

WHITMAN COLLEGE

SCIENCE OUTREACH



**Whitman College Science
Outreach Newsletter**
Winter 2010

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The Wonder of Water

Whitman's Howard Hughes Medical Institute (HHMI) Science Outreach program sponsored another event on campus on Saturday, January 23, for middle school science teachers. **Frank Dunnivant**, associate professor of chemistry, led the morning workshop with an entertaining and informative lecture titled "Water: That Cool Liquid!" and discussed the evolution of water on Earth, the physical properties of water, and why those properties (such as hydrogen bonding) make water so unique and allow life to flourish.

Following the presentation, the teachers participated in hands-on activities that illustrated the properties of water, such as magnetizing a balloon next to a stream of water to illustrate the polarity of water and manipulating magnetic water molecule models to teach capillary action. The science outreach program enables attendees to borrow these kits to use in their classes, courtesy of HHMI grant funding.

The attendees for this workshop were from Garrison Middle School, Pioneer Middle School, Sager Middle School and Assumption School and teach grades 6-8.

This past November, **Jim Russo**, associate professor of BBMB, and **Michelle Shafer**, BBMB lab coordinator, led a timely workshop on "Emerging Viruses," and **Kurt Hoffman**, associate professor of physics, is scheduled to lead a session focusing on physics on Saturday, April 10. For the next three years of the grant, Whitman will continue three half-day workshops each academic year, as well as a week-long Summer Institute, all focused on the Washington State Science Learning Standards and the needs of local teachers.

This year's Summer Institute will be held at Whitman from June 14-18 and will focus on geology. Leading the workshop will be **Andrea Dobson**, associate professor of astronomy, **Kirsten Nicolaysen**, assistant professor of geology, and **Pat Spencer**, professor of geology.



Professor Frank Dunnivant (right) leads a hands-on water properties workshop for middle school teachers.

Profiles of Whitman Volunteers in Science Classrooms

Whitman College began a new volunteer program this school year placing students in area middle school science classrooms. The purpose of the program is to offer support to area science teachers and to help improve student's success and interest in science during the critical middle school years.

The program is still in its first year of development, and there are currently 11 Whitman students volunteering one to four hours per week in the classrooms. Students have been able to help with lab activities, small group tutoring, and assisting students with their data collection and science notebooks.

Marie Westover, a senior biology major, explained her inspiration to volunteer: "I love science and I love teaching science. Volunteering seemed like a great opportunity to gain some teaching experience and help out in the local community."

Natalie Jamerson, a freshman who will likely be an environmental science major, volunteered last semester in **Cheryl Kerr's** sixth grade classroom at Prospect Point. Her favorite part of the experience was "working with the students who really show development and motivation. (It) is incredibly rewarding."

Caleb McInville, a senior Asian Studies major, who assists **Shannon Ahrens** and **Sue Parrish** at Garrison Middle School for three hours each week, joined the program to get more experience in teaching before applying for the JET (The Japan Exchange and Teaching) program. "I am interested in education and a career in teaching. I wanted to get some experience as well as learn more about the field."

For more information on how to get involved in this program, contact Mary Burt at burtmb@whitman.edu



Marie Westover, '10

"I strongly believe in instilling a passion for the sciences at a young age and saw this opportunity to combine that with my love of fostering academic motivation in kids."

— Natalie Jamerson,
volunteer



Natalie Jamerson, '13



Caleb McInville, '10

A Close-Up View at Davis Elementary

Students in **Marne Thorson's** third grade class at Davis Elementary got an extra close view of the development of lima beans, thanks to **Michelle Shafer**, BBMB lab and imaging coordinator, and Whitman student **Garett Long**.

The students soaked the lima beans in water overnight and the next morning pulled them apart to see the inside of the bean as part of their science unit on plant growth and development. The Whitman duo then brought digital microscopes to the class and helped the students view and identify the seed coat, micropyle and hilum parts of the bean. The students loved being able to see how quickly the plant growth occurred when viewed close up.

This activity led the class into a lesson on the pollination and germination process in plants. It also gave students an opportunity to meet real-life scientists and learn how they use tools, such as microscopes, in their work.



A third grade student in Marne Thorson's class examines the early stages of plant development.

Tales from the Galapagos

Jennifer Gee, visiting assistant professor of biology, recently visited the Science Club at Walla Walla High School, advised by teacher **Peggy Payne**, to present on her most recent research project in the Galapagos Island and to discuss different paths into the sciences and other vocations.



Jennifer Gee,
Visiting Professor of Biology

Dr. Gee was well received by the group, and students were inspired by her "circuitous" path into the sciences as well as her fascinating tales and pictures of her research.



Dr. Gee gave students the message that passion needs to be one of the driving forces of scientific research. Having scientists visit Wa-Hi helps dismantle stereotypes that alienate the high school student from thinking about science as a career.

— Dr. Peggy Payne, science teacher at Walla Walla High School



Students from Mary Cortinas' fifth grade Explorers class visit the biology lab at Whitman College and extract DNA from strawberries.

Time to Explore Science at Whitman

This past November, students from **Mary Cortinas'** fifth grade Explorers class, based at Sharpstein Elementary, visited the biology lab at Whitman on two separate occasions.

During their first trip, **Kendra Golden**, associate professor of biology, assisted them in isolating DNA from strawberries. Students enjoyed squishing the fruit to a pulp before filtering and extracting the protein material. Students also took a tour of the science building and labs.



During the second visit, students used microscopes to examine bacteria and even cultured their own in petri dishes.

The students were assisted by **Michelle Shafer**, BBMB lab and imaging coordinator, and **Martha Holt**, biology lab coordinator.

Upcoming Activities:

- Space Science Training for Green Park Elementary Teachers with Andrea Dobson: Wednesday, February 10
- Spring Workshop for Middle School Science Teachers with Kurt Hoffman: Saturday, April 10
- Summer Institute for Middle School Science Teachers with Andrea Dobson, Kirsten Nicolaysen and Pat Spencer: June 14-18.
- This spring, there will be three Whitman students completing their environmental studies internships assisting Prospect Point Elementary School and teacher Lance Longmire with the school garden. Watch this space for an update in the next edition.

For more information:

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<http://www.whitman.edu/content/bbmb/hhmi-grant/outreach>