



SCIENTIFIC PROGRAM

a) Plenary lectures

Plenary Lecture 1

“65 years of Carotid Body Research: The Chilean Contribution”

Professor Rodrigo Iturriaga - Universidad Autónoma de Chile, Chile

Plenary Lecture 2

“Beyond glucose: how carotid body modulation impacts diabetes-related disorders”

Professor Silvia Conde - Universidade NOVA Lisboa, Portugal

Plenary Lecture 3

“New light on old concepts: How central and peripheral sensory mechanisms shape the neuronal control of breathing”

Professor Jan-Marino Ramirez - University of Washington, USA

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b) Symposia

Symposium I - “Chemoreceptors: new pathways and players”

1) Carotid body activation induces expiratory excitation of brainstem pre-sympathetic neurons

Professor Davi Moraes - Universidade de Sao Paulo, Brazil

2) The Spinal Oxygen Sensor (SOS) and the Carotid Body: Same Goals, Different Mechanisms?

Professor Richard Wilson - University of Calgary, Canada.

3) “Peripheral Chemoreflex Overdrive Links to Cardiorespiratory Dysregulation in Alzheimer’s Disease via Autonomic Circuits”

Abstract selected: Camilo Toledo

4) “Is Carotid Body Inhibition a Mechanism Underlying the Beneficial Effects of Chronic Caffeine in Dysmetabolism?”

Abstract selected: Adriana Capucho

Symposium II - “Intermittent hypoxia, respiratory control and more”

1) Breathing for oxygen: a neural circuit mediates hypoxia-induced sighing

Professor Peng Li - University of Michigan, USA

2) Hot Flashes and Cold Kidneys: Effects of Estrogen Loss and Intermittent Hypoxia on Renal Hemodynamics

Professor Noah Marcus - Des Moines University, USA

3) “Cardiovascular health in adult rats: is there a link with gestational obstructive sleep apnea?”

Abstract selected: Esther Valverde Pérez

4) “Exploring the causal relationship between chronic stress and sleep apnea using Mendelian randomization”

Abstract selected: Marianne Gagnon

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Symposium III - “High altitude/hypoxia, breathing and physiological adaptations”

1) From Lowlands to High Peaks: Why Mice Thrive Where Rats Fail?

Professor Vincent Joseph - University of Laval, Canada

2) LKB1 AMPK and the need to breathe: adapting to extrauterine life and beyond

Professor Mark Evans - University of Edinburgh, UK.

3) “Fruit-derived phytochemicals ameliorate high altitude sickness in healthy volunteers and inhibit hypoxia-induced inflammation in neurons”

Abstract selected: Leonel Rojo

4) “Impact of Chronic Intermittent Hypoxia (CIH) in hepatic cysteine metabolism is independent of AHR activation”

Abstract selected: Antonio Melo

Outreach activity - “Chilean experience of occupational health and hypobaric hypoxia”

Abstract selected: Javier Cantuarias

Symposium IV - “Translational research in chemoreception”

1) Role of the peripheral chemoreceptors in human cardiometabolic control

Professor Jackeline Limberg - University of Missouri, USA.

2) Emerging Strategies for Carotid Body Modulation in Obstructive Sleep Apnea: Pharmacological and Neuromodulatory Approaches to Chemoreflex Control

Professor Marie Noelle Fiamma - Sorbonne Universite, France.

3) “Targeting Carotid Body inflammation with colchicine restores cardiorespiratory function in HFpEF”

Abstract selected: Katherin Pereyra

4) “Management of carotid body inflammation in dysmetabolic states: a therapeutic strategy for metabolic diseases?”

Abstract selected: Gonzalo Melo

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Symposium V - “Chemoreflex control of the ventilation in health and disease”

1) Mending broken hearts: the role of chemoreceptors on non-ischemic heart failure

Professor Rodrigo Del Rio - University of Kansas Medical Center, USA

2) Neuromuscular control of breathing in mouse models of Duchenne muscular dystrophy

Professor Ken O’Halloran - University College of Cork, Ireland

3) “Role of mitochondria and oxidative stress in driving carotid body overactivation in heart failure”

Abstract selected: Agnieszka Swiderska

4) “Vitamin B6 (pyridoxal 5’phosphate) antagonises P2X3 receptors and attenuates carotid body chemoreflex in hypertension”

Abstract selected: Igor Felipe

Symposium VI-“Peripheral and Central Chemoreception: mechanism and interactions”

1) Interdependent control of breathing by respiratory chemoreceptors

Professor Stephen Abbot - University of Virginia, USA

2) Central and Peripheral Chemoreceptor Activation Differentially Modulates Opioid-Induced Respiratory Depression

Professor Thiago Moreira - Universidade de Sao Paulo, Brazil

3)“Carotid body chemoreceptors regulate peak metabolic response and exercise performance during incremental exercise at maximal exertion”

Abstract selected: David Andrade

4)“Microglial and neurochemical changes in nucleus tractus solitarius following carotid body denervation in juvenile rats”

Abstract selected: Catherine Mayer