Message from the Section Chair,

Michael Hedrick

Greetings! This is my last message as Chair of CEPS. It has been an exciting and fulfilling three years working with a large number of people through the CEPS membership, the CEPS Steering Committee, the Section Advisory Committee and the APS staff.

Congratulations to Dr. Scott Kirkton, Associate Professor of Biology at Union College, who will serve as CEPS chair for 2018-2021. I look forward to handing off the Chair duties to Scott at the close of the Experimental Biology meeting in San Diego. Scott has previously served on the CEPS Steering Committee and has been a Program Officer for our section; I am very confident that our section will be in good hands with Scott’s leadership over the next three years.

I hope everyone has made housing and travel plans for the Experimental Biology 2018 meeting in San Diego (April 21-25, 2018). As always, CEPS will be well represented in San Diego with several Featured Topics, Poster Sessions and Symposia (see pages 3-4) that are of interest to our section members. We will again sponsor a CEPS Abstract-Driven Trainee Featured Topics session and host the Krogh Distinguished Lectureship, presented by Dr. Stanley Hillman, Professor Emeritus, Portland State University, who will speak on “Anuran amphibians as models for understanding extreme dehydration tolerance.” Dr. Hillman’s lecture will be held Tuesday April 24th, 3:30 – 4:30 pm in Convention Center, Room 26.

In addition to the strong scientific program, the CEPS Trainee Advisory Committee will host the annual ‘Trainee Mixer’ on Monday April 23rd from 5:00 to 7:00 pm at the The Horton Grand Hotel in the Gaslamp district (311 Island Avenue, San Diego, CA 92101), followed by the CEPS Banquet/Business Meeting, 7:00 to 10:00 pm. This is an exciting event that will give us a chance to socialize and to honor several members and trainees of our section on their scientific accomplishments. I look forward to seeing you all at this event!

The quadrennial Comparative Physiology Intersociety Meeting will be held this year in New Orleans, Louisiana October 25-28, 2018. This year’s meeting theme is ‘Complexity and Integration’ and, as always, looks to be an exciting meeting for comparative physiologists from around the world. I hope you will be able to attend. Please see more details on page 5 about the meeting provided by our section Program Officer, Dr. Dane Crossley.

Safe travels; I look forward to seeing you in San Diego!

2018 Krogh Distinguished Lectureship

This section’s distinguished lectureship for 2018, the August Krogh Award, will be presented to Dr. Stanley Hillman, Professor Emeritus at Portland State University.

Dr. Hillman received his Ph.D. from UCLA in 1977 under the direction of Dr. Malcolm Gordon. After a one-year lectureship at UC-Riverside in 1976-1977, he joined the Department of Biology at Portland State University and remained at PSU for 35 years until his retirement in 2012. Dr. Hillman served in a number of capacities as a faculty member at PSU, most notably as Chair of the Biology department for 9 years (1997-2006). Dr. Hillman received several awards at PSU including an AAUP Faculty Service Award (1997), the George C. Hoffmann Award for distinguished contributions to PSU in the areas of instruction, service and scholarship (2006), and was elected as a Fellow to the California Academy of Sciences in 2008. During his 35 years as a faculty member at PSU he trained 22 Thesis M.S. students and 1 Ph.D. student.

Dr. Hillman’s research has been primarily aimed at elucidating the physiological factors that account for the extreme dehydration tolerance of anuran amphibians and how these factors explain the evolution of dehydration tolerance in this important vertebrate group. His research has demonstrated the importance of the cardiovascular and lymphatic systems for explaining the differential dehydration tolerance that exists among anurans. In addition, his research has also led to important conclusions about the role of the cardiovascular and respiratory systems for limiting gas transport for vertebrates in general.

Dr. Hillman is the author of more than 75 peer-reviewed articles and book chapters, and is the lead author of a book entitled “Ecological and Environmental Physiology of Amphibians” (Oxford Press, 2009).

Report from CEPS Program Officer, Dane Crossley
Summary of EB 2018 CEPS Program

Hello all!

There are several important updates regarding the upcoming EB meeting and the Fall APS intersociety meeting. Our program for EB 2018 San Diego meeting is exciting and consists of three featured topic sessions: a Trainee session, ‘The Effects of Environmental Challenges on Performance and Metabolism’, and ‘Comparative Models of Disease’. There is also a symposium titled ‘Comparative Perspectives on Maximal O₂, and CO₂ Transport in Animals’ (See week at a glance table on pages 3 and 4 for location and times). In addition, there will be a workshop titled ‘Transformative Technologies Enabling Ecological Assessment of Human and Wildlife Physiology’ held on Saturday April, 21st with presentations by Dr. Michael Axelsson and Dr. C. Loren Buck. This year’s annual August Krogh lecture is titled ‘Anuran amphibians as models for understanding extreme dehydration tolerance’ and will be presented by Dr. Stanley S. Hillman.
<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Session/Topic</th>
<th>Abstract/Highlight</th>
<th>Chairs</th>
<th>Room</th>
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<tr>
<td>Saturday, April 21</td>
<td>3:00 PM - 5:00 PM</td>
<td>Workshop Transformative Technologies Enabling Ecological Assessment of Human and Wildlife Physiology</td>
<td>Biotelemetry from the laboratory to the field and back. Speaker Michael Axelsson</td>
<td>Chair: Kathryn Sandberg — Co-Chair: Dane Crossley</td>
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<td>What have human studies using commercial wearable device technology taught us and where can we go from here? Speaker Scott R. Collier</td>
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<td>Walking the tightrope between stability and change: biologging reveals phenological and physiological plasticity in an arctic hibernator. Speaker C. Loren Buck</td>
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<td>Helping teens choose2Snooze: Developing a mobile sleep app for teens. Speaker Tyish S. Hall Brown</td>
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<td>Sunday, April 22</td>
<td>7:30 AM - 5:30 PM</td>
<td>CEPS Poster Session Scholander Trainee Highlights Poster Session</td>
<td>Abstract-Driven Trainee Session: Active NH₄⁺ excretion via Na⁺/NH₄⁺(H⁺) exchange in the highly ammonia tolerant hagfish (Eptatretus stoutii) Speaker: Alexander Michael Clifford</td>
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<td>Evolutionarily-Conserved Mechanisms of Nutrient Acquisition in the Primordial Vertebrate, the Pacific Hagfish Speaker: Alyssa Weinrauch</td>
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<td>Crude oil impairs heart cell function in the mahi-mahi (Coryphaena hippurus) Speaker: Rachael M Heuer</td>
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<td>Paralytic hypo-energetic state facilitates anoxia tolerance despite ionic imbalance in adult Drosophila melanogaster Speaker: Jacob B Campbell</td>
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<td>Incomplete Caspase Signaling During Hibernation In The Golden-Mantled Ground Squirrel, Spermophilus lateralis Speaker: Michael Treat</td>
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<td>Noradrenergic tuning, not simple rate effects, produces temperature-sensitivity of the respiratory network in bullfrogs Speaker: Mauricio Vallejo</td>
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<td>Date</td>
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<tr>
<td>Monday, April 23</td>
<td>3:30 PM–5:00 PM</td>
<td>CEPS Symposium</td>
<td><strong>Comparative Perspectives on Maximal O$_2$ and CO$_2$ Transport in Animals</strong></td>
<td>What limits cardiac output in vertebrates? Speaker William Joyce&lt;br&gt;Getting to the heart of the matter: oxygen supply and demand in fish. Speaker Georgina Cox&lt;br&gt;Maximum gas exchange rates: Lessons from across the vertebrate spectrum. Speaker James Hicks</td>
<td>Chair: Michael Hedrick</td>
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<td>Tuesday, April 24</td>
<td>8:30 AM – 10:00 AM</td>
<td>CEPS Featured Topic</td>
<td><strong>The Effects of Environmental Challenges on Performance and Metabolism</strong></td>
<td>From lab to field and into the future, gaining insights into environmental and physiological drivers of crocodilian performance. Speaker Craig Franklin&lt;br&gt;Environmental chemicals can disrupt neonatal cardiomyocyte physiology Speaker Manelle Ramadan&lt;br&gt;Behavioral Thermoregulation of Antarctic Teleosts With and Without Hemoglobin in Response to Acute Thermal Challenge Speaker Iskander I Ismailov&lt;br&gt;Glucose Metabolism after Sleep Restriction, Total Sleep Deprivation, and Recovery Speaker Eva-Maria Elmenhorst&lt;br&gt;Development of Thermoregulatory Capability in Weddell Seal Pups Speaker Linnea E. Pearson</td>
<td>Chairs: Cassondra Williams and Allyson Hindle</td>
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<td>Tuesday, April 24</td>
<td>3:30 PM – 4:30 PM</td>
<td>August Krogh Distinguished Lecture</td>
<td><strong>Anuran amphibians as models for understanding extreme dehydration tolerance.</strong></td>
<td>Speaker Stanley S. Hillman</td>
<td>Chair: Sinya Benyajati</td>
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<td>Tuesday, April 24</td>
<td>7:30 AM – 5:30 PM</td>
<td>CEPS Poster Sessions</td>
<td><strong>Comparative Models of Disease</strong></td>
<td>Mechanisms of longevity and cancer resistance in long-lived mammals. Speaker Vera Gorbunova&lt;br&gt;Intrinsic anti-inflammatory properties of serum in deep-diving seals Speaker Allyson G Hindle&lt;br&gt;Genetically Engineering a Sheep Model of Hypophosphatasia. Speaker Diarra Kevin Williams.&lt;br&gt;Hormonal Drive of Cardiomyocyte Proliferative and Regenerative Potential Loss During the Acquisition of Endothermy Speaker Guo N. Huang&lt;br&gt;Seal Endothelial Cells: a Comparative Model to Study Natural Tolerance to Ischemia/Reperfusion Speaker Jose Pablo Vazquez-Medina</td>
<td>Chair: Mathew Pamenter</td>
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This year there are two poster sessions, the Scholander Trainee Highlights Poster Session to be held on Sunday April, 22nd and the general featured topics session to be held on Tuesday April, 24th.
Report from CEPS Program Officer, **Dane Crossley**

**Update on the APS 2018 Intersociety Meeting**

The APS intersociety meeting “Comparative Physiology; Complexity and Integration” will be held from October 25-28, 2018, in New Orleans, Louisiana. The organizing committee has been hard at work to ensure we have a successful meeting. The meeting will be held at the Astor Crowne Plaza in the French Quarter. As you will see in the link above, registration is open as is the abstract submission site. The registration fee covers the opening and closing banquets as well as coffee breaks. We are currently also working on sponsors to support a poster session social. With regard to the program, we are still accepting symposium proposals for the meeting. The deadline for consideration is March 30th, 2018, and the final program will be finalized in April. We strongly encourage you to submit a proposal for consideration to Dane Crossley.

**INTERSOCIETY MEETING, COMPARATIVE PHYSIOLOGY: COMPLEXITY AND INTEGRATION**

New Orleans, Louisiana • October 25–28, 2018 • the-aps.org/comparative

*Intersociety meeting ABSTRACTS! ABSTRACTS! ABSTRACTS!*  
*The deadline to submit abstracts for the intersociety meeting is Friday June 1st 2018.*

Report from Treasurer: **Heidy Contreras**

Get ready to party with your favorite physiologist! If you are interested in collaborations, want to meet your favorite scientist, or simply share a drink with some fun and engaging people don’t forget to buy your ticket for this year’s Comparative and Evolutionary Physiology Section Dinner-Business Meeting on Monday, April 23rd at the famous Horton Grand Hotel in downtown San Diego. There are about 20 tickets still available, so if you would like to purchase one, please email Heidy at hcontreras@laverne.edu.

CEPS members, postdoctoral fellows, students and friends of CEPS are all encouraged to attend and meet this year’s Krogh Distinguished Lecturer and honored guest, Dr. Stan Hillman. Also, come help us celebrate the accomplishments of this year’s CEPS Research Recognition Award, New Investigator Award, Dr. Dolittle Travel Award, Scholander Award, and Novo Nordisk Foundation Travel Fellow recipients.

Your CEPS Steering Committee is excited to see you all this year at EB! See you in sunny San Diego!
Report from Trainee Advisory Committee Representative: Joseph Santin

Trainees are invited to attend the Trainee Mixer on Monday, April 23, 5:00-7:00pm. The Mixer will be held immediately prior to the CEP Dinner-Business meeting at the Horton Grand Hotel (311 Island Ave.). Trainees in attendance will receive one complementary beverage and hor d’oeuvres. Mix, mingle, and meet fellow trainees and the 2018 Krogh Distinguished Lecturer and honored guest, Dr. Stan Hillman from Portland State University. Also present will be recipients of the CEPS Research Recognition Award, Novo Nordisk Travel Award, New Investigator Award, and Dr. Dolittle’s Travel Award.

Book advertisement by book co-editor and Trainee Subcommittee Representative: Bridget Martinez

A rise in the number of young and old patients suffering from a stroke or traumatic brain injury has led to the need for better drug development and treatment, as well as diagnosis and prevention of ischemic stroke and traumatic brain injury. This book provides a comprehensive overview of scientific advancements in these areas.

Chapters provide the latest knowledge in neuroscience, biotechnology, and personalized medicine applicable to acute brain injuries. Development of neuroprotective drugs is treated in detail. Chemical biomarkers for detection, imaging and preventative strategies are covered to provide medicinal chemists with a broad view of translational aspects of the field. This book will be useful to postgraduate students and researchers in medicinal chemistry and pharmacology as well as specialists in the acute brain injury field.
Updates from the Career Opportunities in Physiology Committee: Kelly Hyndman

The Career Opportunities in Physiology Committee supports a number of APS programs to foster the career development of physiologists of all ages:

**EB Symposium: “Hallmarks of and ground rules for productive collaborations in science”**

Join us Sunday, Monday and Tuesday at 7:00am-8:00am in the San Diego Convention Center, Room 25B for a light breakfast and “nuts and bolts” series of discussions on collaborations. Specific questions panelists will discuss include: How do I establish and maintain a successful collaboration?; What does communication and data sharing look like in a productive collaboration?; What does a ‘typical’ collaboration look like and entail?; How are intellectual property rights and authorship managed across collaborations? Each day will feature different speakers and their perspectives on these topics. Visit [http://www.the-aps.org/collaborations-in-science](http://www.the-aps.org/collaborations-in-science) for more information.

**Experimental Biology Undergraduate Orientation and Poster Sessions**

Open to all undergraduate students attending EB, the Undergraduate Orientation session serves as a primer to help the students get the most out of their EB experience, and includes award presentations for various APS-sponsored undergraduate research programs. This will be held at the Marriot Marquis & Marina (room TBA) from 3:30-5:30pm on Saturday, April 21. There is also a special poster session for undergraduate students at EB, held from 4:00-5:30pm (undergrad presenters must arrive by 3:00pm to hang posters) on Sunday April 22 in the San Diego Convention Center, Sails Pavilion – please stop by and meet the next generation of physiologists!

**Positively Influence a Future Physiologist at EB 2018**

Volunteer APS member hosts (PIs, postdocs or graduate students) are needed to guide local high school students and teachers around the EB exhibits and posters on Monday, April 23, from 11 a.m. to 1:30 p.m. Each year, students say this is their favorite part of the teacher-student workshop day.

Follow the link: [https://www.surveymonkey.com/r/HighSchoolStudentTeacherTourGuideEB2018](https://www.surveymonkey.com/r/HighSchoolStudentTeacherTourGuideEB2018)

**APS Video Contest – VOTE NOW!!**

Each year we encourage undergraduate and graduate students to creatively connect with physiology and bring it the broader public through a short video contest. This year we have 9 videos and it is time to vote for the viewer’s choice award – YOU be the judge! The video with the most views before April 21 wins a $250 prize! To view this year’s entries, go to: [http://bit.ly/1nmGEWf](http://bit.ly/1nmGEWf)

**The APS Local Undergraduate Research Award in Physiology (LURAP)**

LURAP allows APS Members to recognize excellence in physiology research by undergraduates at their home institutions. The award fosters interest in physiological research for undergraduates, encourages them to continue with physiological studies, and provides networking with APS members at their home institutions. The award package includes a certificate, an APS t-shirt, and a free one-year undergraduate membership. Visit [www.the-aps.org/lurap](http://www.the-aps.org/lurap) for more information.

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Follow Life Lines by Dr. Doolittle at: [http://scienceblogs.com/lifelines/](http://scienceblogs.com/lifelines/)
Section Steering Committee

Chair and SAC Representative
Michael S. Hedrick, Ph.D.
Department of Biological Sciences
California State University, East Bay
Hayward, CA 94542
Voice: 510-885-7443
Email: michael.hedrick@csueastbay.edu

Secretary
Lynn Hartzler, PhD
Department of Biological Sciences
Wright State University
3640 Colonel Glenn Hwy, Dayton, OH 45435
Voice: 937-775-2163 Fax: 937-775-3320
Email: lynn.hartzler@wright.edu

Treasurer
Heidy Contreras, PhD
Department of Biology
University of La Verne
1950 3rd Street, La Verne, CA 91750
Voice: 909-448-4016
Email: hcontreras@laverne.edu

CEPS Program Committee Chair and JPC Rep.
Dane Alan Crossley, PhD
Department of Biological Sciences, Univ of North Texas
1155 Union Circle, #305220, Denton, TX 76203-5017
Voice: 940-369-7327
Email: dane.crossley@unt.edu

Committee on Committees Representative
Allyson Hindle, PhD
Massachusetts General Hospital
Dept. of Anesthesia THIER 503
55 Fruit St. Boston, MA 02114
Voice: 617-726-3030
Email: ahindle@mgh.harvard.edu

Physiologist in Industry Committee Representative
Kenneth R. Olson, PhD
Indiana University School of Medicine
South Bend Center, IN 46556-5607
Voice: 574-631-7560 Fax: 574-631-7821
Email: kolson@nd.edu

Trainee Advisory Committee Representative
Joseph M. Santin, PhD
Biological Sciences, University of Missouri
218A LeFevre Hall, Columbia, MO 65211
Voice: (573) 882-7815
Email: santinj@missouri.edu

Awards Committee Chair
Siribhinya Benyajati, PhD
Department of Physiology
University of Oklahoma Health Science Center
940 Stanton L. Young Blvd., Oklahoma City, OK 73104
Voice: 405-271-2132
Email: siribhinya-benyajati@ouhsc.edu

ex officio AJP: Regulatory, Integrative, and Comparative Physiology, Associate Editor
Kenneth R. Olson, PhD
Indiana University School of Medicine
South Bend Center, IN 46556-5607
Voice: 574-631-7560 Fax: 574-631-7821
Email: kolson@nd.edu

Councilor – International Affairs
Berry Pinshow, PhD
Dept. of Desert Ecology, Ben-Gurion University of Negev
84990 Midreshet Bengurion, Israel
Voice: +972-8-6596787
Email: pinshow@bgu.ac.il

Councilor-General Section Affairs
Gary H. Laverty, PhD
Dept. of Biol. Sci., University of Delaware
Wolf Hall, Newark, DE 19716
Voice: 302-831-8180
Email: laverty@udel.edu

Science Policy Advocacy Liaison
Daniel E. Warren, PhD
Dept. of Biology, St. Louis University
3507 Laclede Ave, St. Louis, MO 63103
Voice: 314-977-2043
Email: dwarren4@slu.edu

Trainee Subcommittee
Cassondra Williams, PhD
Ecology and Evolutionary Biology
University of California Irvine
321 Steinhaus, Irvine, CA 92697
Voice: 858-337-4525
Email: cassondw@uci.edu

Trainee Subcommittee
Bridget Martinez, PhD
Dept. of Molecular and Cellular Biology
University of California – Merced
221 E. 22nd Street, Merced, CA 95340
Voice: 209-276-8813
Email: bmartinez26@ucmerced.edu