

Physioma 2019

Physiology for a healthier, longer life

1st International Meeting of the Portuguese Society of Physiology (SPFis)

ISCTE – IUL , Cidade Universitária , Lisboa Portugal

10th and 11th October 2019

Honour Commission

HE Minister of Superior Education and Research
The President of Science and Technology Foundation (FCT)
The Rector of IUL (instituto Universitário Lisboa) *

Science Commission *

Margarida Caramona, Dep Pharmacology UCoimbra School of Pharmacy
Correia de Sá, Dep Immuno-Physiology and Pharmacology ICBAS U Porto
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Carlos Nunes Filipe, Dep. Physiology, Nova Medical School
Jorge Gonçalves, Dep Pharmacology UPorto School of Pharmacy
Beatriz Lima, Dep Pharmacol.Sciences,U Lisboa, Fac .Pharmacy
Raquel Madeira, Dep.Sports Physiology, U Lusofona Fac Physical Educ.& Sport
Ducla Soares (Emeritus), IBEB U Lisboa, Faculty of Sciences

Promoters

Ana Fernandes, CBIOS U Lusofona
Hugo Alexandre Ferreira, IBEB U Lisboa, Faculty of Sciences
Luís Monteiro Rodrigues, CBIOS U Lusofona and U Lisboa, School of Pharmacy

Meeting Chairman

Luís Monteiro Rodrigues

Institutional science partners

“On behalf of IUPS Executive Committee (ExCo) I would like to congratulate the Portuguese Physiological Society (SPFis) for its official registration in your country. The IUPS is pledged to joint force with national and regional physiological societies and federations to promote physiology in research and education towards the realization of our motto “Physiology without borders”. Particularly, the inclusion of a debate on “what does the future hold for physiology” is timely relevant to the mission of IUPS to return physiology to center stage of biomedical science.”

Professor Julie Chan, President of IUPS

“I would like to congratulate you about launching the Portuguese Physiological Society and organising its first international event... and look forward to co-operating with you.”

Professor Dr. Bayram Yilmaz, Secretary General of FEPS

“On behalf of the APS Conference Committee, APS is pleased to support the 1st International Meeting of the Portuguese Society of Physiology”

Julie Levin, Meetings Manager, The American Physiological Society

“The Physiological Society is pleased to support the Portuguese Physiological Society’s Physioma2019 conference. This is an important time for physiology across the world and we welcome this new initiative. I look forward to working with the Portuguese Physiological Society now and in the future.”

Professor Bridget Lumb, President of The Physiological Society.



Physioma 2019

ISCTE IUL – Cidade Universitária
Lisboa, Portugal

10th to 11th October 2019

Ist International Meeting of the Portuguese Society of Physiology (SPFis)

Final Program

October 10h (Thursday)

08:30 Welcome

Secretariat opening / Exhibitors venue

09:30 Opening Workshop (WS)

(free of charge for young research members of SPFis)

WorkShop Physiological computing: The BITalino platform

Coordinators: **Hugo Silva & Hugo Ferreira**

Objectives

To provide an end-to-end approach to biosignal acquisition, processing and classification using low cost and open source technologies

Poster Installation

Exhibition Stand Installation

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13:30 Opening ceremony

Honour Commissioners interventions

Intervention of the Chairman of *Physioma 2019*

14:15 **Theme 1 Beyond Integrative Physiology – the Physiome I**

Moderator

Felix Carvalho, Chairman of the Portuguese Soc. Pharmacology (SPF);
President Elect of EUROTOX, the Federation of European Toxicologists and
European Societies of Toxicology

Keynote Speaker

Jose Viña, Professor of Physiology, Universidad Valencia

14:45 Podium Presentations

1.1 PUPIL SIZE DURING AUTHENTICITY RECOGNITION IN LAUGHTER AND
CRYING, Gonçalo Cosme¹; Mónica Costa²; Vânia Tavares¹; Katja Brodmann³; César Lima⁴; Pedro Rosa⁴;
Diana Prata¹ 1 - *Instituto de Biofísica e Engenharia Biomédica*; 2 - *Faculdade de Medicina da*

Universidade de Lisboa; 3 - Department of Neuroimaging, King's College London; 4 - Centro de Investigação e Intervenção Social, Instituto Universitário de Lisboa (ISCTE-IUL), CIS-IUL

1.2 EFFECTS OF DIFFERENT EXERCISE PROTOCOLS ON AUTOPHAGY GENES: A MULTI-ORGAN APPROACH, Ana Paula Pinto¹; Alisson Luis Da Rocha¹; José Rodrigo Pauli²; Eduardo Rochete Ropelle²; Leandro Pereira De Moura²; Dennys Esper Corrêa Cintra²; Adelino Sanchez Ramos Da Silva¹; 1 - Universidade de São Paulo; 2 - Faculdade de Ciências Aplicadas da Unicamp, São Paulo

1.3 TRANSIENT RECEPTOR POTENTIAL CHANNEL 1 (TRPC1) AS A NEGATIVE REGULATOR OF TRPC4, 5 CHANNELS, Jinsung Kim; Insuk So · Seoul National University

1.4 MICROCIRCULATORY CHARACTERISATION OF THE STEP IN PLACE ACTIVITY, Margarida Florindo, L Monteiro Rodrigues

1 - Portuguese Red Cross Health School, ESSCVP – Lisboa; CBIOS, Lisboa Portugal

15:45 Coffee-break and visit to Posters and exhibitors

16:25 Theme 2 Beyond Integrative Physiology – the Physiome II

Moderator: **Claudia Cavadas**, CNC - Center for Neuroscience and Cell Biology & Faculty of Pharmacy, University of Coimbra

Keynote Speaker **Debra J. Skene**, Professor of Neuroendocrinology, U Surrey

16.55 Podium Presentations

2.1 FREQUENT CONSUMPTION OF ARTIFICIALLY SWEETENED BEVERAGES IS ASSOCIATED WITH AN INCREASED RISK OF METABOLIC SYNDROME IN A MEDITERRANEAN POPULATION AT HIGH CVD RISK

Cíntia Ferreira-Pêgo^{1,2,15,16}; Nancy Babio^{1,2}; Maira Bes-Rastrollo^{2,3,4}; Dolores Corella^{2,5}; Ramon Estruch^{6,7}; Emilio Ros^{2,8}; Montserrat Fitó^{2,9}; Lluís Serra-Majem^{2,6,9}; Fernando Arós^{6,10}; Miguel Fiol^{2,11}; José Manuel Santos-Lozano^{2,12}; Carlos Muñoz-Bravo¹³; Xavier Pintó^{8,14}; Miguel Ruiz-Canela^{2,3,4}; Jordi Salas-Salvadó^{1,2,6}
1 - Human Nutrition Unit, Hospital Universitari de Sant Joan de Reus, Faculty of Medicine and Health Sciences, IISPV (Institut d'Investigació Sanitària Pere Virgili), Biochemistry Biotechnology Department, Universitat Rovira i Virgili. C/ Sant Llorenç, 21, 43201 Reus, Spain (and more)

2.2 THE SHORT DURATION MASSAGE OF A SINGLE LIMB IN HUMAN ALTERS CARDIOVASCULAR DYNAMICS IN BOTH LIMBS

Clemente Rocha¹; Henrique Silva^{1,2}; Hugo Ferreira³; Luis Monteiro Rodrigues^{1,2}

1 - Universidade Lusófona CBIOS - Research Center for Biosciences and Health Technologies, Lisboa, Portugal; 2 - Universidade de Lisboa, Faculty of Pharmacy, Pharmacol. Sc Depart - Lisboa, Portugal; 3 - Universidade de Lisboa, Faculty of Sciences – IBEB, Lisboa Portugal

2.3 THE LEVELS OF OSTEOCALCIN IN OBESE AND NON-OBESE HEALTHY SEDENTARY MEN AND IT IS RELATION WITH ADIPOMYOKINES

Sema Sayharman¹; Muaz Belviranlı¹; Nilsel Okudan¹

1 - Department of Physiology Faculty of Medicine Selcuk University Konya Turkey

17:30 Discussion

Visit to Posters and Stands

18:50 General Assembly of SPFis (room to be announced)

Election of the Board for the Mandate 2019-2022

IMPORTANT NOTE:

Only the regular associated members of SPFis can attend this general assembly

1. Presentation of the running lists (strategy / critical aspects/ profile of running candidate's lists)
2. Election of the Board (social organs) of the SPFis for 2019-2022
3. Other issues

20:45 Dinner (*location and other information will be announce in due time*)

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October 11h (Friday)

08:30 Secretariat opening

09:00 Theme 3 Physiology of Stress

Moderator: **Pedro Villa Polo**, Full Professor Physiology, Director of the PhD Program in Health Sciences U Alcalá - Facultad de Medicina

Keynote Speaker **João Laranjinha**, Centre for Neurosciences and Cell Biology, University of Coimbra

09:30 Podium Presentations

3.1 MENTAL AND PHYSICAL PREPARATION IMPROVES PERFORMANCE IN COGNITIVE TASKS, Carlos Moreira¹; Daniel Rocha¹; Paula Carvalho³; Carolina Amorim¹; Ana Gouveia²; Hugo A. Ferreira¹

1 - Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa; 2 - Faculdade de Ciências da Saúde, Universidade da Beira Interior; 3 - Faculdade de Ciências Sociais e Humanas, Universidade da Beira Interior

3.2 REDOX REGULATION OF BREAST CANCER PROGRESSION: INSIGHTS FROM SOD MIMICS, Nuno Saraiva¹; Ana S Flórido²; João G Costa¹; Ines Batinic-Haberle³; Matilde Castro²; Nuno G Oliveira²; Ana S Fernandes¹

1 - CBIOS, Universidade Lusófona Research Center for Biosciences & Health Technologies, Lisboa, Portugal; 2 - Research Institute for Medicines (iMed.ULisboa), Faculty of Pharmacy, Universidade de Lisboa, Portugal; 3 - Department of Radiation Oncology, Duke University Medical School, Durham, NC, USA

3.3 LATE GESTATIONAL TESTOSTERONE EXPOSURE CAUSES GLUCOSE DEREGULATION AND ELEVATED CARDIAC VCAM-1 AND DPP-4 ACTIVITY IN RATS

Taofeek Usman¹; Lawrence Olatunji²

1 - Department of Physiology, College of Health Sciences, Osun State University Osogbo Nigeria.; 2 - Department of Physiology, College of Health Sciences, University of Ilorin, Ilorin Nigeria.

3.4 TAURINE AND EXERCISE TRAINING ENHANCE ENERGY METABOLISM AND THE REGULATION OF GENES RELATED TO FAT OXIDATION REGULATION IN THE WHITE ADIPOSE TISSUE OF OBESE WOMEN.

Flávia De Carvalho¹; Camila Brandão¹; Vitor Munoz²; Gabriela Batitucci³; José Pauli²; Eduardo Ropelle²; Leandro De Moura²; Julio Marchin¹; Ellen De Freitas¹

1 - University of São Paulo; 2 - University of Campinas; 3 - São Paulo, Brasil

10:15 Coffee-break and visit to Posters and Stands

11:00 Theme 4 By way of the Skin

Moderator: **Catarina F. Rosado**, Group Leader (Drug Delivery Systems) Res.Center for Biosciences and Health Technologies (CBIOS)

Keynote Speaker **Joachim Fluhr**, Charité - Universitätsmedizin Berlin. Klinik für Dermatologie, Venerologie und Allergologie

11:30 Podium Presentations

4.1 PRELIMINARY EVALUATION OF NON-CONVENTIONAL CONDUCTIVE MATERIALS FOR ELECTRODERMAL ACTIVITY DATA ACQUISITION

António Banganho^{1,2}; Hugo Silva¹; Marcelino Santos^{2,3}

1 - IT – Instituto de Telecomunicações, Lisboa, Portugal; 2 - Instituto Superior Técnico, Lisboa, Portugal; 3 - INESC-ID, Lisboa, Portugal

4.2 3D REPRESENTATION OF SKIN VISCOELASTICITY

Henrique Silva¹; Francisco Rego²; Catarina Rosado¹; Luis Monteiro Rodrigues¹

1 - Universidade Lusófona, School of Health Sc & Technologies, CBIOS (Research Center for Biosciences and Health Technologies); 2 - Universidade de Lisboa, Instituto Superior Técnico, Institute for Systems and Robotics (ISR), Lisboa, Portugal

4.3 HYDROGEL CONTAINING CHITOSAN-COATED PLGA NANOPARTICLES FOR TOPICAL DELIVERY OF INSULIN

Patrícia Filipe^{1,2}; Ana S. Macedo^{1,3}; Catarina Rosado¹; Pedro Fonte^{1,3,4}

1 - CBIOS - Universidade Lusófona Research Center for Biosciences & Health Technologies, Lisboa, Portugal; 2 - Department of Biomedical Sciences, University of Alcalá, Madrid, Spain; 3 - LAQV, REQUIMTE, Department of Chemical Sciences—Applied Chemistry Lab, Faculty of Pharmacy, University of Porto, Porto, Portugal; 4 - iBB-Institute for Bioengineering and Biosciences, Department of Bioengineering, Instituto Superior Técnico, Universidade de Lisboa, Lisboa, Portugal

4.4 DEVELOPMENT OF RUTIN-LOADED HYBRID NANOPARTICLES FOR WOUND HEALING

Ana Júlio^{1,2}; Rita Caparica^{1,2}; Sofia A. Costa Lima³; Ana Sofia Fernandes¹; Catarina Rosado¹; Duarte M. F. Prazeres⁴; Salette Reis³; Tânia Santos De Almeida^{1,5}; Pedro Fonte^{1,3,4,5}

1 - CBIOS - Universidade Lusófona Research Center for Biosciences & Health Technologies, Lisboa, Portugal; 2 - Department of Biomedical Sciences, University of Alcalá, Madrid, Spain; 3 - LAQV, REQUIMTE, Department of Chemical Sciences—Applied Chemistry Lab, Faculty of Pharmacy, University of Porto, Portugal; 4 - iBB-Institute for Bioengineering and Biosciences, Department of Bioengineering, Instituto Superior Técnico, Universidade de Lisboa, Lisboa, Portugal; 5 - Shared senior authorship

12:15 Snack and visit to the area (Posters / Stands)

14:00 Theme 5 Physiological Informatics

Moderator: **Antero Abrunhosa**, Director of ICNAS (Institute for Nuclear Sciences Applied to Health) U Coimbra

Keynote Speaker **Hugo Silva**, IT-IST, U Lisboa

14:30 Podium Presentations

5.1 AUTOMATIC CLASSIFICATION OF PHYSIOLOGICAL SIGNALS MODALITIES

Patrícia Bota^{1,2}; Ana Fred^{1,2}; João Valente³; Hugo Silva¹

1 - Instituto Superior Técnico, Instituto de Telecomunicações; 2 - Department of Bioengineering, Instituto Superior Técnico; 3 - Instituto Politécnico de Castelo Branco

5.2 LIGHT-TISSUE INTERACTION AND MICROCIRCULATION PERFUSION ASSESSMENT – WHATS’ NEW?

Henrique Silva^{1,3}; Hugo Ferreira²; Rafaela Francisco³; Alain-Pierre Gadeau⁴; Luis Monteiro Rodrigues^{1,3}

1 - Universidade Lusófona, School of Health Sc & Technologies, CBiOS (Research Center for Biosciences and Health Technologies), Lisboa, Portugal; 2 - Universidade de Lisboa, Faculty of Sciences, IBEB Institute Bioph Biomed Engineering, Lisboa, Portugal; 3 - Universidade de Lisboa, Faculty of Pharmacy, Pharmacol. Sc Depart - Lisboa, Portugal; 4 - U Bordeaux & INSERM, U1034, Adaptation cardiovasculaire à l'ischémie, Pessac, France

5.3 DETECTION OF APNEA IN RESPIRATORY SIGNALS

Mariana Abreu¹; Ana Fred^{1,2}; João Valente³; Hugo Silva¹

1 - Instituto Superior Técnico, Instituto de Telecomunicações; 2 - Instituto Superior Técnico, Departamento de Bioengenharia; 3 - Instituto Politécnico de Castelo Branco, Escola Superior de Saúde, Portugal

5.4 ANXIETY DESTROYER: A VIDEOGAME WITH NEUROFEEDBACK FOR TACKLING ANXIETY

Pedro Pestana Da Silva¹; Hugo A. Ferreira¹

1 – IBEB Instituto de Biofísica e Engenharia Biomédica, Fac. Ciências da Universidade de Lisboa, Portugal

15:15 Coffee-break and visit to Posters and exhibitors

16: 00 Theme 6 Debate

“What does the future hold for physiology?”	
Moderators:	Luis Monteiro Rodrigues Hugo Ferreira and João Gregório
Intervenients	Mara de Sousa Freitas President of the Health Ethics Committee, Catholic University of Portugal; Advisor Technical Consultancy at the National Council of Ethics for the Life Sciences – CNECV
	Jorge Garcia Seoane Chairman of the Spanish Society of Physiological Sciences (SECF), Full Professor of Physiology (U Complutense Madrid)
	Ricardo A. Afonso President of the Portuguese Soc. of Laboratory Animal Sciences & NOVA Medical School Faculdade de Ciências Médicas da Universidade Nova de Lisboa
	Octavian Postolache, Director of Science and Information Technology PhD Program in ISCTE-IUL; Senior Researcher and Director of Instituto de Telecomunicacoes IT-IUL

18:00 Prizes Bioplux

Best Innovative Research

Best Poster Award

Conclusion Remarks

Closure cocktail

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