

# JOINT FEPS & SPANISH PHYSIOLOGICAL SOCIETY SCIENTIFIC CONGRESS 2012

SANTIAGO DE COMPOSTELA (SPAIN) SEPTEMBER 8-11, 2012





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#### VIAJES ATLÁNTICO

Senra, 7-9 2º A 15702 Santiago de Compostela

T. +34 981 56 90 40

E. +34 981 56 90 42

secretariat@feps2012.org

Congress Venue Secretariat School of Medicine Telephone 636 580 583 secretariat@feps2012.org

# Program



# PROGRAMME AT A GLANCE

# September 8th

10,00-12,00	ROOM B	PRE-MEETING SYMPOSIUM: Sensory physiology, a window to the brain
12,30-14,00	ROOM B	PRE-MEETING SYMPOSIUM: Sensory physiology, a window to the brain
13,40-14,00	ROOM A	WELCOME AND INTRODUCTION YIPS
14,00-14,30	ROOM A	KEYNOTE SPEAKER 1: Cellular sensors and Mtor
14,30-15,30	ROOM A	YOUNG INVESTIGATOR AWARD COMPETITION
16,00-16,30	ROOM A	KEYNOTER SPEAKER 2: Gastrointestinal signals
16,30-17,30	ROOM A	YOUNG INVESTIGATOR AWARD COMPETITION
17,40-18,10	ROOM A	OPENING CEREMONY
18,10-19,00	ROOM A	FEPS LECTURE: ATP-sensitive K channels, from molecule to disease
19,30-22,00	PAZO DE FONSECA	WELCOME RECEPTION

### September 9th

09,00-10,40	ROOM B	SYMPOSIUM: Updates on reproductive physiology
09,00-10,40	ROOM A	SYMPOSIUM: Joint American Physiological Society and FEPS/ Spanish Physiological Society Symposium
11,00-11,45	ROOM A	PLENARY LECTURE: Pathophysiology of Hypertension in Preeclampsia: A lesson in Integrative Physiology
12,00-13,00	ROOM B	ORAL PRESENTATIONS: Transport Physiology
12,00-13,00	ROOM A	ORAL PRESENTATIONS: Cardiovascular, respiratory and autonomic control
12,00-13,00	ROOM C	${\tt ORAL\ PRESENTATIONS:\ Microvascular\ and\ endothelial\ physyiology}$
13,00-14,00	CORRIDOR	POSTERS SESSION
14,00-15,40	ROOM B	SYMPOSIUM: Targeting glucose homeostasis: novel players
14,00-15,40	ROOM A	SYMPOSIUM: Advances in Aging and Mitochondria Research
16,10-17,50	ROOM A	SYMPOSIUM: Aquaporins and Epithelial channels in health and diseases.
16,10-17,50	ROOM C	FEPS WORKSHOP
17,50-18,35	ROOM A	"PLENARY LECTURE: The neurobiology of food intake and food addiction"
18,45	ROOM A	GENERAL ASSEMBLY

# September 10th

09,00-10,40	ROOM B	SYMPOSIUM: Molecular physiology of ageing and longevity
09,00-10,40	ROOM A	SYMPOSIUM:
		The cardiac sarcoplasmic reticulum in health and disease.
09,00-10,40	ROOM C	SYMPOSIUM: Energy Homeostasis
11,10-11,55	ROOM A	PLENARY LECTURE: Dendritic Spines and Distributed Circuits
12,00-13,00	CORRIDOR	POSTERS SESSION
14,00-15,40	ROOM B	SYMPOSIUM:
		Brain peripheral interaction in reproduction during life span
14,00-15,40	ROOM A	SYMPOSIUM: Endothelium in diseased states
14,00-15,40	ROOM C	WORKSHOP: Proteomics
16,00-17,40	ROOM B	SYMPOSIUM:
		Energy sensors, thermoregulation and brown adipose tissue
16,00-17,40	ROOM A	SYMPOSIUM: Pathophysiology of the cardiac electrical activity
16,00-17,40	ROOM C	WORKSHOP: Superesolution microscopy
17,40-18,40	ROOM B	ORAL PRESENTATIONS: Teaching in Physiology
17,40-18,40	ROOM A	ORAL PRESENTATIONS: Neurophysiology
17,40-18,40	ROOM C	ORAL PRESENTATIONS:
		Skeletal, cardiac, and smooth muscle physiology
20.30		HOTEL MONUMENTO SAN FRANCISCO. GALA DINNER

# September 11th

09,00-10,40	ROOM B	SYMPOSIUM: Calcium Activated Cl- Channels in Health and Disease
09,00-10,40	ROOM A	SYMPOSIUM: New insights in thyroid hormone action
09,00-10,40	ROOM C	SYMPOSIUM: Teaching physiology: Pros and cons of traditional vs. innovative methods and curricula
11,00-12,30	ROOM B	ORAL PRESENTATIONS: Cellular and molecular physiology: Ion channels
11,00-12,30	ROOM A	ORAL PRESENTATIONS: Endocrinology and metabolism
11,00-12,30	ROOM C	ORAL PRESENTATIONS: Pathophysiology and Integrative Physiology
14,00-15,40	ROOM B	SYMPOSIUM: Intracellular calcium signalling
14,00-15,40	ROOM A	SYMPOSIUM: Progress in Respiratory Physiology
14.00-15,40	ROOM C	WORKSHOP: Tumor suppressor genes in the biology of stem cells
16,00-17,00	ROOM A	PLENARY LECTURE: Spying the molecular workings of ion channels using fluorescence
17,00-17,30	ROOM A	Closing Session and Award Ceremony

#### **Pre-meeting symposium**

#### Sensory physiology, a window to the brain

**FEPS** 

September 8, 2012 (Supported by University of A Coruña, Spain)

#### 10.00 -12.00h • Room B (Aula Castelao)

#### Chairman:

*Kenneth Grieve* (The University of Manchester, UK) and **Antonio Canedo** (University of Santiago de Compostela, Spain)

#### **Speakers:**

**Ángel Acebes** (Instituto Cajal. Madrid, Spain)

"Olfactory perception: Synapse number as a key modulator"

Miguel Maravall (Instituto de Neurociencia de Alicante, Spain)

"Sensory response diversity and thalamocortical communication in the whisker system"

Juan de los Reyes Aguilar (Hospital Nacional de Parapléjicos. Toledo, Spain)

"Functional changes in the somatosensory system after a spinal cord injury"

*Manuel Malmierca* (Instituto de Neurociencias de Castilla y León. Salamanca, Spain)

"Functional mechanisms that mediate stimulus-specific adaptation in subcortical auditory nuclei"

#### 12.00-12.30 Coffee-break

#### 12.30h-14.00 • Room B (Aula Castelao)

#### Chairman:

*Kenneth Grieve* (The University of Manchester, UK) and **Antonio Canedo** (University of Santiago de Compostela, Spain)

#### **Speakers:**

Casto Rivadulla (University of A Coruña. Spain)

"To burst or not to burst: Stimulus detection in the visual thalamus"

Adam Sillito (UCL, London. UK)

"The iterative cortical refinement of information transfer through the visual thalamus in the primate"

Alex Thiele (Newcastle University. UK)

"Cholinergic and glutamatergic control of attention in V1: a double dissociation"

# Saturday, September 8th

09:30	Room D (Secretaria)
	Registration
13:40-14:00	Room A (Salon de Actos)
	Welcome and Introduction FEPS Young Investigator Symposium
14:00-14:30	Cellular sensors and mTOR Keynote Speaker 1: Daniela Cota, Université de Bordeaux, France
14:30-15:30	Young Investigator Award Competition
15:30-16:00	Coffee Break
16:00-16:30	Gastrointestinal signals Keynote Speaker 2: Matthias Tschöp, Technical University of Munich, Germany
16:30-17:30	Young Investigator Award Competition
17:40-18:10	FEPS Opening Ceremony
18.10-19.00	ATP-sensitive K channels, from molecule to disease FEPS Lecture Frances Ashcroft University Laboratory of Physiology, Oxford
19.30-22.00	Welcome Reception. Pazo de Fonseca

#### Sunday, September 9th

SYMPOSIUM

Updates on reproductive physiology.

Chairperson: Susan Wray; Karen Noble; Speakers: Karen Noble Abigail Fowden; Mats Brännström; Alexander Sirotkin

Room A (Salon de Actos)

SYMPOSIUM

Joint American Physiological Society and FEPS/ Spanish

**Physiological Society Symposium** 

Chairperson: Joey Granger; Jose Miguel Lopez-Novoa

Speakers: Curt Sigmund; Ananth Karumanchi; Jennifer Pollock;

Javier Salazar

10.40-11.00 Coffee Break

11.00-11.45 Room A (Salon de Actos)

Pathophysiology of Hypertension in Preeclampsia:

A lesson in Integrative Physiology

Joey P. Granger, Ph. D. Billy, S. Guyton, Distinguished Professor

Professor of Physiology and Medicine Director,

Center for Excellence in Cardiovascular-Renal Research

Dean, School of Graduate Studies in Health Sciences

12.00-13.00 Oral Presentations

Room B (Aula Castelao)

**Transport Physiology** 

155 — 17 ß-estradiol rapidly promotes KCNQ1 internalization and

post-endocytic trafficking in HT29 colonic epithelial cells.

R Rapetti-Mauss\*, V Urbach, B J Harvey

University of Mississippi Medical Center

282 — Epinephrine stimulation of calcium-activated chloride chan-

nels in airway epithelia. B. L. Blazer-Yost, S. Lewis and A. Banga

340 — Heterogeneous Nuclear Ribonucleoprotein A2/B1 is a Tissue-Specific Aldosterone Target Gene with Prominent Induction in the Rat

Distal Colon. I Hernandez-Diaz, T Giraldez, S Morales, G Hernandez, E

Salido, CM Canessa, D Alvarez de la Rosa\*

**FEPS** 

373 — Is the gasotransmitter hydrogen sulphide a novel regulator of Na+ transport across the pulmonary epithelium? M Althaus\*, K Urness, W Clauss, D Baines, M Fronius

#### Room A (Salon de Actos)

#### Cardiovascular, respiratory and autonomic control

- 32 Excretion of KLK9 in the urine is associated to sustained hypertension, aorta wall thickening and cardiac hypertrophy.

  Ana M. Blázquez-Medela\*, O García-Sánchez, Y Quiros, FJ López-Hernández, JM López-Novoa, C Martínez-Salgado
- 143 Carotid body function in animal models of obstructive sleep apnoea. A Obeso\*, S Gaytan, Olea E, Gonzalez-Martín, MC, Pasaro, MR, Gonzalez C.
- 232 Oxygen sensing in pulmonary vessels: from physiology to pathology. *F Perez-Vizcaino\**
- 290 Zinc supplementation leads to greater erythrocytosis and increased right ventricular hypertrophy (RVH) in rats exposed to hypoxia and related genes up-regulation. *P Siques\**, *K Arriaza*, *J Brito*, *K Flores*, *R San Martin*, *F Leon-Velarde*

#### Room C (Aula 3)

#### Microvascular and endothelial physyiology

- 418 Estradiol induces differential production of cell mediators in arterial and venous endothelial cells. C Hermenegildo\*, C Bueno-Betí, M de Lázaro-Franco, N Martínez-Gil, D Pérez-Cremades, E Monsalve, S Novella
- 40 Role of endoglin in wound repair in adult endoglin heterozygous mice. *J Lopez-Novoa\*, M Jerkic, M Prieto, M Letarte, F Perez Barriocanal*
- 23 Vascular function and nitric oxide bioavailability in young normotensive and borderline hypertensive female rats exposed to chronic crowding. I Bernatova\*, A Puzserova, I Dovinova, P Balis, P Slezak, N Sestakova, M Majzunova, V Ilovska, M Kluknavsky
- 369 Effect of Selective Serotonin Reuptake Inhibitors on Blood Viscosity Parameters. *O Arihan\*, N Dikmenoglu*

13.00-14.00 Poster Session

13.00-14.00 Lunch. Cafetería (School of Medicine)

14.00-15.40 Room B (Aula Castelao)

SYMPOSIUM

Targeting glucose homeostasis: novel players Chairperson: M Paula Macedo, Luis Medina

Speakers: F. Mallo, Young B Kim, MP Macedo, J Jones

Room A (Salon de Actos)

**SYMPOSIUM** 

**Advances in Aging and Mitochondria Research** 

Chairperson: Darío Acuña; Luis C López.

Speaker: Russel J Reiter; Erich Gnaiger; Paolo Bernardi; Germaine Escames

15.40-16.10 Coffee Break

16.10-17.50 **Room A (Salon de Actos)** 

**SYMPOSIUM** 

Aguaporins and Epithelial channels in health and diseases

Chairperson: Miriam Echevarría; Diego Alvarez. Speakers: Gema Frühbeck; Giovanna Valenti;

Graça Soveral; Gustavo Frindt

Room C (Aula 3)

**FEPS Workshop** 

In silico physiological models

Guillermo Alvarez de Toledo, Universidad de Sevilla

Theo Arts Maastricht University

"Modeling of the cardiovascular system".

Nic Smith, St Thomas' Hospital, Kings College London

"Modeling of cellular calcium induced excitation contraction"

17.50-18.35 **Room A (Salon de Actos)** 

The neurobiology of food intake and food addiction

Plenary lecture:

Suzanne Dickson, University of Gothenburg, Sweden

18:45 Room A (Salon de Actos)

Award of the Antonio Gallego's Prize to Prof. C. Belmonte.

General Assembly of the SECF

#### Monday, September 10th

09.00-10.40 Room B (Aula Castelao)

SYMPOSIUM

Molecular physiology of ageing and longevity

Chairperson: Jose Vina, Giovanni E. Mann

Speakers: David Sasson, Claudio Franceschi, Jose Vina, Giovanni E. Mann

Room A (Salon de Actos)

**SYMPOSIUM** 

The cardiac sarcoplasmic reticulum in health and disease

Chairperson: Katharine Dibb; David Eisner Speakers: Andrew Trafford; Gudrun Antoons;

Stephan Lehnart; Sian Harding

Room C (Aula 3)

**SYMPOSIUM** 

**Energy Homeostasis** 

Chairman: Rosa Señarís, SM Luckman

Speakers: K. Herzig, J.Hidalgo; SM. Luckman; R. Señarís

10.40-11.10 Coffee Break

**Dendritic Spines and Distributed Circuits** 

Plenary lecture:

Rafael Yuste, Columbia University New York

12.00-13.00 Poster Session

13.00-14.00 Lunch. Cafetería (School of Medicine)

14.00-15.40 *Room B (Aula Castelao)* 

SYMPOSIUM

Brain peripheral interaction in reproduction during life span

Chairperson: Manuel Tena-Sempere

Speakers: Matti Poutanen, Manuel Tena-Sempere,

Caroline Ancel

Room A (Salon de Actos)

**SYMPOSIUM** 

**Endothelium in diseased states** 

Chairperson: Iveta Bernatova; Silvia Arribas

Speakers: Ramaroson Andriantsitohaina; Nicole Lüneburg;

Julio Brito; Josef Zicha

#### Room C (Aula 3)

#### **Workshop Proteomics**

Manuel Mayr

King's College, University of London

15.40-16.00 Coffee Break

#### 16.00-17.40 *Room B (Aula Castelao)*

#### SYMPOSIUM

#### Energy sensors, thermoregulation and brown adipose tissue.

Chairperson: Rubén Nogueiras; B. Cannon

Speakers: Barbara Cannon; Antonio Vidal-Puig; David Carling;

S. Enerback

#### Room A (Salon de Actos)

#### **SYMPOSIUM**

#### Pathophysiology of the cardiac electrical activity

Chairperson: José Jalife, Antonio Alberola.

Speakers: Francisco Chorro; Héctor Valdivia; Luis Such; José Jalife

#### Room C (Aula 3)

#### Workshop Superesolution microscopy

Silvio Rizzoli

European Neuroscience Institute, Göttingen

#### 17.40-18.40 Oral Presentations

#### Room B (Aula Castelao)

#### Teaching in Physiology

28 — Teaching physiology in a traditional curriculum: pros. *T Ivanics\**, *L Kiss*.

65 — Proposal of generation, editing and distribution of multimedia learning tools as a resource for teaching and study of the Pathophysiology in the Degree of Physiotherapy. L Such-Miquel\*, J Benitez, Y Alakhdar, F Miguel, J Sanchez, L Villaplana, J Casaña

268 — Single neuron and short neuronal network simulation: NeuroD, El. T. Giráldez, D Álvarez de la Rosa, N Rodríguez

428 — Integrated Technologies in a Student-Centered Medical Classroom for Teaching Physiology. L Fuentes-Broto\*, M Castro López, J Miana-Mena, F Soteras, I Pinilla

#### Room A (Salon de Actos)

#### Neurophysiology

- 26 A gene expression fingerprint of C. elegans embryonic motor neurons. ANYE, CHI JUIDE
- 38 Role of astrocytic glutamatergic signaling in Abeta oligomers toxicity. S Sanz-Blasco\*, G Dziewczapolski, DG Stoufer, B Lee, H Wolosker, SF Heinemann, LH Parsons, JC Piña Crespo, SA Lipton
- 99 Caffeine-releasable calcium content of large voltage-clamped snail neuronesR. *C. Thomas\**
- 305 Functional mapping of multisynaptic state functions during the acquisition and storage of associative learning tasks. *R Sánchez-Campusano\*, JM Delgado-García, A Gruart*

#### Room C (Aula 3)

#### Skeletal, cardiac, and smooth muscle physiology

- 138 Role of calcium channel remodeling in the reversal phenotypic switch of human coronary artery smooth muscle cells, and the effects of NSAIDs. *E Muñoz-Conejero\**, *D Sobradillo-Luengo*, *M Hernández-Morales*, *A Rocher*, *L Núñez*, *C Villalobos*
- 339 FKBP12.6 activates the skeletal ryanodine receptor and antagonises the inhibitory effects of FKBP 12E Venturi\*. *E Galfre, SJ Pitt, R Sitsapesan*
- 224 Electrophysiological effects of TMEM16A modulators and niflumic acid in rabbit pulmonary artery smooth muscle cells. H.A.T Pritchard\*, J Shi, A.P Albert, I.A Greenwood
- 341 Urotensin-II Signaling Mechanisms of Smooth Muscle Cell Proliferation: Role of Orai1, TRPC1 and Stim1M. *Rodriguez-Moyano, I Diaz, N Dionisio, J Rosado, A Ordoñez, T Smani\**

20.30-23.30 Gala Dinner (Hotel Monumento San Francisco)

#### Tuesday, September 11th

#### 

#### Calcium Activated Cl- Channels in Health and Disease

Chairperson: Bonnie Blazer-Yost Deborah Baines Speakers: Alan Verkman, Anna Menini, Jain Greenwood,

Bonnie Blazer-Yost

#### Room A (Salon de Actos)

#### **SYMPOSIUM**

#### New insights in thyroid hormone action

Chairperson: J Nedergaard; M. López

Speakers: Jan Nedergaard; Krish Chatterjee ; Ana Aranda; Eric Fliers

#### Room C (Aula 3)

#### SYMPOSIUM

#### Teaching physiology: Pros and cons of traditional vs. innovative

methods and curricula

Chairperson: C. Gonzalez. G van der Vusse

Speakers: Tamas Ivanics; Suncana Kukolja Taradi;

Victor Arce; Beatriz Gal

#### 10.40-11.10 Coffee Break

#### 11.00-12.30 Oral Presentations

#### Room B (Aula Castelao)

#### Cellular and molecular physiology: Ion channels

177 — Novel regulation of Kv1.3 channel inactivation by intracellular Ca2+. J Martinez-Pinna\*, C McCloskey, V Fernandez-Martinez, J Wright, I Forsythe, L Kaczmarek, A Morales, M Mahaut-Smith

191 — Role of the voltage-dependent K+ channel Kv1.5 in B lymphocytes. A Vallejo-Gracia\*, J Bielanska, C Soler, J Manils, J Hernández-Losa, J Castellví, M Ruiz-Marcellan, S Ramón y Cajal, J C. Ferreres, N Comes, A Felipe

322 — TPC1 is a Ca2+-permeable cation channel with ion-conducting and gating properties distinct from those of TPC2S. *J Pitt\**, *A Lam, K Rietdorf, A Galione, R Sitsapesan* 

379 — RVD regulation in mouse oocyte by amino acids transportM Pogorelova\*

**FEPS** 

474 — alpha and delta ENaC constitute mechanosensitive ion channels with different functional properties. F Knoepp, M Bednarz, A Gorenflo, W Clauss, M Fronius\*

477 — Regulation of the voltage gated K+ Kv7.2/3 channels by the neuronal serum-and glucocorticoids-regulated kinase 1.1. *P Miranda, A Cadaveira-Mosqueira, A Villarroel, JA Lamas, D Alvarez de la Rosa, T Giraldez\** 

#### Room A (Salon de Actos)

#### **Endocrinology and metabolism**

- 113 The inhibition of TNF-alpha-induced leucocyte apoptosis by melatonin involves membrane MT1/2 receptors. *J Espino\*, AB Rodriguez, JA Pariente*
- 189 The pancreatic beta-cell is regulated by the clock gene Rev-erbalpha: modulation by leptin and obesity. *I Quesada\**, *L Marroquí*, *T Batista*, *E Caballero-Garrido*, *E Carneiro*, *A Boschero*, *Á Nadal*, *E Vieira*
- 216 Dopamine D2 receptors regulate leptin in adipocytes. S Cuevas \*, Y Yang, Y Zhang, I Armando, P Jose
- 326 Effects of Day and Night Time Food Restriction on Metabolic and Hormonal Parameters in Adult Golden Hamsters (Mesocricetus auratus). *B Gündüz\*, N Hasanoglu, Z Günes*
- 491 NESFATIN-1 AMELIORATES INDOMETHACIN-INDUCED GASTRIC DAMAGE IN RATS VIA ITS ANTIOXIDANT EFFECTS. *M Kolgazi\*, C Cantali, R Ozcelik, R Deniz, ZN Ozdemir Kumral, M Yuksel, S Sirvanci, B Yegen*
- 167 Maternal undernutrition in rats induces early heart hypertrophy in young male and female offspring. SM Arribas\*, AL López de Pablo, P Prachaney, L Condezo-Hoyos, P Rodriguez-Rodríguez, JF Regadera, M R López, MC González

#### Room C (Aula 3)

#### Pathophysiology and Integrative Physiology

- 75 Effect of Platelet-Activating Factor Receptor Antagonist (PAFRA) on Endotoxin-induced Disseminated Intravascular Coagulation (DIC) in RatsR. *COL\**, *E KESKIN*
- 135 CoQ deficiency: molecular and pathophysiological consequences. M Luna-Sánchez\*, L García Corzo, C Doerrier, A López, J Bullejos, G Escames, D Acuña-Castroviejo, LC López

262 — Acute and chronic effects of S. Cerevisiae and S. Boulardii on gastrointestinal organs for inflammatory parameters. *G Memi\**, *M Deniz*, *A Uludag*, *D Deniz*, *N Imeryüz* 

206 — Study of the effect of IKATP blockade with glibenclamide on physiological heterogeneity of the ventricular myocardium. An experimental research. I del-Canto, N Gallego, C Soler, L Brines, M Koninckx, L Such-Miquel, G Parra, J Guerrero, J Barber, FJ Chorro, A Alberola\*, L Such

405 — Age- and sex-dependent differences in the hypertension and renal hemodynamic changes in rats with an altered nephrogenesis. Role of angiotensin II. *V Reverte, A Tapia, I Gimenez, J Moreno, J Gambini, M Llinás, FJ Salazar\** 

429 — The Protective Effects of Chitosan on Liver Damage in Experimental Acute Extrahepatic Cholestasis. *M DUDEA\**, *S CLICHICI*, *D OLTEANU*, *A NAGY*, *S DUDEA*, *M CUCOS*, *R MOLDOVAN*, *A MURE-SAN* 

12.30-14.00 Lunch. Cafetería (School of Medicine)

#### 14.00-15.40 Room B (Aula Castelao)

#### **SYMPOSIUM**

#### Intracellular calcium signalling

Chairperson: Ole H. Petersen; Gines M. Salido Speakers: Ole H. Petersen; Anant Parekh; Javier García-Sancho; Fabiana Perocchi

#### Room A (Salon de Actos)

#### SYMPOSIUM

#### **Progress in Respiratory Physiology**

Chairperson: Prem Kumar; Mª Rosario Pásaro

Speakers: Paul Kemp; Silvia Conde; Ana Obeso; Francisco Perez-Vizcaino

#### Room C (Aula 3)

#### Workshop

"Tumor suppressor genes in the biology of stem cells"
Manuel Collado, Instituto de Investigaciones Sanitarias (IDIS), Spain

15.40-16.00 Coffee Break

16.00-17.00 Room A (Salon de Actos)

Spying the molecular workings of ion channels using fluorescence

Juan Negrin Lecture

Ramon Latorre

Director del Centro Interdisciplinario de Neurociencia de Valparaíso

Profesor Adjunto, University of California, Los Angeles

17.00-17.30 Closing Session and Award Ceremony

# **Posters**



#### YOUNG-POSTERS

#### **EXHIBITION PANELS**

1 – Deleterious effects of CaMKII delta; upregulation in the ischemic/reperfused hearts: a role of oxidative stress and Ca2+-handling disorders promoting contractile dysfunction, arrhythmias and cell death ADAMEOVA ADRIANA

Cardiovascular, respiratory and autonomic control • 110

2 – Cardiovascular and respiratory modulation of heat rate and EEG in full term neonates at risk during sleep GONZALEZ JULIAN

Cardiovascular, respiratory and autonomic control • 235

3 – Lidocaine down-regulates inflammatory response secondary to one lung ventilation

Rancan Lisa

Cardiovascular, respiratory and autonomic control • 237

Biological activity of Borago officinalis on isolated rat smooth muscle and antioxidant capacity
 Marta Sofía Valero Gracia

Cardiovascular, respiratory and autonomic control • 317

5 – The dynamics of skeletal muscle oxygen extraction during exercise at simulated altitude JUAN GABRIEL RÍOS KRISTJÁNSSON Cardiovascular, respiratory and autonomic control • 448

6 – CoQ Biosynthesis and Genotype-Phenotype Relationships in New Mouse Models of Primary CoQ Deficiency
 LUIS CARLOS LÓPEZ GARCÍA

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 15

7 – Interleukin-10 reverses the oxidative damage induced by serotonin and TNF-alpha in human enterocyte-like Caco-2 cells

Latorre Eva

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 52

8 – The effect of melatonin on NOS and SOD upregulations in the model of metabolic syndrome.

Parohova Jana

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression  $\bullet$  58

9 – K-Ras isoform modulates extracellular matrix synthesis through Erk and Akt signalling

Isabel Fuentes-Calvo

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression ullet 129

10 – K-RAS ISOFORM REGULATES FIBROBLASTS PROLIFERATION AND CELL MOTILITY TROUGH ERK AND AKT ACTIVATION

MUÑOZ FÉLIX JOSÉ MANUEL

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 159

11 – THE EFFECTS OF NEW ALIBERNET RED WINE EXTRACT ON NITRIC OXIDE AND SUPEROXID DISMUTASE ACTI-VITIES IN SPONTANEOUSLY HYPERTENSIVE RATS.

Kovácsová Mária

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 173

12 - Different NO and ROS generation in the models of metabolic syndrome

Vrankova Stanislava

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 193

13 – Changes in ROS/NO balance in left ventricle of young Wistar rat heart after treatment with NOS inhibitors Majzúnová Miroslava Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 203

14 – Possible protective effect of Xanthohumol against liver damage secondary to aging Cuesta Sancho Sara

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 242

15 – Ebselen induces changes in cytosolic free Ca2+ concentration, alters mitochondrial physiology and reduces viability of rat hippocampal astrocytes in culture.

Patricia Santofimia-Castaño

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 269

16 - TRPC6 participates in the regulation of basal cytoplasmic calcium concentration in murine resting platelets.

Alejandro Berna-Erro

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 299

17 - The oncogenic function of TRIM59: a cellular study.

Atenea Soto Simón

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 329

18 – The interplay between L-type Ca2+ and store operated Ca2+ channels and their regulation of vascular tone JAVIER ÁVILA

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 351

19 – L-endoglin and S-endoglin differentially modulate TGF-beta induced fibrotic responses. Role of p38 and ERK1/2 MAPK

Elena Núñez

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression ullet 355

20 – STUDY OF THE TUMOR SUPRESSOR ACTIVITY OF p107 AND p130 IN MOUSE PITUITARY Lorena Salgueiro Ferreño

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 400

21 — The amyloid peptide reduces the phosphorylation of a voltage-dependent anion-channel involved in apoptosis

Cecilia Fernandez

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 422

22 – ANTI-ANGIOGENIC ACTIVITY OF MELATONIN TREATMENT IN AN IN VITRO MODEL OF HUMAN HEPATOCE-LLULAR CARCINOMA.

Sara Carbajo

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 436

23 – Hypoxic-induction of T-type calcium channels involves HIF-1a and RhoA/ROCK signaling in neonatal rat cardiac myocytes

Patricia González Rodríguez

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 456

24 – Gravity stress-induced modulation of somatostatin effects on ileal activities in the rat: Sex differences MARI KIMOTO

#### **EXHIBITION PANELS**

#### YOUNG-POSTERS

25 – Anti-inflammatory effects of melatonin in caerulein-induced acute pancreatitis

Carrasco Cristina

Endocrinology, Neuroimmunoendocrinology and Metabolism • 56

26 - Daily changes and regulation of melatonin receptors in rat liver

CARMEN JESICA VENEGAS MALDONADO

Endocrinology, Neuroimmunoendocrinology and Metabolism • 119

27 – PROTEIN MALNUTRION IN MICE LEADS TO FUNCTIONAL AND STRUCTURAL ADAPTATIONS IN THE PANCREA-TIC ALPHA-CELLS AND ALTERATIONS IN GLUCAGON SIGNALLING.

MERINO BEATRIZ

Endocrinology, Neuroimmunoendocrinology and Metabolism • 184

28 - Leptin and Fasting Regulate Rat Gastric Glucose-Regulated Protein 58

JORGE EDUARDO CAMINOS PINZON

Endocrinology, Neuroimmunoendocrinology and Metabolism • 208

29 — Antidiabetic effects of a mineral mixture from wild plants and bovine lactoferrin in streptozotocin/nicotina-mide-induced type 2 diabetic mice

TAKASE KIYOMI

Endocrinology, Neuroimmunoendocrinology and Metabolism • 214

30 – Interleukin-6 Regulates the Expression of Hypothalamic Neuropeptides Involved in Body Weight in a Gender and Age-Dependent Way

MARÍA BELÉN NAVÍA RUIZ

Endocrinology, Neuroimmunoendocrinology and Metabolism • 223

31 - Functional and structural pancreatic β-cell adaptations during diet-induced obesity

GONZÁLEZ ALEJANDRO

Endocrinology , Neuroimmunoendocrinology and Metabolism ullet 225

32 – Systemic renin concentrations during estrous cycle in Spanish Purebred mares

KATY SATUÉ

Endocrinology, Neuroimmunoendocrinology and Metabolism • 280

33 – Effect of non-alcoholic beer on sleep overnight in a population under stress

Lourdes Franco

Endocrinology, Neuroimmunoendocrinology and Metabolism • 283

34 – EFFECTS OF GLUCAGON LIKE PEPTIDE -2 ON INTESTINAL PERMEABILITY AND GASTROINTESTINAL INFLAM-MATION IN CHRONIC INFLAMMATORY ARTHRITIS MODELS

Ozan Kocakaya

Endocrinology , Neuroimmunoendocrinology and Metabolism • 301

35 – A metabolic fatty acid sensing mechanism is present in central and peripheral tissues of rainbow trout MARTA LIBRÁN PÉREZ

Endocrinology, Neuroimmunoendocrinology and Metabolism • 304

36 - Hypothalamic Kappa Opioid Receptor Modulates the Orexigenic Effect of Ghrelin

Amparo Romero-Picó

Endocrinology, Neuroimmunoendocrinology and Metabolism • 319

37 – INCREASED BRAIN VOLUME AND BRAIN ANATOMICAL DIFFERENCES RELATED TO MOTOR SYSTEM IN PRE-MATURELY AGING MICE

GARRIDO ANTONIO

Endocrinology, Neuroimmunoendocrinology and Metabolism • 363

38 - STUDY OF THE ACTIONS OF AIP MUTANTS IN SOMATOTROPHS CELLS

Rodriguez García-Rendueles Angela

#### YOUNG-POSTERS

#### **EXHIBITION PANELS**

39 – Vagal –nitric oxide axis regulates postprandial glucose excursions.

SOUSA LIMA INES

Endocrinology, Neuroimmunoendocrinology and Metabolism • 413

40 – NUTRIENT COMPOSITION AFFECTS POSTPRANDIAL GLUCOSE DISPOSAL, WHICH RELIES ON INSULIN ACTION RATHER THAN INSULIN SECRETION

Ricardo A. Afonso

Endocrinology, Neuroimmunoendocrinology and Metabolism • 451

41 - LIVER IRON METABOLISM IN DIFFERENT LEVELS OF OBESITY IN FEMALE RATS

MARTA GARRIDO NOVELLE

Endocrinology, Neuroimmunoendocrinology and Metabolism • 472

42 – Innovative Therapies Of Pain In Rats With Experimentally Induced Arthritis

CHIS IRINA

Human physiology and pathophysiology • 42

43 - Altered neuroendocrine/stress status in fibromyalgia syndrome

Bote María Elena

Human physiology and pathophysiology • 60

44 – ALK1 HETEROZYGOUS DISRUPTION INCREASES RENAL FIBROSIS FOLLOWING URETERAL OBSTRUCTION DUE TO A HIGHER SMAD3 PHOSPHORYLATION

MUÑOZ FÉLIX JOSÉ MANUEL

Human physiology and pathophysiology • 105

45 – BENEFICIAL EFFECTS OF TOPIC MELATONIN ADMINISTRATION AGAINST MITOCHONDRIAL DAMAGE DURING RADIOTHERAPY-INDUCED MUCOSITIS

Francisco Ortiz Francisco Jose

Human physiology and pathophysiology • 111

46 - Melatonin protects mitochondrial impairment in septic mice

CAROLINA ANNELIESE DOERRIER VELASCO

Human physiology and pathophysiology • 134

47 – Melatonin modulation of the NF-kappaB signaling pathway in sepsis.

JOSÉ ANTONIO GARCÍA SANTOS

Human physiology and pathophysiology • 150

48 - Sputum cell index in early hospitalised ICU patients

NIFLI ARTEMISSIA-PHOEBE

Human physiology and pathophysiology ● 227

49 - Identification of plasma biomarkers of frailty in humans

Marta Inglés

Human physiology and pathophysiology • 309

50 – A reproducible model of traumatic brain injury in rats: The roles of phosphorylated JNK-1/2

TAHA KELESTEMUR

Human physiology and pathophysiology • 457

51 - ACUTE EXERCISE EFFECTS ON EXPERIMENTALLY INDUCED POSTPRANDIAL DYSMETABOLISM

NATALIA GIURGEA

Human physiology and pathophysiology • 458

52 - Stress-induced changes in nociceptive responses in the rat cingulate cortex

KAZUO TODA

Integrative Physiology • 24

53 – Fos-like immunoreactivity in the rat hypothalamus after progressive training Paula Núñez

aula Nullez

Integrative Physiology • 59

#### YOUNG-POSTERS

#### **EXHIBITION PANELS**

54 – Effect of quercetin on the short and long-term oxidative stress induced by whole-body X-irradiation of Wistar rats

**RAQUEL MARINA** 

Integrative Physiology • 152

55 - ALLOPURINOL PREVENTS OXIDATIVE STRESS IN THE LIVER OF OLD PREMATURELY AGING MICE

vida Mª Carmen

Integrative Physiology • 420

56 – The effects of Calluna vulgaris on the DNA photolesions and inflammation induced by multiple doses of LIVB

ELENA DIANA OLTEANU

Integrative Physiology • 464

57 – EFFECT OF SLOVAK RED WINE CONCENTRATE ON ENDOTHELIAL FUNCTION IN YOUNG WISTAR-KYOTO AND SPONTANEOUSLY HYPERTENSIVE RATS

Balis Peter

Microvascular and endothelial physiology • 125

58 - THE EFFECT OF AGEING ON ENDOTHELIAL FUNCTION AND NITRIC OXIDE BIOAVAILABILITY IN RATS

Puzserova Angelika

Microvascular and endothelial physiology • 169

59 – Omega-3 fatty acids diet affect Cx40 expression in rat aorta during inflammation.

Frimmel Karel

Microvascular and endothelial physiology • 219

 60 – Identification of a novel enzyme degrading the cardiovascular risk marker symmetric dimethylarginine(SDMA)

Bernges Isabel

Microvascular and endothelial physiology • 230

61 – Mediation of NMDA receptors and nitric oxide on striatal dopamine release evoked by paraoxon. An in vivo microdialysis study

DANIEL FAJARDO BLANCO

Neurophysiology. Cellular and integrative, containing the following aspects: Cellular neurophysiology; sensory functions ● 36

62 – Effects of administration of isatin (an endogenous MAO inhibitor) and tropolone (a COMT inhibitor) on in vivo dopamine release in rat striatum

LORENZO ANTONIO JUSTO COUSIÑO

Neurophysiology. Cellular and integrative, containing the following aspects:

Cellular neurophysiology; sensory functions • 39

63 - Glucosamine-induced suppression of tooth pulpal nociceptive responses in the rat

Kaida Kei

Neurophysiology. Cellular and integrative, containing the following aspects:

Cellular neurophysiology; sensory functions • 63

64 – Melatonin, nitric oxide synthases and Parkinson's disease

Ana Lopez Ramirez

Neurophysiology. Cellular and integrative, containing the following aspects:

Cellular neurophysiology; sensory functions • 81

65 – ACUTE EFFECTS OF IMIPRAMINE ON THE REPTILIAN EEG: LOOKING INTO DE EVOLUTION OF REM SLEEP.
Lidia Cabeza

Neurophysiology. Cellular and integrative, containing the following aspects:

Cellular neurophysiology; sensory functions • 466

66 - Expression and regulation of chemerin during rat pregnancy.

Garces Gutierrez Maria Fernanda

Placental and perinatal physiology • 207

67 – Combination of exogenous surfactant and anti-inflammatory agent in the treatment of experimental meconium aspiration syndrome

PAVOL MIKOLKA

Placental and perinatal physiology • 220

68 - Time dependence of oxidative damage during meconium aspiration syndrome - a pilot study

JANA KOPINCOVA

Placental and perinatal physiology • 233

69 – Activation of intermediate conductance calcium-activated potassium channels (IKCa) inhibits human chorionic gonadotrophin (hCG) secretion from human placental villous tissue

PAULA DIAZ

Placental and perinatal physiology • 384

70 – Effects of acute and chronic exercise on cell and mitochondrial membrane fluidity in skeletal and cardiac muscles

EDUARDO PIEDRAFITA

Skeletal, cardiac, and smooth muscle physiology • 95

71 - Effects of extracts obtained from wine by-products on isolated rat duodenum

Marta Sofía Valero Gracia

Skeletal, cardiac, and smooth muscle physiology • 316

72 - A method to induce skeletal muscle damage in trained rats

JUAN GABRIEL RÍOS KRISTJÁNSSON

Skeletal, cardiac, and smooth muscle physiology • 453

73 – EFFECTS OF MELATONIN ON NEURAL STEM CELL VIABILITY AND DIFFERENTIATION: ROLE OF THE MITO-CHONDRIA

**Bullejos Javier** 

Stem cells • 91

74 – Inhibition of Jun N-terminal kinase prevents the antiapoptotic effect of growth Hormone (GH) treatment in cultured mouse neural stem cells (NSC).

Pablo Devesa

Stem cells • 452

75 - Using Active Learning Techniques in Human Physiology

César Berzosa

Teaching in physiology • 265

76 - Design of an anti-smoking campaign for primary health care centres as an evaluation tool in physiology for the nursing degree.

César Berzosa

Teaching in physiology • 343

#### **EXHIBITION PANELS**

#### **POSTERS-SENIORS**

77 – Hibiscus sabdariffa extract improved insulin resistance, reduced blood pressure and decreased aortic stiffness in insulin resistance rats induced by a high fructose diet

PARICHAT PRACHANEY

Cardiovascular, respiratory and autonomic control • 68

78 – Antihypertensive and antihyperglycemic effects of gallic acid in insulin resistant rats induced by a high fructose diet

Pakdeechote Poungrat

Cardiovascular, respiratory and autonomic control • 69

79 - Purinergic mechanisms in breathing control

Conde Silvia

Cardiovascular, respiratory and autonomic control • 71

80 – Relationships between intermittent hypoxia and high fat diet to cause oxidative, metabolic, and inflammation alterations.

YUBERO BENITO SARA

Cardiovascular, respiratory and autonomic control • 84

**81** — Carotid body related functions in rats subjected to intermittent hypoxia, fed with high fat diet and both treatments applied simultaneously.

Gallego Martín Teresa

Cardiovascular, respiratory and autonomic control • 86

82 – The effects of Intermittent hypoxia on redox status, NFkB activation, and plasma lipid levels is dependent on the lowest oxygen saturation

Agapito Serrano Mª Teresa

Cardiovascular, respiratory and autonomic control • 90

83 – COMPUTER-BASED ANALYSIS OF THE REACTIVITY OF PERFUSED ARTERIAL SEGMENTS
KRISTOVA Viera

Cardiovascular, respiratory and autonomic control • 126

84 – Vascular postganglionic sympathetic noradrenaline release is influenced by endothelial nitric oxide SOUSA JOANA BEATRIZ

Cardiovascular, respiratory and autonomic control • 153

 85 – Contractile properties of conduit arteries in different models of experimental hypertension ZEMANCÍKOVÁ ANNA

Cardiovascular, respiratory and autonomic control • 171

86 – Effect of high-fructose intake on cardiovascular function in normotensive and hypertensive rats
Török Jozef

Cardiovascular, respiratory and autonomic control • 178

87 – Effect of antioxidant quercetin on cardiovascular function in young rats with developing spontaneous hypertension

Tabacekova Marcela

Cardiovascular, respiratory and autonomic control • 179

88 - PREDICTOR FACTORS OF CARDIOVASCULAR MORBILITY IN OBSTRUCTIVE SLEEP APNEA SYNDROME Gudiel Arriaza Paola

Cardiovascular, respiratory and autonomic control • 259

89 — Relationship of neopterin to soluble vascular cell adhesion molecule-1 and changes in myeloperoxidase concentration and insulin sensitivity in unstable angina

Peteris Tretiakovs

Cardiovascular, respiratory and autonomic control • 276

#### **EXHIBITION PANELS**

90 – Circadian rhythm of the electrical stability of rat myocardium at disorders of pulmonary ventilation.

Svorc Pavol

Cardiovascular, respiratory and autonomic control • 313

91 - Chronobiological aspects of ketamine/xylazine anesthesia impact on the cardiovascular system, the acid-base balance, ions and autonomic nervous system in Wistar rats

Pavol Svorc Jr.

Cardiovascular, respiratory and autonomic control • 323

92 - THE ROLE OF TRANSFORMING GROWTH FACTOR BETA RECPTOR TYPE I, ALK1, IN ANGIOGENESIS PRO-CESSES

Lucía Pérez Roque

Cardiovascular, respiratory and autonomic control • 358

93 - Vasoconstrictor and pressor effects of des-aspartate-angiotensin I in rat

Rosemary Wangensteen

Cardiovascular, respiratory and autonomic control • 360

94 – Positive inotropic effect of atrial natriuretic peptide on isolated perfused rat heart which was exposed the exercise.

Selma Arzu Vardar

Cardiovascular, respiratory and autonomic control • 365

95 – Activation of hepatocyte growth factor pathway by sustained beta-adrenergic stimulation is accompanied by increased levels of stem cell marker MDR-1 in rat left ventricle

LENKA PIVACKOVA

Cardiovascular, respiratory and autonomic control • 398

96 - NONINVASIVE ASSESSMENT OF THE PULMONARY VASCULAR RESISTANCE

Flavia Catalina Corciova

Cardiovascular, respiratory and autonomic control • 450

97 - Oxidative stress and aging in duodenal nervous plexus

Laura López Pingarrón

Cardiovascular, respiratory and autonomic control • 471

98 – Impact of long term STZ diabetes on sensory innervation in the rat heart

ELISKA MISTROVA

Cardiovascular, respiratory and autonomic control • 488

99 — Orai1 is not permeable to manganese in the presence of extracellular calcium ROSADO JUAN A.

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 37

100 – Investigation of Acidosis Defense Mechanisms in Preimplantation Stages Embryos in Mouse

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 48

101 – Changes of Activity of Anion Exchanger Against to Intracellular Alkalosis During Preimplantation Embryonic Stages in Mouse

Dagilgan Senay

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 49

102 - TRPA1 plays a functional role in the megakaryoblastic cell line MEG01

Salido Ginés M.

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression ● 55

103 – TLR3 and TLR4 activation and pro-inflammatory factors induce oxidative damage in enterocyte-like Caco-2 cells

Alcalde Ana Isabel

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 85

104 – Apoptotic effects triggered by grape seed extract on human promyelocytic leukaemia HL-60 cells MARÍA GARRIDO

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 115

105 – Role of AQP1 in the Carotid Body cell proliferation associated to hypoxia

GALAN COBO ANA

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 118

106 – Electrophysiological study of store-operated calcium channels in vascular smooth muscle and colonic cells by planar patch-clamp

Hernández-Morales Miriam

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 136

107 – Differences in cell proliferation and store-operated calcium entry between normal colonocytes and colorectal adenoma cells

DIEGO SOBRADILLO

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression ullet 139

108 – ESTABLISHMENT OF A HIGHLY SPECIFIC CULTURE MEDIA FOR HUMAN THYROID CELL CULTURE Bravo López Susana Belén

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 161

109 – Mapping the interactions between the voltage-dependent Kv1.3 channel and caveolins Antonio Felipe

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 185

110 – Heteromeric assembly of voltage-dependent Kv7.1/Kv7.5 channels

Anna Oliveras

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 186

111 – Novel aspects of the molecular mechanisms controlling exo-and endocytosis in mast cells

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 187

112 - Myosin II is required for fission pore closure during endocytosis

ACOSTA LÓPEZ JORGE

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 194

113 — Cardiac connexin-43 is implicated in anti-arrhythmic mechanisms of cardio-protective compounds: atorvastatin, omega-3 fatty acids and red palm oil.

Radosinska Jana

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 217

114 – N-acetyl-serotonin prevents membrane rigidity of hepatocytes due to oxidative stress REYES GONZALES MARCOS CESAR

#### **EXHIBITION PANELS**

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 239

115 – Cellular membrane fluidity levels and lipid peroxidation during experimental pancreas transplantation García José Joaquín

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 243

116 – Effect of tryptoline in stabilizing membranes against oxidative stress

REYES GONZALES MARCOS CESAR

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 246

117 - RET-INDUCED APOPTOSIS IN CULTURE FROM HUMAN PITUITARY TUMORS

Díaz-Rodríguez Esther

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 248

118 – Antitumour properties of polyphenolic cork extractivesin human leukaemia cell line HL-60 Bejarano Ignacio

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 272

119 – TNFalpha;-induced apoptosis is dependent of intracellular ROS generation in U937 cells González-Flores David

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 295

120 – Diethylamine blocks muscle-type nicotinic acetylcholine receptors by mimicking the action of charged lidocaine

Alberola-Die Armando

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 345

121 – 17beta-Estradiol inhibits the activation of NFkB induced by amyloid-beta peptide in SN56 and HT22 cell lines

Morales Araceli

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 346

122 – Effect on longevity genes by red wine consumption in nuns

Juan Gambini

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression ● 353

123 - ONCOGENIC RAS-INDUCED TUMORIGENESIS IS IL6 INDEPENDENT

IRENE GOLÁN CANCELA

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 361

124 - TMEFF2 is a target gene of TGF-β in glioma cells

Fernando (Chairman) Dominguez

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 364

125 – MEMBRANE ENRICHMENT WITH SPECIFIC FATTY ACIDS (OLEIC ACID OR W3 PUFA) MODIFIES THE INFLAMMATORY RESPONSE IN CERULEIN-STIMULATED AR42J CELLS

María Belén López Millán

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 386

# Mobean **POSTERS-SENIORS**

126 - Role of microRNAs in urocortin-induced cardioprotection during cardiac reperfusion Ignacio Díaz Carrasco Cellular and molecular physiology: Ion channels, signalling pathways and regulation of

gene expression • 389

127 - IMPAIRMENT OF CALCIUM HOMEOSTASIS AND SECRETORY RESPONSE IN AR42J CELLS AFTER CERULEIN TREATMENT. INFLUENCE OF CHANGES IN MEMBRANE FATTY ACID PROFILE.

María Belén López Millán

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 392

128 - MODIFICATION OF MEMBRANE FATTY ACID COMPOSITION AFFECTS CELL DEATH AND ANTIOXIDANT DEFENCES IN CERULEIN-STIMULATED AR42J CELLS.

María Belén López Millán

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 394

129 - Defining hypoxic microenvironments by non-invasive functional optical imaging PABLO IGLESIAS VAZQUEZ

> Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 414

130 - LEUKIN experiment on board the International Space Station demonstrated that microgravity inhibits the Rel/NFkB Pathway and Transcription of Immediate Early Genes in T cell activation PROTO GAVINO PIPPIA

> Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 438

131 - mTOR AND AGE-RELATED CHANGES OF Ca2+ SIGNALS IN COLON SMOOTH MUSCLE CELLS Cristina Camello-Almaraz

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 441

132 - Heat-shock protein 90 acetylation regulates mineralocorticoid receptor subcellular localization and ligand-induced nuclear translocation

RUBÉN JIMÉNEZ-CANINO

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 479

133 - Grape seeds (Vitis Vinifera L.) extract modulates NF-kB/ERK 1/2 signaling pathway and apoptosis in SKH-1 hairless mice skin exposed to UVB

Gabriela Adriana Filip

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 484

134 - Epithelial sodium channel (ENaC) plasma membrane turnover is modified in channels containing δ subunits

Rafaela Gonzalez Montelongo

Cellular and molecular physiology: Ion channels, signalling pathways and regulation of gene expression • 485

135 - Effect of winter acclimatization on AMPK expression in hypothalamus, WAT, and BAT of Siberian hamster KINNUNEN SANNI

Endocrinology, Neuroimmunoendocrinology and Metabolism • 35

136 - 17beta-estradiol and genistein improve some brain aspects related to glucose homeostasis impaired by aging in female rats

Morán Suárez Javier

137 – HYPOTHALAMIC MTOR SIGNALING MEDIATES THE OREXIGENIC ACTION OF GHRELIN Diana Fernández Mallo

Endocrinology, Neuroimmunoendocrinology and Metabolism • 158

138 – Evaluation of rat brain glucose consumption by means of semi-automatic positron emission tomography image analysis.

del Canto Irene

Endocrinology, Neuroimmunoendocrinology and Metabolism • 190

139 – THE ANOREXIGENIC EFFECT OF SEROTONIN (5-HT) IS NOT MEDIATED BY THE 5-HT1B-LIKE RECEPTOR IN RAINBOW TROUT (Oncorhynchus mykiss)

JORGE JOSÉ PÉREZ MACEIRA

Endocrinology, Neuroimmunoendocrinology and Metabolism • 197

140 - Antioxidant properties of a lycopene-enriched virgin olive oil

Marchena Ana Maria

Endocrinology, Neuroimmunoendocrinology and Metabolism • 221

141 – Hypothalamic neuropeptide Y gene expression is not affected by central serotonin in the rainbow trout (Oncorhynchus mykiss)

Aldegunde Manuel

Endocrinology, Neuroimmunoendocrinology and Metabolism • 226

142 – Regulation of energy homeostasis and reproductive function in myostatin deficient mice Villar-Pazos Sabrina

Endocrinology, Neuroimmunoendocrinology and Metabolism • 252

143 – MSH TREATMENT HAS AN ANTI-INFLAMMATORY EFFECT AND AMELIORATES ARTHRITIS-INDUCED MUS-CLE ATROPHY

Gómez San Miguel Ana Belen

Endocrinology, Neuroimmunoendocrinology and Metabolism • 258

144 - IS CIDEA MEDIATING HIGH FAT DIET INDUCED GHRELIN RESISTANCE?

Luis Martins

Endocrinology, Neuroimmunoendocrinology and Metabolism • 264

145 – ESTROGEN RECEPTOR BETA: A NEW TARGET FOR TYPE 2 DIABETES PALOMA ALONSO MAGDALENA

Endocrinology, Neuroimmunoendocrinology and Metabolism • 292

146 - IMPACT OF NITRIC OXIDE SYNTHASE (NOS) ACTIVITY ON INSULIN CLEARANCE

Fátima Martins

Endocrinology, Neuroimmunoendocrinology and Metabolism • 310

147 – Hepatic glycogen enrichment from 2H2O informs the glycogenic contribution of fructose during overnight feeding with sucrose

John Jones

Endocrinology, Neuroimmunoendocrinology and Metabolism • 333

148 – Arginine vasotocin is a potent anorexigenic factor in the trout

Manuel Gesto

Endocrinology, Neuroimmunoendocrinology and Metabolism • 348

149 – THE ENDOCRINE DISRUPTOR BISPHENOL-A CAUSES INSULIN HYPERSECRETION AND INSULIN RESISTANCE Angel Nadal

Endocrinology, Neuroimmunoendocrinology and Metabolism • 354

150 – Glucose concentration influences ACTH-stimulated cortisol release by head kidney of rainbow trout MARTA CONDE SIEIRA

151 – Effect of oral administration of bovine Lactoferrin on plasma cytokine levels in mice exposed to X-rays
KAKUTA IZURU

Endocrinology, Neuroimmunoendocrinology and Metabolism • 367

152 – INTERRELATIONS BETWEEN HEMATOCRIT AND OESTRADIOL-14beta; CONCENTRATIONS DURING OVULA-TORY PERIOD IN SPANISH PUREBRED MARES

KATY SATUÉ

Endocrinology, Neuroimmunoendocrinology and Metabolism • 370

153 - Early actions of Thiazolidinediones in hepatic de novo lipogenesis

Teresa Cardoso Delgado

Endocrinology, Neuroimmunoendocrinology and Metabolism • 375

154 – VASOTOCIN IS INVOLVED IN THE ADAPTATION TO HYDROSTATIC PRESSURE CHANGES IN TELEOST FISH Arnau Rodríguez Illamola

Endocrinology, Neuroimmunoendocrinology and Metabolism • 383

155 - EFFECTS OF GLP-1 AND EXENDIN-4 ON OVARIAN FUNCTION

VERÓNICA OUTEIRIÑO IGLESIAS

Endocrinology, Neuroimmunoendocrinology and Metabolism • 388

156 – EFFECTS OF TWO FUNCTIONAL INGREDIENTS ON FOOD INTAKE, NUTRIENT DIGESTIBILITY AND BODY WEIGHT GAIN IN RATS

Jesús Alcalá-Bejarano Carrillo

Endocrinology, Neuroimmunoendocrinology and Metabolism • 395

157 - Melatonin synthesis in trout pineal organ is influenced by stress.

López-Patiño Marcos Antonio

Endocrinology, Neuroimmunoendocrinology and Metabolism • 397

158 – ANTENATAL LIRAGLUTIDE THERAPY RECOVERS INCOMPLETE LUNG MATURATION.

Marina Romaní

Endocrinology, Neuroimmunoendocrinology and Metabolism • 399

159 - Reduced oxytocin levels in Slovak autism patients.

SILVIA LAKATOSOVA

Endocrinology, Neuroimmunoendocrinology and Metabolism • 402

160 – Thyroid hormone-induced hyperphagia in hyperthyroidism is mediated by hypothalamic mTOR pathway NOELIA MARTINEZ SANCHEZ

Endocrinology, Neuroimmunoendocrinology and Metabolism • 412

161 – INFLUENCE OF TWO FUNCTIONAL INGREDIENTS ON THE PLASMA CONCENTRATIONS OF INSULIN, LEPTIN, GHRELIN AND PEPTIDE YY (PYY) IN RATS

Jesús Alcalá-Bejarano Carrillo

Endocrinology, Neuroimmunoendocrinology and Metabolism • 416

162 – Nicotine regulates energy balance through hypotalamic AMP-activated protein kinase in rats fed in high fat diet

Patricia Seoane Collazo

Endocrinology, Neuroimmunoendocrinology and Metabolism • 419

163 - Serum adiponectin and oxidative stress association in type 2 diabetes mellitus patients

Cosmina Ioana Bondor

Endocrinology, Neuroimmunoendocrinology and Metabolism • 421

164 – CHRONIC CENTRAL ADMINISTRATION OF AMYLIN DECREASES FAT MASS BUT DOES NOT MODIFY BODY WEIGHT

DAVID GONZÁLEZ

#### **EXHIBITION PANELS**

165 - Deficiency of Endoglin Protects Against High Fat Diet-Induced Insulin Resistance

Daniel Beiroa Tarrio

Endocrinology, Neuroimmunoendocrinology and Metabolism • 426

166 - Adipose and Liver lipid metabolism are influenced by central Melanin-Comcentrating Hormone

Mónica Imbernón

Endocrinology, Neuroimmunoendocrinology and Metabolism • 435

167 - The lack of Nur77 affects energy and glucose metabolism in females fed on high fat diet.

Sonia Pérez

Endocrinology, Neuroimmunoendocrinology and Metabolism • 439

168 - p53 mediates the adipogenic effect of ghrelin

Begoña Porteiro

Endocrinology, Neuroimmunoendocrinology and Metabolism • 440

169 - ADIPOSE TISSUE EXCESS HAS NEGATIVE EFFECTS ON SLEEP/WAKE CYCLE IN RATS

RAFAEL BRAVO

Endocrinology, Neuroimmunoendocrinology and Metabolism • 442

170 – Interleukin-6 deficiency modulates the hypothalamic expression of energy balance regulating peptides during pregnancy in mice

Maria del Carmen Garcia

Endocrinology, Neuroimmunoendocrinology and Metabolism • 490

171 – RELATIONSHIP AMONG SERUM LIPIDS, FIBRINOLYTIC ENZYMES AND FACTOR VII IN WOMEN DURING MENOPAUSE

Petrovska Sunchica

Human physiology and pathophysiology • 16

172 - CELLULAR AND MOLECULAR BASIS OF THE RADIOTHERAPY-INDUCED MUCOSITIS. EXPERIMENTAL EVALU-TION OF THE BENEFICIAL THERAPY WITH MELATONIN

**Escames Germaine** 

Human physiology and pathophysiology • 77

173 – UNALTERED IMITATIVE BEHAVIOR IN PARKINSONIAN PATIENTS EVIDENCED BY MEANS OF AN IMMERSIVE VIRTUAL REALITY SYSTEM

Verónica Robles García

Human physiology and pathophysiology • 89

174 - PERIPHERAL NERVE INVOLVEMENT IN PATIENTS WITH MULTIPLE SCLEROSIS

Matei Daniela

Human physiology and pathophysiology • 100

175 – Fast forms of cortico-cortical fatigue observed during the execution of simple fast and brief rhythmic movements in young humans subjects

Arias Pablo

Human physiology and pathophysiology • 130

176 – Modulation of the NF-kappaB pathway by melatonin in septic aged mice

Volt Valdivia Huavqui

Human physiology and pathophysiology • 131

177 – Altered profile of chemokines in fibromyalgia patients.

García García Juan José

Human physiology and pathophysiology • 144

178 – Correlation between some hematological and biochemical changes and electrophysiological characteristic data of acupuncture points in rabbits under oxidative stress after hyperbaric hyperoxia and hypobaric hypoxia

Hristov Krasimir

Human physiology and pathophysiology • 175

179 – ASSESSMENT OF GAIT INITIATION PARAMETERS FROM TRUNK ACCELERATIONS AND CAMERA-BASED MOTION CAPTURE SYSTEM

Lobotkova Jana

Human physiology and pathophysiology • 188

180 - HOW STANDING ON INCLINED SURFACE AFFECTS FUNCTIONAL LIMIT OF STABILITY?

Buckova Kristina

Human physiology and pathophysiology • 195

181 - VISUAL BIOFFEDBACK MAGNIFICATION IN RELATION TO POSTURAL SWAY

Halická Zuzana

Human physiology and pathophysiology • 198

182 - PHOTO-OXIDATIVE STRESS IN EXPERIMENTAL STUDY

Gotia Smaranda Rodica

Human physiology and pathophysiology • 202

183 – MELATONIN ADMINISTRATION AMELIORATES SLEEP QUALITY AND MOOD STATUS, BUT REDUCES THE OXIDATIVE STRESS IN PATIENTS WITH FIBROMYALGIA

ANA BEATRIZ RODRÍGUEZ

Human physiology and pathophysiology • 267

184 - Topical nitroglycerin in the treatment of cuff rotator tendinopathy

Sira Salinas

Human physiology and pathophysiology • 328

185 - Evaluation of the occupational health components in a group of electricians

claudia borza

Human physiology and pathophysiology • 378

**186** – Cooperative roles of p107, p130 and p27 during chondrocyte differentiation in a cellular system

FERNANDO MEIZOSO

Human physiology and pathophysiology • 385

**187** — Questionnaire-based risk scoring validity assessed by the 5-years follow-up of the Portuguese Study on the Prevalence of Diabetes (PREVADIAB)

Rogerio Ribeiro

Human physiology and pathophysiology • 387

188 – Acute moderate exercise regulates the altered stress and innate immune responses in fibromyalgia patients

Eduardo Ortega

Human physiology and pathophysiology • 390

189 – Prevalence and persistence of male DNA identified in mixed saliva samples after intense kissing JAROSLAVA DURDIAKOVÁ

Human physiology and pathophysiology • 401

190 - GAIT AND BALANCE CHARACTERISTICS IN PATIENTS WITH FIBROMYALGIA

M.Cristina Nicolau

Human physiology and pathophysiology • 410

191 - Circadian rhythm in sexual activity of young Spanish universitaries

Rubén V. Rial Planas

Human physiology and pathophysiology • 461

192 – Inhibitory myenteric neurotransmission is more relevant in the motor patterns of circular than longitudinal smooth muscle in aged human sigmoid colon

David Hernández Moreno

Human physiology and pathophysiology • 481

#### **EXHIBITION PANELS**

193 – A simple method fast and quantitative based on immuno assay of transfected cells with M23-AQP4 for detection of NMO-IgG in serum of patients

Echevarría Irusta Miriam

Human physiology and pathophysiology • 493

**FEPS** 

194 - Chronic treatment of 17beta-estradiol modulates age-related insulin resistance via AMPK.

Garrido Cuesta Pablo

Integrative Physiology • 101

195 – Acute supraphysiological exposure to testosterone or 17beta-estradiol, impairs insulin dependent glucose metabolism in human myotubes

Garrido Cuesta Pablo

Integrative Physiology • 160

196 – EFFECT OF CHRONIC PHYSICAL EXERCISE ON THE ELECTROPHYSIOLOGICAL INHOMOGENEITY OF VENTRI-CULAR MYOCARDIUM. EXPERIMENTAL STUDY.

Parra Germán Integrative Physiology • 162

197 - SALIVARY CELLS IN STRESSFUL CONDITIONS

Gotia Smaranda Laura

Integrative Physiology • 200

198 – GALANIN (1-15) MODULATES THE BINDING OF THE Y1 RECEPTOR AGONIST [1251]LEU31,PRO34-PYY IN THE CENTRAL NERVOUS SYSTEM OF THE RAT

Zaida Díaz-Cabiale

Integrative Physiology • 303

199 - AGE-RELATED CHANGES IN GUINEA PIG COLON PERISTALSIS

Camello Pedro J

Integrative Physiology • 407

200 – Effects of chronic physical exercise on ventricular activation complexity during ventricular fibrillation. A study in isolated rabbit heart.

Brines Laia

Integrative Physiology • 415

201 – Effect of chronic physical exercise on intrinsic myocardial conduction velocity. A study on isolated rabbit heart.

Soler López Carlos

Integrative Physiology • 434

202 - Renal hemodynamic angiotensin II effects in male and female rats at different ages.

LLINÁS MÁS

Integrative Physiology • 445

203 – Study of the involvement of intrinsic cholinergic neurons on myocardial heterogeneity and its modification by chronic exercise. An experimental research.

Brines Laia

Integrative Physiology • 468

204 – Can glibenclamide and chronic exercise similarly alter some electrophysiological properties of myocardium under normoxic conditions?

Soler López Carlos

Integrative Physiology • 470

205 – Antipsychotic-induced metabolic adverse effects - is hypothalamic lipid metabolism involved? Johan Fernø

Integrative Physiology • 475

206 - Mathematical Model of the Cardiovascular System

CALIN CORCIOVA

Integrative Physiology • 478

207 – Detrimental effect of crowding stress on vascular functional integrity. Interaction with ischemia/reperfusion

Sotnikova Ruzena

Microvascular and endothelial physiology • 124

208 – Inflammation-induced structural alterations of endothelium contribute to increased susceptibility of the heart to ischemia/reperfusion injury.

Okruhlicova Ludmila

Microvascular and endothelial physiology • 128

209 – AGE-RELATED RESPONSES TO U46619 OF MESENTERIC RESISTANCE ARTERIES FROM FEMALE SENESCEN-CE ACCELERATED MICE

Novella Susana

Microvascular and endothelial physiology • 254

210 - ROLE OF CCM3/PDCD10 IN ENDOTHELIAL PHYSIOLOGY

ANA GUERRERO

Microvascular and endothelial physiology • 281

211 – Effect of visceral perivascular adipose tissue on endothelial function of mesenteric resistance arteries from Obese Spontaneously Hypertensive (SHROB) and non-obese Wistar Kyoto (WKY) rats.

eduardo nava

Microvascular and endothelial physiology • 331

212 – The adaptor protein CCM3 and the cytoskeletal proteins ERM in the Cerebral Cavernous malformations (CCMs) pathology.

Cristina Iglesias García

Microvascular and endothelial physiology • 336

213 – New method for isolation of both kidneys for studies of vascular reactivity in rats.

Félix Vargas

Microvascular and endothelial physiology • 366

214 – IMPAIRMENT OF ENDOTHELIAL PROSTANOIDS AND UPREGULATION OF POTASSIUM CHANNEL ACTIVITY IN FEMORAL ARTERY FROM OBESE ZUCKER RAT

ANA CRISTINA MARTÍNEZ

Microvascular and endothelial physiology • 431

215 – Suppression of V1 feedback reveals the loss of a RF centre drive and shift in centre/surround balance in LGN cells of the awake macaque

**RIVADULLA CASTO** 

Neurophysiology. Cellular and integrative, containing the following aspects: Cellular neurophysiology; sensory functions • 53

216 – GROWTH HORMONE PROMOTES RELEVANT IMPROVE IN MOTOR IMPAIRMENT AFTER SEVERE FRONTAL CORTEX INJURY IN ADULT RATS

HEREDIA MARGARITA

Neurophysiology. Cellular and integrative, containing the following aspects: Cellular neurophysiology; sensory functions ● 73

217 — Contribution of synaptic connections to the effect of amyloid beta oligomers on intracellular calcium in hippocampal neurons

Nuñez Lucia

Neurophysiology. Cellular and integrative, containing the following aspects: Cellular neurophysiology; sensory functions • 123

#### **EXHIBITION PANELS**

218 – Non-steroidal anti-inflammatory drugs protect against excitotoxicity in hippocampal cells acting on mitochondrial Ca2+ handling

Calvo Maria

Neurophysiology. Cellular and integrative, containing the following aspects: Cellular neurophysiology; sensory functions • 141

219 - Growth hormone improves memory task in rats through NMDA and AMPA receptors

Esteban Susana

Neurophysiology. Cellular and integrative, containing the following aspects: Cellular neurophysiology; sensory functions ● 231

220 – Comparative effects of chronic treatment with Resveratrol and alpha-tocopherol on cognitive ability in aged rats

RAMIS ESCUDERO MARGARITA ROSA

Neurophysiology. Cellular and integrative, containing the following aspects: Cellular neurophysiology; sensory functions ● 234

**221** – Neuronal activity in the putamen during the performance of an visuomotor task.

montes lourido maría del pilar

Neurophysiology. Cellular and integrative, containing the following aspects: Cellular neurophysiology; sensory functions ● 260

222 – Effects Of Dracocephalum Moldavica L. ( Dragonhead) Leaves Extract On Memory Retention And Its Interaction With The Cholinergic System In Wistar Rats ZAHRA RAJABI

Neurophysiology. Cellular and integrative, containing the following aspects: Cellular neurophysiology; sensory functions ● 266

223 – Signalosomes in neuroprotection: the paradigm of ER-VDAC-Caveolin-1 related to Alzheimer's disease.

Raquel Marin

Neurophysiology. Cellular and integrative, containing the following aspects: Cellular neurophysiology; sensory functions ● 274

224 – Visual cortical feedback modulates LGN bursting in the detection of a novel stimulus in an attended location. RIVADULLA CASTO

Neurophysiology. Cellular and integrative, containing the following aspects: Cellular neurophysiology; sensory functions  $\bullet$  296

225 – Altered Lipid rafts in APP/PS1 mice, a familial model of Alzheimer's disease. Evidence for premature "lipid raft aging"

Mario Diaz

Neurophysiology. Cellular and integrative, containing the following aspects: Cellular neurophysiology; sensory functions • 312

226 – ROLE OF THE TRIGEMINAL MESENCEPHALIC NUCLEUS IN SPATIAL ENCODING OF THE MACROVIBRISSAE LOCATION

Ombretta Mameli

Neurophysiology. Cellular and integrative, containing the following aspects: Cellular neurophysiology; sensory functions ● 359

227 – Downregulated expression of genes involved in myelination in knock-out mice lacking Cysteine String Protein-alpha (CSP-alpha)

RAFAEL FERNANDEZ-CHACON

Neurophysiology. Cellular and integrative, containing the following aspects: Cellular neurophysiology; sensory functions • 374

**228** – Measurement of NO levels with optical spectroscopy during the cortical activation induced by ascendant systems.

Jorge Mariño

Neurophysiology. Cellular and integrative, containing the following aspects: Cellular neurophysiology; sensory functions ● 408

229 – Coherence relationships between hemodynamic markers, nitric oxide and neuronal activity in the anesthetized and activated cerebral cortex.

Espinosa Vergara Nelson

Neurophysiology. Cellular and integrative, containing the following aspects: Cellular neurophysiology; sensory functions • 409

230 - TRPV1 is involved in the synaptic plasticity at hippocampal mossy fiber-CA3 synapses

Koichi Ito

Neurophysiology. Cellular and integrative, containing the following aspects: Cellular neurophysiology; sensory functions • 424

231 - Statins reduce penicillin-induced epileptiform activity in male rats

Bayram Yilmaz

Neurophysiology. Cellular and integrative, containing the following aspects: Cellular neurophysiology; sensory functions • 486

232 - Effects of Kisspeptin-45 on Neural Lipid Peroxidation in Male Rats

Bavram Yilmaz

Neurophysiology. Cellular and integrative, containing the following aspects: Cellular neurophysiology; sensory functions • 499

233 – Influence of maternal undernutrition on mechanical properties of the aorta in the offspring López de Pablo Angel Luis

Placental and perinatal physiology • 170

234 - Drinking behavior modification after maternal furosemide-treatment

Perillan Carmen

Placental and perinatal physiology • 240

235 – The Impact of Vitamin E Supplementation on Urinary Bladder Contractility in Streptozotocin-Induced Diabetic Rats

Ahmed Marwa

Skeletal, cardiac, and smooth muscle physiology • 21

236 – Expression of specific Ca2+ regulating proteins in skeletal muscle of the reindeer (Rangifer tarandus tarandus) during moderate weight loss and winter time adaptation

MÄNTTÄRI SATU

Skeletal, cardiac, and smooth muscle physiology • 34

237 - Characterisation of the Two-Layered Media in the Carotid Artery

Greenwald Stephen

Skeletal, cardiac, and smooth muscle physiology • 41

238 - THE EFFECT OF PULMONARY SURFACTANT ON THE AIRWAY SMOOTH MUSCLE

CALKOVSKA ANDREA

Skeletal, cardiac, and smooth muscle physiology • 218

239 – Effects of physical training on response to acetylcholine in rabbit carotid artery

Mauricio Maria D.

Skeletal, cardiac, and smooth muscle physiology • 228

240 – Role of L-type Ca2+ channels, sarcoplasmic reticulum and RhoA/Rho-associated kinase in the maintenance of arterial contraction

Cristina Porras Gonzalez

Skeletal, cardiac, and smooth muscle physiology • 293

**241** – Validity of the finger tapping test in Parkinson's disease, elderly and young healthy subjects: Is there a role for central fatigue?

YOANNA CORRAL BERGANTIÑOS

Skeletal, cardiac, and smooth muscle physiology • 302

#### **EXHIBITION PANELS**

242 – Is maximal exercise improvement induced by ischemic preconditioning maneuvers (IPM) related to plasma concentration changes of oxiadtive stress markers?

Marcello Caria

Skeletal, cardiac, and smooth muscle physiology • 314

FEPS

243 – Mutation to FKBP12 demonstrates that three amino acid residues determine whether FK-506 binding proteins can selectively activate or inhibit cardiac and skeletal ryanodine receptors ELENA GALFRE

Skeletal, cardiac, and smooth muscle physiology • 330

244 – Role of COX-2 from brain perivascular macrophages in the initiation of gastrointestinal (GI) motor disturbances and fever induced by LPS in sheep

Mª PILAR ARRUEBO

Skeletal, cardiac, and smooth muscle physiology • 391

245 – Effects of arginase enzyme inhibitor N-Hydroxy-nor-L-Arginine (nor-NOHA) on myoglobinuric acute kidney injury in rats.

NURETTIN AYDOGDU

Skeletal, cardiac, and smooth muscle physiology • 396

246 - Pathophysiology of skeletal muscle in a mouse model of Pompe disease

Morales Araceli

Skeletal, cardiac, and smooth muscle physiology • 469

247 - DIFFERENTIAL PROTEOMICS IN PITUITARY STEM CELLS

Rodrigues Joana

Stem cells • 112

248 − Immortalization of Mouse Embryo Astrocytes (MEAs) is associated with a decrease in p19 and p21
Gonzalez Mosquera Tamara
Stem cells • 449

249 – The importance of class attendance for learning physiology using traditional vs. non traditional teaching approaches

Beatriz Gal

Teaching in physiology • 29

250 – Absenteeism's impact on university student's academic results on free-election and obligatory courses in Physiology

Gaytan Susana P.

Teaching in physiology • 104

251 – THE "NAU GRAN" PROGRAM OF THE "UNIVERSITAT DE VALÈNCIA-ESTUDI GENERAL". IMPORTANCE OF THE SUBJECT "GENERAL PHYSIOLOGY".

Parra Germán

Teaching in physiology • 163

Teaching in physiology • 166

252 – Analysis of the academic load of Physiology in the degree of Physical Therapy of three Spanish Autonomic Communities: Catalonia, Community of Madrid and Valencian Community GALLEGO ROJAS NATHALIA

253 − RECOGNITION AND TREATMENT OF AN ACUTE MYOCARDIAL INFARCTION IN A SIMULATED SCENARIO Guillermo Alvarez de Toledo

Teaching in physiology • 285

254 – A SIMULATED SCENARIO TO TEACH MEDICAL STUDENTS THE PATHOPHYSIOLOGY OF A SEPTIC SHOCK Guillermo Alvarez de Toledo

Teaching in physiology • 286

#### **EXHIBITION PANELS**

255 – Adaptation and Validation of the "Colorado Learning Attitudes about Science Survey (CLASS)" in a Physiological classroom JUAN ARGUELLES

Teaching in physiology • 332

256 – Relative weight of Physiology in the degree of Physical Activity and Sport Sciences. A comparative study between public and private universities.

Jaime Barber

Teaching in physiology • 447

257 – PORTFOLIO AS A TOOL TO IMPROVE PHYSIOLOGY LEARNING OF SPEECH THERAPY DEGREE STUDENTS ASUNCIÓN ROCHER MARTIN Teaching in physiology • 459

258 – 17beta-estradiol increases amiloride-sensitive Na+ current and gammaENaC surface expression via activation of PKCdelta in renal collecting duct M1 cells

MANUEL YAMIL YUSEF ROBLES

Transport physiology: Secretion and absorption, epithelial and membrane transport • 157

259 - Leptin regulates intestinal amino acids absorption in vivo.

Lostao M.Pilar

Transport physiology: Secretion and absorption, epithelial and membrane transport • 183

**260** – 5-aminoisoquinoline improves renal function in cisplatin-treated rats

Andrés Quesada

Transport physiology: Secretion and absorption, epithelial and membrane transport • 462

261 - Cisplatin treatment decreases renal aminopeptidase activities in rats

Sebastián Montoro-Molina

Transport physiology: Secretion and absorption, epithelial and membrane transport • 465



