## **NCCHPS**

Northern California Chapter-Health Physics Society
May 2015



## The NCCHPS May 2015 Dinner Meeting

Thursday, May 21, 2015
Oakland Yacht Club
6 pm Social / 7 pm Dinner / 8 pm Affiliate Recognition and Technical Presentation



## Topic: The National Ignition Facility

The National Ignition Facility (NIF) is the world's largest and most energetic laser system for inertial confinement fusion (ICF) and experiments studying high-energy-density science. When NIF focuses its 192 high-power beams on a small target, it creates temperatures and pressures found in stars. NIF fusion experiments have seen a steady climb in yield, largely due to changes in the laser pulse shape used to compress the target fuel. Highly-compressed deuterium-tritium fuel fuses and releases alpha particles. The alpha particles, now having little change of escaping, impart their energy into the fuel mix thereby increasing yields further. For the first time at any facility, the energy generated through fusion reactions at NIF has exceeded the amount of energy deposited into the fusion fuel.

(Continued on Page 2)

Although NIF has been effectively managing its tritium impacted components and systems for over 3 years now, increasing fusion yields creates new levels of neutron activation that also must be managed. Managing potentially activated material at NIF includes implementation of the "distinguishable from background" activation survey process. Despite the steady increase in hazards management, NIF has been able to shrink its radiological controls "footprint" and substantially reduce it low-level radioactive waste output through active risk management. This is based on making incremental hazard control adjustments when supporting data indicates that such adjustments are prudent.

**About the Speaker:** Rick Thacker is a certified health physicist supporting the National Ignition Facility (NIF) at Lawrence Livermore National Laboratory. Rick has provided operational health physics support to NIF since 2009, and had been at Lawrence Livermore since 2007. Prior to that, Rick provided radiological design engineering support for the underground facilities of the Yucca Mountain High Level Waste Repository Project in Las Vegas. Rick began his career as a health physicist at Exelon Nuclear, a large Midwest utility with several power reactors. During his 20 years with the utility, Rick provided support to both the corporate health physics organization, and the reactor plants, with the majority of his time working in a Pressurized Water Reactor.

## 2015 Board Elections

The 2015 NCCHPS Board of Directors Election is open until May 11th, 5PM.

The opportunity to vote is offered to members in good standing. If you are current in your dues, you were sent an email or letter containing your User Name and Password.

If you did not receive this information, please contact the Secretary at <a href="mailto:kmengel@lbl.gov">kmengel@lbl.gov</a>.

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#### News from Burton J. Moyer Memorial Fellowship Fund Committee

The Burton J. Moyer Memorial Fellowship was established by NCCHPS and supports a full-time entering or continuing student enrolled in bona fide U.S. graduate programs in health physics or a closely related field. The Burton J. Moyer Memorial Fellowship (BJMMF) has been continuously awarded since 1985.

This year our chapter increased its contribution to BJMMF by \$500 for a total of \$5,000 annually. HPS Board of Directors approved matching our contribution thus maintaining Burton J. Moyer Memorial Fellowship the most prestigious and most generous (\$10,000) Fellowship in health physics. NCCHPS received a thank you letter from HPS for our increased contribution to the BJMMF. We are aware that the cost of higher education has increased dramatically in the past years and hope



that the increased value of the Fellowship will serve to attract more high quality students to the profession of health physics, and mitigate some of their increased educational expenses.

NCCHPS actively participates in the selection of the Burton J. Moyer Memorial Fellowship Award recipient. This year BJMMF Committee reviewed the top candidates for HPS Fellowships and recommended Andrew Owens from University of Tennessee. HPS Academic and Education Committee accepted our recommendation and awarded 2015-2016 Burton J. Moyer Memorial Fellowship Award to Andrew Owens. Andrew Owens is graduating with BS in nuclear engineering with concentration in radiation protection. This fall he is enrolling in the health physics master program at Colorado State University (CSU). After graduation from CSU he plans to work as nuclear plant health physicist and pursue CHP certification. Later in his career he plans to work in radiation regulations, perhaps NRC.

The current value of Burton J. Moyer Fund investments is around \$122,000 less this year's contribution to the Fellowship that NCCHPS has to make. The Burton J. Moyer Fund is governed by NCCHPS Bylaws and is devoted exclusively for a fellowship for full-time graduate students in health physics. The fund is separate from the NCCHPS operational funds.

**DONATIONS**: For the past year we had one donation from only one chapter member and one donation from the Vanguard Charitable Endowment Program. A larger number of contributions from chapter members even with a 'small' contribution would indicate that our chapter as a whole continues to support graduate study and education in health physics and devotes its funds to mitigate the ever increasing cost of higher education.

Consider a small donation (\$10-50 is OK) for the Burton J. Moyer Memorial Fund. The donations are tax deductible. Checks payable to NCCHPS may be sent to our treasurer, with the notation "For the Moyer Fund" or you can contribute when you pay for your dinner meeting with one combined check. You may indicate if you wish your donation to remain anonymous.

Radoslav Radev, Chairperson, NCCHPS Burton Moyer Fellowship Committee

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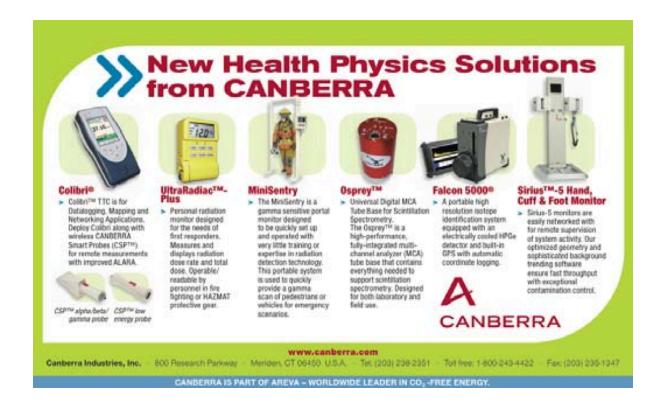
## President's Message

I don't know about you, but among my favorite meetings of the year is our Affiliates Night. In addition to catching up on the latest products and services available, it's a great night to invite a friend or colleague to join in the fun. As this is our last meeting before the summer, it is usually among our best attended. Did I forget to mention raffle prizes? Combined with a brief technical presentation, there is just something for everybody. Hope to see you there!

At our Chapters's last Board of Director's meeting, our President - Elect Jim Tarpinian announced some bittersweet news. He will be relocating soon to Seattle to pursue new pursuits with his family and will be unable to continue to serve on the board. I want to publicly extend my sincere thanks and on behalf of our chapter wish him well in his new endeavor. The board then addressed the vacancy by voting to have the current Past President (Jon Dillon) and President (yours truly) to continue to serve another year. The current slate of candidates out for balloting includes a President-Elect whom will serve their normal first year as President-Elect. Special thanks to Jon Dillon for a a near-record term of service on the board.

Looking forward to seeing you at the May meeting for Affiliates Night!

-Greg Jones NCCHPS President



### Plan on attending the Canberra User Group Meeting

Fox Tower, Mashantucket, CT June 22-26, 2015.

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## **2015 Science Teachers' Workshop (March 13, 2015)** *Lydia Tai*

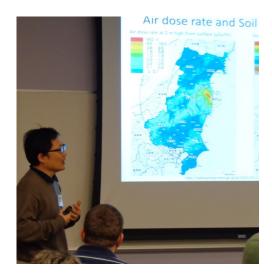
The 2015 workshop for science teachers was once again co-sponsored by the NCCHPS and the Northern California Section of the American Nuclear Society. The UC Berkeley Nuclear Engineering Department hosted the event, which was attended by nearly 40 educators from all over California and as far as Corvallis, Oregon.



The packed schedule included talks in the basics of nuclear radiation, given by Brooke Buddemeier (LLNL) and UC Berkeley Professor Rick Norman. The teachers also participated in hands-on activities with cloud chambers and Civil Defense Geiger counters, led by Soheil Damavandi (Stanford), workshop coordinator Jo Ressler (LLNL), and Brooke Buddemeier.



There was even a lecture during lunch, an update in the environmental remediation and waste treatment activities at Fukushima, given by Professor Joonhong Ahn.



New to this year's workshop was a talk given by Professor Kai Vetter about the Berkeley RadWatch program (which you also had the opportunity to hear, if you attended the January 2015 meeting!). Also new this year was a half-life demonstration using a Cs-137/Ba-137m isotope generator led by Ph.D. student Perry Chodash. The teachers were particularly interested in this demonstration, since it's a suitable hands-on experiment for high school students and a great live demonstration of the 2.6-minute half-life of Ba-137m.



The afternoon included a tour of the nuclear engineering laboratories in the basement of Etcheverry Hall, with a quick visit to the rooftop air monitors installed as part of the Berkeley RadWatch program. Each teacher left the workshop with a Geiger counter, a cloud chamber kit, and a CD of additional resources.



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#### **Upcoming NCCHPS Meetings...**

May 21, 2015 Affiliate Night

Mailing Address: NCCHPS 4435 First Street #141 Livermore, CA 94550

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Affiliate Liason: Nelson Chiu

ncchpsaffiliatecontact@gmail.com (414) 559-5586

#### **The Next NCCHPS Meeting!**

Affiliate night Thursday, 21st May 2015 6 pm social, 7 pm dinner, 8 pm presentation

Oakland Yacht Club 1101 Pacific Marina Alameda, CA 94501 (510) 522-6868 Meeting is in the Commodores' Hall, upstairs.

The menu is:
Seasonal Green Salad
Scallop Potatoes, Chef Choice
Vegetables
Choice of entrée:
Zucchini Fettuccini
Grilled Salmon
Roasted Chicken
Dessert: Vanilla Ice Cream
Coffee

Register by Monday 11th, May 2015: <a href="http://hpschapters.org/ncchps/dinner.php3">http://hpschapters.org/ncchps/dinner.php3</a>

NCCHPS members \$30 (\$35 @ door) Guests \$35 Students \$10 Non-members \$40

Cancellations are not accepted after the RSVP deadline. Only online registrations will be accepted. Contact <a href="mailto:cvandevoorde@illumina.com">cvandevoorde@illumina.com</a> ONLY if you encounter problems with the online registration.

## 2014-2015 NCCHPS Board Members:

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Past President Jon Dillon dillon10@llnl.gov (925) 423-6167

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