

# NCCHPS

The Newsletter of the Northern California Chapter of the Health Physics Society  
September 2007



**Thursday, September 13, 2007**  
**Francesco's Restaurant, Oakland**  
**Presented by NCCHPS and ANS Northern California**

**6 pm-Social Hour**  
**7 pm-Dinner**  
**8 pm-Presentation**

**Speaker: David K. Smith**  
National Technical Nuclear Forensics Center  
Domestic Nuclear Detection Office, Washington, DC  
and Lawrence Livermore National Laboratory  
Nonproliferation, Homeland, and International Security Directorate



**Title: "Following the Clues: The Role of Nuclear Forensics in Preventing Nuclear Terrorism"**

**Abstract:**

If nuclear forensic investigations are pursued vigorously after the interdiction of nuclear materials, investigators could analyze nuclear materials, devices or associated material to identify the source of the materials or devices, the route of transit, and ultimately help to identify the actors involved in the trafficking incident. In particular, a nuclear forensics investigation might help answer such questions as: Is there a leak in one of the known holdings of nuclear material? Where was legitimate control lost? Is this case connected to previous cases? How did the material come to be where we found it? And of course, ultimately, can we link this material to the perpetrators? By their very nature, seized materials represent an international problem. Nuclear and radiological fuels and sources are sourced throughout the nuclear fuel cycle under legitimate manufacture and production. They may be illicitly diverted from that stream away from their point of manufacturer and trafficked across international border. Law enforcement personnel in concert with radiation detection system have detected these samples at border crossings or other points of entry. The highly distributed nature of the trafficking problem has resulted in a coordinated strategy executed by US government interagency forensics community.

Nuclear forensics can stem the misuse of nuclear materials by providing information on the origin source, movement, and involvement of groups or individuals with the unauthorized possession or transfer of nuclear contraband. A likely early warning of an adversary's intention to attack with nuclear weapons will be the illicit transfer of nuclear materials since it is the access to these materials that proves the biggest challenge and poses the most significant technical hurdle to building a weapon. In this vein, nuclear forensics can potentially help prevent a terrorist attack by enabling a measured response prior to a hostile act. In addition a robust forensics capability can also hold nuclear states accountable for the security of the stocks of nuclear materials in their possession.

**About the Speaker:**

David Smith is currently on assignment from Lawrence Livermore National to the Domestic Nuclear Detection Office / National Technical Nuclear Forensics Center of the U.S. Department of Homeland Security in Washington, DC as a senior technical advisor. He assists the Assistant Director and federal program staff in the development of an interagency portfolio in international nuclear forensics integrated across the US government. His responsibilities include coordination of technical forensics assets in partnership with the U.S Department of State and Federal Bureau of Investigation. He is also technical lead for bi-lateral engagement with states in Eastern Europe, the Caucasus, Russia, and Central Asia to promote best practices in nuclear forensics.

Prior to this assignment, David was the program leader for material nuclear forensics at Lawrence Livermore National Laboratory with responsibility for all facets of the Laboratory's effort, including management and conduct-of-operations, infrastructure, signature science and information management. He continues to serve as the lead investigator of a program to secure uranium samples from Central Asia to promote nuclear nonproliferation objectives. David is frequently asked to represent the US government as a consultant to the International Atomic Energy Agency on issues related to nuclear forensics and nuclear trafficking. He is also a State of California registered Professional Geologist.

# NCCCHPS



## 2008 Mid-Year Meeting Update

The 2008 LACTF is currently working on a multitude of highlight tours for the 2008 Midyear meeting! Here are just a few of the possible technical social tours currently being considered. We are also looking for suggestions of excellent local restaurants in the Oakland/Bay area. If you have recently dined at a restaurant and would like to recommend it, please send an e-mail to David Barron @barron5@llnl.gov with your suggestions.

Wine Country - California is the largest producer of wine of any state in the USA. The best-known wine growing regions in the state are the Sonoma Valley and Napa Valley along with the neighboring regions of Mendocino and Lake Counties. They are located about 50 to 150 miles north of San Francisco.

St. George Spirits Distillery - Their products include hand-crafted Single Malt Whiskey, pot-distilled American Vodka, and a complete line of traditional Eaux de Vie sourced from local fruit.

USS Hornet - Now peacefully moored at historic Alameda Point on San Francisco Bay, the USS HORNET aircraft carrier is a timeless memorial to those who defended our American values and to those who have pursued America's technological advancements.

Fortune Cookie Factory - Find out how those words of wisdom get inside the cookie, as well as other Chinese culinary secrets.

Lawrence Hall of Science (LHS) - Established in 1968 at the University of California at Berkeley in honor of Ernest O. Lawrence, UC's first Nobel laureate, Lawrence Hall of Science is a national leader in the development of innovative materials and programs for the public.

Advanced Light Source - The original building, situated in the East Bay Hills overlooking San Francisco Bay, was completed in 1942. Today, the expanded building houses the Advanced Light Source (ALS), a third-generation synchrotron and national user facility that attracts scientists from around the world.



## New Health Physics Solutions from CANBERRA

Federal, state and international agencies have specific regulations that must be met in order to protect the nuclear worker and the public. CANBERRA, as a worldwide supplier of health physics instruments, understands the rigorous requirements that a facility must meet to conduct an efficient, world-class radiological protection program.

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## NCCCHPS President's Column

Your board of directors is off to a grand start this summer with the traditional transition meeting at the President's home and a second board meeting on board the U. S. S. Hornet.

We are pleased to welcome three new members to the board: Steve Bakhtiar (President-Elect), Heidi Lach (Secretary), and Ed Bradley (Member-at-Large). I would like to thank continuing board member Radoslav Radev for his continuing support as he assumes the position of Past President, as well as Quang Le for his continuing volunteer efforts as Treasurer and Jack Topper for his continuing volunteer efforts as he assumes the position of senior Member-at-Large. The Board would like to offer special thanks to Jesse Hendricks for his enormous efforts as Affiliate Liaison and a hearty Thank You to Jack Elliott for his faithful service as the Public Information contact who prepares and publicizes informational material pertaining to health physics and the role of the members of the Society in radiation protection. Also, our warmest appreciations go to the outgoing board members Nisy Ipe (Past President), Melissa Mannion (Secretary) and Todd Sundsmo (Member-at-Large) for their stellar service to the NCCCHPS.

### Get Ready For an Exciting Kick-Off of Events!

We look forward to an exciting and successful new Chapter year with our first meeting on September 13 at Francesco's ( <http://www.francescosrestaurant.com/> ). Our sponsors for the evening are Canberra and RDC. Dave Smith from Lawrence Livermore National Laboratory agreed to give a talk titled "Following the Clues: The Role of Nuclear Forensics in Preventing Nuclear Terrorism". He has spent most of his time in Washington, DC on assignment to the National Technical Nuclear Forensics Center at the Department of Homeland Security, but still manages to get back to Lawrence Livermore National Laboratory and California at the end of each week.

NCCCHPS will promote the 2008 Midyear meeting by selling polo and denim shirts and hats at the September and November meetings and in the newsletters. Pre-order today and pick yours up at the meeting!

Please register by September 6th, 2007 online at: <http://hpschapters.org/nccchps/meetings.php3>

Dinner Choices include New York Steak, Stuffed Petrale Sole with Crab and Shrimp, Dill Sauce, and Wild Rice Blend, or Vegetable Manicotti.

### What Will We Accomplish This Year?

The 2008 midyear HPS meeting "Radiation Generating Devices" and the Professional Development School (formerly the Summer School) will be held in conjunction for the first time in January 2008 in Oakland. Please check the NCCCHPS website for the 2008 midyear meeting (<http://hpschapters.org/nccchps/> ). We are welcoming energetic volunteers for the Local Arrangements Committee for the midyear meeting. Please contact Kathleen Dinnel-Jones ([dinneljones1@llnl.gov](mailto:dinneljones1@llnl.gov)). The Professional Development School "Topics in Accelerator Health Physics" is organized by the HPS Accelerator Section. Please contact Linnea Wahl (email: [LEWahl@lbl.gov](mailto:LEWahl@lbl.gov) ).

There are currently opportunities to serve the membership on the following committees: Awards, Public Information, Education and Training, B.J. Moyer Steering, Nominating, Finance, Affiliates Liaison, Newsletter and Website Committees. The Board has nominated Steve Bakhtiar to be the chair for the Education and Training Committee. Steve will be working on discerning interest in having the chapter support prep-classes for professional who wish to achieve registration with the NRRPT or certification with the ABHP.

At September meeting the Board will announce a request for volunteers for Member Affiliate liaison (replacement for Jesse Hendricks) and the Board will announce a request for volunteers for Moyer Fund Finance committee (replacement for Julia Ryan). John Pasinosky and Steve Bakhtiar will work with Julia Ryan to gather information for 2008 Science Teacher Workshop and announce volunteer opportunities in the future.

On behalf of the Board of the NCCCHPS, please let us know how we can serve you better!

I look forward to hearing from you.

***John Pasinosky, President, NCCCHPS***

# NCCCHPS



## ***Back to School: 2008 Professional Development School*** **Linnea Wahl (lewahl@lbl.gov), Administrative Dean**

If you stopped by the NCCHP booth at the annual meeting in Portland, you may have noticed an admiring crowd gathered 'round the table at the back. The object of their interest was the auction of several rare and valuable texts culled from Dr. Ralph Thomas's library. Besides drawing a crowd, these wonderful books brought in nearly \$1200 to benefit a scholarship to the 2008 Professional Development School.

The next step will be to find a worthy beneficiary. The Selection Committee, consisting of Ralph Thomas, Ken Kase, and Gen Roessler, will review applications and choose a deserving student. If you know of anyone who would be interested, please encourage them to apply. Details are available on the website at [www.pds2008.org](http://www.pds2008.org).

Meanwhile, the school faculty and academic deans (Don Cossairt and Vashek Vylet) are working fast and furiously to prepare the course textbook. Several chapters have already been drafted, edited for technical content, and submitted for formatting and final edit, and there are several more to come. Our goal is to provide the students with both a printed and an electronic version of the text, in addition to electronic copies of the instructors' classroom presentations. It's an ambitious goal, but we think we can reach it.

All of this information and more is available on the school website, [www.pds2008.org](http://www.pds2008.org). Thanks to the creative genius of Mike Calvert, one of our newest chapter members, both the school website and the midyear website are beautifully coordinated and filled with useful information. Please take a look, and if you have any suggestions or comments, pass them on to Linnea Wahl (lewahl@lbl.gov).

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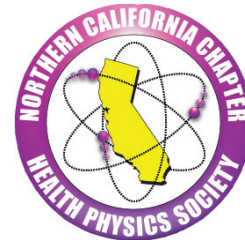
## MOYER FELLOWSHIP REPORT -

*The Moyer Fellowship for 2007 has been awarded to Maia Avtandilashvili, who is studying at Idaho State University in Pocatello, Idaho. Her graduate study advisor is Dr. Richard Brey. The Moyer Fellowship is awarded each year to the most outstanding applicant for graduate education. Maia already has significant academic and professional training in her career. She specialized in nuclear physics studies at the Tbilisi State University in the Republic of Georgia, her native land. Her professional background includes radioecological investigations in Georgia and training in Environmental Monitoring at several research institutions in Germany. The latter work was supported by an IAEA Fellowship. We were fortunate to obtain a photo of Maia with John Pasinosky and Radoslav Radev at this year's HPS Annual Meeting, where the award was made.*

*This spring, the chapter will contribute \$4000 for the 2008 Moyer Fellowship. This is matched by \$4000 from the national HPS, so the total fellowship is for \$8000. [Disbursed over two years] The assets of the Moyer Fund are invested in a diversified portfolio that includes bank CD's for safety and stability. Market fluctuations do have an effect, however. After topping out at near \$100,000, the value in mid August is \$92,800. Over the past several years, we have increased our chapter support from \$3000 to the present \$4000 per year. This was made possible in part by the generous contributions from the chapter members. Please consider your individual contribution for this year. Checks, payable to NCCCHPS, may be presented to treasurer Quang Le at any dinner meeting or by mail.*



# NCCHPS



## Mark Your Calendars!

The 2007-2008 NCCHPS technical meeting dates are:

September 13, 2007,  
Francesco's, Oakland

November 2007  
Location TBA

January 27 to 30,  
2008  
HPS Midyear,  
Marriott Hotel,  
Oakland

March 2008  
Location TBA

May 2008  
Affiliates Night  
Location TBA

Direct input for our next newsletter to:

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### The Next NCCHPS Meeting!

Our September 13, 2007 meeting will be at Francesco's Restaurant, Oakland. The address is:

8520 Pardee Drive  
Oakland, CA 94621  
(510) 569-0653

[www.francescosrestaurant.com](http://www.francescosrestaurant.com)

The dinner selections are:

New York Steak

Stuffed Petrale Sole With Crab and Shrimp, Dill Sauce, and Wild Rice Blend (There must be at least 20 orders for Sole. If not, salmon will be the substitution)

Vegetable Manicotti - seasonal vegetables and four cheese blend

### Schedule:

6 pm-Social Hour  
7 pm-Dinner  
8 pm-Speaker

**Deadline: Please register by September 6th, 2007 !** After Deadline, please contact Steven N. Bakhtiar at (925) 876 8921 for special arrangements.

NCCHPS members - \$25 (\$30 at the door)  
Members' spouses - \$30  
Students - \$10  
Non-NCCHPS members - \$40

Register for dinner ONLINE at

<http://hpschapters.org/ncchps/dinner.php3>

Contact Quang Le ONLY if you encounter problems with online registration: [quangles@sbcglobal.net](mailto:quangles@sbcglobal.net), (925) 422-7543