



The American Physiological Society

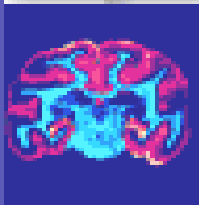
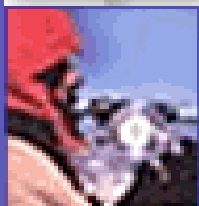
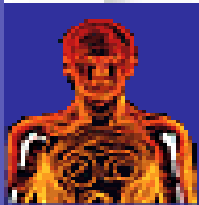
INTEGRATING THE LIFE SCIENCES FROM MOLECULE TO ORGANISM

Special
points of interest

Comparative and Evolutionary Physiology Section

Spring 2007 Newsletter

Sinya Benyajati, Editor



Message from the Section Chair



Greetings, members of the Comparative and Evolutionary Physiology Section,

This has been a busy and exciting year for CEPS. As summarized elsewhere in this newsletter, the Comparative Physiology conference in Virginia Beach was very exciting. The plenary sessions each presented an impressive body of research, and collectively highlighted particularly the contributions that comparative physiology can make to modern issues in conservation science. The symposia underscored the diversity of research represented by our section, with integration across levels of biological organization from molecules to ecosystems, across time frames from seconds to evolutionary history, and across species from bacteria to mammals. And the poster sessions buzzed with animated interactions, and especially showcased the exciting work being done by many of the younger members of our field. Indeed, selecting winners of the several awards for outstanding posters by young investigators was one of most challenging elements of the conference.

The upcoming Experimental Biology meeting in Washington, D.C. is unusually strong for CEPS and will provide another excellent forum for our section. As usual, we will sponsor one full symposium and three featured topic sessions, as well as hosting a Krogh Distinguished Lectureship, presented this year by David Jones on the topic of Extra Cardiac Chambers. In addition, a Physiology in Focus session (spearheaded by APS President Dale Benos) will address experimental evolution as a tool in physiological research, and the CEP section will also host special sessions on Teaching Evolution and on Integrative Biology at the National Science Foundation. Finding time to squeeze in a visit to the Smithsonian might be tough!

Along with scientific programming, CEPS members contribute to a variety of other initiatives and activities in APS. Within the Section, you have recently voted for several positions on the Steering Committee. These are the people who represent our section on various APS committees, who organize the finances and the annual lunch and business meeting at EB, and who serve as contact points for the interests of section members within APS. Thank you for taking the time to vote. In addition, APS offers many other opportunities for involvement. Whether as a place to discuss science, or as a forum for lobbying on issues ranging from federal funding for research to the teaching of evolution, the APS is one of the premier organizations supporting the work that we do. When you see the call for involvement: be sure to answer.

By the way: you may notice that Sinya Benyajati was on the ballot for Section Secretary. But she deserves a special, hearty round of thanks for the work that she did in her many years as Treasurer. Sinya brought financial solvency to the section, enhanced funding for awards, and set a high standard for our annual luncheons. **Khawp khun makh!**

--David Goldstein

Washington, D.C.



Experimental Biology 2007 will be held in Washington, D.C. April 28-May 2, and it promises to have an exceptionally strong comparative and evolutionary physiology content.

Sunday (April 29) features a *special symposium on Teaching Evolution in a Biomedical Context* featuring Eugenie Scott (Executive Director of the National Center for Science Education, <http://www.natcensci.org/>), Randolph Nesse (best-selling author on evolutionary medicine, <http://www-personal.umich.edu/~nesse/>) and Lawrence Krauss (theoretical physicist and co-author of an open letter to the Pope on the relationship between religion and evolutionary biology, <http://www.phys.cwru.edu/~krauss/>). Sunday also will have a *symposium on Respiratory Control in Insects: Integration from Gene to Organism*, (speakers: Mark Krasnow, Gabriel Haddad, Jake Socha, and Stefan Hetz, organized by Scott Kirkton, and *Featured Topic on Circadian Rhythms* organized by Robert Refinetti, headlined by Franz Halberg. Sunday will also feature the *Scholander Competition* posters.

Monday there will be a *Physiology in Focus symposium on Experimental Evolution as a Tool in Physiological Research*, organized by Michael Rose (speakers: Al Bennett, Michael Rose/Tim Bradley, Steve Britton and Ted Garland) as well as the *August Krogh Distinguished Lectureship*, which will be presented in fine and undoubtedly outrageous style by Dave Jones (preview his talk from the abstract below).

Tuesday we'll have a *featured topic on New Insights on Responses to Environmental and Metabolic Stress from Genomic and Proteomic Studies*, headlined by Andy Cossins, organized by Severine Kirchner and Ron Ferraris. Tuesday is also the *Comparative and Evolutionary Physiology Luncheon and Business Meeting*, followed by a *special presentation by Jim Collins* (Associate Director for Biological Sciences, NSF) on "*Integrative Biology*" at the *Start of the 21st Century: The View from NSF*".

Wednesday we have a *featured topic on The Impact of Fatty Acids and Glucose on Insulin Resistance Across Species*, organized by Karen Sweazea and Eldon Braun, featuring Erik Henriksen and John McMurtry, and a *CEP poster session* featuring about 50 posters.

There are many other symposia and featured topics that will be of interest, but I will just mention a few. There will be four symposia on physiological genomics, 7 on ion channels, 6 on transporters, 5 on metabolic abnormalities, and 5 symposia on hypoxia and oxidative stress. There also will be techniques and technology workshops on high-throughput methods for assessing ion channels, and chronic in vivo instrumentation. Much of the program scheduling is available at: <http://www.the-aps.org/meetings/eb07/index.htm>.

--Jon Harrison, Program Officer

2007 August Krogh Distinguished Lecture

Monday, April 30, 2:00 pm

Extra cardiac chambers. David R. Jones, Killam University Professor Emeritus of Zoology, University of British Columbia, Vancouver, BC, Canada.

Lower vertebrates have extra cardiac chambers located between the heart and aorta and sited within the pericardium. In elasmobranchs and amphibians a conus arteriosus of cardiac muscle contracts with each ventricular systole, contributing to cardiac ejection. In teleost fishes and reptiles the conus is replaced or divided by backwards growth of the outflow vessel(s) forming highly elastic chambers, the bulbus arteriosus in fish and truncus arteriosus in crocodilian reptiles. The bulbar and truncal walls contain similar materials to those in the arterial vessels although the mechanical properties of the bulbus and truncus may be very different, offering new insights into cardiovascular dynamics. I will review my studies on extra cardiac chambers which I started as a graduate student and have continued throughout my career.



2007 CEPS Luncheon and Business Meeting



The CEPS Luncheon and Business Meeting will be held on **Tuesday May 1st, 2007 from 12:1:30 pm in Room 8/9 of the Renaissance Hotel (APS headquarter hotel)** in Washington, D.C.. All members of CEPS are encouraged to attend. Students and post-docs are especially encouraged to attend and meet this year's Krogh Distinguished Lecturer and honored guest, Dr. David R. Jones of the University of British Columbia. During this gathering we will recognize the recipient of the CEPS Research Recognition Award, announce the winner of the 2007 Scholander competition, and introduce the 2007 Novo Nordisk Foundation Travel fellows. Tickets for the luncheon will be \$25 for faculty and \$10 for students and post-doctoral fellows (with appropriate identification). Tickets may be reserved and/or purchased after March 1st. Contact Alice Villalobos (avillalobos@ag.tamu.edu) for ticket reservation

Greetings from Trainee Advisory Committee Representative

My name is Karen Sweazea and I am the Trainee Advisory Representative of the CEP Section of the APS. My main role is to "investigate the needs of trainees, both pre-doctoral and post-doctoral, and to determine how the Society can provide necessary support and assistance." In this position I am here to serve you (early career scientists and trainee members) and welcome any questions, concerns, or suggestions you may have regarding your advancement through the ranks of science. I invite you to explore the ever evolving array of trainee related resources that have been compiled by the Trainee Advisory Committee Members, in conjunction with the APS. Along with these resources I also encourage everyone to attend the CEP Section luncheon at the 2007 Experimental Biology Meeting in Washington, D.C. This is a great opportunity to meet new colleagues, network, and be involved in our section of the APS. Details of trainee related topics of interest are summarized below.

1. The **APS trainee website** located at <http://www.the-aps.org/trainees/index.htm> contains a wealth of resources for trainees. Items of interest include committee reports, link to advisory board members, career development links, and APS staff contacts for any APS related questions. Keep up-to-date with trainee related events and news by [subscribing to the trainee newsletter](#). [Sign-up for the listserv](#) by clicking on the Trainee Newsletters link on the trainee homepage.
2. There has been talk of **forming a trainee subcommittee** within the CEP section to deal with issues that pertain to trainees of the Section. If there is sufficient interest, a subcommittee will be formed. Please let me know if you are interested by sending an email to ksweazea@salud.unm.edu.
3. If you have not yet visited and explored the **APS website** at <http://www.the-aps.org/index.htm> I encourage you to do so. While there, be sure to click on the members only tab located at the top of the screen and log into your account using your membership information. This is where you will be able to manage your account. Because the **APS Comparative and Evolutionary Physiology Section newsletter** contains highly pertinent information about our section I encourage all of you to select the APS ListServ tab and select the subscribe button next to COMPSEC (CEP Section). The newsletters contain important information about events, news within the section, and are a great way to stay up-to-date with the Comparative section.

Once again welcome to the Comparative and Evolutionary Physiology Section Trainee Group!

Karen Sweazea



While there will be plenty of events to keep you busy at the meeting, please consider setting aside a few hours during the meeting or just before you go home to visit Capitol Hill. The biggest topic of concern for most of us will be federal research funding. A quick start guide plus a tip sheet for successful Congressional meetings have been posted on the EB web site at <http://www.the-aps.org/pa/ebweb/index.htm>.) For more information on making visits, please contact APS Science Policy Analyst Rebecca Osthus at rosthus@the-aps.org.

In addition, two EB sessions can help you prepare:

- "Making the case for federally-funded research: Communicating with Congress" (Saturday, April 28 1-3 pm) Sponsored by the APS Communications Committee)
- "NIH at the Crossroads: How Diminished Funds Will Impact Biomedical Research and What Scientists Can Do About It" is an EB symposium that features NIH Director Elias Zerhouni and former Congressman John Porter. (Monday April 30, 12:45-1:45)

Another area of concern for many APS members is legislation to add new regulations or other restrictions on the use of animals in research. Members of Congress are deluged with email and letters from constituents who oppose animal research. For talking points on animal research issues, contact APS Director of Government Relations Alice Ra'anan at araan@the-aps.org.

Award Winners at Comparative Physiology 2006 Meeting

At the Fall APS Intersociety Meeting in Virginia beach, four young investigators received recognition as winners of the highly competitive Scholander Competition among 78 participants. **Rudolf Schilder** (Pennsylvania state University, second from left) received the Scholander Award sponsored by CEPS for his presentation entitled "*Intraspecific variation in dragonfly flight performance: Effects of a parasitic infection on flight muscle contractility, metabolism, and myofibrillar protein composition*". The Comparative Biochemistry and Physiology Journal Research Recognition Award was presented to **Sami Noujaim** (SUNY, Upstate, third from left) for "*Ventricular fibrillation from mouse to horse: A comparative study*". **Peter Piermarini** (Yale University, third from right) received the Sable Systems International Research Recognition Award for "*A novel Na/HCO₃ cotransporter from the squid *Loligo pealei**", and **Maria Serrat** (Kent State University, second from right) was honored with the Research Recognition Award from the Society for Integrative and Comparative Biology for her presentation entitled "*Effects of temperature on skeletal growth in mice*". The winners were congratulated by APS President-Elect, **Hannah Carey** (far left) and CEPS Program Officer, **Jon Harrison** (far right).



In addition, 42 Travel Fellowships were awarded to graduate students and postdoctoral fellows.



Congratulations to all!

Highlights of the meeting can be found in *The Physiologist*, volume 50, No. 1—February 2007:

<http://www.the-aps.org/publications/tphys/2007html/February/apsconference.htm#comparative>

Upcoming Meetings of Interest

Experimental Biology 08: New Orleans

Call for Symposia and Featured Topics

It is not too late to organize cross-sectional symposia for EB 2008 (New Orleans). For 2008, the APS program officers would like these to have themes related to integrative and systems biology, a track that meshes well with our section. These symposia merit \$4K in support and receive prominent placement in the program. Contact CEPS Program Officer (J.Harrison@asu.edu) and/or program officers of other sections to develop ideas and support for your concept ASAP. Section symposium proposal and featured topic proposals are due May 1, 2007. Symposia receive \$4K in support and complimentary registration for four speakers. Featured topics are similar to *minisymposia* in that they are pre-formed (prior to the mailing of the Call for Papers) oral sessions including a session title, chairperson and not more than two featured presenters, who receive complimentary registration. All other presentations are selected from the submitted abstracts. Again, contact me with your ideas. Organizing a symposia is a great way to put your stamp on a field, and make sure that people you want to see are at the meeting!

Other upcoming meetings of interest to comparative and evolutionary physiologists:

- 7th International Congress for Comparative Physiology and Biochemistry (ICCPB) in Brazil, August 12 -16, 2007, Salvador, Bahia, Brazil. For details, see: <http://www.ib.usp.br/iccpb-brazil/index.html>. Program includes approximately 40 symposia and 5 plenary lectures.
- Society for Integrative and Comparative Biology, Jan. 2-6, 2008, San Antonio, TX (<http://sicb.org/meetings/2008/index.php3>).
- Society for Experimental Biology, 2008, July 5-10, 2008, in Marseille (<http://www.sebiology.org/Meetings/pageview.asp?S=2&mid=92>)
- Fourth International Conference in Africa for Comparative Physiology & Biochemistry, Maasai Mara National Reserve, Kenya, July 19-25, 2008 (<http://www.natural-events.com/mara/>)



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Web Sites of Interest

- CEP Section: <http://www.the-aps.org/sections/compar/index.htm> : Overview of the CEP Section, including steering committee, bylaws, and awards
- Evolution: <http://www.the-aps.org/pa/leg/policy/bioissues/evolutionteach.htm>: Lots of resources related to teaching evolution
- Trainees: <http://www.the-aps.org/committees/trainee/> : Elsewhere in this newsletter, Karen Sweazea highlights the activities of this APS committee focused on young investigators
- Research on Animals: <http://www.the-aps.org/pa/leg/policy/animals.htm> : Position statement and many resources
- Living History of Physiology: <http://www.the-aps.org/livinghistory/index.htm> : Recently launched with profiles of Bodil Schmidt Nielsen and Maurice Burg

Comparative and Evolutionary Physiology Section Steering Committee

(Congratulations to our new committee members!)

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Other News

We were greatly saddened by the recent loss in our field of Dr. Knut Schmidt-Nielsen on January 25, 2007.

Below is a short biographical sketch sent by Duke University:

"Knut was an internationally recognized comparative physiologist who had a tremendous impact on the field. He was born in Trondheim, Norway in 1915 and was educated in Oslo and Copenhagen. He became a US citizen in 1952 and arrived at Duke the same year. He published over 275 papers, wrote five books that have been translated into sixteen languages, and received numerous awards including the International Prize for Biology, the Japanese equivalent to the Nobel Prize in biology. Knut also served as President of the International Union of Physiological Sciences and founded the "News in Physiological Sciences", now called "Physiology".

