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 chance 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 its 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 kmengel@lbl.gov.
Philotechnics, Ltd. is full-scope radiological services company headquartered in Oak Ridge, Tennessee with an additional licensed facility in San Diego, California. At the very core of our philosophy is our commitment to being the most responsive, broad-spectrum radiological services provider in the nation – dedicated to advising you on the most appropriate method to accomplish your objectives.

Our Services are provided through three primary stand-alone product lines:

- **Mixed and Radioactive Waste Brokerage Services** – to provide RCRA, TSCA, Asbestos and Radioactive Waste Services.
- **Decontamination & Decommissioning/Health Physics Services** – to support license termination and radiation safety management.
- **Fleet Services** – We are a private carrier licensed in 48 states.

Corporate Office
Philotechnics, Ltd.
201 Renovare Blvd.
Oak Ridge, TN 37830
Meghan Turvey
(865) 285-3064

California Office
Philotechnics, Ltd.
7384 Trade St.
San Diego, CA 92121
Robert Trimble
(858) 586-2580

www.philotechnics.com

Next Generation Digital Radiation Detection
instant | active | self-reading | self-alarming | direct-reading

x-zlab.com
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
The world’s largest radiation dosimetry service provider utilizing the proprietary OSL technology found in both Luxel+ and InLight. InLight is a full service personnel radiation monitoring program or turnkey onsite analysis system that meets routine personnel monitoring and emergency response requirements. Both dosimeter types are NVLAP and DOELAP accredited. Landauer’s comprehensive diagnostic evaluation and reporting is backed by over 50 years’ experience.
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 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.

ORTEC Post Accident Nuclear Solutions:
Food, Water, and Environmental Monitoring; Area and Surface Contamination; Bio Assay

From rapid screening of individuals who have potentially ingested radionuclides, through monitoring of the ground for fallout carried in a rain shower, we have a high performance solution. Food, water, soil, air, and human beings all may be effectively screened and monitored through the use of ORTEC instruments.

**FoodGuard-1 Nal Food Screening System**
- Rapid screening of foodstuffs, solid and liquid.
- Front line response by food producers, traders, import/export agencies, etc.

**FoodGuard-2 High Resolution HPGe Gamma Spectroscopy System**
- Accurately quantifies levels of radionuclides in food.
- Gamma emitting radionuclides quantified in Bq/kg or Bq/L.
- Complies with required detection limits for clearance of food samples.

**GammaScreen-8 Multi-Sample Gamma Screening System**
- Simple to use tool for first step screening operation.
- Rapid screening of urine samples for elevated presence of radioactivity.
- Provides critical information for Emergency Response Agencies.

**Whole Body Counting Systems**
- Measure body contents directly; does not rely on indirect methods (such as urinalysis).
- Measure insoluble radionuclides in the lungs.
- ORTEC Whole-Body Counters include stand-in, chair, bed, scanning bed, and steel room systems for lung burden.

**Micro-Detective, Detective and Trans-SPEC Hand Held HPGe Spectrometers**
- High resolution gamma spectrometers in an integrated package.
- No liquid refrigerant required.
- Battery operated.
- Multi-purpose instruments for contamination monitoring, scanning of humans, food and water sample counting, etc.

**www.ortec-online.com**
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.
HI-Q Environmental Products Company is an ISO 9001:2000 Certified Company who has been a leading manufacturer of Air Sampling Equipment, Systems & Accessories since 1973. Our product line includes:

- Continuous duty high & low volume air samplers,
- Air flow calibrators,
- Radio Iodine sampling cartridges,
- Collection filter paper,
- Combination filter holders,
- Complete stack/fume hood sampling systems and
- Outdoor TSP, PM-10, PM-2.5 & PUF ambient air samplers

Feel free to peruse our online catalog. If you do not see a system that completely meets your sampling needs, please contact our Engineering Department for assistance. Thank you for your interest in our air sampling products. For additional details, visit our website at www.hi-q.net.

Hi-Q Environmental Products Company
7386 Trade St.
San Diego, CA 92121
Phone: 858.549.2820
Fax: 858.549.9657
Email: info@hi-q.net
http://www.hi-q.net/

F&J SPECIALTY PRODUCTS, INC.
The Nucleus of Quality Air Monitoring Programs

Advanced Technology Instruments
- Correction of flow and volume to reference temperature and pressure
- Volume totalization to 4% accuracy
- Automatic Flow Control
- Auto shut off on time or volume
- Low operating and maintenance costs
- RS232 port
- Data storage options
- Digital display

Contact: Tel: 352 680 1177  Fax: 352 680 1454  Email: fandj@fjspecialty.com  Web: www.fjspecialty.com
Seltech Inc is the sales organization representing a number of nuclear measurement manufacturers. Clyde Makinson in Richland Washington is an application-oriented salesman with many years of experience in the nuclear industry.

Seltech Representatives:

- Ludlum Measurements
- Gamma Products – automatic sample changers, counting systems and shields
- HI-Q Environmental Products – air sampling equipments
- Lab Impex Systems – area and stack monitoring system
- XRF Corp – Hand Held Isotopic Identifier with CdTe detector
- Ordelia Inc – alpha scintillation detector and alpha spectrometers
- TSA Systems – SNM monitors and mobile GPS survey systems.
- Bladewerx – alpha spectra, continuous air particulate monitors
- Shieldwerx - Polyethylene-Based Gamma & Neutron Shielding

For additional details, visit our website.

Seltech Electronic Manufacturers Representative Inc.

Clyde Makinson
(509) 943-5288
(888) 633-2340
clyde@owt.com
http://www.owt.com/seltech

California’s only licensed radioactive waste broker/processor, Thomas Gray & Associates provides disposal brokerage, health physics, training and transportation services to the Western United States. To find out how we can provide you service, please contact us at (714) 997-8090 or on the internet at http://www.tgainc.com.

Thomas Gray & Associates, Inc.
1205 West Barkley Avenue, Orange, CA 92868
T: 714-997-8090 F: 714-997-3561
http://www.tgainc.com
Thermo Fisher Scientific is continuing to advance instrumentation used in the measurement of radiation. These advancements are in the areas of personnel contamination, dosimetry, and hand-held survey instruments.

The iPCM-12 is a direct replacement for the PCM-2, however it expands the capabilities in areas of body coverage, background reduction using a unique proportional detector design, and a unique Rn-rejection algorithm.

The Thermo-Harshaw TLD products (readers and materials) are the state of the art for passive monitoring using TLD. The EPN-Mk2 and EPD-N2 (gamma neutron) are the active dosimeters of choice at virtually all DOE and DOD sites.

The RadEye-"X" series has already been selected by many DOE National Labs as a superior replacement for the older box-style analog meters, including our own E600. These labs are realizing not only the cost savings advantages of the RadEye-X, but also the simplicity and robustness that has been designed into a sophisticated digital meter that weighs approx 4 oz. and “talks” to all of your existing probes.

Justin Kung
310-418-7281
Justin.kung@thermofisher.com


Make the switch to Mirion and save time!

The right radiation monitoring program to meet your requirements can be found at Mirion!

We recognize you have specific needs and understand radiation monitoring requirements vary depending on exposure risks and regulatory requirements. By pairing our streamlined online capabilities with the dosimeters of your choice, you will find managing your dosimetry program efficient and stress-free.

At Mirion Technologies Dosimetry Services Division, we offer a wide array of quality, industry standard dosimeters from the traditional thermoluminescent dosimeter (TLD), to the revolutionary instadose™ dosimeters. Our robust online account management programs are among the best in the industry for ease of account maintenance and accessing a variety of comprehensive radiation reports.

To learn more about Mirion and our services visit us online.

www.MIRION.com

Mirion, Mirion Technologies, instadose are trademarks and/or registered trademarks of Mirion Technologies, Inc. and/or its affiliates in the United States and/or other countries.
<table>
<thead>
<tr>
<th>Upcoming NCCHPS Meetings…</th>
<th>The Next NCCHPS Meeting!</th>
<th>2014-2015 NCCHPS Board Members:</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 21, 2015</td>
<td>Affiliate night</td>
<td>President Greg Jones,</td>
</tr>
<tr>
<td>Affiliate Night</td>
<td>Thursday, 21st May 2015</td>
<td><a href="mailto:jones88@llnl.gov">jones88@llnl.gov</a> (925) 423-9875</td>
</tr>
<tr>
<td></td>
<td>6 pm social, 7 pm dinner,</td>
<td>President-Elect -Vacant-</td>
</tr>
<tr>
<td></td>
<td>8 pm presentation</td>
<td>Past President Jon Dillon,</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="mailto:dillon10@llnl.gov">dillon10@llnl.gov</a> (925) 423-6167</td>
</tr>
<tr>
<td>Mailing Address:</td>
<td></td>
<td>Secretary Kaitlin Engel,</td>
</tr>
<tr>
<td>NCCHPS</td>
<td></td>
<td><a href="mailto:kmengel@lbl.gov">kmengel@lbl.gov</a> (510) 486-5827</td>
</tr>
<tr>
<td>4435 First Street #141</td>
<td></td>
<td>Treasurer Melissa Mannion,</td>
</tr>
<tr>
<td>Livermore, CA 94550</td>
<td></td>
<td><a href="mailto:MCMannion@lbl.gov">MCMannion@lbl.gov</a> (510) 486-4423</td>
</tr>
<tr>
<td>Email: <a href="mailto:ncchps@gmail.com">ncchps@gmail.com</a></td>
<td></td>
<td>Member-at-Large Claire Vandevoorde,</td>
</tr>
<tr>
<td>Website: <a href="http://hpschapters.org/ncchps/">http://hpschapters.org/ncchps/</a></td>
<td></td>
<td><a href="mailto:cvandevoorde@illumina.com">cvandevoorde@illumina.com</a> (650) 293-7329</td>
</tr>
<tr>
<td>Newsletter Editor:</td>
<td></td>
<td>Member-at-Large Jim DeZetter,</td>
</tr>
<tr>
<td>Warren TenBrook</td>
<td></td>
<td><a href="mailto:jimdezetter@berkeley.edu">jimdezetter@berkeley.edu</a> 510-643-8765</td>
</tr>
<tr>
<td><a href="mailto:warren@tenbrook.org">warren@tenbrook.org</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(925) 423-1470</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affiliate Liaison:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nelson Chiu</td>
<td></td>
<td></td>
</tr>
<tr>
<td><a href="mailto:ncchpsaffiliatecontact@gmail.com">ncchpsaffiliatecontact@gmail.com</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(414) 559-5586</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The menu is:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seasonal Green Salad</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Scallop Potatoes, Chef Choice</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vegetables</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Choice of entrée:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Zucchini Fettuccini</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Grilled Salmon</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Roasted Chicken</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dessert: Vanilla Ice Cream</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Coffee</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Register by Monday 11th, May 2015:</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="http://hpschapters.org/ncchps/dinner.php3">http://hpschapters.org/ncchps/dinner.php3</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NCCHPS members $30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>($35 @ door)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Guests $35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Students $10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-members $40</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cancellations are not accepted after the RSVP deadline. Only online registrations will be accepted.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contact <a href="mailto:cvandevoorde@illumina.com">cvandevoorde@illumina.com</a> ONLY if you encounter problems with the online registration.</td>
<td></td>
</tr>
</tbody>
</table>