NCCHPS

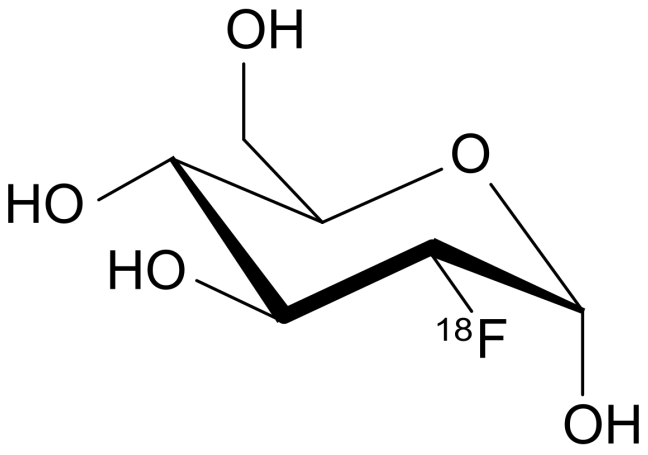
Northern California Chapter-Health Physics Society

January 2019

NCCHPS January 2019 Meeting

Thursday, January 17, 2019

Pasta Pelican, Alameda



Molecular Imaging Tools to Understand Cancer Progression

Solid tumors are poorly perfused and secrete acids into the adjacent interstitium, resulting in a pH which is mildly acidic, typically ranging from 6.5 – 7.0. This property has been associated with high-grade malignancy, local invasion, and metastasis in animal models. Two methods are being developed to image acidic interstitial pH, one of which permits whole body evaluation of areas of acidic pH using positron emission tomography (PET) imaging, and one method which permits quantitative, local determination of interstitial pH based on hyperpolarized 13C magnetic resonance spectroscopy (HP-MRS).

The PET method is based on pro-drug glycosylamine derivatives of the commonly used oncologic tracer, [18F]FDG, termed [18F]FDG amines, which are blocked with an acid-labile protecting group. When exposed to the mildly acidic pH present in the interstitium of a solid tumor, the caging group decomposes, liberating native [18F]FDG, which is subsequently absorbed by the adjacent cancer cell.

The HP-MRS method is based on the administration of a 13C labeled probe which has a predictable change in its chemical shift based on pH. By comparison to a standard curve, quantitative pH measurements can be obtained.

These techniques are being optimized and ongoing directions include application in animal models, with the long term goal of clinical translation. Other areas of developing interest in the laboratory include techniques for imaging of metals in the microenvironment, and imaging of a metabolic signature associated with immune activation.

About the Speaker

Robert Flavell, MD, PhD, is an Assistant Professor in the Nuclear Medicine subspecialty in the Department of Radiology and Biomedical Imaging at the University of California, San Francisco. He received his medical degree from Weill Cornell Medical College, and his PhD from the Rockefeller University as part of the Tri-Institutional MD PhD program. He completed his one-year internship at the Memorial SloanKettering Cancer Center in New York. Dr. Flavell completed a four-year diagnostic radiology residency at the University of California, San Francisco, where he also finished a Nuclear Medicine fellowship. In June 2016. he joined the faculty as an Assistant Professor in Residence.

Expertise:
Nuclear Medicine

Specialty:
Novel radiotracer development, oncologic imaging, PET imaging, hyperpolarized 13C magnetic resonance imaging

Professional Interests:
Radiology, molecular imaging, PET imaging, prostate cancer, nuclear medicine, radiochemistry, hyperpolarized 13C magnetic resonance imaging

Education and Training:
- Medical School: Weill Cornell Medical College, New York
- PhD: The Rockefeller University, New York
- Internship: Memorial Sloan-Kettering Cancer Center, New York
- Residency: University of California, San Francisco
- Fellowship: University of California, San Francisco – Nuclear Medicine

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Season's Greetings from the NCCHPS Board!
We look forward to seeing you all at the January meeting!

Maranda Cimeno, Genentech, Inc.
Marcus Balanky, SLAC
Ibrahim Ozcan, LBNL
Dan Hibbing, UC Berkeley
Taiee Ted Liang, SLAC
Heather Byrnes, LLNL
Jesse Hendricks, UC Berkeley

Sara Abraham is the 2018/2019 recipient of the Burton J. Moyer Memorial Fellowship

NCCHPS participated in the selection process for 2018/2019 recipient of the Burton J. Moyer Memorial Fellowship. Sara Abraham from the University of Michigan was selected as the Burton J. Moyer Memorial Fellowship recipient for 2018/2019. This fellowship is the most highly regarded awards for education in radiological protection. The Burton J. Moyer Memorial Fellowship consists of a cash award of $10,500 and is accompanied by a travel grant to be used for attending the HPS annual meeting. The Burton J. Moyer Memorial Fellowship was established by the Northern California Chapter of the Health Physics Society and has been continuously awarded since 1985 for 33 years.

Below is Sara Abraham's application packet statement:

> "I aspire to have a career as a health physicist. My desire to enter the field of health physics stems from variety of factors. First off, through my undergraduate education in nuclear engineering and radiological sciences at the University of Michigan I have been able to take courses closely related to health physics, a couple of which were even taught by one of the university's senior health physicists. These are the classes I found most interesting, and as a result, I have excelled in. As an undergraduate I have participated in research related to health physics. I have enjoyed being involved in research, and I am drawn to the fact that health physics research works to improve health and safety. Also my experience related to the Health Physics Society have inspired me to pursue a career in health physics. Prior to being part of the Health Physics Society, I knew very little about the field of health physics, or of its existence at all. However, at the annual meetings, I had the opportunity to learn about the field and meet professionals with exciting careers in health physics, and I found it is the field I would lie to be part of.
>
> In my future career as a health physicist, I have a set of personal career goals I would like to accomplish. Undoubtedly, I would like to become an expert in health physics. I would like to gain a very strong technical background in health physics, which is in part why I have chosen to pursue graduate studies on the subject. After I graduate, I hope to keep up to date on the most recent advancements in health physics and be continuously learning. As part of this, I would like to work to officially become a certified health physicist. In my career, I would like to conduct research related to health physics that is both innovative and impactful. More specifically, I would like my focus of research to be on the development of radiation detector. As a result, I hope to ultimately make significant advancements in the field of radiation measurements and detection through the improvement of existing detection methods and innovation. I am particularly interested in the applications of radiation detection to radiation protection. I would like for my work to help improve the health and safety of the public throughout my career.
>
> Additionally, I want to reduce radiophobia, the morbid fear of radiation. While radiation can be very dangerous and much of my career will likely be devoted to improving radiation safety, I want to help lessen the often irrational fears associated with radiation. I would do so by reaching out to the public and providing radiation education. I would also like to encourage students to pursue nuclear-related field of study, as that is something that was absent in my experiences prior to choosing to major in a nuclear-related field. My goal to help people become less afraid of radiation is one of high personal importance to me. Growing up, my mother was very afraid of radiation mostly due to her mother's fear. My mother was excessively worried about me getting dental x-rays or simply standing too close to the microwave. Thus, I want to end this cycle of fear and prevent the anxiety many have die to radiation. Overall, my main goal is to have an exciting, enjoyable and impactful career. I believe the field of health physics is best fit for me to do so. It would help to satisfy my intellectual curiosity related to the sciences while also allowing me to positively contribute to society."

Radoslav Radev, Ph.D. CHP
Burton J. Moyer Fellowship Committee Chairman

The 52nd Midyear Meeting of the Health Physics Society (HPS) will be held 17–20 February 2019, in San Diego, California. This is the perfect time to take a winter break from the cold!

The Sheraton San Diego Hotel & Marina is the meeting hotel. It's hard to imagine a more beautiful location than seeing the beautiful blue waters of San Diego Bay out your window. The whole family can enjoy fun activities in southern California while much of the country is dealing with winter weather.

The room rate is $189 per night—good for the dates of 12–26 February.

San Diego International Airport (SAN) is less than a kilometer away from the Sheraton. The hotel provides complimentary airport shuttle service, or take a short taxi ride with the fare estimated about $10 one way.

Greg Komp is chair of the Program Committee Task Force for the 2019 HPS Midyear Meeting.

Upcoming NCCHPS Meetings…

January 17, 2019
Robert Flavell, MD, PhD, UCSF

March 21, 2019
HPS President Elect

May 16, 2019
Affiliates Night

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The Next NCCHPS Meeting!

Thursday, January 17, 2019
Social Hour 6 pm
Dinner 7 pm
Technical Presentation 8 pm

Pasta Pelican
2455 Mariner Square Drive, Alameda, CA
Phone: (510) 864-7427.

Cesar Salad, Roasted Potatoes, Fresh Vegetables, Fresh Bread

Salmone Picatta
Penne di Genovese
Pollo Marsala
Penne Meat

Vanilla Bean Ice Cream
Coffee and Tea Included

Reserve at the following web link by Wednesday, January 9:
https://drive.google.com/open?id=1DAQsyyL6IIOo5MXrhuKPqEd-d-4i8sgrSEzWN8s1AZo

NCCHPS members $30 ($35 @ door)
NCCHPS guests $35
Students $10
Non-members $40

Only online registrations accepted.

Contact Member-at-Large Jesse Hendricks ONLY if you encounter difficulties using the form: **jesse.hendricks@gmail.com**

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.

2018-2019
NCCHPS
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