



Pipeline Press



Chemistry: A Pipeline to 21st Century Careers

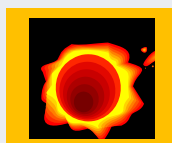
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Cool Chem Fact ***Did you Know?***



Plutonium – An Artificial Sun

Plutonium (94) is a heavy, radioactive and highly toxic metal. Plutonium does not exist in natural form on earth. Although it can be found in extremely small amount in the uranium ore as a byproduct of the nuclear reactions, generally it must be produced artificially in nuclear reactors. A plutonium device was used in the first nuclear warfare test – the Trinity Test, creating the first artificial 'sun' on earth.

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Director's Message...



Dear Readers,

It is hard to believe that the end of the year is upon us. For the last three months, our project's team has been engaged in a multitude of outreach activities to promote an understanding for the role of chemistry in our everyday lives and to create awareness of possible career opportunities for which having a chemistry background is an asset. These outreach efforts ranged from hands-on chemistry activities at a local grocery store for middle school and high school students, to a chemistry career panel of five scientists at the Cañada College campus. I encourage you to read the "Activities" section of this newsletter to fully appreciate the scope of these events.

We continued to support High School chemistry and integrated science education by providing training, equipment, materials, and other resources to assist teachers in implementing relevant hands-on experiences in their classrooms.

We held our first project's Advisory Board meeting. A group of individuals from industry, government agencies and academia met on campus to generate a healthy and constructive discussion on issues pertaining to partnership and collaboration to support the creation of a new program of study at the College. The description of this new program in Chemical Laboratory Technology as well as the description of two new courses that will be part of this program were submitted to and approved by the College's Curriculum Committee. This marks a significant step toward the goal of beginning to offer this program in the Fall of 2009.

We had the visit of an external evaluator to provide an objective analysis of our project's performance on its first year and to make recommendations for the second and third years. Our evaluator had very positive feedback on our accomplishments thus far and has made several recommendations to continue to move our project forward.

Thank you to all the individuals whose contributions to this project, big or small, have made this semester a success!

Happy Holidays!
Jeanette Medina

Volunteer Industry Partners Needed

We are seeking to establish valuable industry alliances to assist us with the development of an Associate in Science in Chemical Laboratory Technology degree and a Chemistry Laboratory Technology Certificate, a key object of our grant. Volunteers will be asked to assist with: 1) identifying crucial curriculum topics and hands-on exercises to assure that graduates of these programs are well trained on industry relevant instrumentation and can perform a quality job, 2) expanding student access to career opportunities in chemistry and chemistry-related fields, 3) identifying potential internships and on-site training opportunities for students, 4) building long lasting and beneficial alliances among the local industry, four year colleges, high schools, government officials and Cañada College. For additional information contact Dr. Jeanette Medina, Project Director at (650)306-3255 or (650) 306-3304, by email at Canada.NSFGrant@smccd.edu.

Cañada College News:

E-Counseling Now

Available at Cañada

Approximately 35 students have received academic counseling service via e-mail thanks to a new online counseling service started at Cañada College. Degree evaluations, certificate evaluations, transcript status, credit by examination and course substitution are some of the issues students have asked about.

Cañada College Receives \$900,000 U.S. Department of Education Grant

to improve the persistence, performance, and interest of underrepresented minority students, especially women, in the fields of science, technology, engineering and mathematics. The college will receive approximately \$300,000 annually over the next three years from the Minority Science and Engineering Improvement Program, administered by the U.S. Department of Education. Cañada will work with San Francisco State University to increase the representation of Hispanics, African Americans, and other minority groups in science, technology, engineering and mathematics (STEM) fields.



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Project News:

NSF Grant – Cañada College News

Student Internships

▶ The San Mateo County Environmental Health Division of the San Mateo County Health Department has created an internship opportunity for a chemistry student at Cañada College beginning in early 2009. Initially, the position will include office support functions, with potential training in the field depending upon the interest of the student. This is a paid internship based on the County's pay scale and will be a 10 hour per week assignment with a flexible works schedule so that the student can continue to attend classes.

Our New Website is Launched

▶ We are proud to announce that our new website <http://www.Canadacollege.edu/nsfgrant> was launched last month. Browse the site and learn more about our grant and see for yourself what we have been able to accomplish over the past twelve months. Here is a list of the website pages you can view:

- ▶ **Home Page** – Our home page outlines the goals and objectives of our grant.
- ▶ **Projects** – A brief description of the many ways we have already put our grant money to good use.
- ▶ **Our Staff & Partners** – A short bio on each member of our grant team.
- ▶ **Events** – A list of the many exciting workshops, lectures, and outreach events that have been sponsored by our grant.
- ▶ **Photo Gallery** – A chronological photo journey through the events of the past year.
- ▶ **Cañada College** – A quick link to our Cañada College Website.

Gene Connection: Chem Connection News

- ▶ The new **Gas Laws Kit** will go out to high schools in January. The kit contains:
 - ▶ activities for students to visualize the effect of pressure/volume and pressure/temperature relationship using balloons and marshmallows
 - ▶ Vernier gas pressure sensors for students to collect data and determine the mathematical relationships among pressure, volume, and temperature
 - ▶ a mobile computer laptop set with virtual ChemLab software to model the effect of different environmental factors on both ideal and real gases
- ▶ The new **Environmental Probe Loan Program** for chemistry, integrated science, and environmental science teachers - Two of our teachers have already participated, and more have inquired. To encourage the adoption of high tech, hands-on environmental science studies in high school classrooms, GeneConnection:Chem Connection is making a collection of Vernier environmental science and water quality probes available to San Mateo County High School teachers interested in developing environmental chemistry lab activities for use in their classrooms.

Upcoming Events

High School Teacher Workshop/Staff Development Day
"Teaching Inquiry-Based Chemistry:
Creating Student-Led Scientific Communities"
Friday, February 6, 2009



For additional details about our grant go to the National Science Foundation Website at:

<http://www.nsf.gov/awardsearch/showAward.do?AwardNumber=0703188>



Gene Connection: Chem Connection

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National Science Foundation ATE Grant
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We're on the Web!
www.canadacollege.edu/nsfgrant

Current Events This Quarter

October 7, 2008 – San Mateo County Forensic Lab Facilities Tour

Cañada College students were given a private tour of the San Mateo County Forensic Lab Facility. In addition to touring the lab they were able to interact with the criminalists who investigate crime scenes, analyze fingerprints and firearms, and perform drug testing and DNA typing.

October 21, 2008 - First Annual NSF Advisory Board Meeting Cañada College Campus

See Director's Message on page 1 of this newsletter for details of our meeting.



October 22, 2008 - "Chocolate, Food of the Gods", Guest Speaker - Howard Peters, Ph.D., Cañada College Campus

This talk included the history of chocolate, all aspects of the processing the delicacy, the chemistry, biochemistry, and biology of chocolate, the health aspects that show this food is good for you, discussions about the "dark side" of chocolate, and the circulating legends (& trivial connections) about chocolate. Over 90 students attended the talk.

October 23, 2008 - Chemistry Career Panel (Co-Sponsored by MESA), Cañada College

A panel of professionals spoke about how their Chemistry degree helped guide their careers. Included in the panel were:

Chris Caires, a Ph.D. candidate in Organic Chemistry, at Stanford University.

Greg Duke – BS Chemistry, a Research Scientist at MedImmune.

Lisa Hwang, Ph.D. in Chemical Engineering, an Assistant Professor in Chemical Engineering at Stanford University.

Katy Korsmeyer, BS in Chemistry from UCLA, Ph.D. in Biochemistry from University of Texas. Currently Board member BABEC & SC Biotech Education Partnership.

Karin Dillon, BS Degree in Biochemistry from Colorado State University, currently working in sales at Pfizer.

October 25, 2008 - Chemistry Outreach Booth, Demos and Hands-on Experiments, Sequoia Station, Redwood City, CA

Cañada College Chemistry students demonstrated chemistry experiments during our Middle School Outreach activity at a local Safeway Store. Youngsters were encouraged to participate in hands-on experiments to excite even the youngest would-be chemists.



November 6, 2008 - San Mateo County Environmental, Health Mobil Unit, Cañada College Campus

William Lent brought his Mobil Unit Laboratory to the Cañada College campus to show how his chemistry degree serves him well is his role of as Hazardous Materials Program Manager for the San Mateo County Health Department, Environmental Health Services Division. In addition, he brought the county **Fire Department Response Unit** with two representatives from the emergency response team.