

# Workshop Announcement

## "Seeing Radiation: Nuclear Science Experiments"

**A Teacher Workshop for High School Science Educators**

**Friday, March 11, 2011 8:00 am to 5:00 pm  
at  
University of California, Berkeley**

This workshop will focus on using cloud chambers and Geiger counters to help teach the principles of radioactivity and radiation. Participants will receive a wealth of materials - a cloud chamber kit and Geiger counter, workbooks, and classroom activities. This workshop will include a tour to the Advanced Light Source or Cyclotron and lectures by leading scientists. The educational material is targeted for high school science teachers, grades 9-12.

**A review of the workshop is available online:**

<http://www.nuc.berkeley.edu/Highschool-Teachers-workshop>

Preliminary Topics

- What is radiation?
- How is it measured?
- Where does it come from?
- What experiments can you do in your school?

**Sponsors:** The American Nuclear Society (ANS) and the Northern California Chapter of the Health Physics Society are proud to sponsor this workshop. Scientists and engineers from the Northern California Section of both professional societies (ANS-NCS and NCCHPS) are presenting the material. The UC Berkeley, Nuclear Engineering Department, is generously providing facilities for the event.

Funding for the workshop is provided in part by the Northern California Section of the American Nuclear Society, in part by the Northern California Chapter of the Health Physics Society, and through individual and organizational contributions to the American Nuclear Society (ANS).

### **Educational Opportunities for Your Students**

See the box on page four for information about a **nuclear science and engineering summer camp** for juniors and seniors and **science and engineering scholarships** for graduating high school seniors.



January 2011

Northern California Chapter  
of the Health Physics Society

Dear Science Teacher:

We are pleased to invite you to a special one-day workshop on nuclear science for high school science teachers. The workshop will be held on **Friday, March 11th, 2011** at UC Berkeley.

The purpose of the workshop is to enhance your understanding of basic nuclear science and leave you with information and activities that you can use in your own classroom. The workshop will feature presentations and demonstrations by scientists and engineers on the following topics:

• <b>Radiation</b>	We build a cloud chamber to view alpha, beta and gamma radiation.
• <b>Radioactive Isotopes</b>	These are used as radio-tracers in medicine, research and industry.
• <b>Geiger counters</b>	How do they work? Government surplus counters will be demonstrated and handed out

We will also provide attendees with various handouts and teaching aids. These will include: cloud chamber kits, science and engineering career brochures for students, and resources for obtaining additional information. **Geiger counters will be given out for your classroom use (subject to availability).**

A tentative schedule is as follows:

- 8:00 a.m. Registration - Coffee and Donuts
- 8:30 a.m. Welcome, introduction by Prof. Jasmina Vujic, UC Berkeley
- 9:00 a.m. Nuclear radiation basics
- 9:45 a.m. Cloud chamber experiment
- 10:30 a.m. ABC's of Radioactivity
- 11:15 a.m. Energy and the Environment research lecture
- 12:00 p.m. Lunch (provided at the facility)
- 1:15 p.m. Tour at a Lawrence Berkeley National Laboratory facility (to be announced)
- 2:30 p.m. Geiger counter experiment and use
- 3:30 p.m. "Energy from Nuclear Fusion: California's Role"
- 4:45 p.m. Evaluation and Conclusion

The workshop registration is free, but as spaces are limited, it is important to RSVP as soon as possible. Lunch will be provided as part of the workshop. We are asking school administrators to consider this workshop an in-service professional development activity.

To enroll, complete the registration form below and mail it to the address below. Please respond early; registrations will be taken on a first come-first served basis and space is limited to 25 participants. Once you have registered, we will provide you with more information, including directions to the facility. If you have any questions regarding directions or registration, you can e-mail or call Marija Drezgic at [marijad@nuc.Berkeley.edu](mailto:marijad@nuc.Berkeley.edu) or at 510 / 642-4077. If you have technical questions regarding the workshop, you can e-mail [northcal@local.ans.org](mailto:northcal@local.ans.org).

Sincerely,

Prof. Jasmina Vujic  
Workshop Coordinator

Return form  
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**Workshop on Nuclear Science, Friday March 11 2010**

Last Name	First Name	Middle Initial
Address	City State	Zip
School Name	Grade	Subject
Contact Phone	School phone	Email

**Photo ID and Citizenship information required for admission to the Lawrence Berkeley National Laboratory tour included in the workshop**

Citizenship\_\_\_\_\_ I will bring my Driver's License or Passport bearing the #\_\_\_\_\_

Mail form to: Marija Drezgic  
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