30 h Closing ceremony (Salón de Grados, Edificio Juan Ramón Camacho, Facultad de Ciencias, UEx). *Entrega del premio BIOMOL a la mejor comunicación extremeña.*

14.00 h Farewell Snack (Comedor Facultad Económicas, UEx).

16.00-18.00 h Computer Room: Workshop “**Autonomic nervous system evaluation: From the Ewing battery till the signal processing methodologies**” (I. Rocha, Universidade Nova de Lisboa; M.S. Dawid, University of Málaga).