Seminar Series: Sharing Strategies in K-12 Science Education

Title: K-12 Education Programs at Experimental Biology
Format: Roundtable discussions with the:
- American Society for Investigative Pathology
  High School Teachers Program: http://www.asp.org/mtgs/eb11/hsprogram.cfm
- American Society for Biochemistry and Molecular Biology and the Milwaukee School of Engineering
  Fostering Partnerships between Colleges/Universities and Junior High Schools:
- American Physiological Society
  Workshop for High School Teachers and Students:

Date: Thursday, May 26, 2011
Time: 12:00 noon - 1:00 pm
Bring your lunch; cookies and coffee will be provided.

Location: Federation of American Societies for Experimental Biology (FASEB)
9650 Rockville Pike, Bethesda, MD 20814
http://www.faseb.org/Who-We-Are/Directions-to-FASEB.aspx
Lobby Conference Room 1502

Host: American Physiological Society
Contacts: Mel Limson, Ph.D., APS K-12 Education Programs Coordinator
mlimson@the-aps.org, 301.634.7231

Join us for this brown bag lunch seminar to learn about the multiple K-12 education program offerings at the recent Experimental Biology 2011 meeting from several FASEB societies. Help us to discuss ways we might be able to coordinate our efforts together for future programming.

Please RSVP no later than Tuesday, May 24, by our Evite system (preferred):
or by directly emailing Mel Limson in the APS Education Office at mlimson@the-aps.org.
Feel free to share this invitation with appropriate colleagues in the K-12 science education community within the metropolitan DC region. Programmatic information and presentations are posted at: http://www.frontiersinphys.org/pages/page04g.shtml.

The Seminar Series is part of the APS’ Six Star Science Frontiers in Physiology program (www.frontiersinphys.org) sponsored by the APS and by an NIH NCRR Science Education Partnership Award (www.ncrrsepa.org).

Other questions? Email Mel: mlimson@the-aps.org.
Fostering Partnerships between Colleges/Universities and Junior High Schools
April 9, 2011, 9:00 AM - 1:00 PM
Walter E. Washington Convention Center, Room 201, Washington, DC

Sponsored by the ASBMB Minority Affairs Committee and the Education and Professional Development Committee

This workshop is designed to bring together Washington D.C. area faculty and junior high school teachers who are interested in improving the quality of K-12 science education through hands-on learning and science, technology, mathematics, and engineering (STEM) outreach activities.

Attendees will hear talks by experts with prior experience in developing and collaborating in STEM outreach partnerships, and have an opportunity meet faculty and teachers who are interested in forming long-term, supportive partnership to improve science education in the classroom. Teachers will receive informational booklets and samples of in-class science projects to take home, as well as tryout some of the activities during the workshop. Registration for this workshop is free and lunch is included. Attendance is limited so register early! Priority will be given to Washington, D.C. area teachers and faculty.

Workshop Schedule:

9:00 AM - 10:00 AM
Service-Learning: Getting Your Foot in the Door
Regina Stevens-Truss, Kalamazoo College

A 3 week Intensive Lab Course in Molecular Biology: Supporting Teachers and Encouraging Labs
Robert Rose, North Carolina State University

Research Experiences for High School Students
Ellis Bell, University of Richmond

Dialogue at a Distance: Using Online Communication for Public Engagement
Erin Dolan, Virginia Polytechnic Institute and State University

10:00 AM - 10:20 AM
Q&A

10:20 AM - 10:30 AM
Break

10:30 AM - 12:00 PM
Networking & Hands-on Activities

12:00 PM - 1:00 PM
Lunch and Networking
Registration deadline is March, 18, 2011.

Note: This Workshop is held in conjunction with the 2011 Experimental Biology Meeting. Faculty from colleges and universities must also be registered to attend the Experimental Biology Meeting. This does not apply to teachers.

If you wish to submit a paper registration, [click here](#) to download the registration form.

Need help with the online workshop registration system? [Click here](#).
High School Teachers Program:
Scientific Sleuthing of Human Disease for High School Teachers

Tuesday, April 12, 2011, 8:30am – 1:00pm
Renaissance Washington Hotel Auditorium and the Washington Convention Center

Registration Deadline: March 18, 2011
>> Download Brochure and Application
>> Register Online for this Event

Organizers:
Martha B. Furie, Stony Brook University
Kari Nejak-Bowen, University of Pittsburgh

This workshop will furnish high-school teachers of the life sciences with concepts of human disease that can be integrated into their regular science curricula. Teachers also are welcome to bring students who have completed or are enrolled in an advanced biology course. *Space in this free workshop is limited, so register early!

The workshop will include:
• Presentations and handouts by three leading research pathologists on specific topics appropriate for classroom use
• Information on pathology resources on the web
• A round-table discussion about ways to incorporate concepts of disease into biology classes
• A tour of the latest scientific equipment and advances in technology in the Convention Center exhibit hall

Agenda:
8:30 AM Check-in and Continental Breakfast
9:10 AM Welcome and Introduction, Kari Nejak-Bowen, University of Pittsburgh
9:30 AM Menacing Microbes: The Threat of Bioterrorism, Martha B. Furie, Stony Brook University
10:15 AM Break
10:30 AM Stem Cells: A Case of Dr. Jekyll and Mr. Hyde Satdarshan (Paul) Monga, University of Pittsburgh
11:15 AM Break
11:30 AM Hidden in Plain Sight: How Biology Reveals New Ways to Treat Breast Cancer, William B. Coleman, University of North Carolina, Chapel Hill
12:15 PM Round Table Discussion: Incorporating Concepts of Pathology into the High School Curriculum
12:45 PM Tour the Exhibits at the Convention Center

*High School students MUST be accompanied by their High School Science Teacher.
Workshop for High School Teachers and Students

Who may attend? High school science teachers and up to four of each teacher’s students may attend. Teachers wishing to bring more than four students should contact Scarletta Whitsett in the APS Education Office at 301.634.7228 or by email: Scarletta Whitsett.

Workshop Content: Check-in begins at 8:30 a.m. Interactive demos of lab equipment with physiologists will warm up the participants for the day. Then, Dr. Robert Carter, III, Science Advisor to the U.S. Africa Command, Stuttgart, Germany and Adjunct Professor, University of Maryland (European Division) will give the keynote presentation, on Overcoming Heat Illness: Applying Laboratory Research to Saving Lives in the Battlefield. Exertional heat illness (EHI) is a complex disorder in which physiological, environmental, and hereditary factors interact to endanger an individual’s ability to maintain normal body temperatures. EHI can affect athletes and military personnel during high-intensity or long-duration exercise in hot environments. This presentation will discuss the mechanisms of EHI and how investigations are conducted to better understand and prevent the occurrence of EHI in deployed soldiers and training environments. Visit these websites for additional background material:
After a short break, you’ll trace the career paths of physiologists both new and experienced. Hear how these scientists went through school and got excited by studying and doing research in physiology.

Talk one-on-one with an APS research physiologist as you and your students share a free boxed lunch with your tour guide researcher. Learn about the education and training needed to become a physiologist and the many career paths available in biomedicine. Explore scientific exhibits and research posters with your tour guide. You and your students will learn first-hand about the latest life science research findings and scientific equipment on display at the exhibit booths.

After the quick lunch and exhibit hall touring, enjoy hands-on physiology activities in the afternoon. You and your students will attend sessions especially designed for you by APS researchers and teacher fellows.

WORKSHOP SCHEDULE

Date: Monday, April 11, 2011 | 8:30 a.m. - 3:30 p.m.

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<th>Time</th>
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<tr>
<td>Morning</td>
<td>Check-in and interactive demonstrations</td>
<td>Constitution</td>
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<td>8:30-11:30</td>
<td>Welcome and Introductions</td>
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<td>Overcoming Heat Illness:</td>
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<td>Applying laboratory research to saving lives on the battlefield.</td>
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<td>Science Advisor to U.S. Africa Command, Stuttgart, Germany and Adjunct Professor, University of Maryland University College</td>
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<td>Careers in Physiology: Panel Discussion with Dr. Carter</td>
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<td><strong>Jessica Martinez Ibarra, Ph.D.</strong></td>
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Mesia Moore Steed, Ph.D.
Postdoctoral Research Fellow, Department of Physiology and Pharmacology
Wake Forest University, Winston-Salem, NC
http://www.wfubmc.edu/physpharm/

Lunch
11:30-1:00
Free boxed lunch! Small group tours of Exhibit Hall and Research Posters with Physiologists

Afternoon
1:00-3:30
Teacher In-service Workshop: You will be led by APS member physiologists and teachers in an inquiry-based, hands-on exploration of factors that affect blood flow and pressure. Session includes information on APS fellowship programs, resources, and lessons developed by APS Teacher Fellows that infuse inquiry, address equity, integrate technology and address science standards.

Student Workshop: A team of physiologists will lead your students in designing, building, and testing a small-scale model of the digestive tract that will process food and produce an end-product. An inquiry activity that really works!

ABOUT THE APS

The American Physiological Society (APS) is a professional scientific membership organization devoted to fostering scientific research, education, and the dissemination of scientific information. The APS supports a variety of educational activities including programs and fellowships to encourage the development of young scientists and science educators, with a particular focus on women and underrepresented minorities.

The APS Education Office distributes a variety of education resources including brochures, posters, and books. Visit our website for information on careers in physiology, women life scientists, effective teaching practices, and hands-on, inquiry based laboratory activities.

Education Programs: www.the-aps.org/education
Teacher Fellowship Program, Frontiers in Physiology: www.frontiersinphys.org
Scientist Outreach to Classrooms, Physiology Understanding (PhUn) Week in November: www.phunweek.org