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TABLE OF CONTENTS

Welcome to Rio de Janeiro and to The Rhythms of Life.................................03
Welcome Address IUPS....................................................................................04
Welcome Address SBFis..................................................................................05
Institutional Sponsors.........................................................................................11
Partners Societies...............................................................................................12
Support................................................................................................................13
Sponsors...............................................................................................................14
Events and Ceremonies......................................................................................17
Business Meetings.............................................................................................17
Floor Plan............................................................................................................18
Overview............................................................................................................20

Scientific Program

August 1.............................................................................................................26
August 2.............................................................................................................26
August 3.............................................................................................................28
August 4.............................................................................................................31
August 5.............................................................................................................33

Poster Sessions

August 2.............................................................................................................40
August 3.............................................................................................................49
August 4.............................................................................................................58
August 5.............................................................................................................67
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WELCOME TO RIO DE JANEIRO
AND TO THE RHYTHMS OF LIFE

On behalf of the members of the Local Organizing Committee (LOC) we welcome you to Rio de Janeiro and to the 38th World Congress of the International Union of Physiological Sciences (IUPS).

Since 2008, when we started this project with the approval by the General Assembly of the Brazilian Society of Physiology (SBFis) to present a bid to host the IUPS Congress in Brazil in 2017, we couldn’t imagine how challenging this journey was going to be.

To reach the stage for the organization of a World Congress, SBFis and the LOC organized several annual congresses of physiology in 2012, 2013 and 2015, and the successful I PanAmerican (PanAm) Congress of Physiological Sciences in Iguassu Falls in 2014. With the experience accumulated in the organization of these previous Congresses, we were able to work in the organization of this IUPS-2017 Congress/Rhythms of Life.

At the same time, we had the opportunity and a pleasure to start a valuable partnership with The American Physiological Society (APS), The Physiological Society (PhySoc) and The Scandinavian Physiological Society (SPS). With these partners societies we worked together in the organization of several joint scientific activities at the national and international level. Certainly, the substantial support from these three societies of physiology makes a major contribution on the organization of the 38th World Congress of Physiological Science.

On the last three years the International Scientific Programming Committee (ISPC) nominated by IUPS and SBFis initiated the construction of the scientific program of this Congress, which is representative of the best forefront physiology in the contemporary world. During the two face-to-face meetings in Brazil (2015 and 2016) the members of the ISPC worked hard to select the best among those proposals presented by the world community of physiologists. We really wish to highlight and thank the efforts by the members of the ISPC during this journey.

We are convinced that the success of the IUPS-2017 Congress is mainly due to your presence as an active physiologist. At this time, we hope you enjoy the great scientific program of the Congress, and also the beautiful city of Rio de Janeiro, and that the experience of the “Rhythms of Life” will add something special for the physiologists from all over the world.

Welcome to Rio and thank you for your support!

Vagner R. Antunes
Chair of the LOC

Benedito H. Machado
Co-Chair of the ISPC
Welcome to the International Congress of Physiological Sciences in the magnificent city of Rio de Janeiro, Brazil.

At this Congress you will discover the reasons why Physiology is once again becoming central to the future of the Biological and Medical Sciences. It is our job to interpret what genomics, proteomics and molecular biology has taught us. I and my colleagues in IUPS hope that you will not only discover those reasons, but also to see new vistas opening up for our disciplines.

In addition to showcasing our science in the plenary, keynote lectures and in the symposia and posters, I and my colleagues as officers of IUPS will be eagerly looking forward to discussing with the world of physiological scientists how we move forward to ensure that we are ready to meet the challenge of biology and medical science at this stage of the twenty first century.

Our colleagues in the Brazilian Society of Physiology have worked enormously hard to make this a great Congress, and I am sure it will be. We have a fantastic scientific program. Enjoy the meeting, and don’t hesitate to contact me or the other Officers of IUPS if you have suggestions to make for IUPS to consider for the future.

Denis Noble
President IUPS
On behalf of the Brazilian Society of Physiology (SBFis), it is my great pleasure to welcome you to Rio de Janeiro and to the 38th World Congress of Physiological Sciences - IUPS2017.

The Scientific program was designed to provide a comprehensive overview of the latest research developments in different areas of physiology distributed among 27 lectures and 60 symposia. More than 300 world’s top scientists, including two Nobel laureates, and more than 1500 participants from 64 countries will take part in this congress anticipating a tremendous opportunity to present, learn and discuss cutting-edge science and education in physiology.

This year SBFis is proud to celebrate its 60th Anniversary. As young scientific society, SBFis has built the history of Physiology in Brazil, with the collaboration of each one of its associates. The organization of this World Congress is certainly a historical milestone for our society and, together with other actions, such as to be the pioneer in developing a Postgraduate Program, has contributed to strengthen the bonds of our society and to make it more representative at the national and international scientific scenarios. Thus, we also invite all members of the Society to, in the "Rhythms of Life", a great celebration to be held in a special session during the Congress.

An enormous work has been invested in the last 8 years to plan and organizing this traditional meeting, which was only possible thanks to dedicated effort of the International and Local Organizing Committees. We take this opportunity to express our gratitude to Dr. Vagner Antunes, President of the Local Organizing Committee and to Dr. Benedito Machado and Dr. Walter Boron, Chairs of the Scientific Program, for their magnificent endeavor in leading the organization and preparation of the scientific program.

We also would like to thank IUPS Board for the confidence deposited to organize 2017 meeting and to the Brazilian Institutional sponsors, to ours partners Societies, to Laboratory Manufacturing Industry and to Wiley and Sons Publishers for their generous support. Finally, we thank MCI PCO agency for their commitment and advices in planning this meeting.

We hope you enjoy the Congress, the city of Rio de Janeiro and the opportunity of a productive scientific interaction with colleagues from different countries. Furthermore, we expect the scientific interactions may stimulate a creative exchange of ideas in a pleasant atmosphere and be of personally rewarding.

My warmest welcome to you,

Maria Jose Campagnole-Santos
President of SBFis
BRAZILIAN SOCIETY OF PHYSIOLOGY (SBFis)

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Saeed Semmanian
Tobias Wang
Xiaomin Wang

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REPRESENTATIVES DESIGNATED BY SBFis
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– Patrícia R.M. Rocco (Brazil)
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– Walter A. Zin (Brazil)
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– Gerhard Malnic (Brazil) – Honorary Member
– José Antunes Rodrigues (Brazil) – Honorary Member

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– Ludmila Filaretova (Russia)
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– Yang-Sook Chun (Korea)
– Jule Chan (Taiwan) – Ex-officio
– Peter Wagner (USA) – Ex-officio
– Penny Hansen (Canada) Ex-officio

LOCAL ORGANIZING COMMITTEE (LOC)
– Ana Carolina Takakura (São Paulo)
– Antônio Claudio L. da Nóbrega (Niterói)
– Benedicto H. Machado (Ribeirão Preto)
– Carmen Cabanelas Pazos de Moura (Rio de Janeiro)
– Eduardo Colombari (Araraquara)
– Maria José Campagnolle-Santos (Belo Horizonte)
– Pedro Lema Silva (Rio de Janeiro)
– Ruy R. Campos Jr. – Co-Chair (São Paulo)
– Thiago S. Moreira (São Paulo)
– Vagner R. Antunes – Chair (São Paulo)
The Journal of Physiology’s Early Investigator prize

The 2016 winners are Calum Wilson and Matthew Lee for their paper ‘Acetylcholine released by endothelial cells facilitates flow-mediated dilatation’


Experimental Physiology’s Inaugural Review prize

The 2016/17 Prize winner is Colin Young from George Washington University for his review article ‘Endoplasmic Reticulum Stress in the Pathogenesis of Hypertension’

Experimental Physiology. DOI 10.1113/EP086274

Experimental Physiology’s Early Career Author’s prize

The 2016 winner is Havovi Chichger for the paper ‘Experimental type II diabetes and related models of impaired glucose metabolism differentially regulate glucose transporters at the proximal tubule brush border membrane.’


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Bromocriptine treatment at the end of lactation prevents hyperphagia, higher visceral fat and liver triglycerides in early-weaned rats at adulthood

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Sex differences in ischaemia/reperfusion-induced acute kidney injury depends on the degradation of noradrenaline by monoamine oxidase

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EVENTS AND CEREMONIES

TUESDAY / AUGUST 1
16:30 - 17:00 / Opening Ceremony
17:00 - 18:00 / Plenary room
IUPS President’s Lecture: Dance to the Rhythms of Life: physiology returns to centre stage - Denis Noble (UK)
18:00 - 19:00 / Plenary room
Plenary Lecture: Resistance to antibiotics, the microbiome and environmental issues, thoughts about the future - Ada Yonath (Israel)
19:00 - 20:00 / Rhythms of Life

THURSDAY / AUGUST 3
12:00 - 14:15 / Room 201
Women in Science 2
Early Carriers Physiologists: Networking and Equality Discussion
18:00 – 19:00 / Room 205
CELEBRATION OF SBFis 60th ANNIVERSARY

WEDNESDAY / AUGUST 2
12:00 - 14:15 / Room 201
Women in Science 1
Presidents of Physiological Societies: Equality and Differences

SATURDAY / AUGUST 5
19:00 – 19:30 / Plenary room
CLOSING CEREMONY

BUSINESS MEETINGS

TUESDAY / AUGUST 1
09:00 - 12:00 / Room 207
IUPS General Assembly
14:00 - 16:00 / SBFis Council Meeting

WEDNESDAY / AUGUST 2
12:00 - 14:00 / Room 207
SBFis General Assembly
Teach the way you want to
Our technology helps you develop confident, competent and self-motivated students by providing active, hands-on experiments for improved learning results.

Join our Lt-Online Teaching Platform Mini-Session at the ADInstruments booth: 2pm, 03/08.

ADInstruments invite you to participate in our Mini Sessions:
- 02/08 – DSI (Research)
- 03/08 – Lt (Education)
- 04/08 – DSI (Research)

The Mini Sessions begin at 2pm at the ADInstruments booth.
### OVERVIEW / TUESDAY / AUGUST 1

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<th>PLENARY - GROUND FLOOR</th>
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<td>17:00 - 18:00</td>
<td>PLENARY LECTURE - DENIS NOBLE (UK) - Dance to the Rhythms of Life: physiology returns to centre stage</td>
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<td>18:00 - 19:00</td>
<td>PLENARY LECTURE - ADA YONATH (ISRAEL) - Resistance to antibiotics, the microbiome and environmental issues, thoughts about the future</td>
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<td>19:00 - 20:00</td>
<td>RYTHMS OF LIFE</td>
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### OVERVIEW / WEDNESDAY / AUGUST 2

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<td>08:30 - 09:30</td>
<td>PLENARY LECTURE - DANIEL MARTIN (UK) - Physiology at extreme altitude</td>
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<td>09:45 - 11:45</td>
<td>SYMPOSIUM - From systems to organelles – understanding pancreatic beta cell function and dysfunction</td>
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<td>12:00 - 14:15</td>
<td>WOMEN IN SCIENCE 1 - BIOPAC SYMPOSIUM</td>
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<td>SYMPOSIUM - Evolution Evolves: Physiology returns to Centre Stage</td>
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<td>17:00 - 18:00</td>
<td>ERNEST KNOBIL LECTURE - DÉCIO L. EIZIRIK (BELGIUM) - When one becomes many: alternative splicing in pancreatic beta cells</td>
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### OVERVIEW / WEDNESDAY / AUGUST 3

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<td>PLENARY LECTURE - AMIRA KLIP (CANADA) - Immune cells co-opting metabolism to cause insulin resistance.</td>
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<td>09:45 - 11:45</td>
<td>SYMPOSIUM - Management and mismanagement of a physiological pH buffer: New concepts about CO2/HCO3- fluxes across biological membranes</td>
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<td>12:00 - 14:15</td>
<td>WOMEN IN SCIENCE 2 - RESEARCH IN GERMANY SYMPOSIUM</td>
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<td>14:45 - 16:45</td>
<td>SYMPOSIUM - Obesity, sleep disorder and arterial hypertension, is that your choice? Novel mechanisms for cardiovascular control and programming of obesity</td>
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<td>17:00 - 18:00</td>
<td>KEYNOTE LECTURE - HELEN RAYBOULD (USA) - BAYLISS- STARLING PRIZE LECTURE Bugs, Guts and Brains: How the Gut Microbiota Shapes Your Body and Mind</td>
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<td>18:00 - 19:00</td>
<td>KEYNOTE LECTURE - CLAUDIA CAPURRO (ARGENTINA) - Role of the Water Channel AQP4 in Gial Cells Homeostasis in Physiology and Disease.</td>
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**OVERVIEW / TUESDAY / AUGUST 1**

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<td>08:30 - 11:45</td>
<td>KEYNOTE LECTURE: Microbiota Shapes Your Body and Mind; DANIEL MARTIN (UK)</td>
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<td>11:45 - 12:45</td>
<td>SYMPOSIUM: Control and programming of obesity; HELEN RAYBOULD (USA)</td>
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<td>SYMPOSIUM: Novel mechanisms for cardiovascular hypertension, is that your choice?</td>
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<td>13:45 - 14:45</td>
<td>SYMPOSIUM: Obesity, sleep disorder and arterial disease; ADALBERTO VAL (BRAZIL)</td>
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<td>14:45 - 15:45</td>
<td>SYMPOSIUM: Physiology returns to Centre Stage; COLLEEN FARMER (USA)</td>
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<td>15:45 - 16:45</td>
<td>SYMPOSIUM: Bugs, Guts and Brains: How the Gut Management and mismanagement of obesity can cause insulin resistance; KATSUHIKO MIKOSHIBA (JAPAN)</td>
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<td>16:45 - 17:45</td>
<td>SYMPOSIUM: How do immune cells co-opt metabolism to cause insulin resistance; DEE SILVERTHORN (USA)</td>
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<td>KEYNOTE LECTURE: Immune cells co-opting metabolism</td>
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<td>Plenary Lecture: ADA YONATH (ISRAEL)</td>
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**SYMPOSIUM**

- Heterogeneity in Respiration: New insights from new approaches
- Dyadic and T-Tubule Remodelling in Cardiac Health and Disease
- Oscillations in neuronal ensembles of frontal cortex and the basal gangla circuits: Implications for neurologic and psychiatric disease
- Physiological and pathophysiological changes in the transcriptome: New targets for understanding autonomic regulation

**KEYNOTE LECTURE**

- SUSAN WRAY (UK): Myometrial Physiology – The Rhythms of Contraction and Life

**WORKSHOP**

- IUPS Phylsiome Journal

**SYMPOSIUM**

- Heart Failure and Atrial Fibrillation: Imbalance of Calcium Homeostasis
- Seasonal adjustments in Physiology: anticipatory or reflexive
- Cellular and molecular aspects of synaptic transmission

**KEYNOTE LECTURE**

- RHIAN TOUYZ (UK): Role of Redox Stress and Epigenetics in Ageing

**SYMPOSIUM**

- What experimental models of human diseases have taught us?
- Integrated Neural-Glia-Vascularure Control of Breathing
- New insights into the pathogenesis of Parkinson’s disease
- Dynamic methods for improving undergraduate physiology education

**KEYNOTE LECTURE**

- FRANCESCA DEMICHELIS (ITALY): Cell differentiation and drug pressure

**CELEBRATION OF SBFis 60th ANNIVERSARY**
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<td>YASUSHI MIYASHITA (JAPAN)</td>
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<td>Neural dynamics of cognitive memory system in the primate: where global network meets local circuit.</td>
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<td>Polymodal Properties of Carotid Body Chemoreceptors Beyond Hypoxia: Relation to Health and Disease</td>
<td><strong>SYMPOSIUM</strong></td>
<td>New insights into physiological and clinical adaptations to exercise and their heterogeneity</td>
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<td>TRP channels: structure, function and regulation</td>
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<td>New insights into prolactin regulation and functions: a key hormone integrating reproduction and metabolism</td>
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<td>Cardiorespiratory interactions - from animals to humans</td>
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<td>Cilia go by the flow</td>
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<td>Synapse function in the immune system</td>
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<td>The Two-way Physiology Street: Mutual benefits of volunteering expertise</td>
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<td>CHRISTIAN AALKJAER (DENMARK)</td>
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<td>AUGUST-KROGH LECTURE</td>
<td>ANTONIO C. L. NÔBREGA (BRAZIL)</td>
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<td>The Magnificent Cardiovascular System of Giraffes</td>
<td><strong>KEYNOTE LECTURE</strong></td>
<td>JACK FELDMAN (USA)</td>
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<td>Neural Control of the Circulation: Where the Brain Meets the Heart</td>
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<td>HODGKIN-HUXLEY-KATZ PRIZE LECTURE – Breathing: From rhythm to emotion</td>
<td>MASASHI YANAGISAWA (JAPAN)</td>
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<td>Towards the mystery of sleep and wakefulness: forward genetic analysis in mice</td>
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<td>DAVID EISNER (UK)</td>
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<td>ANNUAL REVIEW PRIZE LECTURE</td>
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<td>Ups and downs of calcium in the heart</td>
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<td>09:45 - 11:45</td>
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<td>New insights in the molecular physiology of the renal distal nephron</td>
<td><strong>SYMPOSIUM</strong></td>
<td>Newly recognized G protein-coupled receptors (GPCRs) as novel regulators of physiology</td>
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<td>Diaphragm plasticity in ageing and disease: Therapies for muscle weakness go from strength to strength.</td>
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<td>12:00 - 14:30</td>
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<td>Vasomotion - the rhythm of blood vessels</td>
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<td>Oxygen variation through time</td>
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<td>The renin-angiotensin system: going beyond the classical paradigms</td>
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<td>YVETTE TACHÉ (USA)</td>
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<td>Stress and brain-gut interactions: role of corticotropin releasing factor</td>
<td><strong>KEYNOTE LECTURE</strong></td>
<td>PASCAL HOULLIER (FRANCE)</td>
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<td>The Importance of the Paracellular Pathway</td>
<td>NEWTON CANTERAS (BRAZIL)</td>
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<td>ROGER KORNBERG (USA)</td>
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<td>WALLACE FENN LECTURE</td>
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<td>The Molecular Basis of Eukaryotic Gene Transcription</td>
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<td><strong>CLOSING CEREMONY</strong></td>
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<td>From synaptic and network plasticity to behavior</td>
<td>Mathematical Models in Health and Disease</td>
<td>A search for new epithelial magnesium transporters and channels in health and disease</td>
<td>Circadian rhythms and gastrointestinal physiology</td>
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<td>MIN GOO LEE (SOUTH KOREA)</td>
<td>Anion Channels and Bicarbonate Transport</td>
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<td><strong>SYMPOSIUM</strong></td>
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<td><strong>WORKSHOP</strong></td>
<td><strong>ORAL PRESENTATIONS</strong></td>
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<td>Scope for Survival: Animals in Extreme Environments</td>
<td>Modulation of physiological states of spinal networks to control posture and locomotion: underlying mechanisms and clinical translations</td>
<td>Getting your work published in physiology journals</td>
<td>ÁLVARO OSÓRIO DE ALMEIDA AWARD BY SBFls</td>
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| **SYMPOSIUM**        | **SYMPOSIUM**        | **SYMPOSIUM**        | **SYMPOSIUM**        |
| Gravitational Physiology, Aging and Medicine | Teaching Comparative Physiology: Multiple Approaches Promoting Learning | Hypothalamic regulation of the cardiovascular system | Oxidative stress, aging and neurodegeneration |

| **KEYNOTE LECTURE**  |                      |                      |                      |
| DUNCAN MITCHELL (SOUTH AFRICA) | SCHMIDT NEILSEN LECTURE | How Animals Will Work Under Climate Change |                      |
SCIENTIFIC PROGRAM / TUESDAY / AUGUST 1

16:30 - 17:00 - Plenary Room
OPENING CEREMONY

17:00 - 18:00 - Plenary Room
PLENARY LECTURE
DENIS NOBLE (UK) - Dance to the Rhythms of Life: physiology returns to centre stage
Chair - VAGNER R. ANTUNES (BRAZIL)

18:00 - 19:00 - Plenary Room
PLENARY LECTURE
ADA YONATH (ISRAEL) - Resistance to antibiotics, the microbiome and environmental issues, thoughts about the future.
Chair - DENIS NOBLE (UK)

19:00 - 20:00 - Plenary Room
RHYTMS OF LIFE

SCIENTIFIC PROGRAM / WEDNESDAY / AUGUST 2

08:30 - 09:30 - Plenary Room
PLENARY LECTURE
DANIEL MARTIN (UK) - Physiology at extreme altitude
Chair - PATRICIA ROCCO (BRAZIL)

09:45 - 11:45 - SYMPOSIA
From systems to organelles – understanding pancreatic beta cell function and dysfunction / Plenary Room
- Miriam Cnop (Belgium) - Using functional genomics to identify mechanisms of beta cell dysfunction in diabetes
- Licio Velloso (Chair - Brazil) - Common mechanisms and cross talk between brain and pancreatic beta cells in diabetes
- Michael Sammeth (Brazil) - A systems biology approach to integrate complex data in pancreatic beta cell research
- Flemming Pociot (Denmark) - Long non-coding RNAs regulate pancreatic beta cell function and dysfunction in diabetes

09:45 - 11:45 - SYMPOSIA
The Exercise Pressor Reflex as a Mediator of Sympathetic Overactivity in Cardiovascular Disease / Room 201
- Donal S. O’leary (USA) - Neural control of cardiovascular activity during dynamic exercise in heart failure
- Scott A. Smith (USA) - Exercise Pressor Reflex Dysfunction in Hypertension
- Carlos Eduardo Negrão (Brazil) - Effect of Exercise Training on Muscle Mechanoreflex and Metaboreflex Control in Human with Chronic Heart Failure
- Hanjun Wang (Chair - USA) - Molecular and Cellular Determinants of the Exercise Pressor Reflex in Heart Failure
- Denise Lobo (Brazil) - Neurovascular Responses During Chemoreceptors Stimulation in Systolic Heart Failure Patients with Sleep-Disordered Breathing

09:45 - 11:45 - SYMPOSIA
Intracellular Cl - (Cl-in) sensing in cell signaling and ion transport / Room 203
- Shmuel Muallem (Chair - USA) - Cl-in sensing in the regulation of Na+HCO3-transporters
- Melanie Cobb (USA) - WNK kinases as Cl-in sensors
- Mauricio Ostrosky-Frid (Mexico) - Chloride modulation of WNK4 effect on NCC and the relevance for potassium metabolism
- Laura Cancedda (Italy) - Accumulated Cl- reverses GAMAAR signaling in Down syndrome

09:45 - 11:45 - SYMPOSIA
Oxytocin oscillations throughout the life span / Room 210
- Kewir Nyuyki-Dufe (Canada) - Hypothalamic oxytocin pulses triggered by mating in males and females: Consequences for anxiety and stress responses
- Ioana Carcea (USA) - Large-scale behavioral and physiological analysis for the role of oxytocin in maternal interactions
- Aldo Bolten Lucion (Brazil) - Oxytocin: mother-infant attachment and separation
- Inga D Neumann (Chair - Germany) - When things go wrong: Anxiolytic, fear-reducing and anti-stress effects of oxytocin

09:45 - 11:45 - SYMPOSIA
Heterogeneity in Respiration: New insights from new approaches / Room 205
- Merryn Tawhai (Chair – New Zealand) - Of mice and men: innovative modelling to relate lung structure to function.
- Susan Hopkins (USA) - Imaging of ventilation, perfusion and gas exchange: new methods of assessing lung function.
- Peter Wagner (USA) - New methods for measuring muscle metabolism/perfusion distribution: Insights into muscle O2 availability.
- Isaac Cano (Spain) - Significance of heterogeneity in lung and muscle for O2 exchange in health and disease.

09:45 - 11:45 - SYMPOSIA
Dyadic and T-Tubule Remodelling in Cardiac Health and Disease / Room 207
- Andrew Trafford (Chair – UK) - AMPK as a key player in ventricular T-tubule biogenesis and target for heart failure therapies
- Alicia Mattiacci (Argentina) - How does CAMKII modulate dyadic function in health and disease
- Katharine Dibb (UK) - Atrial T-Tubules, their functional significance and restoration on recovery from heart failure
- Ting Ting Hong (USA) - Ion Channel Trafficking to T-tubules

Sponsored by The Physiological Society
Oscillations in neuronal ensembles of frontal cortex and the basal ganglia circuits implications for neurologic and psychiatric disease / Room 208

- Per Petersson (Chair – Sweden) - Information processing in cortico-basal ganglia-thalamic network in health and disease.
- Romulo Fuentes (Chile) - Neurmodulatory approaches targeting network oscillations in cortico-basal ganglia circuits
- Ivani Brys (Brazil) - Role of high-frequency oscillations in psychiatric conditions
- Claudio da Cunha (Brazil) - The role of the basal ganglia in action-selection
- Juan Mariman (Chile) - Oscillations behind motor learning: alternating electric stimulation as a way to modulate the nervous system

Physiological and pathophysiological changes in the transcriptome: New targets for understanding autonomic regulation / Room 211

- David Murphy (UK) - From transcriptome to physiology: novel insights into hypothalamic function
- Alastair V. Ferguson (Canada) - Genomic analysis of the subfornical organ: information overload or the key to understanding integrated physiological functions?
- Sabine Gouraud (Japan) - Deciphering the transcriptome of hypertensive nucleus tractus solitarii to unmask blood pressure regulation mechanisms.

12:00 - 13:00 - BIOPAC SYMPOSIUM / Room 210
Increasing Student Engagement and Educator Satisfaction with Biopac Student Lab
Presenter: Tim Cook, Sales Representative Central and South America, BIOPAC Systems, Inc

12:00 - 14:00 - SBFis GENERAL ASSEMBLY / Room 207

12:00 - 14:15 - WOMEN IN SCIENCE 1 / Room 201
Presidents of Physiological Societies: Equality and Differences

12:00 - 14:30 - POSTER SESSIONS

CARDIOVASCULAR PHYSIOLOGY.........................................................1.001 - 1.072
CELLULAR AND MOLECULAR PHYSIOLOGY......................................2.001 - 2.035
CENTRAL NERVOUS SYSTEM..........................................................3.001 - 3.032
METABOLISM......................................................................................4.001 - 4.030
EXERCISE PHYSIOLOGY......................................................................5.001 - 5.030
ENDOCRINOLOGY AND REPRODUCTION.....................................6.001 - 6.025
RESPIRATORY PHYSIOLOGY...............................................................7.001 - 7.025
NEURAL CONTROL AND AUTONOMIC REGULATION......................8.001 - 8.030
RENAL PHYSIOLOGY.............................................................................9.001 - 9.014

14:45 - 16:45 - SYMPOISA
Evolution Evolves: Physiology returns to Centre Stage / Plenary Room

- David Paterson (Chair - UK)
- Michael Joyner (USA) - Chasing Mendel. Thinking about genotype versus phenotype
- Yoav Soen (Israel) - Evolution Evolves: Physiology returns to Centre Stage
- Abigail Fowden (UK) - Inherited Maternal effects
- Yonghua Sun (China) - Maternal effects on embryonic development by using fish knockout models

Sponsored by The Physiological Society

Shared and unique aspects of the gating mechanisms of ligand- and voltage-gated ion channels / Room 201

- Yoshihiro Kubo (Chair - Japan) - Activation mechanisms and binding sites of ivermectin in G-protein-gated inwardly rectifying potassium channels
- Derek Bowie – (Canada) - Structural and functional biology of the glutamatergic synapse
- Cecilia Bouzat (Argentina) - Molecular bases of function and drug modulation of α7 nicotinic receptors: Implications for drug discovery
- Frank Bosmans (USA) - Architecture of the sodium channel signaling complex
- Marc Gielen (France) - Structural basis of inhibitory Cys-loop receptor desensitization

Sponsored by The Journal of Physiology and The Physiological Society

New discoveries in tissue cross-talk, metabolic control and disease pathogenesis / Room 203

- Bente Klarlund Pedersen (Denmark) - Muscles, exercise and obesity: skeletal muscle as a secretory organ
- Matthew Watt (Chair – Australia) - Liver secreted factors impact metabolic homeostasis in health and disease
- Kasey Vickers (USA) - Cross-kingdom Gene Regulation by Lipoproteins
- Mark Tarnopolsky (Canada) - Characterization of novel exosomes: from systemic metabolic effects to treating neuromuscular disorders

New roles of Aldosterone and Mineralocorticoid receptors in cardiovascular disease: Translational and Sex-specific effects / Room 210

- Frederic Jaisser (France) - Repositioning Mineralocorticoid receptor antagonists: pathological basis and therapeutic implications
- Iris Jaffe (USA) - The Role of Smooth Muscle Cell Mineralocorticoid Receptors in Cardiovascular Aging
- Rita Tostes (Brazil) - Role of the NLRP3/Inflammasome on aldosterone-induced vascular damage
- Eric J. Belin de Chantemele (Chair – USA) - Neuromodulatory approaches targeting network oscillations in cortico-basal ganglia circuits
- Claudia da Cunha (Brazil) - The role of the basal ganglia in action-selection
- Juan Mariman (Chile) - Oscillations behind motor learning: alternating electric stimulation as a way to modulate the nervous system

Sponsored by American Physiological Society and American Journal of Physiology – Regulatory, Integrative and Comparative Physiology

Heart Failure and Atrial Fibrillation: Imbalance of Calcium Homeostasis / Room 205

- William Louch (Chair – Norway) - New Insight into Control of Dyadic Structure in Cardiomyocytes
- Cecilia Hidalgo (Chile) - Redox Modifications of Ryanodine Receptors
- Bjorn Knollmann (USA) - Inhibition of pathological calcium release for preventing atrial fibrillation in mice and humans
- Morten Thomsen (Denmark) - CHFp2P and the failing heart
- Shi-Qiang Wang (China) - Beta-adrenergic regulation of intracellular calcium dynamics in health and CPVT cardiomyocytes

Sponsored by Scandinavian Physiological Society
Seasonal adjustments in Physiology: anticipatory or reflexive / Room 207

- Charles Loren Buck (USA) - Circannual and circadian rhythms of an arctic squirrel
- Fritz Geiser (Australia) - Seasonal changes in the expression of torpor in birds and mammals
- Dehua Wang (China) - Seasonal changes in thermogenesis and energy metabolism in small mammals in China.
- Kenia Cardoso Bicego (Chair – Brazil) - Seasonal physiology in a facultative endothermic lizard

Cellular and molecular aspects of synaptic transmission / Room 208

- Yuko Sekino (Chair – Japan)
- Christian Gonzalez-Billault (Chile) - Pre- and postsynaptic functions of the microtubule-associated proteins
- Tomoaki Shirao (Japan) - Novel actin-dependent mechanism of synaptic plasticity
- Shernaz Bamji (Canada) - Regulation of synaptic plasticity, learning and addiction by cadherin adhesion complexes

WORKSHOP: Introducing the Physiome Journal and associated technologies to improve reproducibility, reuse, and discovery of computational models. / Room 211

- Peter Hunter (New Zealand) - Introducing the Physiome Journal
- David Nickerson (New Zealand) - Standards and repositories supporting reproducible modelling
- Alan Garny (France) - OpenCOR: a modular and interoperable approach to reproducible modelling
- Hands on tutorial and demonstrations

17:00 - 18:00 - KEYNOTE LECTURES

DÉCIO L. EIZIRIK (BELGIUM) / Plenary Room
When one becomes many: alternative splicing in pancreatic beta cells
Chair - LÍCIO VELLOSO (BRAZIL)

COLLEEN FARMER (USA) / Room 201
Physiological and evolutionary implications of the discovery of unidirectional pulmonary airflow in lizards and crocodilians
Chair - LUCIANE H. G. BATALHÃO (BRAZIL)

TOM KIRKWOOD (UK) / Room 203
Paton Prize Lecture - Why and How are We Living Longer?
Introduction - Mike Tipton, UK
Vote of Thanks - Susan Deuchars, UK
Sponsored by The Physiological Society

KATSUHIKO MIKOSHIBA (JAPAN) / Room 210
IP3 Receptor / Calcium Signaling: Its Role in Physiology and Pathophysiology
Chair - LUSIANE M. BENDHACK (BRAZIL)

SUSAN WRAY (UK) / Room 205
Myometrial Physiology – The Rhythms of Contraction and Life
Chair - ANGELINA ZANESCO (BRAZIL)

SCIENTIFIC PROGRAM / THURSDAY / AUGUST 3

08:30 - 09:30 / Plenary Room
PLENARY LECTURE
AMIRA KLIP (CANADA) - Immune cells co-opting metabolism to cause insulin resistance.
Chair - JULIE CHAN (TAIWAN)

09:45 - 11:45 - SYMPOSIA

Management and mismanagement of a physiological pH buffer:
New concepts about CO2/HCO3- fluxes across biological membranes / Plenary Room

- Walter Boron (Chair - USA)
- Fraser J Moss (Chair - USA)
- Ernesto Alejandro Aiello (Argentina) - Pathophysiological role of the sodium/bicarbonate cotransporter (NBC) in the heart.
- Raif Musa-Aziz (Brazil) - Pathways for CO2 and/or NH3 transport across cell membranes.
- Mark D. Parker (USA) - Bicarbonate transporters and eye pathophysiology.

New insights into the biology of high-intensity exercise training / Room 201

- Guilherme G. Artioli (Brazil) - Can high-intensity exercise training increase muscle carnosine content?
- Nir Eynon (Chair - Australia) - The Gene SMART study provides insights into the genetic influence on adaptations to high-intensity training
- David Bishop (Australia) - High-intensity exercise training and mitochondrial biogenesis
- Maureen MacDonald (Canada) - High-intensity exercise and cardiovascular function
- Bareket Falk (Canada) - High-intensity exercise and bone physiology in adults and children

Cardiovascular Consequences of Pollution / Room 203

- Fabien Brette (France) - Effects of Oil Spill Toxicity on Cardiac Myocytes from Oceanic Predators
- Holly Shiel (Chair – UK) - Poly Aromatic Hydrocarbons and Mammalian Arrhythmogenesis
- John Incardona (USA) - Developing heart form follows function: Morphological consequences of PAH cardiotoxicity
- Elin Sorhus (Norway) - RNA-Seq reveals novel impacts of PAHs on excitation-transcription coupling in cardiomyocytes
- Mark Miller (UK) - The impact of air pollution on human hearts

Sponsored by The Physiological Society
Promoting Ethical Practices in Physiological Research / Room 210

- Penny Moody-Corbett (Canada) - Ethics in the Research Lifecycle
- Ashima Anand (Chair – India) - International perspectives on research integrity: update from The World Conferences of Research Integrity
- Sonia Vasconcelos (Brazil) - Education and governance in research integrity: examples from the Americas
- Bill Yates (USA) - Publication standards, adhering to research integrity

What experimental models of human diseases have taught us? / Room 205

- Patricia Rieken Macedo Rocco (Brazil) - Acute respiratory distress syndrome: what experimental models have taught us?
- Claudia dos Santos (Chair – Brazil) - Experimental sepsis: the role of genomics, proteomics, bioinformatics and translational biology.
- Bela Suki (USA) - Lung structure-function relations in experimental emphysema.
- Walter Zin (Brazil) - Understanding acute and chronic air pollution and their impact on lung function

Integrated Neural-Glia-Vascular Control of Breathing / Room 207

- Daniel K. Mulkey (Chair – USA) - Purinergic signaling provides specialized control of vascular tone in the retrotrapezoid nucleus to support the CO2/H+-dependent drive to breathe
- Gregory D. Funk (Canada) - The role of P2Y1 receptor signaling in central respiratory control.
- Hiroshi Onimaru (Japan) - Relationship between the distribution of the paired-like homeobox gene (Phox2b) expressing cells and blood vessels in the parafacial region of the ventral medulla of neonatal rats.
- Fernando Peña-Ortega (Mexico) - Glial modulation of pre-Bötzinger complex plasticity
- Luciane H. Gargaglioni (Brazil) - Orexinergic system in the locus coeruleus and the CO2 drive to breathe

Sponsored by American Physiological Society and Journal of Neurophysiology

New insights into the pathogenesis of Parkinson’s disease / Room 208

- Jiawei Zhou (Chair – China) - Differential signaling by Hsp22 and Bag3 in midbrain dopaminergic neurons determines susceptibility to neurotoxins via autophagy pathway
- Yizheng Wang (China) - Contribution of Dicer to neuronal survival in the mouse PD models
- Elaine Del-Bel (Brazil) - New avenues for the treatment of L-DOPA-induced dyskinesias in Parkinson’s disease: targeting nitric oxide, glutamate and inflammation
- Rodrigo Pacheco (Chile) - Dopamine-driven inflammation in the gut and the brain

Sponsored by Chinese Association Phisiological Science (CAPS)

Dynamic methods for improving undergraduate physiology education / Room 211

- Pâmela Billig Mello-Carpes (Chair – Brazil)
- Barbekka Hurt (USA) - Multi-modality learning: Implementation of 3D simulation alongside traditional lab education methods in anatomy and physiology
- Fernanda Klein Marcondes (Brazil) - Combined use of educational games and quizzes in physiology teaching
- Colleen Thomas (Australia) - Animating textbook images: Tackling roadblock physiological concepts in the online subject delivery era
- Kathleen Marie Bartlow (USA) - Using Brain Awareness Week as a teaching tool
- Maria José Alves da Rocha (Brazil) - Using interactive systems and virtual platforms to engage students in learning and understanding physiology

12:00 - 13:00 - RESEARCH IN GERMANY SYMPOSIUM / Room 210

12:00 - Introduction
12:05 - Testimonial - Stefan Offermanns, Department of Pharmacology at the Max Planck Institute for Heart and Lung Research
12:20 - Exchange and Fellowship PROGRAMs of the German Academic Exchange Service (DAAD) - Maria Julia Torres, DAAD Office Rio de Janeiro
12:30 - Funding PROGRAMs of the German Research Foundation (DFG) - Helmut Galle, DFG Liaison Scientist in Brazil
12:40 - Opportunities offered by the Alexander von Humboldt-Foundation (AvH) - Mônica Santos de Freitas, Dep. of Biochemistry at the Federal Univ. of Rio de Janeiro (UFRJ)
12:50 - Q&A Session

12:00 - 14:15 - WOMEN IN SCIENCE 2 / Room 201

Early Carriers Physiologists: Networking and equality discussion

12:00 - 14:30 - POSTER SESSIONS

CARDIOVASCULAR PHYSIOLOGY..................................................1.073 - 1.129
CELLULAR AND MOLECULAR PHYSIOLOGY.........................2.036 - 2.065
CENTRAL NERVOUS SYSTEM....................................................3.033 - 3.059
METABOLISM...........................................................................4.031 - 4.060
EXERCISE PHYSIOLOGY..........................................................5.031 - 5.059
ENDOCRINOLOGY AND REPRODUCTION..............................6.026 - 6.050
RESPIRATORY PHYSIOLOGY....................................................7.026 - 7.048
NEURAL CONTROL AND AUTONOMIC REGULATION..............8.031 - 8.064
RENAL PHYSIOLOGY..............................................................9.015 - 9.029
COMPARATIVE PHYSIOLOGY..................................................10.001 - 10.020

14:45 - 16:45 - SYMPOSIA

Obesity, sleep disorder and arterial hypertension, is that your choice?

Novel mechanisms for cardiovascular control and programming of obesity / Plenary Room

- Alan Kim Johnson (USA) - The effects of early life experiences on the etiology of hypertension
- Virend K. Somers (USA) - Sleep Apnea and Sleep Deprivation: Implications of inadequate sleep for obesity, hypertension and cardiometabolic risk.
- Egberto C. Moura (Brazil) - Lactation is an important period to decrease the risk of obesity and cardiovascular risk
- Jussara M. do Carmo (USA) - Regulation of metabolic and cardiovascular function by the brain leptin-melanocortin pathway: What is new?
- Mirian Bassi (Chair – Brazil) - Obesity, leptin and breathing control

Sponsored by Acta Physiologica
Physiologists Reach Out to School Students to Entice Future Physiologists! / Room 201

- Barbara E. Goodman (Chair – USA) - Outreach Programs to School Children through the American Physiological Society
- Pamela Billig Mello-Carpes (Brazil) - Brazilian outreach actions to promote physiology learning and teaching in secondary and high schools
- Frankie MacMillan (UK) - University of Bristol Physiology Outreach Strategy, to whom are we reaching out?
- Manish Bajpai (India) - Prarambh/Initiation of Basic Life Science Skills
- Rudolf Schubert (Germany) - News in physiology presented by young physiologists at secondary schools in Germany

Sponsored by American Physiological Society and Advances in Physiology Education

Autonomic rhythms in health and disease / Room 203

- Susan Deuchars (Chair – UK) - Changing levels of rhythmic sympathetic nerve activity
- Song Yao (Australia) - Blood-brain barrier and autonomic rhythms
- Ruth Stornetta (USA) - Pre-sympathetic C1 neurones: a nodal point for stress?
- Alex Gourine (UK) - Gial control of autonomic circuits

Sponsored by The Physiological Society and Experimental Physiology

Piezo channel mechanisms in health and disease / Room 210

- Boris Martinac (Australia) - Mechano-sensing channel mechanisms
- David Beech (Chair – UK) - Piezo1 in vascular biology
- Bailong Xiao (China) - Piezo1 channel structure
- Philip Gottlieb (USA) - Piezo channel regulatory domains
- Pia Ostergaard (UK) - Piezo1 in non-immune hydrops fetalis

Sponsored by The Physiological Society

The Sigh: A biological rhythm in the interface between physiology and psychology / Room 205

- Jan Marino Ramirez (USA) - Neuronal mechanisms of rhythm generation of the sigh
- Muriel Thoby-Brisson (France) - Development of the neuronal network underlying sigh
- Peter Burke (Australia) - Sigh and the coupling to the noradrenergic arousal system
- Elke Vlemincx (Chair – Belgium) - The role of sighs in controlling emotional states in humans

Calcium handling and mishandling: Role in Cardiac Rhythm and Dysrhythmia / Room 207

- Yael Yaniv (Israel) - The coupled clock pacemaker system
- Ana Mara Gomez (France) - Regulation of RyR2 by L type Calcium channel in the sino-atrial pacemaker activity
- Francisco Alvarado (USA) - Ryanodine receptors: Function and regulation
- Martin Vila Petroff (Chair – Argentina) - Role of CaMKII in RyR2 regulation and Calcium triggered arrhythmias
- Filip L.A. Van Petegem (Canada) - High resolution insights into calmodulin regulation and misregulation of cardiac ion channels

Role of Redox Stress and Epigenetics in Ageing / Room 208

- Giovanni E. Mann (Chair – UK) - Gestational diabetes induced redox and epigenetic stress: consequences for cardiovascular dysfunction in offspring
- Jose Vila (Spain) - Molecular mechanisms underlying health benefits of exercise in human ageing
- Renu A. Kowluru (USA) - Epigenetic regulation of diabetic retinopathy in aging
- Holly van Remmen (USA) - Dysregulation of mitochondrial redox signaling and consequences for skeletal muscle aging

Sponsored by Society for Redox Biology and Medicine and The Physiological Society

17:00 - 18:00 - KEYNOTE LECTURES

HELEN RAYBOULD (USA) / Plenary Room
BAYLISS- STARLING PRIZE LECTURE – Bugs, Guts and Brains: How the Gut Microbiota Shapes Your Body and Mind
Introduction - Holly Shiels, UK
Vote of Thanks - Deborah Baines, UK
Sponsored by The Physiological Society

ADALBERTO VAL (BRAZIL) / Room 201
Life in Tropical Waters: Rhythms and Challenges
Chair - WILLIAM K. MILSOM (CANADA)

CLAUDIA CAPURRO (ARGENTINA) / Room 203
Role of the Water Channel AQP4 in Gial Cells Homeostasis in Physiology and Disease.
Chair - ERNESTO A. AIELLO (ARGENTINA)

DEE SILVERTHORN (USA) / Room 210
ADInstruments LECTURE – The Intersection of Science, Education, and Creative Communities
Chair - FERNANDA M. KLEIN (BRAZIL)
Sponsored by ADInstruments

FRANCESCA DEMICHELIS (ITALY) / Room 205
Cell differentiation and drug pressure
Chair - ANA CAROLINA TAKAKURA (BRAZIL)

RHIAN TOUYZ (UK) / Room 207
JOAN MOTT PRIZE LECTURE – Pathophysiology and Vascular Biology of Small Vessel Disease
Introduction - Susan Deuchars, UK
Vote of Thanks - Susan Wray, UK
Sponsored by The Physiological Society
08:30 - 09:15 / Plenary Room
PLENARY LECTURE
YASUSHI MIYASHITA (JAPAN) - Neural dynamics of cognitive memory system in the primate: where global network meets local circuit.
Chair - YOSHIHIRO KUBO (JAPAN)

09:45 - 11:45 - SYMPOSIA
Polymodal Properties of Carotid Body Chemoreceptors Beyond Hypoxia: Relation to Health and Disease / Plenary Room
- Harold D. Schultz (Chair – USA) - Transcriptional regulation of carotid body function by blood flow
- Jacqueline K. Limberg (USA) - The carotid body chemoreceptors and glucose regulation in humans
- Silvia Vilares Conde (Portugal) - Carotid body: a metabolic sensor implicated in insulin resistance
- Colin A. Nurse (Canada) - The role of glial-like type II cells as paracrine modulators of carotid body chemoreception
- Nanduri R. Prabhakar (USA) - Epigenetic regulation of carotid body O2 sensing

Sponsored by American Physiological Society and Physiological Genomics

TRP channels: structure, function and regulation / Room 201
- Ligia Araujo Naves (Chair – Brazil) - Allosterism in thermoTRP channels.
- Sharon E. Gordon (USA) - Mechanism of multimodal gating in TRPV1 ion channels
- Laszlo Csanady (Hungary) - Converting three input signals into a single readout: structure and function of the TRPM2 channel
- Tamara Rosenbaum (Mexico) - The link between pain, itch, fatty acids and TRPV1.

Supported by the Journal of General Physiology

New insights into physiological and clinical adaptations to exercise and their heterogeneity / Room 203
- Bethan Phillips (UK) - The heterogeneity and efficacy of pre-operative high-intensity interval training in cancer patients
- Philip J Atherton (Chair – UK) - The impact of age on metabolic and molecular governance of exercise adaptation
- Heikki Kainulainen (Finland) - Alternative exercise modes for the low responder to exercise
- Patricia Brum (Brazil) - Exercise training for counteracting skeletal myopathy in chronic diseases: relevance to heart failure and cancer
- Vitor Lira (USA) - Muscle autophagy and the exercise training-mediated benefits in obesity and diabetes.

Sponsored by The Physiological Society

New insights into prolactin regulation and functions: a key hormone integrating reproduction and metabolism / Room 210
- Damasia Becu-Villalobos (Argentina) - Intertwined dialogue of prolactin, growth hormone and dopamine receptors in food intake, glucose balance and adiposity regulation
- Jose Donato Jr. (Brazil) - Anti-diabetic potential of manipulating prolactin signaling
- Raphael E. Szawka (Brazil) - New insights into prolactin interaction with gonadal axis and its role in fertility
- Patrice Mollard (France) - In vivo monitoring of the activity and regulation of the prolactin network
- David R. Grattan (Chair – New Zealand) - Prolactin action in the medial preoptic region is essential for post partum maternal behavior

From synaptic and network plasticity to behavior / Room 205
- Juan Lemmi (Spain) - Behavioral impact of altering synaptic gain
- Ying-Shing Chan (Chair – China) - Developmental plasticity of brain circuits for navigational behavior
- Jinshun Qi (China) - A novel unimolecular GLP-1/GIP/GCG triagonist improves the cognitive behavior and hippocampal pathology in 3xTg-AD mice.

Sponsored by Chinese Association Phisiological Science (CAPS)

Mathematical Models in Health and Disease / Room 207
- Denis Noble (UK) - The importance of using mathematical models in physiological research
- Elena Lascano (Chair – Argentina) - Mathematical models of the cardiovascular system
- Juan Ignacio Felice (Argentina) - Mathematical models of cardiomyocytes

A search for new epithelial magnesium transporters and channels in health and disease / Room 208
- Alexey G. Ryazanov (USA) - Epithelial magnesium transport by TRPM6
- Yosuke Funato (Japan) - CNNM magnesium transporters in health and disease
- Jeroen de Baaij (Chair – Netherlands) - SLC41 magnesium transporters in epithelia
- Frederica Wolf (Italy) - Magnesium and its transporters in cancer

Circadian rhythms and gastrointestinal physiology / Room 211
- Karl-Heinz Herzig (Chair – Finland)
- Patricia Brubaker (Canada) - Circadian secretion of the intestinal hormones
- Guillaume de Lartigue (USA) - Clocks and vagal signaling
- Charna Dibner (Switzerland) - Molecular mechanisms of clocks and their effects on insulin release.

Sponsored by Scandinavian Physiological Society

12:00 - 13:00 - WPI SYMPOSIUM / Room 210
12:00 - 14:30 - POSTER SESSIONS

CARDIOVASCULAR PHYSIOLOGY ................................................. 1.130 - 1.215
CELLULAR AND MOLECULAR PHYSIOLOGY ................................. 2.066 - 2.104
CENTRAL NERVOUS SYSTEM .................................................. 3.060 - 3.096
METABOLISM .............................................................................. 4.061 - 4.090
EXERCISE PHYSIOLOGY ............................................................. 5.060 - 5.089
ENDOCRINOLOGY AND REPRODUCTION ..................................... 6.051 - 6.077
RESPIRATORY PHYSIOLOGY ....................................................... 7.049 - 7.074
COMPARATIVE PHYSIOLOGY ..................................................... 10.021 - 10.020

14:45 - 16:45 - SYMPOSIA
Cardiorespiratory interactions - from animals to humans / Plenary Room
- Erin OCallaghan (UK) - Respiratory modulation of cardiac sympathetic nerves in rat
- Alona Ben-Tal (New Zealand) - Mathematical modeling of cardiorespiratory system
- Rohit Ramchandra (New Zealand) - Respiration and heart failure in sheep
- Maja Elstad (Chair – Norway) - Hemodynamic interactions between respiration and circulation in humans

Cilia go by the flow / Room 201
- Helle Praetorius (Chair – Denmark) - The primary cilium as sensor of fluid flow
- Jose Badano (Uruguay) - Ciliary Physiology: understanding the cellular and genetic basis of human ciliopathies
- Iain Drummond (USA) - Ciliary Physiology: understanding the cellular and genetic basis of human ciliopathies
- Surya Nauli (USA) - Functional mechanisms of the primary cilium

Synapse function in the immune system / Room 203
- Claudio G. Giraudo (USA) - New mutations in Stxbp2 affect granule fusion of the immunological synapse
- Hsin-Fang Chang (Germany) - Endocytosis of cytotoxic granules at the immunological synapse
- Jennifer L. Stow (Australia) - Cytokine secretion: SNAREs, Rabs and membrane trafficking
- Yenan T. Bryceson (Chair – Sweden) - Immune deficiencies in humans

The Two-way Physiology Street: Mutual benefits of volunteering expertise / Room 210
- Penelope A. Hansen (Canada) - Not a physician? What is a physiologist doing
- Tony Macknight (Chair - New Zealand) - Education Workshops. Who really benefits?
- Anisha Taylor (UK) - Lab,13 Ghana: Creative learning in resource constrained environments
- Olusoga A. Sofola (Nigeria) - An Informal Research Assistance Arrangement to Enhance Capacity Building of Young Researchers in Physiology in Nigeria

Wild clocks: Temporal organization of physiology and behavior in natural settings / Room 205
- Barbara Helm (UK) - Temporal multitasking: programs and plasticity of migratory birds on different time scales.
- Horacio De La Iglesia (USA) - Sleep Under “Natural” Conditions
- Gisele A. Oda (Chair – Brazil) - Adaptive responses in changing environments: annual cycles of butterflies during atypical rainfall regimes

The Physiology of Polycystic Kidney Disease: New Molecular Pathways and Therapeutic Targets / Room 207
- Michael Caplan (Chair – USA) - The polycystin proteins as oxygen sensors and regulators of cellular energy metabolism
- Alessandra Boletta (Italy) - Metabolic alterations in Polycystic Kidney Disease
- Dorien J. Peters (Netherlands) - Polycystic kidney disease: How tissue context affects cystogenesis
- Luiz F. Onuchic (Brazil) - Mechanisms of cardiac dysfunction associated with polycystic kidney disease

Workshop - Getting your work published in physiology journals / Room 208
- Mike Tipton (UK) - Designing your hypothesis and study with publication in mind.
- Kim Barrett (USA) - The do's and don'ts of preparing your work for publication.
- Dennis Brown (USA) - What Are Editors Looking For?
- Irving Zucker (USA) - Heart and Circulatory Physiology

ORAL PRESENTATIONS - ALVARO OSÓRIO DE ALMEIDA AWARD BY SBFS / Room 211
Eduardo Colombani (Chair - Brazil)
- Amy Kirkham (USA) - Seasonal cycles in Antarctic Weddel Seals: Ovulation and molt related to midsummer prolactin declines.
- Camilo Enrique Toledo (Chile) - Purinergic signaling in the retrotrapezoid nucleus: A new signaling involved in the development of breathing pattern irregularities in HFPEF rats.
- Indianara C. Ribeiro (Brazil) - Peripheral chemoreflex regulates post-exercise cardiac vagal reactivation in healthy humans regardless of exercise intensity.
- Pedro Victor N. Teixeira (Brazil) - Resistance training modifies hemodynamic parameters and improves the gastric dismotility induced by dexamethasone in rats.
- Sérgio R. Scalzo (Brazil) - Signal pathways activated by the new Mas receptor agonist, CGEN-856S, in cardiomyocytes.

SCIENTIFIC PROGRAM / FRIDAY / AUGUST 4

17:00 - 18:00 - KEYNOTE LECTURES

CHRISTIAN AALKJAER (DENMARK) / Plenary Room
AUGUST-KROGH LECTURE – The Magnificent Cardiovascular System of Giraffes
Chair - VLADIMIR MATCHKOV (DENMARK)
Sponsored by The Scandinavian Physiological Society

ANTONIO C. L. NÓBREGA (BRAZIL) / Room 201
Neural Control of the Circulation During Exercise: Where the Brain Meets the Heart
Chair - LISETE C. MICHELINI (BRAZIL)

JACK FELDMAN (USA) / Room 203
HODGKIN-HUXLEY-KATZ PRIZE LECTURE – Breathing: From rhythm to emotion.
Introduction - David Eisner, UK
Vote of Thanks - Mike Ludwig, UK
Sponsored by The Physiological Society

MASASHI YANAGISAWA (JAPAN) / Room 210
Towards the mystery of sleep and wakefulness: forward genetic analysis in mice
Chair - BENEDITO H. MACHADO (BRAZIL)

MIN GOO LEE (SOUTH KOREA) / Room 205
Anion Channels and Bicarbonate Transport
Chair - THIAGO S. MOREIRA (BRAZIL)

SCIENTIFIC PROGRAM / SATURDAY / AUGUST 5

08:30 - 09:30 / Plenary Room
PLENARY LECTURE
DAVID EISNER (UK) - ANNUAL REVIEW PRIZE LECTURE - Ups and downs of calcium in the heart.
Introduction - Bridget Lumb, UK
Vote of Thanks - Denis Noble, UK
Sponsored by The Physiological Society

09:45 - 11:45 - SYMPOSIA

New insights in the molecular physiology of the renal distal nephron / Plenary Room
- Jenny van der Wijst (Chair – Netherlands) - Regulation of magnesium transport in the distal part of the nephron.
- Gerrit Daubner (UK) - The WNK-SPAK/OSR1 pathway in general
- Sung-Sen Yang (Taiwan) - Molecular regulation of sodium-chloride cotransporter NCC
- Eisei Sohara (Japan) - WNK kinase signalling to cation chloride transporters

Newly recognized G protein-coupled receptors (GPCRs) as novel regulators of physiology / Room 201
- Paul A. Insel (Chair - USA) - "New" GPCRs: The unknown unknowns of physiology
- Stefan Offermanns (Germany) - Molecules that are generated during metabolism—including fatty acids, saccharides, lactate and ketone bodies.
- Debbie L. Hay (New Zealand) - Novel neuropeptide receptors in pain physiology
- Jennifer Pluznick (USA) - Novel Roles for Orphan GPCRs in renal physiology
- James Eberwine (USA) - Identification of endogenously expressed GPCRs using single-cell transcriptomics

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Diaphragm plasticity in ageing and disease: Therapies for muscle weakness go from strength to strength! / Room 203
- Coen Ottenheijm (Netherlands) - Restoration of diaphragm fibre strength in critically ill patients.
- Sarah M. Greising (Chair - USA) - Age-related sarcopenia in diaphragm muscle.
- Esther Barreiro (Spain) - Diaphragm dysfunction in cancer cachexia: mechanisms and therapies.
- Ken O’Halloran (Ireland) - Hypoxia-induced diaphragm dysfunction: Strengthening the case for antioxidant intervention in respiratory patients.

Sponsored by American Physiological Society and Journal of Applied Physiology

Neuroendocrine alterations in the hypothalamus by excess nutrients and endocrine disrupting chemicals causing metabolic disorders / Room 210
- Denise D. Belsham (Chair – Canada) - Detrimental effects of high fat or high sugar on neuropeptide synthesis and circadian rhythms in cell models from the hypothalamus.
- Deborah Kurrasch (Canada) - Endocrine-disrupting chemicals and their effects on hypothalamic development.
- Sarah A. Stanley (USA) - Remote control of neurons to analyze glucose metabolism.
- Deborah J. Klegg (USA) - Estrogens and their receptors regulate the hypothalamic response to nutrients.

Sponsored by American Physiological Society, American Journal of Physiology - Endocrinology and Metabolism, and Canadian Physiological Society

Scope for Survival: Animals in Extreme Environments / Room 205
- Marina Giacomin (Canada) - Physiological adaptations to hypoxia and salinity in the killifish Fundulus heteroclitus
- Paul Ponganis (USA) - Management of oxygen stores while diving at depths
- William K. Milsom (Chair – Canada) - Hypoxia adaptations for life at altitude
- Tobias Wang (Denmark) - How snakes have adapted their gastrointestinal and cardiovascular systems to prolonged fasts followed by binge-eating
- Julia Nowack (Austria) - Can heterothermy facilitate the colonization of new habitats?

Sponsored by American Physiological Society and Journal of Applied Physiology

Modulation of physiological states of spinal networks to control posture and locomotion: underlying mechanisms and clinical translations / Room 207
- Yuri Gerasimenko (Chair - Russia) - Sensory-motor regulation of posture and locomotion using non-invasive multisegmental spinal cord electrical stimulation.
- Ursula S. Hofstetter (Austria) - Spinal cord stimulation: Harnessing the motor capacity of the lumbar circuitry for movement recovery in paralyzed individuals,
- Parag Gad (India) - Subliminal and Suprathreshold Sensorimotor Neuroumodulation to Facilitate Locomotion.
- Yuri Ivanenkov (Italy) - Spinal locomotor output in humans and its development.
- V. Reggie Edgerton (USA) - Neuroumodulatory strategies for recovery of sensorymotor function after spinal cord injury are ready to be the speakers of the Symposium

Sponsored by American Physiological Society and Journal of Neurophysiology
SCIENTIFIC PROGRAM / SATURDAY / AUGUST 5

Priming for health: The relevance of the brain-gut communication / Room 208

- Ludmila Filaretova (Russia) - The hypothalamic-pituitary adrenal cortical axis as gastroprotective hormonal component of the brain-gut axis
- Valentin A. Pavlov (Chair - USA) - The vagus nerve and the inflammatory reflex
- Izabela Martina Ramos Ribeiro (Brazil) - Brain-liver axis in the control of glucose production by central action of insulin
- Andreas Stengel (Germany) - Alteration of gut-brain signaling under conditions of obesity

Sponsored by American Physiological Society and American Journal of Physiology – Gastrointestinal and Liver

Oxidative stress, aging and neurodegeneration / Room 211

- Thomas Foster (USA) - Age-related changes in redox regulation of NMDA receptors.
- Yohei Okubo (Japan) - Nitric oxide contributes to epileptic seizure-induced neuronal death.
- Marco T. Nunez (Chile) - Parkinson disease: The mitochondria-iron link.
- Roberto De Pasquale (Brazil) - Reactive oxygen species and synaptic plasticity in health and disease
- Andrea Paula-Lima (Chair – Chile) - Reactive oxygen species mediate synaptic plasticity defects in a model of Alzheimer’s Disease.

12:00 - 14:30 - POSTER SESSIONS

RENAL PHYSIOLOGY ........................................................... 9.030 - 9.043
GASTROINTESTINAL AND LIVER PHYSIOLOGY .................... 11.001 - 11.031
TEACHING AND EDUCATION IN PHYSIOLOGY ....................... 12.001 - 12.029
MUSCLE BIOLOGY AND BONE........................................... 13.001 - 13.020
PHYSIOME, GENOMIC, SYSTEMS BIOLOGY AND MATHEMATICAL MODELS .... 14.001 - 14.011
ECOLOGY, ENVIRONMENT, BIODIVERSITY AND EVOLUTION ...... 15.001 - 15.008
HISTORY OF PHYSIOLOGY ............................................... 16.001 - 16.001
LATE BREAKING ABSTRACTS ........................................... LB001 - LB037

14:45 - 16:45 - SYMPOSIAS

Vasomotion - the rhythm of blood vessels / Plenary Room

- Aneta Stefanovska (UK) - Flowmotion in the skin - data collection and analysis
- Vladimir Matchkov (Chair - Denmark) - Chloride channels are important for vasomotion
- Antonio Colantuani (Italy) - Mechanisms of capillary blood flow regulation: the role of vasomotion

Oxygen variation through time / Room 201

- Wilfried Klein (Chair – Brazil) - Short- and long-term responses to hypoxic exposures
- Markus Lambertz (Germany) - Annoite lungs: A pulmonary perspective on terrestrial vertebrate evolution.
- Jason E. Podrabsky (USA) - Developmental adaptations to hypoxia and anoxia in the annual killifish Austrofundulus limnaeus
- Gina Galli (UK) - The long term effects of developmental hypoxia on reptilian cardiovascular function

The renin-angiotensin system: going beyond the classical paradigms / Room 203

- Robson A.S. Santos (Chair – Brazil) - Identification and characterization of a novel family of angiotensin peptides in human plasma: Alatensins
- Michael Bader (Germany) - Mas-related receptors and the Renin Angiotensin System
- Ulrich Muscha Stockelings (Denmark) - The Angiotensin AT2 Receptor: From enigma to therapeutics
- Gavin Oudit (Canada) - The ACE/Angiotensin-[1-7] Axis of the Renin-Angiotensin System in Heart Failure.
- Thiago Verano Braga (Brazil) - Elucidating Mas/MrgD signaling with phosphoptoteomics

Sponsored by Acta Physiologica

Mechanisms of mitochondria function and dysfunction / Room 210

- Satoshi Matsumoka (Japan) - Na/Ca exchange and Mitochondria function. The use of Mathematical models.
- Donald Bers (USA) - The physiological role of mitochondrial calcium
- Heping Cheng (Chair – China) - Mitoflash signaling in health and disease.
- Yuriana Dropceva (Mexico) - Mitochondrial dysfunction in heart failure
- Alejandro Ciocci Pardo (Argentina) - Post-ischemic mitochondrial state: role of electrogenic Na+HCO3- cotransporter and carbonic anhydrase

Gravitational Physiology, Aging and Medicine / Room 205

- Nandu Goswami (Chair – Austria) - Parallels between spaceflight and Aging
- Giovanna Valentoni (Italy) - Aquaporins and Vasopressin: Current Perspectives in Aging and Spaceflight
- Andrew P. Blaber (Canada) - Integrative Physiology, Aging and Spaceflight: The Cardio-postural reflex
- Kishore K Deepak (India) - Cardiovascular adjustments during lower body negative pressure induction
- Jean-Pierre Montani (Switzerland) - Post-prandial orthostatic hypotension in the elderly: precipitating factors and countermeasures

Sponsored by The Austrian Physiological Society

Teaching Comparative Physiology: Multiple Approaches Promoting Learning / Room 207

- Malcolm S. Gordon (Chair – USA) - Hands-on experiential approaches in teaching comparative physiology
- Stacy Farina (USA) - Cutting-edge teaching at the edge of the ocean: the role of field courses in reforming physiology education
- Miriam Struchiner – (Brazil) - Research and Development of Information and Communication Technology
- Marcia Trapp (Brazil) - Learning Objects in Teaching Physiology: Alternative Methods to the Use of Animals in Practical Classes on Animal Physiology
- Cuijuan Niu (China) - Animal physiological ecology - research and education of animal comparative physiology from a environment adaptation perspective

Sponsored by American Physiological Society and Advances in Physiology Education
Hypothalamic regulation of the cardiovascular system / Room 208
- Hui-Lin Pan (Chair – USA) - Glutamatergic input to hypothalamic presympathetic neurons in hypertension
- Roger A. Dampney (Australia) - Hypothalamic and midbrain mechanisms regulating coordinated cardiovascular, respiratory and behavioral responses
- Lisete C. Michelin (Brazil) - PVN - a master guide for autonomic control in health and disease

17:00 - 18:00 - KEYNOTE LECTURES

YVETTE TACHÉ (USA) / Plenary Room
Stress and brain-gut interactions: role of corticotropin releasing factor
Chair - LUDMILA FILARETOVA (RUSSIA)

PASCAL HOULLIER (FRANCE) / Room 201
ROBERT PITT LECTURE – The Importance of the Paracellular Pathway
Chair - RENÉ BINDELS (THE NETHERLANDS)

NEWTON CANTERAS (BRAZIL) / Room 203
The Many Paths to Fear
Chair - RUY R. CAMPOS (BRAZIL)

JULIAN F. R. PATON (UK) / Room 210
Targeting Afferent Transduction Mechanisms in Disease
Chair - DAVI A. MORAES (BRAZIL)

DUNCAN MITCHELL (SOUTH AFIRICA) / Room 205
SCHMIDT NIELSEN LECTURE – How Animals Will Work Under Climate Change
Chair - TOBIAS WANG (DENAMARK)
Sponsored by The Scandinavian Physiological Society

18:00 - 19:00 / Plenary Room
ROGER KORNBERG (USA) - WALLACE FENN LECTURE - The Molecular Basis of Eukaryotic Gene Transcription
Chair - WALTER BORON (USA)

19:00 - 19:30 - CLOSING CEREMONY
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The Scandinavian Physiological Society

*The Scandinavian Physiological Society (SPS)* was founded in 1925 and is a society for researchers in physiology and related sciences in the Nordic countries; Denmark, Finland, Iceland, Norway and Sweden. The Society is a non-profit organization whose objectives are to promote research, education and interest in physiological sciences in its member countries.

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02.041 - BICARBONATE EFFECT ON GABAA RECEPTOR
GONGHONG WANG1; YI SUNG1; XING ZHANG1
Department Of Pharmacology, College Of Medicine, Yongzhou University, Xi'an, Zz, South Korea.
02.042 - DEUSUBQUITINATION IN THE FACE OF DOXORUBICIN-INDUCED CAROTIDOCITOXY
BALIDNOWI SISHE; TEMTOTE RICHARD GUDZI1; TOIN LEIGH GOLDSWYN1; DIRK BETERZ
1.Bedford Biotech Limited, Bedford, Zz, South Africa; 2.Cape Peninsula University Of Technology, Cape Town, Zz, South Africa.
02.043 - SEASONAL ADAPTATION TO REDOX METABOLISM IN TEGU LIZARDS
GABRIELA DE SOUSA MARTINS; CAMILA ZUCCHI DE ZANCO; DANilo GRUNIG HUMBERTO DA SILVA; LUIS HENRIQUE FLOUREZ DE SOUSA; JULIO JOSE ALMEIDA NETTO; SANDRA BIANCA OLIVEIRA School Of Dentistry Of Araçatuba, São Paulo State University (unesp), Araçatuba, Sp, Brazil.
02.044 - EPINEPHRINE ACTS ON BONE Turnover Via the ADRENERGIC RECEPTORS IN MESENCEPHALIC STEM CELLS FROM SPONTANEOUSLY HYPERTENSIVE RATS (SHR)
ANIYA EMANUELLI ALVES BARRETO; VICTOR GUSTAVO BALERA BRITO; CARLIQUE TAYLOR DE FREITAS; DANIELA DAVIQUÉ DE SOUZA; SAMUEL BIANCO DE CARVALHO School Of Dentistry Of Araçatuba, São Paulo State University (unesp), Araçatuba, Sp, Brazil.
02.045 - DETERMINATION OF ANTIPROLIFERATIVE EFFECTS OF EXOPOlysACCHARIDES FROM THREE EDIBLE MUSHROOM SPECIES
SELVA KABAREDI; PINAR OZTOPCU-VATAN; MUSTFA ICLIMKAN
1.Exekiate Omaungazi University, Faculty Of Medicine, Department Of Pathology, Exek tếhir, Zz, Turkey; 2.Exekiate Omaungazi University, Faculty Of Arts And Sciences, Department Of Biology, Exek téhir, Zz, Turkey.
02.046 - ANTI-FERTILITY ACTIVITY OF ALOE-VERMILION EXTRACTS ON GLOBA Cells IN VITRO
PINAR OZTOPCU-VATAN; SELVA KABAREDI; FILIZ SAVURALIOGLU; 1.Exekiate Omaungazi University, Faculty Of Arts And Sciences, Department Of Biology, Exek téhir, Zz, Turkey; 2.Exekiate Omaungazi University, Faculty Of Arts And Sciences, Department Of Biology, Exek téhir, Zz, Turkey.
02.047 - DIRECTIONAL DIRECTED OF HUMAN BONE MARROW STROMAL CELLS TO FATE-COMMITTED SCHWANN CELLS FOR USE IN TRANSPLANTATION Therapy
DASTY KIVOK; YAN SHEN; SAI CAI; ANTHONY XIN-WEN TAM; ALEX YAT-PMI TSU; YING-XING CHEN; The University Of Hong Kong, Hong Kong, Zz, China.
02.048 - MODELING PREMATURE CARDIAC AGING BY INDUCED PLURIPOTENT STEM CELL FROM A PATIENT WITH HUTCHINSON-GILFORD PROGERIA SYNDAZROME (HGPS)
JOÃO PEDRO CAVALEIRO SIQUEIRA; MARIANA MUNIZ AMÉRICO; FERNANDA CRISTINA PICCOLA MESQUITA; CAMILA LUCAS VIEIRA; VÍANO ALBERTO ALBUQUERQUE; DAMIRIA SILVA DE SOUZA; TAIS HANAI KASAI-BRUNSWICK; KARINA DUTRA ASENSI; ADRIANA BASTOS DE CARVALHO; GUSTAVO MONERIAT CHAIL; ANTONIO CARLOS CAMPOS DE CARVALHO Instituto De Biologia Carlos Chagas Filho – Universidade Federal do Rio de Janeiro, Rio de Janeiro, Rj, Brazil.
02.049 - EXPRESSION AND ACTIVITY OF DUAL OXIDASES (DUOXS) IN WHITE ADIPOSE TISSUE FROM RATS
TAÍS HANAE KASAI-BRUNSWICK; KARINA DUTRA ASENSI; ADRIANA BASTOS DE CARVALHO; MESQUITA; CAMILA WENDT; JOÃO PAULO ALBUQUERQUE; DANÚBIA SILVA DOS SANTOS; RUBEM CARLOS ARAUJO GUEDES; NORANEGE EPIFÂNIO ACCIOLY; CASSIA BORGES LIMA DE CASTRO; LETÍCIA MARTINS IGNACIO-SOUZA; FERNANDO MOREIRA SIMABUCO; HOSANA GOMES RODRIGUES; ANDRESSA REGINATO; MARIANA PORTOVEDO; JOSIANE ÉRICA MIYAMOTO; THAÍS DE FANTE; FREDERICK WASINSKI; ISADORA CLIVATTI FURIGO; ANGELA MARIA RAMOS-LOBO; PATRICIA OJEDA-PROVOSTE; BREDFORD KERR
1.University Of Illinois At Urbana-champaign, Urbana, Zz, United States; 2.Case Western Reserve University, Cleveland, Zz, United States; 3.Stellenbosch University, Stellenbosch, Zz, South Africa; 4.Instituto de Fisiología Celular, Universidad Nacional Autónoma de México, Mexico Df, Zz, Mexico.
02.050 - MODELING PREMATURE CARDIAC AGING BY INDUCED PLURIPOTENT STEM CELL FROM A PATIENT WITH HUTCHINSON-GILFORD PROGERIA SYNDROME (HGPS)
JOUSIE MICHEL PEREIRA1; NICOLLE KRÄNKEL2; ULF LANDMESSER2; ROBSON AUGUSTO SOUZA DOS SANTOS1; LUCILDA SILVA BARCELOS1 1.Department Of Physiology And Biophysics / Universidade Federal De Minas Gerais (ufmg), Belo Horizonte, Mg, Brazil; 2.University Of Nebraska - College Of Medicine - Omaha (ucmo), Omaha, Zz, United States; 3.Instituto De Cardiologia – Universidade Federal De Minas Gerais, Belo Horizonte, Mg, Brazil; 4.Interdisciplinary Division Of Biomedical Engineering, The Hong Kong Polytechnic University, Hong Kong, Zz, Hong Kong.
02.051 - EXPRESSION AND ACTIVITY OF DUAL OXIDASES (DUOXS) IN WHITE ADIPOSE TISSUE FROM RATS
VINÍCIUS DE CARVALHO SCHLEDER1; LUIZ CLAUDIO FERNANDES1; MARCO HELENA APPEL2; PATRICIA JUDEA-PROVOSTE; JOSÉ TITIANO ADASES Centro De Estudos Científicos, Valdivia, Zz, Chile.
02.052 - IN VITRO RELATIONSHIP BETWEEN STRESS GRANULES AND AUTOPHAGY IN HUMAN GLOBA CELLS
LUICASS BITTENCOURT; BÁDARIA SOUZA FURTADO; LUCILDA SILVA BARCELOS Universidade Federal De Minas Gerais, Belo Horizonte, Mg, Brazil.
02.053 - COSMOSENSITIVE RELEASE OF TAURINE AND GLUTAMATE PARTICIPATE IN CELL VOLUME REGULATION IN RETINAL MULLER CELLS
VANIA NETTI1; MARIA PEREZ-DOMINGUEZ1; ALIANANDA SUSTIL1; HERMINIA PASANTES-MORALES2; GERARDO RAMOS-MANDUJANO3; CALLEJA CAPURRO1 1.Laboratorio De Biomecánicas, Irsco-contral, Facultad De Medicina, Universidad De Buenos Aires, Buenos Aires, Zz, Argentina; 2.Instituto De Fisiología Celular, Universidad Nacional Autónoma De México, Mexico Df, Zz, Mexico; 3.Universidade Federal De Pernambuco, Recife, Pe, Brazil.
02.054 - GLYCEROL SELECTION DETERMINES WATER AND GAS PERMEABILITY IN AQUAPORIN-7 (AQP7)
EMAD TAJKHORSID1; FRASER J MOSS2; MAWEE MAHNTISHCHACHAI; RAFAI MUJA-AZIZ3; ANGELA PUI; TAYLOR F BORON2; ARDESHIR VAFADAR2; 1.University Of Illinois, Urbana, Zz, United States; 2.Case Western Reserve University, Cleveland, Zz, United States; 3.University Of Sao Paulo, Sao Paulo, Sp, Brazil 4.To Dufft, Dufft, Zz, Netherlands Antilles.
02.055 - IMPROVEMENT OF ANGIogenic STEM CELL FUNCTION AND THERAPEUTIC EFFICIENCY BY BOTHROPS BIRADANII BRAGA; GISELA GOMES DE ALMEIDA SCHIRMER; MARIA CECILIA CAMPOS CANESSO1 1.University Of Illinois At Urbana-champaign, Urbana, Zz, United States; 2.Case Western Reserve University, Cleveland, Zz, United States; 3.University Of Sao Paulo, Sao Paulo, Sp, Brazil 4.To Dufft, Dufft, Zz, Netherlands Antilles
02.056 - CHARACTERIZATION OF INTRACELLULAR SIGNALING PATHWAYS IN CARDIOMYOCYTES INDUCED BY TREATMENT WITH A SYNTHETIC PEPTIDE SIMILAR TO VASOPRESSIN INDUCED FROM VISCERA OF WHITETAILS
RAFAEL PEREIRA LEMOS1; TOMAR COUTO DE OLIVEIRA DE JESUS2; JULIANA GOMES MORENO2; NAVARA RAYANE CESAR2; MARCELO SIQUEIRA2; LIVIA Nicanor SAHEBE PEREIRA2; KARINA BEATRIZ COSTA2; ETEL ROCHA VIEIRA; MARCO FABRIO DIAS PEIXOTO; ELIANE OLIVEIRA DE CASTRO; LARISSA RODRIGUES BORGES; CAMILA VYDALAVES; CATARINA GUEDES CALHEIROS
Universidade Federal De Minas Gerais, Belo Horizonte, Mg, Brazil.
02.057 - THE PARTIAL REPLACEMENT OF LARD BY PEQUI OIL (CARYOCAR BRASILIENSE) IN A WESTERN DIET STRENGTHENS HEPATIC ANTIOXIDANT SYSTEM OF RATS.
LAIJANE GOMES MORENO; NAVARA RAYANE CESAR; MARCELO SIQUEIRA2; LIVIA Nicanor SAHEBE PEREIRA2; KARINA BEATRIZ COSTA2; ETEL ROCHA VIEIRA; MARCO FABRIO DIAS PEIXOTO; ELIANE OLIVEIRA DE CASTRO; LARISSA RODRIGUES BORGES; CAMILA VYDALAVES; CATARINA GUEDES CALHEIROS
Universidad Federal de Pernambuco, Recife, Pe, Brazil.
02.058 - ANTI-DEPRESSIVE TREATMENTS FOR 14 DAYS BEFORE SURGERY IMPROVES LYMPHOCYTE FUNCTION AND REDUCE THE LEVELS OF INFLAMMATORY MARKERS IN A RAT MODEL OF STRESS RESPONSE TO SURGERY
JOSEPH MILLER, WANG ZI; QIN ZHANG; LIU XIN; CHEN RUI; WANG JUN; YANG YU; YANG YU; YANG YU
04.045 - CHLOROPHYLL-A AND ITS DERIVATIVES MODIFY PHOSPHORYLATION IN OVARIECTOMIZED FEMALE WISTAR RATS

04.046 - REDOX STATE FAVORS THE ACTIVITY OF SIRT1 IN ALTERED HEPATIC LET-7 AND AMPK EXPRESSION AND DISTURBANCES IN ENERGY METABOLISM

04.047 - CHLOROPHYLL-A AND ITS DERIVATIVES MODIFY PHOSPHORYLATION IN OVARIECTOMIZED FEMALE WISTAR RATS

05.031 - ASSOCIATION BETWEEN NEUROINFLAMMATORY BIOMARKERS AND FUNCTIONAL IMPROVEMENT ON KNEE OSTEOARTHRITIS IN RATS

05.032 - PPAR-GAMMA RECEPTORS MODULATE THE EXERCISE-INDUCED MUSCLE HYPOALGESIA BY A DECREASE IN MUSCLE LEVELS OF CINC-1

05.033 - MODERATE EXERCISE PROGRAM MODULATES JOINT BIOMARKERS AND FUNCTIONAL IMPROVEMENT ON KNEE OSTEOARTHRITIS IN RATS

05.034 - ACUTE EFFECT OF MILD TO MODERATE PHYSICAL EXERCISE AND FUNCTIONAL IMPROVEMENT ON KNEE OSTEOARTHRITIS IN RATS

05.035 - ENDOTHELIAL FUNCTION INCREASES DURING HIGH INTENSITY INTERVAL TRAINING MODIFIED REDOX HOMEOSTASIS CEREBELLAR IN WISTAR RATS

05.036 - STRENGTH TRAINING DOES NOT IMPROVE THE EFFICACY OF CENTRAL DOPAMINERGIC BLOCKADE ON EXERCISE-INDUCED HYPOTHALAMIC NEURONAL ACTIVATION.

05.037 - REDUCTION OF BAROREFLEX SENSITIVITY DURING HIGH INTENSITY INTERVAL TRAINING MODIFIED REDOX HOMEOSTASIS CEREBELLAR IN WISTAR RATS

05.038 - ENDOTHELIAL FUNCTION INCREASES DURING ENDOVASCULAR RECOVERY IN PATIENTS WITH CIRRHOSIS

05.039 - NITRIC OXIDE PARTICIPATION IN THERMOREGULATORY AND CARDIOVASCULAR ADJUSTMENTS DURING PHYSICAL EXERCISE IN SPONTANEOUSLY HYPERTENSIVE RATS

05.040 - EFFECT OF CENTRAL DOPAMINERGIC BLOCKADE ON EXERCISE-INDUCED HYPOTHALAMIC NEURONAL ACTIVATION.

05.041 - HIGH INTENSITY INTERVAL TRAINING MODIFIED REDOX HOMEOSTASIS CEREBELLAR IN WISTAR RATS

05.042 - REDOX STATES INCREASES DURING MODERATE EXERCISE PROGRAM MODULATES JOINT BIOMARKERS AND FUNCTIONAL IMPROVEMENT ON KNEE OSTEOARTHRITIS IN RATS

05.043 - MODERATE EXERCISE PROGRAM MODULATES JOINT BIOMARKERS AND FUNCTIONAL IMPROVEMENT ON KNEE OSTEOARTHRITIS IN RATS

05.044 - PERIPHERAL CHEMOREFLEX REGULATES POST-EXERCISE CARDIAC VARIOUS MECHANISM IN HEALTHY WOMEN REGARDLESS OF EXERCISE INTENSITY
THEME 01 / CARDIOVASCULAR

01.130 - EFFECT OF CHRONIC STRESS ON THE LIGHT-DARK RHYTHMICITY OF ARTERIAL BLOOD PRESSURE IN RATS. MAELINE SANTOS MORAIS CARVALHO1; GIZELE BRUNA BARANKEVICZ2; FERNANDA KLEIN MARCONDES1
1.Universidade Federal de Viçosa, Viçosa, Mg, Brazil; 2.Universidade Federal de Minas Gerais, Belo Horizonte, Mg, Brazil.

01.131 - DEVELOPMENTAL AND AGING CHARACTERISTICS OF THE CARDIOVASCULAR RESPONSES AFTER POSTURAL TRANSITIONS: EXPERIMENTS OF HEAD-UP OR HEAD-DOWN TILTING IN ANESTHETIZED RATS AND RABBITS. MAELINE SANTOS MORAIS CARVALHO1; GIZELE BARANKEVICZ2; FERNANDA KLEIN MARCONDES1
1.Paraiba State University, João Pessoa, Pb, Brazil; 2.Universidade Federal de Campina Grande, Campina Grande, Pb, Brazil.

01.132 - CARDIOVASCULAR EFFECTS OF VITAMIN C IN THE RYVM OF CONSCIOUS OBESE RATS. PEDRO PAULO PEREIRA BRAGA; DANIEL FRANCISCO DE ARRUDA JUNIOR1; THIAGO PAVÓN1; ANNE DA SILVA PORTO1; CAROLINE STECH1; LEONARDO SOCCAS JENSEN1; RAFAEL DARIOLLI1; EDNEI LUIS ANTONIO2; LEONARDO DOS SANTOS3; LAIS ANDRADE MACEDO4; TADEU TAVARES SOUZA5; LEILA DINIZ; LUIZ ORLANDO LADEIRA; SILVIA GUATIMOSIM

01.134 - NITRIC OXIDE ALTERATIONS IN CARDIOVASCULAR SYSTEM OF RATS WITH CHRONIC STRESS. LEILA DINIZ; LUIZ ORLANDO LADEIRA; SILVIA GUATIMOSIM

01.135 - CHOLINERGIC HYPOFUNCTION TURNS MICE MORE SUSCEPTIBLE TO ISOPROTERENOL TREATMENT THAN MALES REGARDLESS OF BODY POSTURE. IVAN PETROVIC; ISABELLA SANTOS; DANILO MEDRANO; MICHAEL JAVORKA1; KATRINA HASKOVA; BARBARA CEPELOVA; MIKO ZBOLEN; MICHAEL JAVORKA1; 1.University of Veterinary and Agricultural Sciences, Brno, CZ, Czech Republic.

01.136 - BLUNTED CARDIOVASCULAR RESPONSES TO MUSCLE METABOREFLEX IS BLUNTED IN NON-DIABETIC PATIENTS AND RATS WITH HEART FAILURE. PEDRO PAULO PEREIRA BRAGA; DANIEL FRANCISCO DE ARRUDA JUNIOR1; THIAGO PAVÓN1; ANNE DA SILVA PORTO1; CAROLINE STECH1; LEONARDO SOCCAS JENSEN1; RAFAEL DARIOLLI1; EDNEI LUIS ANTONIO2; LEONARDO DOS SANTOS3; LAIS ANDRADE MACEDO4; TADEU TAVARES SOUZA5; LEILA DINIZ; LUIZ ORLANDO LADEIRA; SILVIA GUATIMOSIM

01.138 - SYMPATHETIC CARDIOVASCULAR CONTROL IN YOUNG OBESE PATIENTS. RAFAEL DARIOLLI1; LEONARDO SOCCAS JENSEN1;式 LEANDRO PEREIRA; PEDRO PAULO PEREIRA BRAGA; DANIEL FRANCISCO DE ARRUDA JUNIOR1; THIAGO PAVÓN1; ANNE DA SILVA PORTO1; CAROLINE STECH1; LEONARDO SOCCAS JENSEN1; RAFAEL DARIOLLI1; EDNEI LUIS ANTONIO2; LEONARDO DOS SANTOS3; LAIS ANDRADE MACEDO4; TADEU TAVARES SOUZA5; LEILA DINIZ; LUIZ ORLANDO LADEIRA; SILVIA GUATIMOSIM

01.140 - FEMALES HAVE A LARGER NEUROVASCULAR COUPLING RESPONSE MAGNITUDE THAN MALES REGARDLESS OF BODY POSTURE. CARL R RAM1; JOEL DAVID; BAZEL PELTONEN1; JACK LEACY2; TREVOR A DAY1
1.Mount Royal University, Calgary, Ab, Canada; 2.University College Cork, Cork, Ie, Ireland.

01.141 - EVALUATION OF CARDIOVASCULAR RESPONSES TO STRESS IN PIGS PREFILLED IN MODEL OF EPELEPSY. MARIO PAULZI; GABRIEL BANOV EVORA1; VINICIUS ARAUJO ARMELIN2; ISADORA ANELLO DE OLIVEIRA1; GABRIEL BANOV EVORA1; VINICIUS ARAUJO ARMELIN2; 1.Embrapa, Brasília, Df, Brazil; 2.University of São Paulo, São Paulo, SP, Brazil.

01.142 - EVIDENCE FOR AT2-RECEPTOR-MAS DIMERIZATION FROM FLUORESCENCE RESONANCE ENERGY TRANSFER (FRET) IMAGING AND FLUORESCENCE CROSS CORRELATION SPECTROSCOPY (FCCS). DANIEL CAMPOS VILLELA1; ANKE TEICHMANN2; SEBASTIAN KIRSCH3; MAGDALENA KARINA PEREIRA GOMES; BEATRIZ PACHECO DE SOUZA; PEDRO PAULO PEREIRA BRAGA; POLIANA PERES GHAZALE; KELLEN ROSA DA CRUZ; ADRIANA CATACCILO NUNES; ALINE PRESOLA; PISANSA; ELISABETH PEREIRA MENDES; DANIELE ALVES ARAUJO; FERNANDA CRISTINA ALCANTARA DOS SANTOS; CARLOS HENRIQUE DE CASTRO; CARLOS HENRIQUE XAVIER; DIEGO BASILE COLUGNATI
1.University Federal de Goiás, Goiânia, Go, Brazil; 2.Universidade Federal do Rio Grande do Sul, Porto Alegre, Rs, Brazil; 3.Universidade Federal de São Carlos, São Carlos, SP, Brazil.

01.143 - TESTOSTERONE INDUCES GLUCOSE METABOLISM THROUGH AMPK ACTIVATION IN CARDIOMYOCYTES. MARCO PAULZI; GABRIEL BANOV EVORA1; VINICIUS ARAUJO ARMELIN2; IVAN PETROVIC; LEANDRO PEREIRA; PEDRO PAULO PEREIRA BRAGA; DANIEL FRANCISCO DE ARRUDA JUNIOR1; THIAGO PAVÓN1; ANNE DA SILVA PORTO1; CAROLINE STECH1; LEONARDO SOCCAS JENSEN1; RAFAEL DARIOLLI1; EDNEI LUIS ANTONIO2; LEONARDO DOS SANTOS3; LAIS ANDRADE MACEDO4; TADEU TAVARES SOUZA5; LEILA DINIZ; LUIZ ORLANDO LADEIRA; SILVIA GUATIMOSIM
1.Universidade Federal de Goiás, Goiânia, Go, Brazil; 2.Universidade Federal de Santa Catarina, Florianópolis, SC, Brazil; 3.Universidade Federal de Campina Grande, Campina Grande, Pb, Brazil; 4.Universidade Federal de Campina Grande, Campina Grande, Pb, Brazil; 5.Universidade Federal de Santa Catarina, Florianópolis, SC, Brazil.
MEDITERRANEAN AND THE MUSCLE MECHANOREFLEX IN HEALTHY HUMANS
TALITA MIRANDA SANTOS; LILIANE CUNHA ARANDA; MARIA JOSÉ CARVALHO
1. Federal university of são paulo, São Paulo, Sp, Brazil; 2. Universidade Federal de Ouro Preto, Ouro Preto, MG, Brazil.

01.169 - EXERCISE TRAINING RESTORES CARDIAC AUTONOMIC IMBALANCE AND CARDIAC FUNCTION IN RATS WITH PREVENTED EJECTION FRACTION HEART FAILURE ALEX ARCE ALVAREZ; DAVID ANDRADE; CARMO TELODO; CLAUDIA LUCIO; HUGO DIZAIO; RODRIGO DO RIO
University Autónoma de Chile, Santiago, Zz, Chile.

01.170 - DIMINAZENE ACETURATE REVERTS CARDIAC ALTERATIONS OF RATS SUBMITTED TO RAPID AMYGDALA KINDLING MODEL OF EPILEPSY BRUNA L. SIMAS; JOSE H. MATHEUS NASCIMENTO; ANTONIO CARLOS CAMPOS DE CARVALHO
1. Ufes, Vitoria, Es, Brazil; 2. Ufmg, Belo Horizonte, Mg, Brazil.

01.171 - THE CARDIOPROTECTIVE Effect IS SENSITIVE TO INHIBITION OF PKC, KATP AND SAFE PATHWAYS. ANTONIO DOS SANTOS ALVES; LEONARDO MACCIO; DANIENNE DE FREITAS DE OLIVEIRA; ALEX ARCE; CARLOS CARLOS PEREIRA DA SILVA; EMANUELLE FERRAZ BAPTISTA; THAI SONN BAZOTI; JOSE HAMLET MATHEUS NASCIMENTO
1. Instituto de Biofisica Carlos Chagas Filho-ufrj, Rio de Janeiro, RJ, Brazil; 2. Universidade Federal do Rio de Janeiro, Rio de Janeiro, RJ, Brazil.

01.172 - CHRONIC POSTCONDITIONING: DIFFERENCES BETWEEN FEMALE AND MALE MARIANA REIS GUEDES; ANDRE BONDOLINO; ANTONIO DOS SANTOS ALVES; JULIANA CATALANI FANTINELLI; ALEJANDRO CIORDI PIERO; SUSANA MARIA MOSCA
1. Universidade Federal de São Paulo, São Paulo, Sp, Brazil; 2. Instituto de Fisiología Clínica - Universidad de Chile, Santiago, Zz, Chile.

01.173 - INCREASED Ca2+ RECEPTORS IN CARDIAC SARCOPLASMIC RETICULUM FORMS A NEW PROFILE OF SPONTANEOUS Ca2+ RELEASE ROBERTO RODRIGUEZ; CARLA SEJERSTED; WILLIAM EDWARD LOUCH
1. Universidade Federal de São Paulo, São Paulo, Sp, Brazil; 2. Instituto de Fisiología Clínica - Universidad de Chile, Santiago, Zz, Chile.

01.174 - STUDY OF CARDIAC FUNCTION AND RENIN-ANGIOTENSIN SYSTEM IN A FETAL PROGRAMMING MODEL OF MODERATE ZINC DEFICIENCY IN ADULT RATS MARIA Fátima Dantas Gobetti; MANOEL ALVARENGA; LORIEN DIAZ; FACINHO MENDONS; GIOVANE GOMES; MARIA JOSÉ CARVALHO
1. Universidade Federal de São Paulo, São Paulo, Sp, Brazil; 2. Instituto de Biofisica Carlos Chagas Filho-ufrj, Rio de Janeiro, RJ, Brazil; 3. Centro Investigaciones Cardiovasculares, La Plata, Zz, Argentina.; 4. Laboratorio de Análisis de Imágenes - Facultad de Cs.veterinarias - Unlp, La Plata, Zz, Argentina.

01.175 - CHRONIC CONNEXIN 43 HEAMCHANNEL BLOCKADE REDUCES CARDIAC ARRHYTHMOGENESIS IN HEART FAILURE WITH PREVENTED EJECTION FRACTION CLAUDIA LUCIO; DANIEL ROGER; DAVID ANDRADE; CARMO TELODO; HUGO DIZAIO; ALEX ARCE; CARLOS CARLOS PEREIRA DA SILVA; EMANUELLE FERRAZ BAPTISTA; ANTONIO CARLOS CAMPOS DE CARVALHO
1. Universidade Autónoma de Chile, Santiago, Zz, Chile; 2. Universidad Del Desarrollo, Santiago, Zz, Chile.

01.176 - EFFECT OF SEIZURE FREQUENCY ON CARDIAC TISSUE OF RATS SUBMITTED TO ELECTRIC AMYGDALA KINDLING MODEL OF EPILEPSY EMILY GOMES DOS SANTOS; MAURO RUIZ; MAURICIO MOURA; CRISTINA ARRANZI
1. Departamento De Medicina Interna - Universidade Federal De São Paulo, São Paulo, Sp, Brazil; 2. Instituto de Fisiología Clínica - Universidad de Chile, Santiago, Zz, Chile.

01.177 - EEGL WHITE-DEPENDING PEPTIDES IMPROVE THE CARDIAC DysFUNCTION Induced By MERCURY In Rats. GISELLA CAROLINA DA SILVA; RENATA DE SOUZA RIBEIRO; MIREY LOURENÇO RIBEIRO; LUCIANA SELDZIA RIPOVICH; ROBERTO RODRIGUEZ; MANOEL ALVARENGA; CARLOS CARLOS PEREIRA
1. Universidade Federal de Goiás, Goiânia, Go, Brazil; 2. Universidade Federal de São Paulo, São Paulo, Sp, Brazil; 3. Universidade Federal De São Paulo, São Paulo, Sp, Brazil; 4. Universidade Federal De São Paulo, São Paulo, Sp, Brazil.

01.178 - EFFECT OF CHAMBER-REST ON ELECTROPHYSIOLOGY OF THE HEART In YOUNG PEOPLE PIYOVR JVRVC, JR.; VOJTECH JAKUBOVIC; MAGDALENKA VRUNCHUK; MARK MALUS; ZDENEK VAVRINA
1. Depatment Of Physiology And Pathophysiology, Faculty Of Medicine, University Of Ostrava, Ostrava, Zz, Czech Republic; 2. Instituto de Fisiología Clínica - Universidad de Chile, Santiago, Zz, Chile.

01.179 - TESTOSTERONE DEFICIENCY PREVENTS LEFT VENTRICLE CONTRACTILITY DYSFUNCTION AFTER MYOCARDIAL INFARCTION ROGERIO FAUSTINO RIBEIRO JUNIOR; KAROLINE SOUSA RONCONI; TAMAR GJ CEBESEJ; PEDRO WM ALMEIDA; LUMÍRIA FORCÉ-FOREI; DALTON VALENTIM USUALOS; MARIA ALEJANDRA CAVELLO; JULIA ALESSANDRA WIGGERS
1. Federal University Of Pampa, Uruguaiana, RS, Brazil; 2. Universidade Federal De São Paulo, São Paulo, Sp, Brazil.

01.180 - MYOCARDIAL CONTRACTILITY AND OXIDATIVE STRESS OF RATS EXPOSED TO TETROLERGIO FAUSTINO RIBEIRO JÚNIOR; AnaMaria SANTOS SOCRITONI; JESSICA SILVA MONTERO; CLEIDYVANNE LUISA VEIRA PEREIRA; ANDRE MOREIRA; EDUARDO MERLO; MARTHA L. BARRIENTOS; PAULA A. RABELO; JONES B GRACELI; IVANITA STEFANON
1. Universidade Federal De São Paulo, São Paulo, Sp, Brazil; 2. Universidad De Ingeniería Y Tecnología, Medellin, Co, Colombia; 3. Consejo Superior de Investigaciones Científicas - Csic / Madrid, Zz, Spain.

01.181 - PKM2-DEPENDENT METABOLIC REPROGRAMMING IN CD4+ T CELLS IS CRUCIAL FOR THE ARRHYTHMOGENIC Ca2+ WAVES INTO A NEW PROFILE OF SPONTANEOUS Ca2+ RELEASE ASIF MAHACHAUD; SIVETHALI MASTIKASATTI; PRAKASH HOSKFORD; DANIEL STUCKEY; MARK LYTHGOE; SERGEY KASPAROV; ALEXANDER GOURINE
1. University Of Sao Paulo, Sao Paulo, Sp, Brazil; 2. State University Of Rio de Janeiro, Rio de Janeiro, RJ, Brazil; 3. Laboratorio Of Cardio And Molecular Cardiology, Rio De Janeiro, RJ, Brazil; 4. Laboratory Of Cardio And Molecular Cardiology, Rio De Janeiro, RJ, Brazil; 5. Laboratory Of Cardio And Molecular Cardiology, Rio De Janeiro, RJ, Brazil; 6. Laboratory Of Cardio And Molecular Cardiology, Rio De Janeiro, RJ, Brazil.

01.182 - REFINING VAGUS NERVE STIMULATION IN HEART FAILURE: SELECTIVE OPTOELECTRONIC RECRUITMENT OF C-FIBRE VAGAL EFFENERS IS SUFFICIENT TO PREVENT LEFT VENTRICULAR CONTRACTILITY DYSFUNCTION ASIF MAHACHAUD; SIVETHALI MASTIKASATTI; PRAKASH HOSKFORD; DANIEL STUCKEY; MARK LYTHGOE; SERGEY KASPAROV; ALEXANDER GOURINE
1. University Of Sao Paulo, Sao Paulo, Sp, Brazil; 2. State University Of Rio de Janeiro, Rio de Janeiro, RJ, Brazil; 3. Laboratorio Of Cardio And Molecular Cardiology, Rio De Janeiro, RJ, Brazil; 4. Laboratory Of Cardio And Molecular Cardiology, Rio De Janeiro, RJ, Brazil; 5. Laboratory Of Cardio And Molecular Cardiology, Rio De Janeiro, RJ, Brazil; 6. Laboratory Of Cardio And Molecular Cardiology, Rio De Janeiro, RJ, Brazil.

01.183 - CHEMOTHERAPY REGULARLYADJUSTS THE PKC SIGNALING PATHWAY IN THE CASE OF SPONTANEOUS Ca2+ RELEASE ASIF MAHACHAUD; SIVETHALI MASTIKASATTI; PRAKASH HOSKFORD; DANIEL STUCKEY; MARK LYTHGOE; SERGEY KASPAROV; ALEXANDER GOURINE
1. University Of Sao Paulo, Sao Paulo, Sp, Brazil; 2. State University Of Rio de Janeiro, Rio de Janeiro, RJ, Brazil; 3. Laboratorio Of Cardio And Molecular Cardiology, Rio De Janeiro, RJ, Brazil; 4. Laboratory Of Cardio And Molecular Cardiology, Rio De Janeiro, RJ, Brazil; 5. Laboratory Of Cardio And Molecular Cardiology, Rio De Janeiro, RJ, Brazil; 6. Laboratory Of Cardio And Molecular Cardiology, Rio De Janeiro, RJ, Brazil.
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