



AMERICAN PHYSIOLOGICAL SOCIETY

COMPARATIVE PHYSIOLOGY

September 17–20, 2026
Orlando, Florida



#comparative2026
physiology.org/comparative2026

APS CONFERENCE

Comparative Physiology

September 17–20, 2026
Orlando, Florida

Conference Organizers:



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University of Nevada Las Vegas



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National Marine Mammal Foundation

Organizing Committee:

Kaitlin Allen, PhD
Woods Hole Oceanographic Institution

Craig Franklin, PhD
The University of Queensland

Martin Jastroch, PhD
Stockholm University

Carla Madelaire, PhD
San Diego Zoo Wildlife Alliance

Graham Scott, PhD
McMaster University

Sponsors:



UC Irvine Charlie Dunlop
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Location

Renaissance Orlando at Seaworld
6677 Sea Harbor Drive, Orlando, FL 32821
407.351.5555



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Registration Details

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Program Objectives

The objectives of the 2026 Comparative Physiology conference are to:

- Gather clinical and basic researchers with expertise in the role of comparative function and disease in various physiological and pathophysiological conditions affecting human health.
- Convene nationally and internationally renowned scientists to exchange ideas, develop scientific networks, promote collaboration and discuss recent research developments in comparative physiology research.
- Inspire the new generation of young scientists about comparative physiology. The meeting will strongly emphasize the trainee's scientific career, with activities at multiple levels, including designated trainee sessions, posters and oral presentations and workshops.

Schedule at a Glance

COMPARATIVE PHYSIOLOGY

Thursday, September 17

2–9 p.m.	Registration Open Crystal Ballroom Lobby
7–8 p.m.	From Emperor Penguins to Blue Whales: the Dive Response and Oxygen Store Management Crystal C Speaker Paul Ponganis, MD, PhD , University of California San Diego
8–9 p.m.	Opening Reception Pool Lawn

Friday, September 18

	Crystal C	Crystal D	Crystal E
9–10:30 a.m.	Impacts of Rapid Environmental Change on Ion Transporters in Aquatic Animals Chairs Peter M. Piermarini, PhD, The Ohio State University Teresa Popp, PhD, The Ohio State University Speakers Salinity and the Osmoregulatory Physiology of Freshwater Insects Andrew Donini, PhD, York University Different Oxygen Requirements, Shared Physiological Priorities: Osmoregulation Under Hypoxic Conditions in Freshwater Invertebrates Sarah Spitz, North Carolina State University On-demand Gill Reprogramming for Acid-base Resilience in a Hydrothermal Vent Crab Yung-Che Tseng, PhD, Academia Sinica Evolutionary and Acclimatory Responses of Ion Transporters during Salinity Change Teresa Popp, PhD, The Ohio State University Hyperosmotic Regulation of Euryhaline Teleost Compatible Osmolyte Levels Via NFAT Signaling Jens Hamar, PhD, University of California, Davis	Metabolism, Hypoxia and the Role of Lactate (with UCI Bioengineering) Chair Cassandra L. Williams, PhD, National Marine Mammal Foundation Speakers What the Lactate Shuttle Means for Mammalian Metabolism George A. Brooks, PhD, University of California Continuous Metabolite Sensing Probe Development: Biocompatibility and Hemocompatibility Belle Gerber, University of Nevada, Las Vegas Inter-effort Recovery Hypoxia Associated with High-intensity Interval Exercise: Effects on Regional Body Temperature and Blood Lactate in Mice Natanael D. De Lasari, University of Campinas Venous Oxygen Profiles of Weddell Seals: Consume But Conservative Divers Allyson Hindle, University of Nevada, Las Vegas Intravascular and Tissue Compartment Probe for Remote Analyte Monitoring Elliot Botvinick, PhD, University of California, Irvine	Development and Reproductive Physiology Chair Warren W. Burggren, PhD, University of North Texas Speakers Phenotypic Variation in Early-Stage Embryos of the Zebrafish (Danio Rerio) Lindsey J. Daniel, PhD, ABD, University of North Texas Ontogeny Differences in Epibatidine Sequestration in Poison Frogs Ziting Chen, University of California, Berkeley Tissue-specific Telomere Dynamics Before and After Metamorphosis Alex K. Humpherys, North Dakota State University Revealing Developmental Critical Windows for Hypoxia Exposure in Danio Rerio Maira Ryann Cartee, University of North Texas Sensing Conspecific: Reproductive Olfactory Cues in the Lusitanian Toadfish Diana Gonçalves, Centro de Ciências do Mar
10:30–11 a.m.	Break		

Schedule at a Glance

COMPARATIVE PHYSIOLOGY

	Crystal C	Crystal D	Crystal E
11 a.m.–12:30 p.m.	Nutrition and Energetics (with Sable Systems) Chair Craig E. Franklin, PhD, The University of Queensland Speakers If It Breathes [Air], We Can Measure It: The Present and the Future of Indirect Calorimetry Marshall McCue The Effects of Substrate on Post-exercise Oxygen Consumption in the Desert Kangaroo Rat (Dipodomys Deserti) Jeremy Almazan, Cal State University San Bernardino The Effect of Exercise on Lipid Peroxidation in Starvation-selected Drosophila Melanogaster Katrina Pinili, University of Nevada, Las Vegas Modulation of Oxidative Stress Indicators by Intrinsic and Extrinsic Factors in Domestic Cats (Felis Catus) Valeria Beltrán-Valdivia, MS, Centro de Investigaciones Biológicas del Noroeste Limiting Hepatic Ketogenesis to Promote Survival During Starvation Sarah Huen, MD, PhD, UT Southwestern Medical Center	Ions, Energetics and Water Balance (with Loligo & Pyroscience) Chair Bernard Rees, PhD, University of New Orleans Speakers Functional Characterization of Na⁺/H⁺ Antiporter (NHA) Paralogs Involved in Freshwater Adaptation in the Copepod Eurytemora Carollaeae (Atlantic Clade E. Affinis Complex) Teresa Popp, PhD, The Ohio State University Evidence of Passive Acid Excretion in Hypersaline Acclimated Cyprinodon Variegatus Larvae Lu Lin, BS, University of Texas at Austin, Marine Science Institute Cloning and Functional Characterization of Putative Na⁺-K⁺-2Cl⁻ Cotransporter (NKCC) cDNAs in the Copepod Eurytemora Carollaeae Yeaun Park, MS, The Ohio State University The Effects of Strobilurin Fungicides on the Physiological Performance of the Gulf Killifish, Fundulus Grandis Samantha Brieske, University of New Orleans Ion and Water Balance in a Freeze-tolerant Insect After Sublethal and Lethal Freezing Madison A. Floden, North Dakota State University The Loligo Toolbox for Comparative Physiology Rune Hertz Larsen From Ocean Depths to Outer Space: Oxygen, pH and Temperature Sensing with PyroScience's REDFLASH Technology Nadia Savelyeva	Eco-immunology Chair Jane Khudyakov, PhD, University of the Pacific Speakers Re-examining the Use of Glucocorticoids as a Measure of Physiological Stress: An Energetics Perspective James F. Gillooly, PhD, University of Florida The Impact of Stress, Inflammatory Cytokines and Pseudogymnoascus Destructans Fungal Load on Recovery From White-nose Syndrome in Myotis Lucifugus Maternity Colonies Christopher S. Richardson, PhD, Boston University Diving Into Blubber: Gene Expression Profiles Across Blubber Depth, Age and Hormone Levels in Cetaceans Jane Khudyakov, PhD, University of the Pacific Mycoplasma Gallisepticum Suppresses Host Immune Response By Inhibiting Succinate Dehydrogenase Soren Coulson, PhD, University of Memphis College of Health Sciences Terminal Investment and Energy Allocation Tradeoffs in Amphibians: Biases, Gaps and Research Priorities Zuania Colón-Piñeiro, PhD, University of Florida Heme Suppresses Lipopolysaccharide (LPS)-induced Endothelial Activation in Humans But Not Northern Elephant Seals (Mirounga Angustirostris) Alicia T. Cotoia, University of North Carolina Wilmington
12:30–2 p.m.	Lunch Coral		
1–2 p.m.	Workshop: AI for Data Analysis in Comparative Physiology Crystal C		

Schedule at a Glance

COMPARATIVE PHYSIOLOGY

	Crystal C	Crystal D	Crystal E
2–3:30 p.m.	Using Genomic and Functional Approaches to Disentangle Extremely Wild Physiological Phenotypes Chair Jose Pablo Vazquez-Media, University of California Berkeley Speakers Maternal and Placental Mechanisms Underlying Fetal Growth Protection in High-elevation Adapted Deer Mice Kathryn Wilsterman, PhD, Colorado State University Fighting the Stresses of Aging on Land, Air and Sea Juan Manuel Vazquez, Penn State University Running on Empty: Unraveling the Cellular Architecture of Extreme Hypoxia and Fasting Tolerance in Elephant Seals Kaitlin N. Allen, PhD, University of California, Berkeley	Overwintering in Non-mammalian Animals: Unlocking Mechanisms of Survival (sponsored by SEB) Chair Kendra J. Greenlee, PhD, North Dakota State University Speakers Integrative Exploration of the Mechanisms of Cold Acclimation and Freeze Tolerance in Cope's Gray Treefrog Carissa Krane, University of Dayton Renal Mechanisms Underlying Cold Tolerance Plasticity in Insects Heath MacMillan, Carleton University Genotype vs Phenotype: Do Having Antifreeze-like Gene Sequences Imply Organismal Freeze Avoidance? Christina Cheng, University of Illinois	Comparative Perspectives on Heterothermy Beyond Cold Climates Chair Ana Breit, PhD, Duke Lemur Center Speakers Beyond Torpor, What Variability in Body Temperature Can Tell Us About the Evolution and Energetics of Endothermy Danielle Levesque, University of Maine Life in the Slow Lane: Extreme Heterometabolism in the Protoendothermic Common Tenrec Frank van Breukelen, PhD, University of Nevada, Las Vegas
3:30–3:45 p.m.	Break		
3:45–5:30 p.m.	Poster Presentations Crystal AB		
5:30–6:30 p.m.	Trainee Career Meet-up Hotel Bar		

Schedule at a Glance

COMPARATIVE PHYSIOLOGY

Saturday, September 19

	Crystal C	Crystal D	Crystal E
9–10:30 a.m.	Comparative View of Peripheral Oxygen Transport Mechanisms Chair Ellen Breen, PhD, University of California, San Diego Speakers Optimizing Skeletal Muscle Oxygen Transport: A Comparative Approach David C. Poole, PhD, Kansas State University Arteriolar Endothelin Signaling and Mitochondrial Resilience Drive Hypoxia Tolerance in Weddell Seals Sebastiano Cupani, University of Nevada Las Vegas Oxygen Storage and Consumption Kinetics in Marine Mammal Endothelial Cells Carla Guillard Salgueira, University of California, San Diego Assessment of Oxygen Delivery in Bottlenose Dolphins (<i>Tursiops Truncatus</i>) and California Sea Lions (<i>Zalophus Californianus</i>) Using an Intravital Microscope Camera Angelo J. Incitti, MS, National Marine Mammal Foundation Dissecting Molecular Underpinnings that Support Extreme Diving Adaptations in Seals Caroline del Real, University of California, Berkeley	Biomechanics and Muscle Physiology Chair Scott D. Kirkton, PhD, FAPS, Union College Speakers The Role of mTOR Signalling in Wing Dimorphism in Gryllus Crickets Caroline Williams, PhD, University of California, Berkeley Longitudinal Plasma Proteome Analysis Over Postnatal Development in the Weddell Seal (<i>Leptonychotes Weddellii</i>) Jane Khudyakov, PhD, University of the Pacific Comparative Analysis of Muscle (Dys)function Between Sexes in a Young Adulthood Model of Obesity Alexandra P. Genualdi, Oklahoma State University Consequences of Muscular Division of Labor for Crawling in Larval Diptera Ethan Wold, PhD, University of Chicago Energetics of Laden Locomotion in Two Species of Cockroach Be Eldash, MS, Pennsylvania State University Small But Mighty? Size-independent Jumping Ability Across Grasshopper Species Scott D. Kirkton, PhD, FAPS, Union College	Physiology of Dormancy Chair Frank van Breukelen, PhD, University of Nevada, Las Vegas Speakers How Do You Know What Kind of Dormancy You Are Studying and Why Would You Care Anyway? Dan Hahn, University of Florida Choosing Homeostasis Over Energetic Savings Raizel Yankaway, University of Nevada, Las Vegas Serial Ultrasound Imaging Refutes the Hibernation Aortic Compliance Theory: Common Tenrec (<i>Tenrec Ecaudatus</i>) Aortas Do Not Undergo Torpor-specific Stiffening Gilbecca Rae R. Smith, University of Nevada, Las Vegas Hibernation-induced Metabolic Plasticity Uses Astrocytic Glycogen to Fuel Synaptic Activity in Frogs Nikolaus D. Bueschke, MS, University of Missouri Activity-related Homeostatic Plasticity Facilitates Synaptic Transmission in Cold Acclimated Bullfrogs Renato Filogonio, PhD, University of Missouri
10:30–11 a.m.	Break		

Schedule at a Glance

COMPARATIVE PHYSIOLOGY

	Crystal C	Crystal D	Crystal E
11 a.m.–12:30 p.m.	Environmental Physiology (with Star-Oddi) Chair Paul Ponganis, MD, PhD, University of California San Diego Speakers Energetics and Cardiac Function of Exercising Rorquals Ashley Blawas Investigating Physiological Responses to Incremental Temperature Change in Early Life Stage Zebrafish (Danio Rerio) Jack Eudy, University of North Texas Transcriptomics of Stress in Chaetodipus Penicillatus Adam Myers, University of Nevada Las Vegas Tracking Wildlife Physiology with Implantable Heart Rate Loggers in Arctic and Boreal Mammals Ásgeir Bjarnason, Star-Oddi	Mitochondrial Physiology and Metabolism Chair Martin Jastroch, PhD, Stockholm University Speakers Phthalate Exposure Induces Inflammatory Signaling and Alters Mitochondrial Respiration in Marine Mammal and Human Cells Elizabeth R. Piotrowski, MS, University of California, Berkeley Intrinsic Versus Extrinsic Control of Mitochondrial Membrane Potential in Isolated Neurons of the Anoxia-tolerant Western Painted Turtle Natalia Agostini Schneider, MS, Saint Louis University Structural Mitochondrial Protection in Freeze-tolerant Crickets Stefane Saruhashi, Cornell University Mito-it Be UCP4: Do Uncoupling Proteins Activate Mitophagy in Diapausing Beetle Flight Muscle? Jacqueline Lebenzon, PhD, U Calgary Mice and Marine Mammals With a Human-like Sialic Acid Profile Manifest Superior Mitochondrial Efficiency Ellen Breen, PhD, University of California, San Diego	Stressors and Mechanisms of Resilience Chair Ana Carolina T. Palei, PhD, University of Mississippi Medical Center Speakers Flight Muscles Serve as a Physiological Reservoir of Iron for Reproduction Tomas Diaz, University of California, Berkeley Early-life Hypoxia Induces Behavioral Changes and Reveals p38 MAPK-mediated Trade-offs in Zebrafish Karem N. Vazquez Roman, PhD, University of North Texas Beta-hydroxybutyrate Induces Long-term Synaptic Plasticity in Vertebrate Motor Circuits Independent of Metabolism Fahimeh Taheri, University of Missouri Mental Stress and Reactive Sulfur Species: Implications for Cardiovascular Function Analilia Cardenas-Garza, LSU Health Shreveport Neuronal Resilience to Hypoxia in the Avian Brain: Upregulation of GABAergic Function? Mehrad Ghazi Mirsaeed, DVM, Wake Forest University Anoxia Tolerant Annual Killifish Cells Maintain Translation During Initial Exposure to Anoxia Claire Riggs, PhD, St. Olaf College
12:30–2 p.m.	Lunch Coral		
1–2 p.m.	Workshop: Practical Considerations for Heart Rate Biologging in Small Animals (Star-Oddi) Crystal C		

Schedule at a Glance

COMPARATIVE PHYSIOLOGY

	Crystal C	Crystal D	Crystal E
2–3:30 p.m.	Cellular Models and Organismal Insights for Stress Physiology in Nonmodel Organisms (sponsored by SICB) Chair Jason Podrabsky, PhD, Oregon State University Speakers Sea Urchin Cell Lines as New and Versatile Tools for Mechanistic Physiology Andrea Bodnar, Gloucester Marine Genomics Institute Mechanisms of Environmental (Including Anoxia) Tolerance in Annual Killifish Cells Chelsea Hughes, PhD, Duke School of the Environment Characterizing and Exploring the Dark Proteome of Tunicate Cells Maxime Leprêtre	Overcoming Metabolic Challenges to the Brain Chair Lara do Amaral, Wake Forest University Speakers Running on Fumes: Reducing the Need for Oxygen and Glucose to Power Neural Circuits Joseph M. Santin, PhD, University of Missouri Hypoxia and Hypercapnia Tolerance in the Naked Mole-rat Thomas Park Avoiding Excitotoxicity During Metabolic Stress: Insights From the Avian Brain Lara do Amaral, Wake Forest University	Expiration–Breathing’s Other Face Chair Bill Milsom, University of British Columbia Speakers Role of Expiration in the Evolution of Air Breathing in Early Vertebrates and Aspiration Breathing in Amniotes Beth Brainerd, Brown University Active Expiration Across the Tetrapods Bill Milsom, University of British Columbia Active Expiration in Rodents–Neural Control of Active Expiration: Networks, Mechanisms and Function in Mammals Silvia Pagliardini, University of Alberta
3:30–3:45 p.m.	Break		
3:45–5:30 p.m.	Scholander Poster Presentations Crystal AB		

Schedule at a Glance

COMPARATIVE PHYSIOLOGY

Sunday, September 20

	Crystal C	Crystal D	Crystal E
9–10:30 a.m.	Comparative Physiology of Thermogenesis Chair Michael J. Gaudry, PhD, Stockholm University Speakers Genetic Mechanisms Underlying Flexibility in Avian Thermogenesis Maria Stager, PhD, University of Massachusetts Amherst Characterizing CLSTN3B and UCP1 Coevolution as Key Contributors to Adaptive NST Thomas Jacob Fyda, Stanford University A High Elevation Mitochondrial Variant Has Limited Impact on Respiration of Thermogenic Tissues of Deer Mice Shady Kuster, Colorado State University Tropical Heterothermy: Insights Into Primate Hibernation From the Fat-tailed Dwarf Lemur Serum Proteome Catrina Brown, University of the Pacific The (Extraordinary) Energetics of the Invasive Spotted Lanternfly (<i>Lycorma Delicatula</i>) Elizabeth Deecher, PhD, Penn State University	Hot Topics: Thermal Physiology in a Changing World Chair Karen L. Sweazea, PhD, FAHA, FAPS, Arizona State University Speakers Proteomic Insights Into the Role of Sirtuins, Food Availability and Thermal History in the Heat Shock Response of Mytilid Mussels Melissa A. May, PhD, Florida Gulf Coast University Early Physiological Responses to Temperature Changes in Parthenogenetic Marbled Crayfish (<i>Procambarus Virginalis</i>) Lauren A. Kowalski, MS, University of North Texas Late Juvenile Sensitivity to Temperature and Photoperiod Governs Alternative Wing Morph Development in a Wing-polymorphic Cricket Lourenço Martins, University of California, Berkeley Cellular Thermotolerance in Seven Endangered Mammals: An In-vitro Approach to Predict Climate Vulnerability Carla B. Madelaire, PhD, San Diego Zoo Wildlife Alliance Effects of Prolonged Heatwaves on Facultative Air-breathing, Metabolism and Hypoxia Tolerance in Adult <i>Corydoras Aeneus</i> Jessica D. Rippamonti, MS, PhD, University of North Texas	Oxygen and Vascular Biology Chair Michelle Shero, PhD, Woods Hole Oceanographic Institution Speakers Coordinated Maternal-pup Iron Transfer and Enhanced Use Support Rapid Hemoprotein Development in a Diving Mammal Michelle Shero, PhD, Woods Hole Oceanographic Institution Elephant Seal Cells Export Iron and Form Lipid Droplets to Prevent Lipid Peroxidation José Pablo Vázquez Medina, PhD, University of California, Berkeley The Effects of Supplemented Iron on Heme Synthesis and Aerobic Diving Capacity in Fast-growing Grey Seal Pups Caroline E. Branan, MS, Institute of Marine and Environmental Technologies Evolution of a Diving Response: Divergent Transcriptomic Adaptations in Aquatic Versus Terrestrial Mammals Giovanna Selleghein Veiga, University of Campinas (UNICAMP) Development of the African Turquoise Killifish Aorta as a Model for Examining the Effect of Aging on Vascular Function Pooneh Bagher, PhD, University of Nebraska Medical Center Protective Effects of Uric Acid in the Vasculature of Birds Karen L. Sweazea, PhD, FAHA, FAPS, Arizona State University
10:30–11 a.m.	Break		

Schedule at a Glance

COMPARATIVE PHYSIOLOGY

	Crystal C	Crystal D	Crystal E
11 a.m.–12:30 p.m.	Ecotoxicology and Environmental Degradation Chair Andrew J. Esbaugh, PhD, University of Texas at Austin, Marine Science Institute Speakers Linking Foraging Niche to Pollutant Concentrations in Juvenile Hawksbill Turtles From Buck Island Reef National Monument Macy B. Sherman, Florida Atlantic University Phthalate Exposure During Development Exhibits Potential Feminizing Effects on Sexual Differentiation in Turtle Embryos Sarah N. Sexton, MS, Florida Atlantic University Morphometric Effects of Neonicotinoid and Nicotine Exposure in a Chicken Embryo Assay Dylan R. Motschenbacher, University of Wisconsin La Crosse Maternal PFAS-mixture Exposure Promotes Preeclampsia-like Features and Cardiac Dysfunction During Late Gestation Barbara Campos Jorge, PhD, University of Mississippi Medical Center Assessing Lithium Toxicity Across a Salinity Gradient in Coastal Marine Fishes Andrew J. Esbaugh, PhD, University of Texas at Austin, Marine Science Institute Fire and Flood: Assessing the Physiological Impacts of Wildfire and Associated Runoff on Aquatic Fauna Craig E. Franklin, PhD, The University of Queensland	Hypoxia Tolerance and Adaptation Chair Graham Scott, PhD, McMaster University Speakers Phenotypic Responses of Developing Zebrafish (Danio Rerio) to Developmental and Parental Intermittent Hypoxia Gil Martinez Bautista, PhD, University of North Texas Gestational Hypoxia Leads to Population-specific Metabolic Remodeling Among High- and Low-altitude Deer Mice Inaki Loureiro, Colorado State University Comparative Fibroblast Physiology Identifies High-altitude Specializations in Gelada Michael Blackwell, University of Nevada Las Vegas Metabolite Profiling Reveals Enhanced Redox Balance and Unique Energy Metabolism Strategies in Hypoxic Vascular Endothelial Cells Derived From Elite Diving Seals Elizabeth R. Piotrowski, MS, University of California, Berkeley Preserved Glutamate Transporter Function Supports Hypoxia Tolerance in Avian Neurons Tuokai Zhang, Wake Forest University Hibernation Reduces the Aerobic Cost of Neural Activity in the Bullfrog Brainstem Hafsa Yaseen, MPhil, University of Missouri - Columbia	Gene Regulation and Evolutionary Physiology Chair Sandra L. Martin, University of Colorado School of Medicine Speakers Exploring Epigenetic Inheritance: Alternative Models and Experimental Approaches Warren W. Burggren, PhD, University of North Texas Ascorbic Acid as an Epigenetic Tool for Modulation of Hypoxia Tolerance Guillermo Contreras Rello, University of North Texas Molecular Signatures Underlying Hypoxic Adaptation in Sea Turtles B. Gabriela Arango, PhD, UC San Diego Integrating Comparative Physiology and Multi-omics Reveals Hidden Complexity in Crustacean Molting Regulation Talia B. Head, PhD, Washington State University A Context-specific, Literature-supported Framework for Validating Stress Response Differentially Expressed Gene Sets Bradley Frishman, University of Florida Becoming a Queen: Germline Maintenance in the Naked Mole-rat Ovarian Reserve Emily K. Lam, PhD, University of California, San Francisco
12:30–2 p.m.	Lunch Coral		
1–2 p.m.	Workshop: Professional Development–Job Interview Crystal C		

Schedule at a Glance

COMPARATIVE PHYSIOLOGY

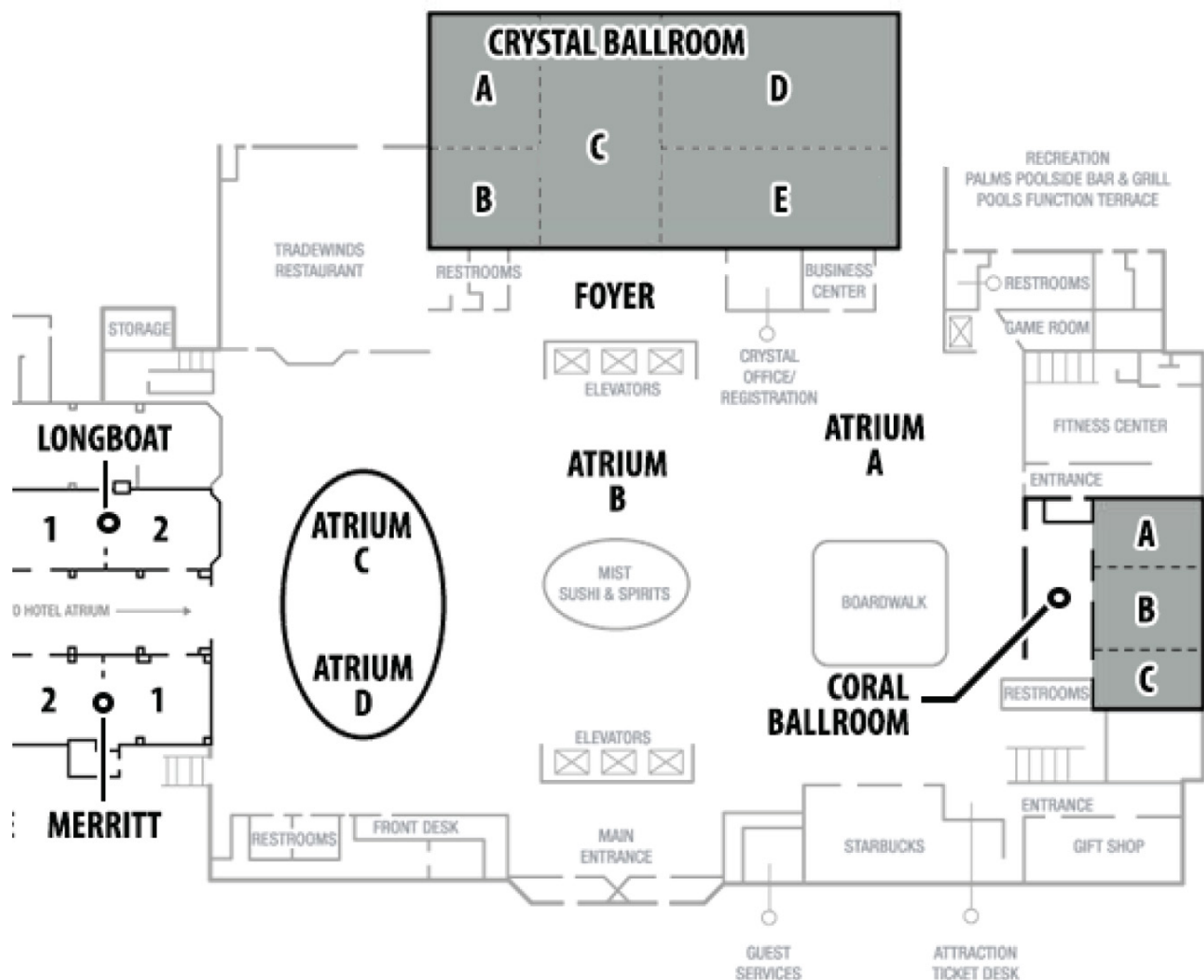
	Crystal C	Crystal D	Crystal E
2–3:30 p.m.	Mitochondrial Basis for Extreme Adaptation Chair Daniel Warren, PhD, Saint Louis University Speakers Reconstructing the Evolution of Mitochondrial Thermogenesis Martin Jastroch, PhD, Stockholm University Mitochondrial Basis of Environmental Adaptation in High-altitude Mammals Graham Scott, PhD, McMaster University Powering up to Fly: Adjustments in Mitochondria Support Flight-capability in Wing Dimorphic Field Crickets Lisa Treidel, PhD, William & Mary	Reaching Beyond Academia: How Comparative Physiologists are Showcasing Their Science to the Public Chair Kaitlin N. Allen, PhD, University of California, Berkeley Speakers From Real Frogs to Talking Toads: Explaining the Logics of Science to Youngsters Carlos Arturo Navas, University of São Paulo Visualizing and Sonifying Marine Physiology: Bridging Research, Conservation and Public Engagement Jessica Kendall-Bar, Scripps Institution of Oceanography Beyond Sight: Tactile and Immersive Approaches to Teaching Evolutionary Biology and Comparative Anatomy Colleen Farmer, University of Utah	Biomedical Applications of Mammalian Hibernation Chair Matt Andrews, University of Nebraska-Lincoln Speakers Nature's Blueprint for Cardiac Resilience: Ground Squirrel Transcriptomics Yields a Novel HFpEF Therapeutic Katharine Grabek, Fauna Bio Incorporated Mitochondrial Dynamics in a Human-sized Hibernator: Implications for Biomedical Translation Sarah Rice, PhD, University of Alaska Fairbanks Leveraging Hibernation Biology to Combat Disuse-induced Muscle Atrophy Ivan Vechetti, PhD, University of Nebraska-Lincoln
3:30–4 p.m.	Break		
4–6 p.m.	Scholander Award Oral Presentation Competition Crystal C Speakers Flight Muscles Serve as a Physiological Reservoir of Iron for Reproduction Tomas Diaz, University of California, Berkeley Ontogeny Differences in Epibatidine Sequestration in Poison Frogs Ziting Chen, University of California, Berkeley A High Elevation Mitochondrial Variant Has Limited Impact on Respiration of Thermogenic Tissues of Deer Mice Shady Kuster, Colorado State University Preserved Glutamate Transporter Function Supports Hypoxia Tolerance in Avian Neurons Tuokai Zhang, Wake Forest University Structural Mitochondrial Protection in Freeze-tolerant Crickets Stefane Saruhashi, Cornell University Evidence of Passive Acid Excretion in Hypersaline Acclimated Cyprinodon Variegatus Larvae Lu Lin, University of Texas at Austin, Marine Science Institute		
6–6:30 p.m.	Break		
6:30–7:30 p.m.	Oscillations in Hibernation: From Organism to Gene Expression Crystal C Speaker Sandra L. Martin, University of Colorado School of Medicine		
7:30–9 p.m.	Closing Dinner		

Friday, September 18

Poster Number	Abstract Title
1	Gene Markers of Stress and Health in Dolphins Exposed to Anthropogenic Disturbance
2	Unraveling the Secrets of Shark Muscle Physiology by Comparative Proteomics
3	Developmental Exposure to Temperature and Salinity Stress Interactively Reshapes Adult Tolerance in <i>Tigriopus Californicus</i>
4	Physiological Response of Little Skates (<i>Leucoraja Erinacea</i>) to Chronic Hypoxia During Development
5	Effects of Fluctuating Temperatures on American Bullfrog (<i>Lithobates Catesbeianus</i>) Development and Metabolism
6	Developmental Temperature Conditions Affect Air-breathing Plasticity in a Facultative Air-breathing Fish, <i>Ancistrus Cirrhosus</i>
7	Temperature-dependent Regulation of Rbm3 and Csde1 Protein Abundance in Mammalian Fibroblasts
8	The Thermal Preference of a Solitary Bee, <i>Megachile Rotundata</i>
9	Studies of Mechanisms and Phenotypes of Heat Stress Tolerance in Large Yellow Croaker
10	A Hot Start? Developmental Heat Stress and Biological Aging in a Solitary Bee
11	Tissue-specific Bioaccumulation of the Fungicide Pyraclostrobin and Its Effects on the Behavior of the Gulf Killifish, <i>Fundulus Grandis</i>
12	Beleaf It or Not: Investigating the Effects of Flonicamid on the Pollinator <i>Megachile Rotundata</i>
13	Epigenetic Reprogramming of Inflammation Associated With Obesity Through: From Molecular Biology to Clinical Application
14	New Treatment for Wound Healing in Diabetic Mice
15	Exploratory Analysis of Candidate Cd3 ⁺ T-cell Proteins and Peripheral Hemodynamic Phenotypes Following Senolytic Therapy in a Non-human Primate Model
16	Efficacy of a 6-month Yoga-based Lifestyle Intervention on Stress- Inflammation, Depression, Cognition and Cellular Aging in Obesity: A Randomized Controlled Trial
17	Scaling Down: Linking Tissue to Whole-organism Flight Metabolism in the Alfalfa Leafcutting Bee
18	Elevated BCS Correlates With Compromised Quality of Life Attributes Including Cognitive Decline in Canines
19	Physiological Markers Influencing Breeding Success in a Planktivorous Seabird
20	How Thermal History Drives Inter-individual Proteomic Variation in the Rocky Intertidal Zone
21	Integration of In Vivo and In Vitro Transcriptomic Profiles to Decode Skeletal Muscle Resilience Under Metabolic and Hormonal Stress in the Northern Elephant Seal (<i>Mirounga Angustirostris</i>)
22	Multi-omics Atlas of Burmese Python (<i>Python Bivittatus</i>) Postprandial Biology Reveals Coordinated Anabolic Programs
23	Right Ventricular Failure Programs in Human and Rat Pulmonary Hypertension
24	Evidence of Passive Acid Excretion in Hypersaline Acclimated <i>Cyprinodon Variegatus</i> Larvae
25	Air Breathing Physiology and Combined Temperature and Hypoxia Tolerance of <i>Misgurnus Anguillicaudatus</i> , The Pond Loach
26	Neurobiological Components of Flight Polymorphism in <i>Gryllus Lineaticeps</i>
27	Baseline Expression of Nitric Oxide Synthase Isoforms in Euthermic Arctic Ground Squirrels
28	Acute Stress Alters Body Weight and Systemic Inflammation in Adult Wistar Rats
29	A Context-specific, Literature-supported Framework for Validating Stress Response Differentially Expressed Gene Sets
30	The Energetic Basis of Lifespan in Plants and Animals

Saturday, September 19

Poster Number	Abstract Title
30	The Energetic Basis of Lifespan in Plants and Animals
31	Continuous Metabolite Sensing Probe Development: Biocompatibility and Hemocompatibility
32	Linking Foraging Niche to Pollutant Concentrations in Juvenile Hawksbill Turtles From Buck Island Reef National Monument
33	Intrinsic Versus Extrinsic Control of Mitochondrial Membrane Potential in Isolated Neurons of the Anoxia-tolerant Western Painted Turtle
34	Arteriolar Endothelin Signaling and Mitochondrial Resilience Drive Hypoxia Tolerance in Weddell Seals
35	Different Oxygen Requirements, Shared Physiological Priorities: Osmoregulation Under Hypoxic Conditions in Freshwater Invertebrates
36	Morphometric Effects of Neonicotinoid and Nicotine Exposure in a Chicken Embryo Assay
37	Cloning and Functional Characterization of Putative Na ⁺ -K ⁺ -2Cl ⁻ Cotransporter (NKCC) cDNAs in the Copepod <i>Eurytemora carolleeae</i>
38	Terminal Investment and Energy Allocation Tradeoffs in Amphibians: Biases, Gaps and Research Priorities
39	Energetics of Laden Locomotion in Two Species of Cockroach
40	Integrating Comparative Physiology and Multi-omics Reveals Hidden Complexity in Crustacean Molting Regulation
41	Molecular Signatures Underlying Hypoxic Adaptation in Sea Turtles
42	Modulation of Oxidative Stress Indicators By Intrinsic and Extrinsic Factors in Domestic Cats (<i>Felis catus</i>)
43	Late Juvenile Sensitivity to Temperature and Photoperiod Governs Alternative Wing Morph Development in a Wing-polymorphic Cricket
44	Evolution of a Diving Response: Divergent Transcriptomic Adaptations in Aquatic Versus Terrestrial Mammals
45	Neuronal Resilience to Hypoxia in the Avian Brain: Upregulation of GABAergic Function?
46	Characterizing CLSTN3B and UCP1 Coevolution as Key Contributors to Adaptive NST
47	Comparative Analysis of Muscle (Dys)function Between Sexes in a Young Adulthood Model of Obesity
48	Effects of Prolonged Heatwaves on Facultative Air-breathing, Metabolism and Hypoxia Tolerance in Adult <i>Corydoras aeneus</i>
49	The Effect of Exercise on Lipid Peroxidation in Starvation-selected <i>Drosophila melanogaster</i>
50	Metabolite Profiling Reveals Enhanced Redox Balance and Unique Energy Metabolism Strategies in Hypoxic Vascular Endothelial Cells Derived from Elite Diving Seals



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