

# NCCHPS

The Newsletter of the Northern California Chapter of the Health Physics Society  
September 2009



## ***The NCCHPS September 2009 Chapter Meeting...***

Thursday, September 17, 2009  
Francesco's Restaurant, Oakland

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

## **Presentation: Compact Accelerator for Proton Radiotherapy\***

**Abstract:** Proton therapy is considered the most advanced form of radiation therapy available, but size and cost have limited the technology's use to only a handful of cancer centers nationwide. A novel compact proton therapy system – one that would fit in any major cancer center and cost a fifth as much as a full-scale machine – is under development at the Lawrence Livermore National Laboratory. The result of defense-related research, initial development of the compact system began with scientists at the Laboratory in a project jointly funded by the Laboratory and the UC Davis Cancer Center. Tomotherapy, Inc. has licensed the new accelerator technology from the Laboratory and the Compact Particle Acceleration Corporation (CPAC) continues to support development of the system.

**About the Speaker:** *Jim Watson works as an Electrical Engineer at the Lawrence Livermore National Laboratory in Northern California. He joined the laboratory in 1981 as a technician and later completed his undergraduate degree in Electrical Engineering from the University of the Pacific in 1998. Jim supports the Beam Research Program at the Laboratory in the development of advanced accelerator technology for Research, National Security, and Medical applications.*

\*Patents Pending. Lawrence Livermore National Laboratory is operated by Lawrence Livermore National Security, LLC, for the U.S. Department of Energy, National Nuclear Security Administration under Contract DE-AC52-07NA27344.

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## NCCHPS President's Column



Welcome back from the hazy shade of summer all you NCCHPS members.

At the July 11th summer board meeting, we welcomed new members Eric Packard (Member-at-Large), Keith Heinzelman (Secretary), and Quang Le (President-elect) to active duty. Thank you so very much Heidi Lach, Ed Bradley and John Pasinosky for your dedicated commitment to the board. Because it now takes an SUV to haul NCCHPS documents, part of the goal for our summer meeting was to begin weeding out unneeded paperwork from the many boxes unceremoniously heaved from the outgoing secretary to the incoming secretary. As a result, we discovered many historic gems. One of our dinner meetings this year will include a "History" display giving you an opportunity to be as amazed as we were at our long history together.

One of my main goals for this year is to explore expanding the functionality of our website. The site could be used to post other local society meetings, for information on HPS graduate programs, advertise volunteer needs, and mark the status of Moyer Fund contributions. I also think it's time to use Facebook for big projects such as the Science Teacher Workshop. Additionally, the board is enthusiastically working on reviving joint meetings with sister societies to cross-pollinate and swap shared knowledge. It's possible that one of our meetings will be a fieldtrip to their technical dinner location.

One final announcement: Photographers bring your cameras to our dinners!

As always, feel free to contact any board member with questions, comments and concerns.

**Most Sincerely,  
Dawn Banghart**

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## MOYER FELLOWSHIP UPDATE by Charles Schmidt

The Burton J. Moyer Memorial Fellowship for 2009 has been awarded to Matthew Mille, a graduate student at Rensselaer Polytechnic Institute.

Matthew was kind enough to send us a short article describing some of his interests and accomplishments which you will find elsewhere in this newsletter. It certainly appears that Matthew has a good start towards a career in health physics. We wish him continued success in his studies and for his future.

Now, some comments on the Fellowship and its finances. I think it is impressive that Matthew is the 25th student to receive support from the fund. The Fellowship has been awarded each year since 1985, so this is our Silver Anniversary! This is quite an achievement for which our chapter should be proud. In review of the fellowship fund financials, there is some good news and some bad. On the good side the value of our investments as of 8/21/2009 is just over \$72K. This is a nice improvement over the low point of \$57K early this year [increase due to some possibly exuberant market optimism?].

The bad news I think is that since January, 2007, total contributions to the fund were \$4580. but \$3000 of that was "windfall contribution" from Patricia Durbin, the chapter's Mid-year Meeting profits and from the Sierra Nevada chapter. During the same period we spent \$11,500 in support of three fellowships. Thus over the near past we have had a negative cash flow of about \$7000. Rather clearly the rank and file of chapter members have not been making significant donations to the Moyer fund.

When the Moyer fellowship was established 25 years ago, it was premised to be a perpetual annual award. That objective has become somewhat shaky given our present asset level, the economic uncertainty and low interest rates. A draw rate of 5% from an endowment might be considered sustainable on average but that has not been true over the past decade for most investments. I really encourage our members to donate to the fund this year if you can. To those few who have contributed recently our thanks, to those who have contributed in the past consider doing it again and to those who have never contributed - now is the time!

Donations may be made by check payable to NCCHPS with the notation "Moyer Fund donation" included on the Memo line and sent or given to the chapter treasurer Jesse Hendricks. Your donations are tax deductible. Send comments, criticisms or suggestions to me or to Bill Vermeere or Radoslav Radev who are the other members of the Moyer Fellowship Committee.

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## Meet Matthew Mille

### Recipient of the Moyer Fellowship

Looking back, with both my parents being pharmacists, one with radiopharmacy experience, and physicians, physicists, and statisticians as neighbors, a career in a health science that combines physics, math, computers and the ability to help people might just have been my destiny! I first developed an interest in physics during my senior year in high-school when I took an introductory course in the subject. In this class, I gained a true appreciation of how elegant mathematical expressions could be used to describe and explain the complex phenomena of the natural world in which we live. After graduating as a valedictorian of my high school class in 2003, I entered the University of Maryland, College Park to pursue my passion for physics. In May of 2007, I graduated cum laude from the University of Maryland, College Park with a bachelor of science in physics and mathematics. My interest in health physics and radiological sciences began as an undergraduate when, during the summer of 2005, I had the amazing opportunity to participate in the Summer Undergraduate

Research Fellowship (SURF) program at the National Institute of Standards and Technology (NIST). For a total of three summers, I worked in the Ionizing Radiation Division's radionuclide metrology research program. The goal of my research project was to develop Monte Carlo computational methods for calibrating a gamma-ray detector for measuring radionuclides incorporated in complex and variable geometries such as the human body. This research project raised my awareness of the crucial public health need to quickly and accurately screen large numbers of the general public after a radiological accident. My experience at NIST drew me to the Nuclear Engineering and Science program at Rensselaer Polytechnic Institute where I now have about two years of study left to complete my PhD degree. One of the most recent projects I have worked on involved the development of methods for creating in-vivo radiobioassay calibration phantoms using patient-specific anatomical data in conjunction with modern rapid prototyping/manufacturing techniques. After graduating from Rensselaer Polytechnic Institute, I intend to obtain certification in health physics and pursue a research career in the field, perhaps working at a national laboratory or a university.

In my free time in high school and as an undergraduate, I participated and held leadership positions in my local chapters of Best Buddies International, a peer mentoring program dedicated to enhancing the lives of people with intellectual and developmental disabilities. As a graduate student at RPI, I enjoy swimming and watching movies to unwind after a challenging day of research and coursework. I also enjoy taking advantage of the many outdoor recreation activities that upstate New York has to offer such as kayaking and white water rafting during the summer and, of course, skiing during the winter. I look forward to traveling back home to Maryland to visit family whenever possible during the holidays and summer, especially for our family fishing and crabbing trips to the Chesapeake Bay.

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## Visit NCCHPS on the Web:

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

Direct input for our next  
newsletter to:

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925-423-1470

NCCHPS  
c/o Warren TenBrook  
Lawrence Livermore  
National Laboratory  
P.O. Box 808, L-628  
Livermore, CA 94550

## The Next NCCHPS Meeting!

September 17, 2009

8520 Pardee Drive at Hegenberger Road  
Oakland CA 94621

Telephone: (510) 569-0653

<http://www.francescosrestaurant.com/>

Free parking available at Francesco's

Cost:

NCCHPS members \$30 (\$35 @ door)

NCCHPS member's Spouses \$35

Students \$10

Non-members \$40

Deadline: Please register by September 12th, 2009!

Menu:

Breast of Chicken Parmegiana

Fresh Fillet of Pacific Red Snapper

Vegetable Manicotti - Seasonal Vegetables and Four  
Cheese Blend

Mixed Green

Mostaccioli with Napolitana Sauce (Family Style)

French Vanilla Ice Cream

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

Only online registrations will be accepted. Contact  
Jesse Hendricks ONLY if you encounter problems  
with online registration: [jhendricks@berkeley.edu](mailto:jhendricks@berkeley.edu)

## 2009-2010 NCCHPS Board Members:

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