

Summer 2015

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President's Message

Suzanne Lapi, PhD, RPSC President



Dear RPSC members,

I am excited about the upcoming year and would like to thank you all for your continued support and active participation in RPSC activities. Radiochemistry and radiopharmacy continue to be an important part of SNMMI and we are proud to represent this community.

The CAT and CE sessions offered at the 2015 annual meeting including *Back to the Basics: A Rational Approach to Probe Design*, *Cutting Edge ¹⁸F Labeling Strategies*, *Moving a Radiopharmaceutical Through the IND Process: From Idea to Approval*, *PET/SPECT Imaging of Cardiovascular Diseases: State of the Art*, *Nanomedicine*, and *Dually Labeled Nuclear and Optical probes* (co-sponsored with CMIIT) were all high quality and well attended. If you have any suggestions for upcoming CE session or other programming ideas, we would love to hear from you.

We are proud to sponsor the Michael J. Welch Award which was awarded this year to Martin W. Brechbiel, PhD, of the National Institutes of Health (NIH). His talk *From Here to There and Back Again: An Alpha-Tale* was truly outstanding and was enjoyed by both junior and senior investigators.

Our young investigator awards symposium offers the chance for our rising stars to showcase their recent scientific achievements and is always one of the highlights of the Annual Meeting for many of us. I would particularly like to congratulate Drs. Shuhendler, Rotstein and Li for winning 1st, 2nd, and 3rd place in the symposium respectively.

As we finalize our planning for 2016, I look forward to our ongoing education and scientific activities as well as social events such as our poster mixer which provides opportunities for networking and off-line scientific discussions.

See you all in Orlando, Florida for the SNMMI Mid-Winter Meeting, January 28-31, 2016!

Recent RPSC-Sponsored Sessions

The Radiopharmaceutical Sciences Council (RPSC) was pleased to sponsor one categorical session and seven continuing education sessions at the June 2015 SNMMI Annual Meeting in Baltimore, MD. All of the sessions were well attended. The following is a brief summary:

Categorical Session ***“Back to the Basics: A Rational Approach to Probe Design”*** was presented by leading experts who provided an easy to follow roadmap to probe design; beginning with target identification, ligand platform selection, radiochemistry techniques, and ending with image analysis techniques. The speakers and audience members were engaged; with no punches held back during the open Q&A sessions. Candid discussions about the future of diagnostic probes, future areas of growth, and the funding crisis, were both enlightening and thought provoking. Despite the high selection of quality Categorical sessions, the “Back to the Basics” session was well attended with over 55 participants. Special thanks to the following speakers for providing an interesting and informative session: Timothy McCarthy, PhD, MBA; Sridhar Nimmagadda, PhD; Neil Vasdev, PhD; Helmut R. Maecke, PhD; Otto C. Boerman, PhD; Jacob Hesterman, PhD; Roger Gunn, PhD; Kenneth A. Krohn, PhD; and Martin W. Brechbiel, PhD.

CE Sessions:

“Cutting Edge 18F Labeling Strategies” - Three experts on ¹⁸F-chemistry, Drs. Véronique Gouverneur from University of Oxford, Neil Vasdev from Massachusetts General Hospital, Jacob Hooker from Martinos Center for Biomedical Imaging, gave outstanding lectures on the basic knowledge of fluorine chemistry, current status of ¹⁸F labeling strategies and their further use for molecular imaging of different diseases. Drs. Zhen Cheng from Stanford University and Chun Li from University of Texas MD Anderson Cancer Center organized and moderated the session.

“Nanomedicine” - The purpose of this session was to highlight the recent advances in the area of nanotechnology and its biomedical applications, providing an overview of the tremendous recent expansion in this area through three talks that are complementary to each other: overview of nanoparticles, various applications of nanomaterials, and translational perspective. Imaging techniques (e.g. PET/SPECT) can serve as the optimal technique for non-invasive quantification of the biodistribution, long term fate, targeting efficiency to the diseases sites, etc. for novel nanomaterials. Thank you to the session presenters Hao Hong, PhD, Jonathan F. Lovell, PhD, and Dong Soo Lee, MD, PhD, and to the organizers/moderators Weibo Cai, PhD and Dong Soo Lee, MD, PhD.

“Dually Labeled Nuclear and Optical Probes” – This session provided an overview of techniques making use of dually labelled optical and nuclear agents in conjunction with recent examples of these imaging agents. This included an overview of tracer design, a focus on multimodality agents for lymphoscintigraphy and a discussion of translation of agents to clinical use. This was timely subject matter as many of these agents are showing highly successful utility in a number of areas. The session was stimulated by a lively discussion. Thank you to the presenters Ali Azhdarinia, PhD; David Vera, PhD, and Michelle Bradbury, MD, PhD, and to the organizers/moderators Suzanne Lapi, PhD, and Jonathan McConathy, MD, PhD.

“Michael J. Welch, PhD Award and Lecture” - This year's award recipient is **Martin W. Brechbiel, PhD**, of the National Institutes of Health (NIH). Dr. Brechbiel is a leading authority on the development of the chemistry required for effective targeted radiation therapy and imaging chemistry. Dr. Brechbiel presented *“From Here to There and Back Again: An alpha-Tale”* during the Michael J. Welch, PhD, Award Session at the 2015 SNMMI Annual Meeting in Baltimore, MD. Thank you to Neil A. Petry, MS, RPh, BCNP and Cara Lee Ferreira, PhD, BSc, who organized and moderated the session. And a very special Congratulations to Dr. Martin W. Brechbiel for winning this award!

“PET/SPECT Imaging of Cardiovascular Diseases: State of the Art” - This session highlighted the recent advances in functional and molecular imaging of various cardiovascular diseases (myocardial infarction, atherosclerosis, aneurysm, peripheral artery diseases, etc.). The session covered the current gold standard of imaging of cardiovascular diseases, but focused more on the recent development of novel PET/SPECT tracers for functional imaging and molecular imaging, as well as a number of new targets/tracers for imaging of various

cardiovascular diseases. Presentations were given by three internationally recognized leaders in the field and covered a broad spectrum of topics that span biology/physiology, translation, as well as recent developments in the area. Thank you to presenters Mehran M. Sadeghi, MD, Stephen G. Nekolla, PhD, and Ignasi Carrio, MD and to Weibo Cai, PhD and Xiaoyuan Chen, PhD for organizing and moderating the session.

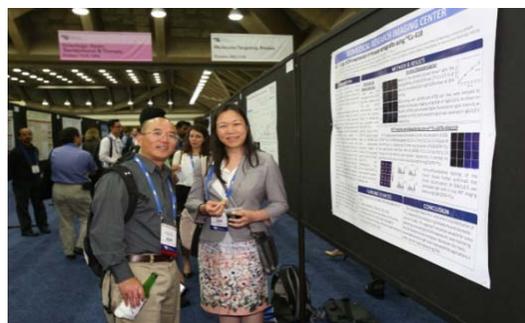
“Current Topics in FDA Reviews and Inspections of PET Drug Manufacturers” - Four speakers covered various topics, including FDA inspections, managing an approved drug application, and sterility assurance. A last-minute addition to the agenda provided an update on USP activities pertinent to nuclear medicine. The session drew more than 125 attendees, representing academic and commercial PET drug manufacturers, FDA representatives, and others. For the first time, the session was co-sponsored by the Coalition for PET Drugs. This is an exciting collaboration since it demonstrates the alignment of the RPSC mission with that of the Coalition. These groups have seemingly divergent missions, but they share the goal of supporting a science-based approach to regulatory issues. In case you missed the session, the presentations are available on the website for the Coalition: <http://coalitionforpetdrugs.org>.

“Moving a Radiopharmaceutical Through the IND Process: From Idea to Approval” - The first speaker was Peter Scott, Ph.D., who presented “Is This Radiopharmaceutical a Good Candidate for an IND?” Dr. Scott discussed the various aspects that go into selecting a lead candidate for IND studies, including the radiochemistry development, *in vitro* studies and preclinical imaging studies to determine proper targeting and specificity. The next speaker was Serge Lyashchenko, Pharm.D, and his presentation was entitled “Nuts & Bolts of an IND Application.” The presentation focused on all of the pieces needed for assembling an IND application, including the sections of the application, the different team members needed for writing each section and how to pull it all together into a cohesive application. The final speaker was Kellie Bodeker, MSHS. Her presentation was entitled “Post-Approval Requirements for INDs.” This was perhaps the most eye-opening presentation, as most people had the view that all the hard work was over once the IND was approved. Ms. Bodeker focused on the various post-approval requirements, including monitoring, annual reports and other reports needing to be sent to the FDA. Thank you to David Dick, PhD, for organizing and moderating the session.

2015 RPSC/CMIIT Poster Mixer!

Once again the RPSC and the Center for Molecular Imaging Innovation and Translation (CMIIT) co-sponsored the highly popular Poster Mixer Event at the SNMMI annual meeting in Baltimore, MD.

The Poster Mixer provides attendees the opportunity to view more than 1,100 scientific posters, enjoy refreshments, and network with professional colleagues.



A big thank you goes out to our wonderful sponsors: Abbvie; Advion; Blackthorn Associates, LLC; Collectar Biosciences; e-Century Publishing Corp.; Gollman Group; Becquerel & Sievert; GroundFluor Pharmaceuticals; inviCRO, LLC; Ionetix; isoSolutions Marketing & Management, Inc.; MedChem Imaging, LLC; Navidea; Promega Corp.; TEMA Sinergie; TRACON Pharmaceuticals, Inc.; and UPPI.

Congratulations RPSC 2015 Award Winners!

Michael J. Welch, PhD, Award



This year's recipient is **Martin W. Brechbiel, PhD**, of the National Institutes of Health (NIH). Dr. Brechbiel is a leading authority on the development of the chemistry required for effective targeted radiation therapy and imaging chemistry. Dr. Brechbiel presented "*From Here to There and Back Again: An alpha-Tale*" during the Michael J. Welch, PhD, Award Session at the 2015 SNMMI Annual Meeting in Baltimore, Maryland. Congratulations Dr. Brechbiel!

(Cara Lee Ferreira, PhD, BSc, presents Martin W. Brechbiel, PhD, with the 2015 Michael J. Welch, PhD, Award).

Michael J. Welch, PhD, Postdoctoral Travel Grant Award

Congratulations to **Zhibo Liu, PhD**, of the National Institutes of Health (NIH) for his winning abstract entitled, "*18F-Boramine Acids: Promising Traceable Amino Acid Mimics for Cancer Imaging.*"

Dr. Liu's research interests focus on creating new platforms at the interface of chemistry, biology, and clinical applications. His goal is to apply novel chemical and radiochemical methodologies to overcome long-standing challenges in molecular imaging; nanomedicine; and therapeutic Radiopharmaceuticals.

(Cara Lee Ferreira, PhD, BSc, presents Zhibo Liu, PhD, with the 2015 Michael J. Welch, PhD, Postdoctoral Travel Grant Award).



Berson-Yalow Award



Congratulations to **Matthias Eder, PhD**, Division of Radiopharmaceutical Chemistry, German Cancer Research Center, Heidelberg, Germany, for the winning abstract entitled, "*PSMA-617 – A Novel Theranostic PSMA Inhibitor for both Diagnosis and Endoradiotherapy of Prostate Cancer.*" This award is presented for the most original scientific contribution that impacts basic or clinical radioassay.

(Matthias Eder, PhD (middle) accepts the 2015 Berson-Yalow Award from Satoshi Minoshima, MD, PhD, Scientific Program Committee Chair (right) and Neil A. Petry, MS, RPh, BCNP, RPSC President (left).

Young Investigator Awards (YIAs)

The RPSC YIAs are reserved for the best scientific abstracts on radiopharmaceutical chemistry in nuclear medicine by young investigators. These awards were presented during the 2015 SNMMI Annual Meeting.

Congratulations to the following YIA winners pictured below with Neil A. Petry, RPSC President.



Adam Shuhendler – 1st Place



Benjamin Rotstein – 2nd Place



Songye Li – 3rd Place

Thank you RPSC Officers and Board Members for your service!

*Neil A. Petry, MS, RPh, BCNP,
RPSC President 2014-2015, receives the
President's Plaque from Suzanne Lapi,
PhD, RPSC Vice President.*

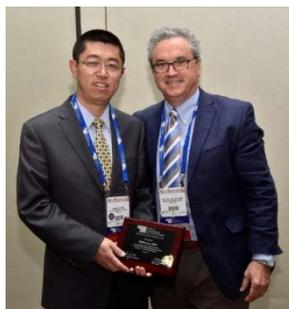
*Neil Petry will now serve as the RPSC
Immediate Past President for 2015-2016.*



Neil A. Petry, RPSC President, poses with fellow RPSC Officers and Board members. Thank you to Cara Lee Ferreira, PhD, BSc, RPSC Immediate Past President, 2014 – 2015 (*not pictured*) and to Duanne V. Thistlethwaite, RPh, BCNP, RPSC Board Member, 2013 – 2015 (*not pictured*).



*Peter J. H. Scott, PhD,
RPSC Treasurer 2013-2015*



*Weibo Cai, PhD
RPSC Board Member 2013-2015*



*Ashley Mishoe, Pharm D
RPSC Interim Intern 2014-2015*

Save the Date! SNMMI Mid-Winter Meeting, Orlando, FL. – January 28-31, 2016

The Radiopharmaceutical Sciences Council will be co-sponsoring the following continuing education sessions at the 2016 SNMMI Mid-Winter Meeting in Orlando, Florida:

- *Emerging Topics in Radiopharmaceuticals: Update on USP activities related to radiopharmaceuticals* (co-sponsored with the Coalition for PET Drugs).
- *Gallium-68 Imaging* (co-sponsored with the Clinical Trials Network and the Center for Molecular Imaging Innovation & Translation).

See you in Orlando!