The Physiologist
Vol. 51, No. 4, 2008

High School Students and Science Teachers Explore Physiology at EB 2008

More than 90 San Diego area teachers, their students, and the 15 2007 Frontiers in Physiology Fellowship Research Teachers (RTs) actively participated in the Physiology for Life Science Teachers and Students Workshop at EB 2008. The day-long workshop included a keynote presentation, a careers panel discussion, a tour of posters and exhibits, and hands-on physiology workshops for students and teachers.

Career panelists shared their experience in becoming a physiologist. From left to right: Pawelczyk, Rudy Ortiz, Cathy Uyehara, and Yolanda George (facilitator).

Education Committee Chair Thomas Pressley, Texas Tech Univ. Health Sciences Center, and committee member Robin Looft-Wilson, College of William and Mary, coordinated the day's events. During the registration period in the morning, past and current APS K-12 Minority Outreach Fellows welcomed the groups of students and teachers. Mesia Steed (2006), Univ. of Kentucky, Clintoria Richards-Williams (2007), Univ. of Alabama, Birmingham, Keisa Mathis (2008), Louisiana State Univ. Health Sciences Center, and TanYa Gwathmey (2008), Wake Forest Univ. School of Medicine, each briefly introduced themselves, described their academic careers and interest in research, and provided words of mentoring for the high school students. In the background, the "Physiology: The Science of Life" slideshow presentation for high school students was automatically running as a preview to the field of physiology and careers in physiology. The presentation was developed and produced by the Careers Committee and is available for download at: http://www.phunweek.org/pages/phun06a.shtml.

APS member Keith Jackson engages students in designing the rate flow experiment, while Councillor Barbara Goodman monitors the student groups.

The keynote presentation, "Human Physiological Limits to Exploring Mars," was given by APS member, James Pawelczyk of Penn State University. He concluded his presentation by challenging the students that they could be the scientists involved in preparing for the mission to Mars over the next 25 years.

Pawelczyk was then joined by a Careers Panel that included APS members Rudy Ortiz of the Univ. of California, Merced, and Catherine Uyehara of the Tripler Army Medical Center in Honolulu, Hawaii. The panel was moderated by

James Pawelczyk explains the mission to Mars and the need for understanding human physiological limits to space exploration.

APS 2008 K-12 Outreach Fellow and Porter Fellow Keisa Mathis (left) guides students in performing their experiment to test rate flow.

Education Committee member Dexter Speck and Early Career Award winner Diane Munzenmaier mentor a student group as they record experimental data.

Students setting up an experiment to test the effect of the radius of a tube on flow rates.

Yolanda George, Deputy Director and Program Director of Education and Human Resources Programs at the American Association for the Advancement of Science. The panelists shared their earliest experiences of doing science and continuing on as researchers through mentorship and opportunities presented to them.

Sixteen APS members served as tour guides during lunch where they took teachers and students through the exhibits and posters at the San Diego Convention Center, and shared a box lunch while discussing physiology careers.

The afternoon student session was led by Looft-Wilson with assistance from Councillor Barbara Goodman of the Univ. of South Dakota, Dexter Speck and Jeffrey Osborn of the Univ. of Kentucky, Susan Barman of Michigan State Univ., Tom Ecay of East Tennessee State Univ., Keith Jackson of the Univ. of Louisiana at Monroe, Diane Munzenmaier of the Medical College of Wisconsin, Sandrine Pierre of the Univ. of Toledo, Jennifer Uno of Univ. of North Carolina, Chapel Hill, and K-12 Outreach Fellows Jessica Clark, Washington Univ., Clintoria Richards, and Keisa Mathis. Students used the "Elvis Experiments" from the APS "Physiology of Fitness" unit to learn about factors affecting flow of liquids through tubing (radius, length, viscosity).

While students were conducting their experiments, their teachers and the 2007 RTs participated in a workshop activity on modeling the digestive system with common household items. Frontiers Mentor/Instructor Tonya Smith (South Carolina) led the teacher workshop.

As in the past, feedback from both teachers and students was very positive and students were especially excited to meet physiologists one-on-one. The Education Committee is planning to continue the program in 2009 in New Orleans. ❖

Teacher participants and 2007 RTs participate in a teacher-developed activity (Diana Hill, 2002 RT Fellow) on digestion. The groups model how crackers are processed from the mouth through excretion using juice, funnels, filters, zippie bags, pantyhose, and duct tape.