The 5th Annual California Society of Physiologists

Friday, September 25, 2026

Multidisciplinary Research Building,
Seminar Room 1110
University of California, Riverside
Riverside, CA

A heartfelt thank you to the Meeting Organizing Committee for your tireless efforts, leadership, and dedication in making the 5th Annual CASP Meeting a success!

Exective Committee
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Nicholas DiPatrizio, University of California, Riverside

A special thank you to the UCR Center for Cannabinoid Research (UCRCCR) and Center Director Nicholas DiPatrizio for their generous sponsorship, leadership, and continued support of the California Society of Physiologists. Your partnership has been instrumental in bringing this meeting to life, and we are truly grateful for your support.

UC RIVERSIDE
School of Medicine
CENTER FOR CANNABINOID RESEARCH

Keynote Speaker

Ted Garland, PhD.,
Distinguished Professor of Evolution, Ecology, and Organismal Biology

"Born to Run: 32 Years of High Runner Mice"

Most of the research in our laboratory involves the evolution of complex traits. Through empirical, theoretical, and methodological studies, we have also helped to develop the field of evolutionary physiology. Physiology is the study of how organisms work. Evolution is the study of how organisms have changed (genetically) across generations. Thus, evolutionary physiology is the study of how and why the way organisms work has changed over time. For example, does the way an organism work constrain the way it may evolve? Answers to such questions require a deep understanding of both proximate and ultimate mechanisms, including phenotypic plasticity and early-life effects. For almost 30 years, our lab has been selectively breeding the unique High Runner lines of mice, which serve as a model for study of the evolution and adaptation of behavior with neurobiology, physiology, and anatomy. They also allow us to gain insight into the motivation that underlies voluntary exercise in human beings.

Program – 5th Annual CASP Meeting

8-9:00 AM	*Registration, Check-in, and Breakfast* – **Multidisciplinary Research Building, Seminar Room 1110**
9:00-9:05 AM	Welcoming Remarks – Declan McCole, CASP President
9:05 – 9:15 AM	Nicholas DiPatrizio – Director, UCR Center for Cannabinoid Research
9:15 – 10:15 AM	**Oral Session I:** Coordination of Organ Homeostasis by Cellular Barrier and Transport Properties. Moderators: - Erica Heinrich, UCR; Crystal Reynaga, UCR
9:15-9:30 AM	Ivy Xiong, UCLA - *Dynamic flow-metabolic coupling in the mammalian renal tubule*
9:30-9:45 AM	Sam de Leve, USC - *Reversing pseudocapillarization restores clearance of amyloid-beta and LDL*
9:45-10:00 AM	Vinicius Canale, UCR - *Constitutive PTPN2 Loss Compromises the Architecture and Function of the Protective Mucus Layer in the Colon of Mice*
10:00-10:15 AM	Anandita Pal, Children's Hospital Los Angeles - *ERBB3 Regulates Lipid Metabolism in the Intestinal Epithelium*
10:15-10:30 AM	Morning Break
10:30 AM – 12:00 PM	**Oral Session II – Diet, Environmental, and Genetic drivers of inflammation. Moderators:** Denise Al-Alam (Lundqvist institute), Elena Koslova (USC)
10:30-10:45 AM	Edward Sundahl, UCSD - *Epigenetic remodeling of hypoxia-response genes within days of altitude exposure*
10:45-11:00 AM	Abel Vargas, UCR – *Immune system remains affected by acute high-altitude exposure one month following return to sea level*
11:00-11:15 AM	Nataliia Hula, Loma Linda Univ - *Circulating mitochondrial DNA induces endothelial dysfunction in pregnancy and a pro-contractile shift postpartum*
11:15-11:30 AM	Marisol Hernandez Garcia, UC Merced - *Five-Week Cannabidiol Treatment Improves Redox Dysregulation Associated with Cardiovascular Risk in Metabolic Syndrome*
11:30-11:45 AM	Jalene Velazquez, Lundqvist Institute - *Elevated type I interferon signaling in trisomy 21 lungs contributes to mucociliary complications*

Program – 5th Annual CASP Meeting

11:45 AM-12:00 PM	Donovan Argueta, UCI - *Characterization of a mouse model to study mechanisms of pain in hemophilia A*
12:00-1:00 PM	**Lunch/Business Meeting**
1:00-1:30 PM	Lightning Talks: Poster pitch (1-2 minutes each; brief pitch) – Moderator: Nicholas DiPatrizio
1:30-3:00 PM	Posters
3:00-3:15 PM	Afternoon Break
3:15-4:00 PM	Trainee Career and Mentoring Session. *Moderators:* Nichelle Camden (UCSD), Gabriela Arongo (UCSD)
	Oral Session III – Moderator: Declan McCole
4:00-5:00 PM	Keynote Presentation: Ted Garland, PhD., Distinguished Professor, Dept. of EEOB, UC Riverside - "Born to Run: 32 Years of High Runner Mice"
5:00-6:00 PM	Reception and Awards

ORAL ABSTRACTS

1. Dynamic flow-metabolic coupling in the mammalian renal tubule

Ivy Xiong

University of California Los Angeles; National Cancer Institute

2. Reversing pseudocapillarization restores clearance of amyloid-beta and LDL

Sam de Leve

University of Southern California

3. Constitutive PTPN2 Loss Compromises the Architecture and Function of the Protective Mucus Layer in the Colon of Mice

Vinicius Canale

University of California Riverside

4. ERBB3 Regulates Lipid Metabolism in the Intestinal Epithelium

Anandita Pal

1The Saban Research Institute, Children's Hospital Los Angeles

5. Epigenetic remodeling of hypoxia-response genes within days of altitude exposure

Edward Sundahl

UCSD

6. Immune system remains affected by acute high-altitude exposure one month following return to sea level

Abel Vargas

University of California, Riverside

7. Circulating mitochondrial DNA induces endothelial dysfunction in pregnancy and a pro-contractile shift postpartum

Nataliia Hula

Loma Linda University

8. Five-Week Cannabidiol Treatment Improves Redox Dysregulation Associated with Cardiovascular Risk in Metabolic Syndrome

Marisol Hernandez Garcia

Department of Molecular and Cellular Biology, School of Natural Sciences, University of California- Merced

9. Elevated type I interferon signaling in trisomy 21 lungs contributes to mucociliary complications

Jalene Velazquez

The Lundquist Institute

10. Characterization of a mouse model to study mechanisms of pain in hemophilia A

Donovan Argueta

University of California Irvine, Stanford University, University of California San Diego

POSTER ABSTRACTS

1. Comparison of Semi-Automated MLI Analysis with Manual Stereology in a Murine Model of Bronchopulmonary Dysplasia

Aditi Bhatnagar

Loma Linda University

2. Greater blood lactate accumulation during submaximal exercise at altitude than sea level

Aditya Mellacheruvu

University of California San Diego

3. Cytidine Monophosphate-N-acetylneuraminic Acid Hydroxylase (CMAH) Affects Oxygen Retention Through Membrane Polarity in Marine Mammal Endothelial Cells

Aidan Conne

University of California San Diego

4. Modeling Necrotizing Enterocolitis in Trisomy 21 Using Intestinal Organoids

Ayaan Chandak

The Lundquist Institute

5. Age-Dependent Epigenetic Responses to Short-Term High-Altitude Hypoxia Exposure

B. Gabriela Arango

UC San Diego

6. Cardiorespiratory Coupling and Autonomic Maturation: A Respiratory Phase-Specific Heart Rate Variability Analysis in Awake Newborn Lambs

Bobby D. Mendez

Lawrence D. Longo M.D. Center for Perinatal Biology, Loma Linda University School of Medicine

7. Semi-automated digital morphometry for unbiased assessment of hyperoxia-induced bronchopulmonary dysplasia mouse model

Carlos Silveyra

Lawrence D. Longo Center for Perinatal Biology, Advanced Imaging and Microscopy Core (AIM), School of Medicine, Loma Linda University, Loma Linda, CA

8. Epithelial *Ptpn2* Deletion Disrupts Antimicrobial Peptide Expression and Paneth Cell Secretory Capacity Along the Intestinal Crypt-Villus Axis In Mice

Charly Acevedo

UC Riverside

9. Preservation of pulmonary arterial calcium oscillatory activity following hypoxia and miR-210 manipulation in newborn lambs

Choi Sang Daniel Lam

LLU School of Medicine

10. Vascular bed-specific contributions of mitochondrial fission to contractile function in nulliparous and parous rats

Desirae Escalera

Lawrence D. Longo MD Center for Perinatal Biology, Department of Basic Sciences Loma Linda University School of Medicine

11. Prenatal Exposure to PFOS and PFOA Produces Lasting Social Behavior Deficits

Elena Kozlova

Molecular, Cell and Systems Biology, University of California Riverside, Riverside, CA, USA

12. Mapping kidney microenvironments: spatial transcriptomic analysis of glomeruli

Erik Siranosian

Department of Nephrology & Hypertension, USC Keck School of Medicine, Los Angeles, CA

13. Aging and Alzheimer's Disease Related Changes in Cardiac Structure and Function: Effects of Endothelial KCa Channel Activation

Ethan D. Nguyen

Department of Basic Science, Loma Linda University, Loma Linda, CA

14. Calcium Handling is Modified During Acclimatization to High Altitude

Hannah E. Pagliero

Division of Biomedical Sciences, School of Medicine, University of California, Riverside

15. Reimagining Youth Cycling: Promoting Long-term Participation

Jacqueline Monteza

Loma Linda University School of Medicine

16. Metabolic Stress Is Linked to Midlife Cognitive Impairment Through Hippocampal Tau Phosphorylation

Jeffrey Wong

Department of Molecular and Cellular Biology, School of Natural Sciences, University of California- Merced

17. Effects of a Maternal High-Fat Diet on Glucose-Stimulated Insulin Secretion in Sheep Offspring

Johana P. Luna

California State Polytechnic University, Pomona

18. Systemic Mitochondrial DNA Exposure Alters Microglial and Astrocytic Morphology in Neonatal Rat Brainstem Respiratory Regions Relative to Cortex

Joycelyn H. Williams

Loma Linda University

19. Three-Dimensional Mitochondrial Network Remodeling Associated with Cytidine Monophosphate-N-Acetylneuraminic Acid Hydroxylase Loss in Mouse and Elephant Seal Skeletal Muscle

Matea Palman

The University of California, San Diego; The University of Auckland, New Zealand

20. PTPN2 Deletion in Intestinal Epithelial Cells Alters The Respiratory Response to a Viral Pathogen

Morgan Saunders

University of California Riverside

21. PTPN2 Deficiency Alters Lipocalin-2–Mediated Antimicrobial Responses and Microbial Homeostasis in Response to Dietary Iron Availability

Nancy Saad

UCR

22. AMPK and Adaption to High Altitude

Nichelle Camden

UCSD

23. Acute Δ9-THC alters glucose homeostasis in a diet-, sex-, and intestinal CB1R-dependent manner

Octavio Zaragoza Rodriguez

University of California, Riverside

24. Temporalis muscle protein composition and physiological variation across coyote (Canis latrans) populations

Rami Al Harastani

California State University, Long Beach

25. Identification of Novel Human PTPN2 Isoforms and how the IBD-associated SNP rs1893217 Interferes with Regulation of Protein Isoform Abundance

Roxanna Hajbabaie, Vinicius Canale, Declan F. McCole

University of California, Riverside

26. Examining Sex-differences in the Relationship Between Arterial Stiffness and Nighttime Blood Pressure Dipping

Rylie Dodge

California State University San Marcos, Eastern Virginia Medical School, UCLA

27. Prenatal Exposure to PFOS and PFOA Produces Lasting Social Behavior Deficits

Sarah Sutjipto

University of California, Riverside

28. Potential Hepatic Anti-inflammatory Properties in Four-Week Pseudocannabinoid H4CBD Treatment in a Model of Metabolic Syndrome

Yadira L. Ramirez Quiñones

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2026 Attendees of the California Society of Physiologists Meeting

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