

NCCHPS

The Newsletter of the Northern California Chapter of the Health Physics Society
November 2008 - January 2009



Our November Joint NCCHPS-AAPM Meeting

Thursday, November 13, 2008
Hilton Garden Inn, San Mateo

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



Presentation Topic:

The Physics of Positron Emission Tomography (PET)

Positron Emission Tomography (PET) is an imaging modality in which radioactive molecules are injected into the patient and then imaged in the PET camera, a ring of radiation detectors that detect the radioactive decay and provide an image of the distribution of the radioactive molecules in the body. PET has recently become a powerful tool in the field of medical imaging because it provides a different set of information compared to other imaging modalities. While X-ray Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) provide anatomical data, PET provides an understanding of the underlying physiological processes of the normal or diseased state. This information provides clinicians and researchers with a powerful tool in understanding the mechanisms of diseases such as cancer, schizophrenia, Parkinson's, and Alzheimer's. This talk will highlight the physics involved in performing PET studies, as well as some of the current research in the field.

About the Speaker:

David W. Dick, Ph.D. received his bachelor's degree in physics from Western Washington University and his doctorate in medical physics from the University of Wisconsin-Madison. Dr. Dick is currently the Head of Cyclotron Physics at the Molecular Imaging Program at Stanford (MIPS), where he oversees the production of short-lived radioisotopes for Positron Emission Tomography (PET), including carbon-11, nitrogen-13 and fluorine-18. Dr. Dick also oversees the production of radiopharmaceuticals for clinical use and handles the variety of health physics issues that arise within the cyclotron facility.



NCCCHPS



○ SAFETY | ○ QUALITY | ○ VALUE



RADIATION DETECTION COMPANY

SAFETY. PERSONNEL DOSIMETRY SERVICES PROVIDE PEACE OF MIND FOR YOU AND YOUR EMPLOYEES



Occupational exposure to ionizing radiation can occur in a range of industries including medical institutions, educational and research establishments, and nuclear power facilities. Radiation Detection Company (RDC) can help you assess risk levels appropriately and implement the best dosimetry monitoring system to meet the requirements of your radiation safety program.

QUALITY. A FULL RANGE OF DOSIMETRY PRODUCTS AND SERVICES DESIGNED TO MEET ALL YOUR RADIATION DETECTION NEEDS



In addition to personnel dosimetry products, RDC offers a full suite of services designed to meet state and federal regulatory standards including Radiation Instrument Calibration and Sealed Source Wipe Test Analysis.

VALUE. COMMITMENT TO PROVIDING CUSTOMERS THE BEST VALUE, QUALITY AND SERVICE



Radiation Detection Company has provided personnel radiation monitoring services for over half a century and is recognized for quality and service in the industry. Full service dosimetry subscriptions include easy to read dose reports, 24-hour internet-based account management, flexible monitoring options, and access to personalized customer service 5 days a week between 7:00AM and 4:00PM PST. Our policy of no hidden fees makes RDC the easy choice for all your radiation monitoring services.

For more information visit www.radetco.com
To place an order call Sales at 1-800-250-3314



EBERLINE
SERVICES

Eberline Services
2030 Wright Ave.
Richmond, CA 94804-3849
800/841-5487 Toll free
510/235-2633
510/235-0438 Fax

Eberline Services' Richmond California laboratory is the nations longest continuously running commercial radioanalytical laboratory with over 59 years of experience. Eberline Services Richmond is part of the nations largest radiochemistry laboratory network. We are recognized for our technical knowledge and ability to provide high precision, low detection radiological analyses. An array of counting techniques consisting of alpha spectroscopy, gamma spectroscopy, gas proportional counting, liquid scintillation, alpha scintillation, x-ray spectrometry, radon, and KPA (total U) allow the Richmond facility to achieve high precision results and high sensitivity. We have the capability of analyzing over 175 radionuclides on a variety of matrices including bioassay, environmental, hazardous waste, effluent, 10CFR61, REMP, and drinking water. Multi state certifications and accreditations by EPA, DOE, DOD, and nuclear reactor clients allow Eberline Services Richmond to perform radioanalytical work even under the most stringent regulatory requirements.

NCCCHPS



MEET THE 2008 MOYER FELLOW -- MS. JERRI WALTERS

At the HPS 2008 Annual Meeting, the twenty-fourth Burton J. Moyer fellowship was awarded to Jerri Walters who is a graduate student at Colorado State University. She was kind enough to supply the following description of some of her accomplishments, interests and aspirations. We think Ms Walters exemplifies the student who benefits from receipt of this financial assistance for their academic journey...

"I attended the University of Wisconsin La Crosse, where I graduated with highest honors with a BS in Nuclear Medicine Technology and a minor in Chemistry. As part of my undergraduate degree I completed a one year internship in Nuclear Medicine at Mayo Clinic in Rochester, MN where I was awarded the Paul Cole Scholarship for Nuclear Medicine Technology. In my free time, I participated as a member of the UW-LaCrosse's NCAA Division III Women's swim team for four years. While on the team, I had the honor of being voted team captain by my fellow teammates my senior year as well as being nominated as a WIAC Scholar Athlete. After completing my schooling, I entered the work force as a Certified Nuclear Medicine Technologist at North Memorial Medical Center in Minneapolis, MN. At North Memorial, I had the opportunity to take the Lead Tech Position in our Hospital department as well as Lead Tech of our new outpatient PET scanning clinic. After three years of hospital and clinic work, I decided it was time to move on. Because of my interest in radiation, I was drawn to the Health Physics Masters program at Colorado State University. During my time at Colorado State, I have been given the opportunity to be treasurer of our student Health Physics Society Chapter. This past summer I was able to work as an intern in Duke Energy's Nuclear Generation group in Charlotte, North Carolina. At Duke, I completed an air-sampling study that characterized the particle size distribution present in the ambient air of the nuclear plants auxiliary buildings and radwaste facilities in an effort to help the plants assess their current compliance with standards involving sampling of effluent ventilation pathways. With one more year left to complete my Masters' degree, I look forward to taking part in a research project involving the estimation of skin doses received by canines undergoing radiation therapy at Colorado State's Veterinary Teaching Hospital using Gafchromic film."

"On a personal note, I am a Northern Wisconsin native. This of course makes me a Green Bay Packer, Wisconsin Badger and Milwaukee Brewer fan. I also enjoy spending as much time as possible outdoors with my dog, Max. Living in Colorado has allowed me to hone my hiking and skiing skills while attempting to learn how to snowboard as well. Because my family still resides in Wisconsin and with my internship being in North Carolina, I have also grown quite accustomed to driving cross country and taking in all the sites and friends along the way. In the future, I hope to become a Certified Health Physicist, would like to help educate the public on the energy alternative that exists in nuclear power, and look forward to the possibilities that the present nuclear renaissance brings for all of us."

NCCCHPS



FINANCIAL REPORT FOR THE MOYER FUND INVESTED ASSETS ***(Charles Schmidt, Radoslav Radev, Bill Vermeere)***

-Rated R: do not read further if you have a weak heart-

Funds for the Moyer Fellowship were first solicited by Wade Patterson of this chapter and Prof. Carl Helmholz of UC Berkeley. Generous donations from our chapter members, Professor Moyer's colleagues and family enabled the first Moyer Fellowship for graduate study in Health Physics to be awarded in 1985. The assets were invested in several mutual funds with Morgan Stanley Dean Witter. In 2004, \$68,500 was transferred from Morgan Stanley to Fidelity Investments. These monies purchased seven Fidelity mutual funds, bank certificates of deposit and money market (cash). Very little change has been made in the investment mix over the past four years. A brief summary of our recent investment account results follows:

CY 2006	Initial value	\$81,000	Donations	\$3180	Fellowship	-\$3500	Invest. value change	\$10,730	Final value	\$91,410
CY 2007	Initial value	\$91,410	Donations	\$2050	Fellowship	-\$3500	Invest. value change	\$8,394	Final value	\$98,354
YTD2008	Initial value	\$98,354	Donations	\$1330	Fellowship	-\$4000	Invest. value change	-\$30,624	Final value	\$65,060

YTD 2008 values are through October 10, 2008. Obviously, our investments have taken a serious beating in 2008, particularly in the past few months. In 2006 and 2007 the investment gains were 13% and 9% respectively, followed by a 31% drop in 2008. For some context, the Standard and Poor's 500 Stock index has declined by nearly 40% in 2008. Several weeks will have passed by the time you read this and perhaps some market stability and gains will have returned.

The investment account, on October 10, 2008, consists of bank certificates of deposit, Fidelity mutual funds and cash as follows:

CD 5.25%, 3/30/2009	\$8000	Our investment policy for these funds assumes that the Fellowship support will continue indefinitely and that a diversified investment mix of equities, bonds and cash will provide adequate returns in the long run. We believe that a prime investment rule is that you should never sell an investment because you need to. Towards that end, our present cash equivalent position of over \$17,000 is enough to cover the fellowship expense for four years without any NECESSARY sale of equities. It is somewhat bothersome to note that our current cash flow, i.e. donations minus fellowship expense, has been negative for the past three years. Thus while the account is still quite adequately funded, additional donations from the membership are always welcome.
CD 3.60%, 4/09/2010	\$7000	
Balanced	\$7218	
Contrafund	\$8139	
Capital Appreciation	\$5886	
Diversified International	\$7345	
Equity Income	\$5773	
Export & Multinational	\$6310	
Low Priced Stock	\$6696	
Cash (Money Market)	\$2693	
----	-----	The elected officers of our chapter, the board of directors, make investment decisions and have ultimate responsibility for these funds. They rely heavily on recommendations from the Moyer Fellowship Committee (see by -line). Comments, suggestions or criticisms from the membership are always welcome and in fact are encouraged.
----	\$65060	

President's Message

The Fellow award program and other awards are means of recognizing mature members who have made a significant contribution to raising the standards of excellence in practice and conduct within their national technical community as well as in their local health physics chapter. The areas of education, community outreach, leadership and reputation, as well as the practice of radiation protection are given equal consideration in measuring significant contribution. Two of our local chapter members Linnea and Kathy were selected by HPS as the society fellow members last year. Let's keep the momentum going and try to excel on our previous success. I would like to encourage you to submit your nominations for different awards to me, John, Dawn or any board member.

Steven N. Bakhtiar, Ph.D.
NCCCHPS President

NCCHPS



January 2009 NCCHPS Meeting
Thursday, January 22, 2009
Francesco's, Oakland
6 pm-Social Hour
7 pm-Dinner
8 pm-Presentation



**Topic: Radiation Litigation:
An Expert Witness' Perspective**

In a litigation-prone society, it is prudent for any business to evaluate its potential exposure to legal action, initiated by either an employee or a member of the general public. This potential is exacerbated when the phobia of radiation exposure and radioactive materials is interjected into the equation. This phobia is fuelled by the perceived risks of radiation exposure, be they fact or fantasy. With the current cancer incidence rate being approximately 1 in every 2.5 individuals (for all types of cancer), it is imperative that all facilities take a proactive look at their business vulnerability. This presentation will focus on the regulatory requirements for dosimetry monitoring and basic configuration of various types of dosimeters and various algorithm methodologies. Also addressed will be the appropriate Quality Assurance activities, appropriate requirements for investigations of dosimetry results, records quality management and software quality assurance.

About the Speaker: Sandy Perle was appointed President of the Mirion Technologies, Dosimetry Services Division, in May 2007. Previously, he held the position of Senior Vice President, Technical Operations. Mr. Perle spent 21 years as supervisor at Florida Power and Light Company, Corporate Health Physics Department, and four years as supervisor in the State of Florida Radiological Health Program. He is currently the Health Physics Society Chair, Standards Committee and Health Physics Society Representative on ANSI N13, N42 and N43 Committees, member on ANSI N13.11 and N13.32 Working Groups, Secretary for the Council on Ionizing Radiation Measurements and Standards (CIRMS) and Deputy Advisor US Nuclear Technical Advisory Group (NTAG), TC85/SC2. Mr. Perle is also a NVLAP Technical Expert, conducting on-site assessments at NVLAP accredited facilities since 1993.

Thermo Fisher Scientific, formerly Thermo Eberline, is still using radiation physics as the basis for our technology and we now offer the DOE, Nuclear Power, and the First Responder market some true innovation.

We now have an entire family of instruments, designed for use by the DOE and the Health Physics market, built around the RadEye handheld meter. Example: Recall the E600/380AB approach to Alpha contamination measurements? A two handed operation with cable connection problems? It is now a one-handed, lightweight device capable of logging 1600 data-points. And no cable! We're doing similar things with pancake probes as well.

We now offer a NaI-based Survey meter/pager/dosimeter that has a range to 10R/hr! It's called the Radeye and we offer a whole family of portable instruments with different applications in mind. You may have seen the Interceptor, a high resolution (Cad Zinc Telluride) hand-held Isotope Identifier. We also have released new the new 12 series of SAM's and PM's and we also offer a state of the art Hand/Foot monitor, the HFM-11.

For more information, please contact Dave Frlan at 253-875-9118 or david.frlan@thermofisher.com

ThermoFisher
SCIENTIFIC

The world leader in serving science

NCCHPS



2008-2009 NCCHPS Meeting Dates:

November 13, 2008
Hilton Garden Inn,
San Mateo

January 22, 2009
Francesco's, Oakland

2009 J. Newell Stannard
Lectures with Sierra-
Nevada Chapter, HPS

May 21, 2009
Affiliate's Night

Direct input for our next
newsletter to:

Warren TenBrook
tenbrook1@lnl.gov
925-423-1470

NCCHPS
c/o Warren TenBrook
Lawrence Livermore
National Laboratory
P.O. Box 808, L-344
Livermore, CA 94550

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

Upcoming NCCHPS Meetings!

NCCHPS members - \$30 (\$35 at the door)
Members' spouses - \$35
Students - \$10
Non-NCCHPS members - \$40

Thursday, November 13, 2008 **Hilton Garden Inn San Mateo**

2000 Bridgepointe Circle, San Mateo CA, 94404
Phone: 650-522-9000, Fax 650-522-9099
Banquet Room: Iris Room
Web Site: [http:// hiltongardeninn.hilton.com](http://hiltongardeninn.hilton.com)

Deadline: Please register by November 4, 2008 online.

Dinner Selections:

CHICKEN WITH BASIL-ZINFANDEL SAUCE

TORTILLA CRUSTED TILAPIA

EGGPLANT PARMESAN

Thursday, January 22, 2009

Francesco's

8520 Pardee Drive at Hegenberger Road, Oakland CA 94621
Telephone: (510) 569-0653
[http:// www. francescosrestaurant.com/](http://www.francescosrestaurant.com/)

Deadline: Please register by January 15, 2009 online.

Dinner Selections:

Boneless Chicken with Italian Sausage and Seasoned Bread
Stuffing, Topped with Mushroom Sauce

Fresh Fillet of Pacific Red Snapper

Vegetable Manicotti

Register for dinner ONLINE at

<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

2008-2009 NCCHPS Board Members:

President

Steven N. Bakhtiar, Ph.D.
Phone (925) 876-8921
Steven.Bakhtiar@inl.gov

President-Elect

Dawn Banghart, CHP
Phone: (650) 725-1407
dawnb@stanford.edu

Past President

John Pasinosky, MA Ed.
RRPT
Phone: (831) 459-3911
johnppas@ucsc.edu

Secretary

Heidi Lach
Phone: (650) 467-4892
lach@gene.com

Treasurer

Jesse Hendricks
Phone: (510) 643-3010
jhendricks@berkeley.edu

Member at Large

Ed W. Bradley, CHP
Phone: (925) 422-7357
bradley25@lnl.gov

Member at Large

Melissa C. Mannion
Phone: (510) 235-2633 Ext.
264
[mmannion@eberlineser-
vices.com](mailto:mmannion@eberlineser-vices.com)