



The 40th Annual
High Country
Nuclear
Medicine
Conference

March 2-6, 2019
Vail Marriott, Vail, CO

Saturday, March 2, 2019

6:30 am – 7:00 am

Breakfast with the Vendors

7:00 am – 9:30 am

Future of Nuclear Medicine

Moderators: Michael Wissmeyer, MD and Hans Vija, PhD

Nuclear Medicine is a mature clinical field has been regarded as one in small and steady decline, with low reimbursement and slow evolving technology. However, much has happened in the last few years, from the advent of Theranostics and quantitative SPECT in multi-modal SPECT/CT systems to direct conversion detectors in commercial imagers to the Omni-present promise of Artificial Intelligence that could be applied to many areas of nuclear medicine. This session intends to highlight the latest trends and to spark discussion among the participants long after the session ended on the future of nuclear medicine.

Presenters and Topics:

The Future of Nuclear Medicine

Speaker: Johannes Czernin, MD

Artificial Intelligence, Deep Learning, Big Data: Potential and Pitfalls

Speaker: Wolf Ruzicka

Precision Medicine, Radiomics and Deep Learning: What's the hype all about?

Speaker: Robert Gillies

AI, Deep Learning, Big Data: Expectations and Threats in Clinical Practice

Speaker: Michael Wissmeyer, MD

1:00 pm – 3:00 pm

Roundtable Discussion: Future of NM, Prostate Cancer, Neuroendocrine Tumors

Moderator: Michael Wissmeyer, MD

4:00 pm – 7:30 pm

Prostate Cancer Theragnostics

Moderators: Dominique Delbeke, MD

Several radiopharmaceuticals have recently been investigated to image and treat prostate cancer. The normal patterns of uptake and performance are addressed in this session.

Presenters and Topics

Cellular Metabolism with Choline and 18F-Fluciclovine

Speaker: Jon McConathy, UAB

Receptor and Membrane Protein Imaging with ⁶⁸Ga-PSMA and ¹⁸F-radiopharmaceuticals: Normal Patterns and Pitfalls

Speaker: Gary Ulaner, MD, PhD, FACNM

Receptor and Membrane Protein Imaging with ⁶⁸Ga-PSMA and ¹⁸F-radiopharmaceuticals with PET/CT and PET/MRI

Speaker: Jeremie Calais, MD, MSc

Imaging Gastrin Releasing Peptide Receptors with Bombesin

Speaker: Hong Song, MD, PhD

⁶⁸Ga-PSMA Ligands: Impact on Therapy

Speaker: Johannes Czernin

Radionuclide Therapy including targeted Alpha Therapy with ²²⁵Actinium and ²¹³Bismuth

Speaker: Hossein Jadvar, MD, PhD, MPH, MBA, FACNM, FSNMMI

Panel Discussion

Sunday, March 3, 2019

6:30 am – 7:00 am

Breakfast with the Vendors

7:00 am – 9:30 am

Neuroendocrine Tumors Theranostics

Moderator: Andreas Kjaer, MD, PhD

Presenters and Topics

Clinical Experience Using ⁶⁴Cu-DOTATATE Somatostatin Receptor Imaging

Speaker: Andreas Kjaer, MD, PhD

¹⁷⁷Lu/⁶⁸Ga-Labeled Receptor Antagonist : Current Status and Future Plans

Speaker: Alexander Haug, MD, PhD

⁶⁷Cu-SARTATE, a Theranostic Somatostatin Analogue for Therapy

Speaker: Matt Harris, MD, PhD

Targeted Alpha Therapy for Neuroendocrine Tumors

Speaker: Ebrahim Delpassand, MD

Panel Discussion: Andreas Kjaer, MD, PhD

1:00 pm – 3:00 pm

Roundtable Discussion: Regulatory Session

Moderator: Ernest Garcia, PhD

4:00 pm – 6:30 pm

Nuclear Cardiology's Role in the Diagnosis and Management of Cardiac Amyloidosis

Moderator: Daniel Berman, MD and Ernest Garcia, PhD

Cardiac amyloidosis is a progressive condition with high morbidity and mortality. The two major types—light chain (AL) and transthyretin (ATTR)—have different pathophysiology and treatment. For ATTR, prevalent in a substantial proportion of elderly patients with heart failure, an effective new treatment shows a marked reduction in mortality and improved quality of life. Myocardial uptake of Tc-99m PYP, highly sensitive and specific for ATTR, plays a pivotal role in diagnosis and distinguishing ATTR from AL. PET methods for imaging both forms of cardiac amyloidosis are also likely to play an increasing role. Optimizing nuclear methods for early detection of cardiac amyloidosis, differentiation of its types, and monitoring therapy provide a major opportunity for nuclear cardiology in 2019.

Presenters and Topics

Overview of the Pathophysiology, Diagnosis, Phenotyping and Treatment

Speaker: Ed Miller, MD

Planar Tc-99m PYP Imaging

Speaker: Ernest Garcia, PhD

SPECT/CT Tc-99m PYP Myocardial Imaging

Speaker: Ed Ficaró, PhD

Simultaneous Dual Isotope Tc-99m PYP/Tl-201 SPECT Imaging

Speaker: Daniel Berman, MD

PET and MRI Approaches

Speaker: Sharmila Dorbala

Panel Discussion

Moderators: Ernest Garcia, PhD, Daniel Berman, MD

7:00pm – 10:00pm

Dinner

Monday, March 4, 2019

6:30 am – 7:00 am

Breakfast with the Vendors

7:00 am – 9:30 am

Regulatory and Legislative Update

Session Chairs: Ira Goldman, MA

Moderator: Bob Hendel, MD

Although legislative efforts to repeal and replace the Affordable Care Act are “so 2017,” there continues to be a daily barrage of healthcare developments from the Administration, ranging from efforts at drug pricing reduction, to reform of physician payments, and administration actions to fundamentally change the ACA in

the absence of legislative repeal. Increasingly, the major healthcare legislation passed by Congress in past years (PAMA, MACRA) fade from prominence, although the 2019 MPFS proposed has re-emphasized the need for Appropriate Use Criteria (AUC) and Clinical Decision-Support (CDS) systems. Coverage and payment continue to be a major challenge for the future of nuclear medicine, highlighted by CMS's recent decision to continue not to cover NaF. Thus, this session will provide updates regarding an overview of ongoing legislative and regulatory changes impacting the nuclear medicine sector.

[Presenters and Topics](#)

Medical Societies Initiatives on Reimbursement (coverage and payment) and Health Care Policy

Speaker: Gary L Dillehay, MD, FACNM, FACR, FSNMMI

Speaker: Kathy Flood (ASNC)

FDA – Update on FDA Radiopharmaceuticals Review

Speaker: Lou Marzella, MD, PhD, FDA

Recent Developments Regarding NRC Training and Education Requirements for Alpha and Beta Emitters

Speaker: Dr. Darlene Metter, University of Texas Health Science Center, San Antonio

AUC Status Report – What's in the Pipeline?

Speaker: Kevin Donohoe, MD

Comments/Perspective: Bob Hendel

Panel Discussion

PANELISTS: Bob Hendel, Kathy Flood, Kevin Donohoe, Denise Merlino, et. al.

1:00 pm – 3:00 pm

Roundtable Discussion:

4:00 pm – 7:30 pm

Targeted Radionuclide Therapy, Selection of Radioisotope/Radiopharmaceutical

Moderator: Alan Packard, PhD, and Kevin Donohoe, MD

Targeted radionuclide therapy is an area of increasing interest within the nuclear medicine community: For the first time since the introduction of radioiodine therapy, novel radiopharmaceuticals are being developed that allow nuclear medicine physicians not only to diagnose, but to treat, disease. Accompanying this increased interest, however, is a fundamental question: Which radionuclide(s) are the most effective at treating disease. While previous discussions focused on the relative merits of high-energy versus lower-energy β - emitters, the question has now broadened to include the relative merits of α emitters vs. β - emitters and Auger and conversion electron emitters such as ^{117}Sn . This session will focus on the underlying principles necessary to address these questions, from the challenges of attaching alpha emitters to targeting vectors, to the relative merits of high LET versus lower LET particles, to the challenges of moving these new agents into the clinic.

[Presenters and Topics](#)

Will We Have Access to the Therapeutic Radionuclides We Need?

Speaker: Roy W. Brown, BS, MBA

¹⁷⁷Lu-, ⁹⁰Y- and ²¹²Pb-Labeled Alpha-Melanocyte-Stimulating Hormone Peptides for Melanoma Therapy

Speaker: Yubin Miao, PhD

Alpha Emitters: Moving from Basic Radiochemistry to GMP Production

Speaker: Diane Abou, PhD

Clinical Experience with Targeted Alpha-Emitting Radiopharmaceuticals

Speaker: Brenda Sandmaier, MD

Precision Radiochemistry and Small-Molecule-Based PET Ligand Development

Speaker: Steven Liang, Ph.D.

Panel Discussion

PANELISTS: Alan Packard, PhD, Kevin Donohoe, MD, Steven Liang, PhD, Yubin Miao, PhD, Roy W. Brown, BS, MBA, Brenda Sandmaier, MD, Daine Abou, PhD

Tuesday, March 5, 2019

6:30 am – 7:00 am

Breakfast with the Vendors

7:00 am – 9:30 am

Imaging the Immune System and Infection

Moderators: Dominique Delbeke, MD, PhD and Andreas Kjaer, MD

Presenters and Topics:

Molecular Imaging of Immunotherapy Targets in Cancer

Speaker: René Raavé, PhD

Non-invasive Molecular Imaging Using Reporter Genes

Speaker: Ronald G. Blasberg, M.D.

CAR T-cell Therapy: Toxicity and Management

Speaker: Olalekan Oluwole

Dendritic Cell Vaccine

Speaker:

Immunodeficiency and Infections

Speaker: Sanjay Jain

1:00 pm – 3:00 pm

Roundtable Discussion: Amyloidosis, Therapy, Neuro

4:00 pm – 7:30 pm

Advances in Brain PET Instrumentation, Tracers, and Applications

Moderators: Val Lowe, MD and Dan Silverman, MD, PhD

Presenters and Topics:

Update on Tau Imaging

Val Lowe, MD

PET Tracers on the Neuroimaging Horizon

Steven Liang, PhD

Dedicated Brain PET Scanners

Farhad Daghighian, PhD

Future of Brain PET

Jinyi Qi, PhD

Panel Discussion

Wednesday, March 6, 2019

6:30 am – 7:00 am

Breakfast with the Vendors

7:00 am – 9:30 am

Technical, Scientific and Clinical Considerations for Measuring MBF and MFR with SPECT Tracers

Moderator: Ernest V Garcia, PhD a and Hans Vija, PhD

SPECT MPI's clinical approach to quantifying hypoperfusion has depended on normal databases where a patient's left ventricular perfusion pattern is statistically compared to an expected normal perfusion pattern generated from patients with a low likelihood of CAD. Recent innovations are poised to bring SPECT MPI to the next level by using dynamic SPECT with a SPECT/CT camera to measure absolute myocardial blood flow (MBF) and MBF reserve (MFR). The speakers in this session will address whether the SPECT flow quantitation method is a clinically effective approach to enhancing CAD detection. Specifically, this session will address whether existing SPECT cameras, tracers, protocols and image analysis are adequate to increase the accuracy of CAD evaluation beyond the present relative techniques. This session will ask whether SPECT measurements of MBF and MFR are ready for clinical use, and how will the SPECT measurements compare to PET MBF and MFR?

Presenters and Topics:

Technical Considerations

R. Glenn Wells, PhD

Cameras' Performance

Piotr Slomka, PhD

Imaging Protocols

Ernest V Garcia, PhD

Reconstruction and Flow Measurements

Edward Ficaro, PhD

Clinical SPECT Applications/ Comparisons to PET

Venkatesh Murthy, MD

Panel: Are SPECT measurements of MBF and MFR ready for clinical use?

Karin Knešaurek, DABR