

# NCCHPS

Northern California Chapter-Health Physics Society  
January 2018



## *The NCCHPS January 2018 Dinner Meeting*

*Thursday, January 18, 2018*

*Michaels at Shoreline, Mountain View*

*6 pm Social – No host / 7 pm Dinner / 8 pm Announcements and Technical Presentation*



### **Neutrinos — the Chameleon in the Elementary Particle Zoo**

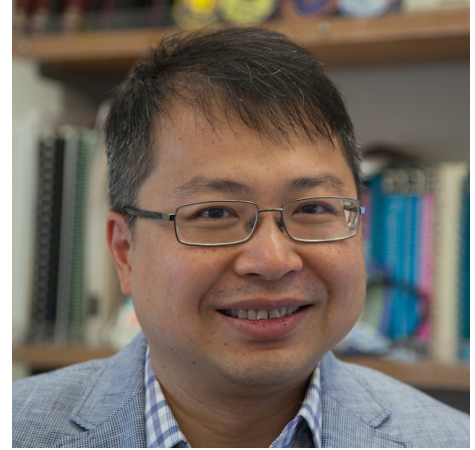
Neutrinos are the second most abundant elementary particles in the universe. And yet, we know very little about their physical attributes since their discovery in mid-1950s. It was not for another four decades until physicists obtained evidence that the neutrinos have mass, but this quantity has still not been measured directly. Despite the enormous neutrino flux from the sun — tens of billions of neutrinos passing through your thumbnail every second — multi-ton-sized detectors only observe a handful of neutrinos a day. Neutrinos can also change their “flavor” while flying between their production point and the detectors (as if a pitcher throws a baseball, while the catcher receives a ping-pong ball). The hugely successful Standard Model of Elementary Particles, which predicted the existence of the Higgs boson, assumed that the neutrinos were massless; this is incorrect, but physicists do not have enough experimental data to fix the theory. In this talk, I will describe some of these peculiar features of the neutrinos.

## About the Speaker

### **Alan Poon**

Neutrino Astrophysics Group  
Lawrence Berkeley National Laboratory

Alan Poon received his bachelor and doctorate degrees from the University of British Columbia in 1991 and 1998 respectively. He has been employed by Lawrence Berkeley National Laboratory since 1998, first as a postdoctoral fellow, then as a career-track scientist before being promoted to a career staff scientist in 2003. He became the group leader of the Neutrino Astrophysics Group in 2009, and is currently serving as the acting Deputy Division Director of the Nuclear Science Division. His research focuses on the properties of neutrinos, and has made important contributions to the Sudbury Neutrino Observatory (SNO), KamLAND, Majorana and KATRIN experiments. The deep underground SNO and KamLAND experiments were awarded the Breakthrough Prize in Fundamental Physics in 2015, and the SNO experiment was additionally recognized by the Nobel Prize in Physics in the same year. For his contributions to neutrino physics, Poon was elected a Fellow of the American Physical Society in 2014.



*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  
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<http://www.thermoscientific.com/en/products/radiation-measurement-security.html>

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## Burton Moyer Fellowship Committee Update

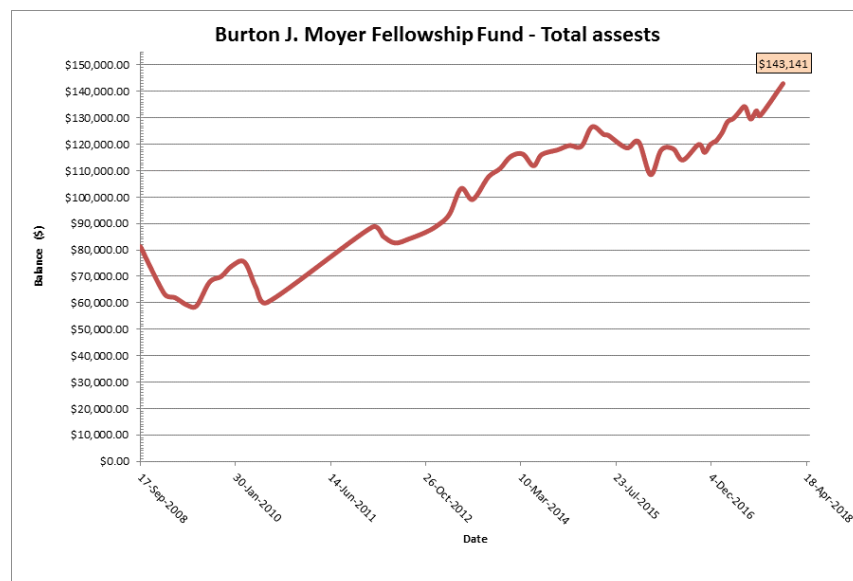
As per the NCCHPS bylaws the Burton J. Moyer Fellowship Committee consists of a Chairperson and at least 2 members. The current composition of the Committee is Radoslav Radev, Chairman, and members Chad Hopponen and Kathy Shingleton.

The Committee is responsible for all activities relating to the Fund, including fundraising, funds investing, steering of the Fund investments, and any other activities authorized by the NCCHPS Board of Directors. The Fund is administered in accordance with the NCCHPS Bylaws. The Committee in collaboration with the HPS Academic Education Committee (AEC) reviews the applications for the Burton Moyer Fellowship and recommends the candidate for the Burton Moyer Fellowship Award.

### BMF Fund as of December 18, 2017

1. The current NCCHPS contribution to the Burton Moyer Fellowship Award is \$5,000 (HPS is matching our contribution).
2. The total donations to the Fund in 2017 were \$700.00.
3. The Fund is invested in 7 Fidelity mutual funds.
4. There were no changes in 2017 for the Fund Investment portfolio.
5. The total assets of the Fund as of December 25, 2017 are \$144,062. The average annual return of the investments is over 20%.

Symbol	Fund	YTD Value	YTD / Lifetime % Return
SPAXX	Fidelity Gov. Money Market	\$1.97	N/A
FBALX	Fidelity Balanced	\$20,157.65	16.55/ 9.35
FCNTX	Fidelity Contrafund	\$25,698.02	32.89/ 12.58
FDCAX	F. Capital Appreciation	\$22,518.18	24.01/ 10.89
FDIVX	F. Diversified International	\$16,716.46	25.80/ 8.51
FEXPX	F. Export & Multinational	\$19,609.15	21.36/ 11.65
FLPSX	F. Low Priced Stock	\$25,620.66	20.25/ 13.86
PRBLX	Parnasus Equity Income	\$13,740.16	16.99/ 10.76





### Selection of Burton Moyer Fellowship Award recipient

Burton Moyer Fellowship is the largest and most prestigious HPS fellowship. It was established by NCCHPS in 1985 and has been continuously awarded for over 30 years. The list of the past recipients is posted on the NCCHPS webpage under the *Moyer Fellowship* link. The 2017-2018 recipient is Michael Abel from Purdue University. NCCHPS provides half of the award money and participate in the selection of the Burton Moyer Fellowship recipient.

### NCCHPS contribution to the Moyer Fellowship Award

The cost of a college education is constantly rising. Our goal is to keep pace with the rising cost of the college education. Currently the Fund may remain nearly self-sustaining if we keep the current NCCHPS contribution (\$5,000/y) in perpetuity; however, this self-sustaining capability will likely be hindered if/when we raise our contributions, particularly in a recession or during bear market conditions. In order to keep up with the increasing cost of higher education and maintain the Fund self-sustaining, we need to continue with modest fundraising.

We appreciate your donations to the Fund in any amount, no matter how small; 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.

### Fellowships, scholarships and internships in health physics

1. Currently the Fund is the most prestigious and generous fellowship awarded by the HPS with annual grant of \$10,000.
2. There are 5 named and 2 HPS graduate students fellowships each with \$5,000 annual grant, including:
  - Three Dade Moeller fellowships – \$3,500 +\$1,500 travel
  - One fellowship from the Environmental/radon HPS section - \$2,000

**Radoslav Radev, Chair**

**Burton Moyer Fund Committee**



## 2018 Midyear Meeting in Denver, Colorado 4-7 February, 2018

The 2018 Midyear Meeting will be held in the mile-high city of Denver, Colorado, 4-7 February 2018. Denver is located on the high rolling plains of the Rocky Mountains with panoramic views of 14,000 ft. snowcapped mountains. Downtown Denver offers a variety of activities as well as easy access to nearby ski resorts. The midyear will not be a topical meeting so we are strongly soliciting the full spectrum of radiation protection specialties. Everyone is welcome to come to share their world to make this a wonderful midyear session!

Register [Here!](#)

Denver Marriott Hotel

HPS Group Rates start at \$180 per night. Book your room reservation at [https://aws.passkey.com/event/49128173/owner/3135/home?utm\\_campaign=274573209](https://aws.passkey.com/event/49128173/owner/3135/home?utm_campaign=274573209)

<p><i>Upcoming NCCHPS Meetings...</i></p> <p><b>January 18, 2018</b> Dr. Alan Poon</p> <p><b>March 15, 2018</b> HPS President Elect</p> <p><b>May 17, 2018</b> Affiliates Night</p> <p><b>Mailing Address:</b> NCCHPS 4435 First Street #141 Livermore, CA 94550</p> <p><b>Email:</b> <a href="mailto:ncchps@gmail.com">ncchps@gmail.com</a></p> <p><b>Website:</b> <a href="http://hpschapters.org/ncchps/">http://hpschapters.org/ncchps/</a></p> <p><b>Newsletter Editor:</b> Warren TenBrook <a href="mailto:warren@tenbrook.org">warren@tenbrook.org</a> (925) 423-1470</p> <p><b>Affiliate Liason:</b> Nelson Chiu <a href="mailto:ncchpsaffiliatecontact@gmail.com">ncchpsaffiliatecontact@gmail.com</a> (414) 559-5586</p>	<p><b><u>The Next NCCHPS Meeting!</u></b> Thursday, January 18, 2018</p> <p>6 pm no-host meet-and-greet 7 pm dinner 8 pm presentation</p> <p><b>Michaels at Shoreline</b> 2960 Shoreline Boulevard Mountain View, CA 94043 michaelsatshoreline.com</p> <p><b><u>Dinner buffet:</u></b> Spring Mix Greens Pasta Primavera Tomatoes and Cucumber Vinaigrette Moroccan Bean Snapper Monterey Chicken Marsala Roasted Potatoes Seasonal Vegetables French rolls Chocolate Mousse Coffee, Decaf Coffee, Tea Cash bar</p> <p><b>Register by Midnight, Sunday, January 10 at the link below:</b> <a href="http://hpschapters.org/ncchps/docs/pages/meetings.html">http://hpschapters.org/ncchps/docs/pages/meetings.html</a></p> <p>NCCHPS members \$30 (\$35 @ door) NCCHPS guests \$35 Students \$10 Non-members \$40</p> <p><b>Only online registrations accepted.</b></p> <p>Contact Member-at-Large Heather Byrnes ONLY if you encounter difficulties using the form: <a href="mailto:byrnes7@llnl.gov">byrnes7@llnl.gov</a></p> <p>Please note that in order to avoid unnecessary costs to the Chapter, you may be charged for no-shows. Cancellations may not be made after the RSVP deadline.</p>	<p><b><u>2017-2018 NCCHPS Board Members:</u></b></p> <p><b>President</b> Ibrahim Ozcan <a href="mailto:iozcan@lbl.gov">iozcan@lbl.gov</a> (510) 495-2842</p> <p><b>President-Elect</b> Maranda Cimeno Genentech, Inc. <a href="mailto:cimeno.maranda@gene.com">cimeno.maranda@gene.com</a></p> <p><b>Past President</b> Lydia Tai <a href="mailto:Tai4@llnl.gov">Tai4@llnl.gov</a> (925) 422-0475</p> <p><b>Secretary</b> Dan Hibbing (510) 643-9242 <a href="mailto:dhibbing@berkeley.edu">dhibbing@berkeley.edu</a></p> <p><b>Treasurer</b> Chad Hopponen <a href="mailto:hoppynhi@gmail.com">hoppynhi@gmail.com</a> (925) 422-7128</p> <p><b>Member-at-Large</b> Paul Swearingen <a href="mailto:swearingen.paul@gene.com">swearingen.paul@gene.com</a> (650) 255-3088 (work)</p> <p><b>Member-at-Large</b> Heather Byrnes (925) 422-1790 <a href="mailto:byrnes7@llnl.gov">byrnes7@llnl.gov</a></p>
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