

Preliminary program  
**XXXIX Annual Meeting Chilean Society of Physiological Sciences**  
 October 15-18, 2024, La Serena, CHILE

**SCHEDULE**

	<b>Tuesday 15</b>	<b>Wednesday 16</b>	<b>Thursday 17</b>	<b>Friday 18</b>
9:15-10:45	<b>REGISTRATION</b>	Symposium 4 Complex interactions in muscle pathology: from cellular pathways to dietary interventions	Symposium 7 Preclinical and clinical views of chronic obstructive pulmonary disease	Symposium 10 Current explorations in the pathophysiology of pregnancy and postpartum: from basic research to clinical implementation
10:45-11:15		Coffee	Coffee	Coffee
11:15-12:45		Symposium 5 Young Scientists Symposium: New physiological mechanisms involved in hypoxia-induced responses in health and disease	Symposium 8 Teaching Physiology: from school to university	Symposium 11 Aging and Functional Performance: New Perspectives in the Assessment and Programming of Training in Older People
12:45-13:30		Welcome greeting (11:45-12:00) Symposium 1 (12:00-13:30) Biomedical Research in Coquimbo	Plenary Lecture 3 Dr. Gerardo García Rivas - MEXICO Plenary Lecture ALACF: Targeting the mitochondrial Ca <sup>2+</sup> uniporter as potential treatment for heart failure	Plenary Lecture 5 Dr. Rodrigo Iturriaga - CHILE New non-respiratory functions for the carotid body chemoreceptor in autonomic-related diseases
13:15-14:00	BREAK	BREAK	SChCF Members assembly (BOX LUNCH)	<b>CLOSING CEREMONY AND AWARDS</b>
14:00-15:00				
15:00-16:30	Symposium 2 Advances in Cardiac Pathophysiology: Insights from Molecular Mechanisms to Clinical Translation	Oral Communications 1	Oral Communications 2	
16:30-17:15	Plenary Lecture 1 Dr. Enrique Brandan - CHILE Advances in Muscular Dystrophies: From Basic Knowledge to Application in Translational Medicine	Plenary Lecture 4 Dr. Pedro Maldonado - CHILE Advances and challenges in artificial intelligence and neurotechnology	Plenary Lecture 6 Dr Francisco Bolaños Jimenez - FRANCIA Epigenetic differences associated with sex determine the metabolic alterations induced in offspring by maternal and paternal obesity	
17:15-17:45	Coffee	Coffee	Coffee	
17:45-19:15	Symposium 3 How diet impacts our brain. A cellular, tissue and body perspective	Symposium 6 Physiological and pathophysiological mechanisms of neurodevelopment	Symposium 9 Pathophysiology of Vascular Function During Pregnancy	
19:15-20:15	Plenary Lecture 2 Dr. Mónica Rubio - CHILE The discovery of a star incubator	Posters Session 1	Posters Session 2	
20:15-22:00	Welcome Cocktail			
21:15-22:00				
			<b>DINNER AND CLOSING PARTY (22:00-02:30)</b>	

## PLENARY LECTURES

- 1. Speaker: Dr. Enrique Brandan**, Fundación Ciencia y Vida, Universidad San Sebastián, Santiago, **CHILE**.  
**Title:** Advances in Muscular Dystrophies: From Basic Knowledge to Application in Translational Medicine  
**Proposed by:** Dr. Sonja Buvinic – Dr. Paola Llanos, Universidad de Chile
- 2. Speaker:** Dra. Mónica Rubio, Department of Astronomy, Universidad de Chile. National Award for Exact Sciences 2021  
**Title:** The discovery of a star incubator  
**Proposed by:** Council Chilean Society of Physiological Sciences
- 3. Speaker: Dr. Gerardo García Rivas**, The Institute for Obesity Research, Tecnológico de Monterrey. Centro de Investigación Biomédica, Hospital Zambrano Hellion, TecSalud, San Pedro Garza García, **MÉXICO**.  
**Title:** Plenary Lecture ALACF: Targeting the mitochondrial  $\text{Ca}^{2+}$  uniporter as potential treatment for heart failure  
**Proposed by:** ALACF - Dra. Sonja Buvinic
- 4. Speaker: Dr. Pedro Maldonado**, Institute of Biomedical Sciences, Faculty of Medicine, Universidad de Chile  
**Title:** Advances and challenges in artificial intelligence and neurotechnology  
**Proposed by:** Dr. Carla Basualto, Universidad de Aysén
- 5. Speaker: Dr. Rodrigo Iturriaga**, Institute of Biomedical Sciences, Faculty of Health Sciences, Universidad Autónoma de Chile, **CHILE**.  
**Title:** New non-respiratory functions for the carotid body chemoreceptor in autonomic-related diseases  
**Proposed by:** Dr. Julio Alcayaga, Universidad de Chile
- 6. Speaker: Dr Francisco Bolaños Jimenez**, National Institute for Agronomic Research (INRAE), Nantes Université, **FRANCIA**.  
**Title: EProposed by:** Dr. Paola Casanello, P. Universidad Católica de Chile

## SYMPOSIA

1. Title of the Symposium: "**Biomedical Research in Coquimbo**"  
Organizer: Dr. Claudio Coddou, Universidad Católica del Norte.  
Scientific talks:
  - **Dr. Paola Haeger**, Universidad Católica del Norte, CHILE  
*Alcohol-induced neonatal genomic variability*
  - **Dr. Fernando Moraga**, Universidad Católica del Norte, CHILE  
*Is there acclimatization in exposure to chronic intermittent hypobaric hypoxia?*
  - **Dr. Gerson Keppeke**, Universidad Católica del Norte, CHILE  
*Eliminating pathogenic autoantibodies with CRISPR-based genome editing? a proof-of-concept study*
  - **Dr. Claudio Coddou**, Universidad Católica del Norte, CHILE  
*Regulation of purinergic receptors activity and expression and its relation with Pain*
2. Title of the Symposium: "**Advances in Cardiac Pathophysiology: Insights from Molecular Mechanisms to Clinical Translation**"  
Organizer: Dr. Ivonne Olmedo, Universidad de Chile  
Scientific talks:
  - **Dr. Zully Pedrozo**, Universidad de Chile, CHILE  
*Influence of microgravity and prolonged rest on cardiovascular function*
  - **Dr. Ivonne Olmedo**, Universidad de Chile, CHILE  
*Unveiling Miro1: A Key Player in Cardiac Disease*
  - **Dr. Manuel Estrada**, Universidad de Chile, CHILE  
*Metabolic Reprogramming and Intracellular Signaling in Testosterone-Induced Cardiac Hypertrophy*
  - **Dr. Abraham Gajardo**, Universidad de Chile, CHILE  
*Translating Cardiac Ischemia-Reperfusion Research: From Laboratory Discoveries to Clinical Practice*
3. Title of the Symposium: "**How diet impacts our brain. A cellular, tissue and body perspective**"  
Organizer: Dr. Eugenia Morselli, Universidad San Sebastián  
Scientific talks:
  - **Dr. Patricia Burgos**, Universidad San Sebastián, CHILE  
*Immunoproteasome Upregulation in Obesity-Linked Hypothalamic Dysfunction: Mechanisms and Therapeutic Potential*
  - **Dr. Eugenia Morselli**, Universidad San Sebastián, CHILE  
*HFD Enhances Hypothalamic Mitophagy by Increasing PINK1: Impact on Metabolic Homeostasis and Body Weight*

- **Dr. Bredford Kerr**, Universidad San Sebastián, CHILE  
*HFD feeding induces hypothalamic epigenetic changes associated with the expression of neuronal synaptic plasticity-related genes*
  - **Dr. Claudio Perez**, Pontificia Universidad Católica de Chile, CHILE  
*How the food environment alters our behavior: Insights into brain function in response to cafeteria diet and uncertain food Access*
4. Title of the Symposium: "**Complex interactions in muscle pathology: from cellular pathways to dietary interventions**"  
Organizer: MUSCLE research group: Dr. Denisse Valladares, Universidad de O´ Higgins & Dr. Paola Llanos, Universidad de Chile  
Scientific talks:
- **Dr. Claudio Cabello**, Universidad Andrés Bello, CHILE  
*Functionality of Satellite Cells in Sarcopenia Secondary to Cholestatic Liver Diseases*
  - **Dr. Andrea del Campo**, Pontificia Universidad Católica de Chile, CHILE  
*Mitochondrial Adaptation Mechanisms as a Common Feature in the Development of Primary and Secondary Sarcopenia*
  - **Dr. Paola Llanos**, Universidad de Chile, CHILE  
*Activation of the ROS/TXNIP/NLRP3 Pathway Disrupts Insulin-Dependent Glucose Uptake in Skeletal Muscle During Insulin Resistance*
  - **Dr. Matías Monsalve**, Universidad Andrés Bello, CHILE  
*No Whey: High Protein Dairy Products and Resistance Exercises to Improve the Microbiota and Muscle Function of Older People*
5. Title of the Symposium: "**Young Scientists Symposium: New physiological mechanisms involved in hypoxia-induced responses in health and disease**"  
Organizer: Dr. Rodrigo Iturriaga, Universidad Autónoma  
Scientific talks:
- **Dr. Sebastián Castillo-Galán**, Universidad Los Andes, CHILE  
*New pharmacological technologies and a-cellular therapies in In vivo models that present Hypoxic Pulmonary Hypertension*
  - **Dr. Claudia Lucero**, Universidad Autónoma, CHILE  
*Role of connexin 43 hemichannels in the development of heart failure*
  - **Dr. David C. Andrade**, Universidad de Antofagasta, CHILE  
*Effects of parasympathetic modulation on physical effort during hypobaric hypoxia in rats*
  - **Dr.c Valeria Páez Ramírez**, Pontificia Universidad Católica de Chile, CHILE  
*Prediction of cardiorespiratory performance and baroreflex sensitivity during exposure to acute hypobaric hypoxia*
6. Title of the Symposium: "**Physiological and pathophysiological mechanisms of neurodevelopment**"

Organizer: Dr. Marcelo González-Ortiz, Universidad de Concepción y Dr. Patricio Castro, Universidad de Concepción

Scientific talks:

- **Dr. Marcelo González**, Universidad de Concepción, CHILE

*Allostatic overload during pregnancy and the effects on neurodevelopment: what can we learn from pandemic experience?*

- **Professor Laura Borodinsky**, University of California, Davis, USA

*Mechanisms of folate action during neural tube formation*

- **Dr. Patricio Castro**, Universidad de Concepción, CHILE

*Paracrine purinergic & glutamatergic signalling in neural tube formation. Anti-epileptic drugs (AEDs)*

- **Dr. Karina Bravo**, Carver College of Medicine, USA

*Neurodevelopment of the serotonergic system and central respiratory chemoreception: expanded approaches in health and disease*

7. Title of the Symposium: "**Preclinical and clinical views of chronic obstructive pulmonary disease** "

Organizer: Dr. Mauricio Henríquez Luna, Universidad de Chile

Scientific talks:

- **Dr. Andrea Méndez**, Universidad de Las Américas, CHILE

*Lung damage and pulmonary hypertension in a cigarette smoke-induced COPD model: different perspectives of a disease*

- **Dr. Diego Rojas**, Universidad Autónoma, CHILE

*Role of the Pneumocystis fungus in the severity of elastase-induced COPD in animal models*

- **Dr. Luis Peñailillo**, Universidad Andrés Bello, CHILE

*COPD and skeletal muscle in animal models*

- **Dr. Laura Mendoza**, Universidad de Chile, CHILE

*Impact of physical activity in patients with COPD*

8. Title of the Symposium: "**Teaching Physiology: from school to university** "

Organizer: Dr. Loreto Véz, P. Universidad Católica de Chile & Dr. Victoria Velarde, Universidad de Valparaíso.

Scientific talks:

- **Dr. Victoria Velarde**, Universidad de Valparaíso, CHILE

*What do high school students know about the urinary system?*

- **Dr. Carolina Álvarez Aguilera – Dra. Loreto Véliz García**, Universidad Católica de Chile, CHILE

*Innovations and adaptations for inclusive teaching in an introductory Biology course*

- **Dr. Manuel Arias-Calderón**, Universidad Andrés Bello, CHILE

*Near-peer teaching in Physiology: Benefits for students and assistants*

- **Dr. Víctor Moya – Dr. Alexis González**, Universidad Católica de Valparaíso, CHILE

*Strengthening scientific research skills within the Laboratory of Human Physiology and Systems Physiology: Implementation of a Project and Evaluation of its Perception in Students of the Faculty of Sciences of the Pontificia Universidad Católica de Valparaíso*

9. Title of the Symposium: "**Pathophysiology of Vascular Function During Pregnancy**"

Organizer: Dr. Ramón Lorca, University of Colorado Anschutz Medical Campus, USA y Dr. Bernardo Krause, Universidad de O'Higgins.

Scientific talks:

– **Dr. Tamara Sáez**, Universidad de Valparaíso, CHILE

*Hypercholesterolemia in Pregnancy: Impact on Maternal Vascular Function and Postpartum Health*

– **Dr. Claudio García**, Universidad de Santiago, CHILE

*Study of the Biomechanics of Arteries Affected by Fetal Growth Restriction: Experimental Analysis and Numerical Simulation*

– **Dr. Bernardo J. Krause**, Universidad de O'Higgins, CHILE

*Epigenetic-based Interventions against Fetal Vascular Dysfunction Resulting from Chronic Hypoxia*

– **Dr. Ramón A. Lorca**, University of Colorado Anschutz Medical Campus, USA

*Regulating Uterine Blood Flow with Optogenetics: Novel Models for Modulating Fetal Growth*

10. Title of the Symposium: "**Current explorations in the pathophysiology of pregnancy and postpartum: from basic research to clinical implementation**"

Organizer: Dr. Andrea Leiva, Universidad San Sebastián

Scientific talks:

– **Dr. María José Yáñez**, Universidad San Sebastián-Sede Santiago, CHILE

*Dynamics of cholesterol and organelle dysfunction in the syncytiotrophoblast: perspectives in placental biology*

– **Dr. Claudette Cantin**, Universidad San Sebastián-Sede Puerto Montt, CHILE

*Placental transport and materno-fetal communication: the role of lipoproteins and exosomes in maternal hypercholesterolemia and preeclampsia*

– **Dr. Delia Chiarello**, Universidad San Sebastián-Sede Santiago, CHILE

*Focusing on the maternal exposome to analyze the impact of ubiquitous contaminants in pregnancy and nutritional interventions during gestation*

– **Dr. Susana Contreras**, Universidad San Sebastián-Sede Santiago, CHILE

*Exploring the impact of pregnancy on lactation and postpartum, analyzing its consequences*

11. Title of the Symposium: "**Aging and Functional Performance: New Perspectives in the Assessment and Programming of Training in Older People**"

Organizer: Dr. Emilio Jofré Saldía, Universidad de Santiago

Scientific talks:

– **Mg. Ignacio Orizola Cáceres**, Clínica MEDS, CHILE

*Sarcopenia in the Self-Employed Elderly*

– **Dr. Álvaro Huerta Ojeda**, Universidad de Las Américas, CHILE

*Reliability of the GDLAM Test and Creation of a National Qualitative Scale*

– **Dr. Cristian Cofré Bolados**, Universidad de Santiago, CHILE

*Submaximal Ergospirometry Parameters in Non-Frail Elderly*

– **Dr. Emilio Jofré Saldía**, Universidad de Santiago, CHILE

*Low-Effort Strength Training and Functional Performance in Community-Dwelling Older Women.*