1. Chair's Message

What an exciting time for Physiology teaching!
Three important efforts are now “in play” that directly, or indirectly, impact physiology and its role in science education…..

The first, *Scientific Foundations for Future Physicians* ([www.hhmi.org/grants/pdf/08-209_exec_summary.pdf](http://www.hhmi.org/grants/pdf/08-209_exec_summary.pdf)) has already been discussed in our society and is the topic of a symposium at the EB2010 Meeting, on April 26 in New Orleans. Inasmuch as more than 50% of biology majors apply to medical school at some time, it is incumbent on us to insure they are gaining the competencies they will need to succeed in their endeavors.

The publication of *A New Biology for the 21st Century*, a report of a committee under the sponsorship of the NRC’s Board on the Life Sciences in September 2009 calls for “putting the New Biology to Work” to enhance food production, sustenance of ecosystems, developing alternatives to fossil fuels and the maintenance of human health. The report proposes the integration of the sciences to address these areas through integration of research and the learning of life sciences. Clearly the putting of biology to work and the integration of the life sciences is the “stuff” of physiology. If physiologists will only initiate the effort, much of the integration of biology could be under the integrating discipline of physiology!

Finally the recent effort of the NSF and AAAS represented by the report *Vision and Change: A Call to Action* ([www.visionandchange.org](http://www.visionandchange.org)) calls upon undergraduate biology educators to gain competencies in: 1) evolution, 2) pathways and transformations of energy and matter, 3) information flow, 4) structure and function, and 5) systems. To me all of these relate directly to our discipline!

Our challenge is to not let these reports “Sit on the shelf” but be capitalized upon to advance the learning of biology and, in the process, advance the understanding of physiology. As we approach Experimental Biology 2010 I hope we can begin to explore how we can contribute to the revolution (or is it evolution?) in the teaching of science in general and biology more specifically.

Bill Galey
<table>
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<tr>
<th>Event</th>
<th>Information</th>
<th>Date, Time, Venue</th>
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<tr>
<td><strong>The Refresher Course</strong></td>
<td>Cardiovascular Physiology. Robert Hester &amp; Tom Pressley</td>
<td>April 24, 8:00 AM-12:00 PM, Anaheim Marriott, Platinum 1-2</td>
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<tr>
<td><strong>Section Steering Committee Meeting</strong></td>
<td>Chair: Bill Galey</td>
<td>April 24, 1:00 PM-3:00 PM, Anaheim Marriott, Orange County Ballroom Salon 4</td>
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<td><strong>Education Track Symposium</strong></td>
<td><em>Computational Modeling and Simulation as a Tool for Studying Physiological Processes</em> Irene Solomon &amp; Christopher Wilson</td>
<td>April 24, 1:00 PM-3:00 PM, Anaheim Convention Center, Room 303A</td>
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<td><strong>Featured Topic</strong></td>
<td><em>Helping Students Put the Pieces Together: Fostering Integrative Learning of Physiology.</em> William H. Cliff</td>
<td>April 25, 8:00 AM-10:00 AM, Anaheim Convention Center, Room 303A</td>
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<td><strong>The Claude Bernard Distinguished Lecture</strong></td>
<td><em>Making Things Hard on Yourself, But in a Good Way: Creating Desirable Difficulties to Enhance Learning.</em> Robert A. Bjork, UCLA</td>
<td>April 25, 10:30 AM-11:30 AM, Anaheim Convention Center, Room 303D</td>
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<td><strong>Roundtable Box Luncheon</strong></td>
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<td>April 25, 12:00 PM-2:00 PM, Anaheim Marriott, Elite Ballroom 1-2</td>
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<td><strong>Symposium</strong></td>
<td><em>Focus on the Big Picture: Integration of Undergraduate and Medical Curricula</em> Lynelle Golden</td>
<td>April 26, 08:00 AM-10:00 AM, Anaheim Convention Center, Room 303B</td>
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<td><strong>Physiology in Focus Symposium</strong></td>
<td><em>Preparing Students for Physiological Complexity – Emphasizing Quantitative Skills.</em> Dee Silverthorn</td>
<td>April 26, 10:30 AM-12:30 PM, Anaheim Convention Center, Ballroom C.</td>
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<td><strong>Cross Society Symposium</strong></td>
<td><em>The Scientific Foundations for Future Physicians: The Report and its implications for Medical and Pre-Medical Education.</em> Dee Silverthorn</td>
<td>April 26, 12:45 AM-2:00 PM, Anaheim Convention Center, Room 209 A/B</td>
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<td><strong>Section Business Meeting</strong></td>
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<td>April 26, 5:45 PM-6:45 PM, Anaheim Marriott, Grand Ballroom Salon J/K</td>
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<td><strong>Awards Banquet</strong></td>
<td>McCormick and Schmick’s Grille (see instructions below for ticket purchase)</td>
<td>April 26, 7:00 – 10:00 PM</td>
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The Teaching Section Dinner at Experimental Biology 2009

WHERE: McCormick and Schmick's Grille
321 West Katella Avenue, Suite 109, Anaheim, CA
Telephone: 714-535-9093
http://www.mccormickandschmicks.com/

WHEN: Monday, April 26, 2010
7:00-10:00 p.m.

COST: $48 for Members and Guests
$40 for Students and Postdocs

HOW: Order tickets online at:
https://www.the-aps.org/cgi-bin/ecom/eticket/ticket_list.cgi

DEADLINE: Deadline for ticket purchase is March 19, 2009. Tickets will NOT be sold onsite!

QUESTIONS: David Rodenbaugh, Teaching Events Organizer, rodenbau@oakland.edu
Linda Allen, APS Meetings Manager: lallen@the-aps.org or 301-634-7172.

3. Section Awards

Instructions on how to apply for an award, or to nominate a colleague can be found at
http://www.the-aps.org/meetings/eb10/awards/teaching.htm

The Arthur C. Guyton Physiology Educator of the Year 2010

The Teaching Section congratulates Stephen DiCarlo on being selected as the 2010 Arthur C. Guyton Physiology Educator of Year! (The award and plaque will be presented at the main APS Business Meeting, Tuesday, April 27, 5:45 PM, Anaheim Convention Center, Ballroom A).

Dr. DiCarlo was nominated by Dr. David Rodenbaugh and was selected by the APS Teaching Section award subcommittee chaired by Dr. Erica Wehrwein. This award was created in recognition to Dr. Arthur C. Guyton’s accomplishments as a great scientist, a master teacher, and an inspiring role model for so many people that work in the area of Physiology. Dr. DiCarlo exemplifies Dr. Guyton’s educational philosophy of “learn by doing”. It is of interest to note that Dr. DiCarlo is a scientific descendant of Dr. Guyton as he trained with Dr. Lowell Stone (doctoral advisor) and Dr. Vernon Bishop (post doctoral advisor) who were both trainees of Dr. Guyton.
Dr. DiCarlo is both an accomplished scientist, and an outstanding educator. He has impacted the lives of so many students by fostering learning both in- and out-side of the classroom. His personal investment in research and education has contributed to his development as an outstanding physiology educator of heroic proportions. One of his virtues in the classroom is that he does not focus on what the student thinks about him. He just focuses on thinking. His refreshing and sometimes unconventional approaches, including models, computer games, role-playing and peer-peer instructions, involve and engage students in a learning process that teaches students more than just the materials that need to be covered.

Repeatedly, individuals whose professionally lives have been impacted by Dr. DiCarlo, commented on his ability to generate opportunity out of obstacles in order to achieve academic discovery. What is also unique to Dr. DiCarlo’s research lab is the fact that everyone in his research lab must be involved in education also. As a result, he creates a diverse learning community that focuses on more than just basic science research. He is committed to changing lives using not only the classroom, but also the research lab. In his opinion, both forums are vital for not only expanding our knowledge and perspectives about the science of physiology, but also promoting lifelong learning.

Dr. DiCarlo is well deserving of this prestigious award in honor of Dr. Guyton and on behalf of the APS Teaching Section and award sponsor Elsevier we offer our most sincere congratulations.

Erica Wehrwein, Selection Committee Chair

The Claude Bernard Distinguished Lectureship

Congratulations to Robert A. Bjork in being selected to give our Distinguished Lecture for 2010. Dr Bjork received his PhD from Stanford University in 1966 and has received many honors and awards for his research in human learning and memory. The title of his talk is “Making Things Hard on Yourself, But in a Good Way: Creating Desirable Difficulties to Enhance Learning” (see Table above for time and location at the EB meeting).

New Investigator Award

Congratulations to John Dobson (University of Florida, Department of Applied Physiology & Kinesiology). The Teaching of Physiology Section New Investigator Award provides $1,000 plus EB registration and recognizes an outstanding investigator in the early stages of his/her career. The award is judged based on publications and evidence for independence and promise in terms of grant funding and peer reviewed activities.
Research Recognition Awards

Congratulations to Lara Roberts DeRuisseau (Le Moyne College, Syracuse NY) and Kathryn Johnson (Beloit College, WI). The Teaching of Physiology Section Research Recognition Awards provide $500 plus EB registration for outstanding posters to be presented in the Teaching Poster Sessions at Experimental Biology.

4. Featured Report – The Physiologists in Industry Committee

The Liaison with Industry Committee recently changed its name to become the “PIC.” A quick check on its mission statement reveals several mentions of trainees and, clearly, there is important overlap between the PIC, Education Committee and Teaching Section. Cheryl Watson has worked for the past 3 years as our Section’s Liaison to PIC and we thank her for her efforts and dedication to the task. The role passes to Nancy Pelaez when Cheryl’s term ends at the EB meeting. The PIC Newsletter below describes their activities at EB for those wishing to learn more about our industrial relations:

The PIC is sponsoring a Symposium at EB ‘10 entitled "Novel Opportunities for the Treatment of Heart Failure" on Sunday, April 25 from 8:00 – 10:00 am in Anaheim Convention Center Ballroom A. Approximately 5 million Americans have heart failure (HF), and although there is an array of interventions to treat this disease, many HF patients still experience poor outcomes. Further, many patients present in an acutely decompensated state, with >280,000 patients dying each year from HF with an associated financial burden of $35 billion in 2008 alone. In this symposium, new insights into cardiac function and novel emerging therapies to treat HF will be discussed including a) the roles and potential of miRNA-based approaches as therapeutics in heart failure, b) cardiac phosphorylation cascades and the use stem cells as emerging potential targets in the treatment of heart failure, c) novel natriuretic peptides and vasopressin antagonists as therapeutics for decompensated heart failure and d) the latest clinical trial efficacy of selective adenosine A1 antagonists in heart failure. Attendees will gain an appreciation for the new and emerging therapeutic approaches to modify the pathophysiology of HF.

In addition, the APS Translational Physiology Group and the PIC are co-sponsoring a Symposium entitled “Integrins: New Insights and Therapeutic Targets” on Wednesday, 28 April from 8:00 – 10:00 am in Anaheim Convention Center Ballroom C. Integrins form a large family of transmembrane proteins required for cell adhesion, morphogenesis, migration, polarity and differentiation. Integrins interact with both the extracellular matrix and intracellular domains to mediate a host of intracellular signalling pathways and signal transduction. Recent advances have provided new information regarding the structure, activation and signaling cascades in both physiological and pathological conditions. Furthermore, integrins are presently under study as potential treatment option for a wide range of disorders including inflammatory diseases, neurodegenerative diseases, cancer, cardiovascular disease, and antiplatelet/anticoagulant therapies. This symposium will review a) factors leading to integrin activation and key signaling pathways elicited by them, b) the pharmacological and toxicological profile of the gastrointestinal-selective, anti-inflammatory therapeutic vedolizumab in non-human primates, c) the signals regulating focal adhesion formation and cell mobility, and d) targeted siRNA delivery to leukocyte-implicated diseases.
Attendees will gain an appreciation of recent information regarding integrin function, activation and potential treatment utilizing integrins. Look for the full program on-line at http://www.the-aps.org/meetings/eb10/program-day.htm.

The PIC Novel Disease Model Award will be granted to each a graduate student and a postdoctoral fellow who submit the best abstracts at EB ‘10 that describe a novel disease model. The model can be in vitro or in vivo but should clearly emphasize the potential utility of the system for future research related to a disease. The award is $500 for the graduate student and $800 for the postdoctoral fellow categories, respectively, is sponsored by the PIC and the APS, and will be presented at the APS Business Meeting on Tuesday, 27 April.

You're invited! Come meet, eat and socialize with your fellow Physiologists who are working in the corporate and/or industrial sector. The 10th Annual Liaison with Industry Committee Mixer at EB ‘10 is on Sunday, April 25th, 7:00 – 9:00 PM in the Marriott, Orange County Ballroom Salon 2. Free Hors d’oeuvres will be available along with a low cash bar and information on the roles of Physiologists in Industry. This is a great opportunity to network with Industry APS members – we hope to see you there!

The APS PIC meeting is scheduled for Sunday, 4/25, 6:45 – 7:55 am Marriott, Grand Ballroom in Salon J – this is the committee’s annual opportunity to have a face-to-face meeting to discuss committee business and new initiatives. Please feel free to contact Cheryl Watson watsonc@mail.ccsu.edu or Nancy Pelaez npelaez@purdue.edu if there are issues from our section to be brought to the attention of the PIC.

4. Our Special Thanks

In addition to seeing Cheryl Watson end her service as liaison to the PIC, Margie Anderson completes her term as our Committee on Committees representative. Margie has done a marvelous job of raising our awareness of opportunities to serve on APS Committees, and has tirelessly encouraged us to self-nominate! As a result the validity and quality of our Section’s representation continues to be enhanced.

This is my final Newsletter as Secretary; thank you for electing me in the first place, thanks to the Steering Committee for keeping me around as Margie’s successor, and thanks to the APS Office staff, who are awesome. And finally, welcome to Vikki McCleary, who we look to as our next Secretary to improve the color scheme of these pages!

Jon Kibble