



American Society for Quality (www.asq.org) – Washington DC and Maryland Metro, Section 509 (www.asq509.org)

Biomed/Biotech Special Interest Group (SIG) Meeting
(<http://www.asq509.org/ht/d/sp/i/31557/pid/31557>)

“Functional Imaging with Positron Emission Tomography”

To be presented by

Jeih-San Jason Liow, MS, PhD

(liowj@mail.nih.gov)

Physicist/Staff Scientist, Molecular Imaging Branch
National Institute of Mental Health, NIH

Thursday, February 23, 2017

6:00 – 6:20 PM – Networking; Pizza/drink

6:20 – 8:45 PM – Program

8:45 – 8:55 PM – Door-prizes drawing; Networking

Online Registration site: <http://www.asq509.org/ht/d/DoSurvey/i/35817>

Open to Public –

\$5: non-ASQ members to cover pizza/drink cost;

Free: ASQ members, veterans, senior citizens, past speakers, US PHS Commissioned Corp officers, teachers, students, interns, residents, postdocs, FDA Commissioner’s Fellows, MJ-DC members, NTUAADC members, CAPA members, NTMUADC members, CKUAADC members, NTHUAADC members, NJTUAADC members, CCACC volunteers/employees, FAPAC members, CBA members, AAGEN members, NCARSQA members, OCA-DC members, AAMB members, ACAP members, DC Leaders Club members, BioTrain volunteers, and current job-seekers

Location: Kelly’s Deli Conference Center, 7529 Standish Place, Rockville (Derwood, for GPS users), MD 20855

Registration Deadline: Please register by Thursday noon, February 23, 2017.

Question: Please contact Dr. C.J. George Chang, Chair of Biomed/Biotech SIG, ASQ509; gchang2008@yahoo.com or 240-793-8425 (cell).

Driving directions: By Cars: From I-270 (N or S bound): Take Exit 9A and exit from the FIRST right exit; turn left (east) onto Shady Grove Dr.; turn right (south) onto Rockville Pike (**Route 355**); turn left (east) onto East Gude Dr.; turn left (north) immediately onto Crabb’s Branch Dr.; turn left (west) immediately onto Standish Place. The first building on your right side is 7519 Standish Place; open parking). The venue is on the first floor of 7529 Building with its external entrance opposite to the left side of 7519 building main entrance. **By Metro trains:** Off from Red Line **Shady Grove Station**, and take RideOn **Route 59 TOWARD ROCKVILLE** and get off from “**Calhoun Place**” stop. Standish Place is next to the Bus stop. Our venue is within 2 min of walking distance from the stop.

Summary

Positron emission tomography (PET) is a nuclear medicine image technique. Molecules (e.g., drugs) labelled with positron-emitting radioisotopes, called radioligands, are injected into human body, following regular pathway of the drug. During the time course, annihilation continues to occur when the positron captures an electron, generating two opposite flying photons. The “paired” photons are detected by the scanner. Reconstruction of these “coincidence events” yields a “functional” image which allows us to study the pharmacokinetics of the drugs and/or the pathophysiology of the organs.

The most common “radio-labelled drug” for PET is fluorine-18 labelled flurodeoxy glucose ($[^{18}\text{F}]\text{FDG}$). After injection, this radioactive glucose is taken up by cells similar to regular glucose. However, after metabolism, it gets trapped, accumulating in the cells. PET image of $[^{18}\text{F}]\text{FDG}$ is basically a consumption map of glucose which can reveal abnormal glucose metabolism (in dying neurons – hypometabolism or in cancer cells – hypermetabolism). Other molecules that can be used as a candidate probe for radiolabeling include antibodies, enzymes, or any drugs that interact with the biological system. Mission of the Molecular Imaging Branch at National Institute of Mental Health (NIMH) is to develop novel radioligands for studying various psychiatric and neurological disorders.

Speaker’s Bio: Jeih-San Jason Liow, MS, PhD



EDUCATION

Ph.D. (1988), Geophysics, Georgia Institute of Technology, Atlanta, Georgia

M.S. (1980), Marine Geophysics, National Taiwan University, Taiwan, ROC

B.S. (1978), Physics, National Tsing Hua University, Taiwan, ROC

EXPERIENCE

2001 - present, **Physicist/Staff Scientist**, Molecular Imaging Branch (MIB), National Institute of Mental Health (MIMH), National Institutes of Health

1996 - 2001, **Associate Member of Graduate Faculty**, Biophysics Sciences and Medical Physics, University of Minnesota

1995 - 2001, **Assistant Professor**, Radiology, University of Minnesota

1989 - 2001, **PET Physicist**, Veterans Affairs Medical Center, Minneapolis

1989 - 1995, **Research Associate**, Radiology, University of Minnesota

1988 - 1989, **Postdoctoral Associate**, Neurology, Memorial Sloan Kettering Cancer Center and Cornell Medical College

1992 - 1998, **Research Assistant**, Geophysics, Georgia Institute of Technology

1978 - 1980, **Research Assistant**, Institute of Oceanography, National Taiwan University

RESEARCH INTEREST: Positron emission tomography imaging of the brain with applications to psychiatric and neurological disorders

This event is cosponsored by NTU Alumni Association DC Chapter (www.ntuaadc.org) and Chinese American Professional Association DC Chapter (www.capadc.org).