

Advances in Biotechnology: Exploring the World of Genomics

A Workshop for High School Science Teachers

Instructed by Dr. Kari van Zee and Dr. Kirstin Carroll

Oregon State University

June 23-25, 2008

9:00 am- 4:00 pm

Registration Deadline: June 15, 2008

Presented by **Science Education PartnershipS (SEPS)** with support of the Howard Hughes Medical Institute and a National Science Foundation 2010 project grant awarded to Jim Carrington and Kristin Kasschau. There is no fee to attend the workshop. Molecular biology equipment set is available to borrow.

Course Overview and Target Audience

Advances in Biotechnology: Exploring the World of Genomics is designed as a professional development workshop for high school science teachers who are interested in exploring DNA and understanding how genomic sequence data is obtained, analyzed, and applied to a variety of research questions in health, ecology, agriculture, and environmental science. Hands-on molecular biology experiments, such as bacterial transformation and PCR analysis of a region of each participant's own DNA, will be complemented with talks by OSU scientists and lab tours focusing on genome architecture, gene expression, genome evolution, disease resistance in plants, and human health. The instructors will provide basic information and hands-on activities introducing the topics, while OSU experts in these fields will discuss the real-world applications and impacts of their research.

The primary goals of the workshop are to help teachers keep up-to-date and excited about current genome research and allow them to try research techniques such as PCR (polymerase chain reaction) and bacterial transformation. No prior experience in molecular biology is needed.

Teachers will pilot several Bio-Rad Explorer Biotechnology Kits designed for a high school class, including the Bio-Rad PV92 PCR Informatics and the pGLO Bacterial Transformation kits (www.explorer.bio-rad.com/).

Molecular Biology Equipment Set for Classroom:

A molecular biology equipment set including a PCR machine and gel electrophoresis units is available for use in the classroom during the school year. Dr. van Zee provides in-classroom support throughout the year.

To register for the workshop or obtain more information, contact Kari van Zee by email at vanzeek@science.oregonstate.edu. Registration deadline is June 15, 2008. The workshop is free.