

**12th Congress of the World Federation of Nuclear Medicine
and Biology**
20-24 April 2018
Melbourne Convention and Exhibition Centre

TRACK: Nuclear Medicine Innovation

Saturday 21 April 2018

16:15-17:45	NUCLEAR MEDICINE INNOVATION 1: NUCLEAR MEDICINE INNOVATION	Speaker	Time
	Chair: Prof. Thomas Beyer, Medical University Vienna, Austria		
	Aligning Open Innovation and Commercial Success in Nuclear Medicine Intended learning objectives: 1. Identify some of the key components of the commercialisation process : remembering 2. Examine why nuclear medicine products have a challenging pathway to market : applying 3. Summarise the ways (with examples) in which innovation environments and companies have - together - missed opportunities to benefit patients : understanding 4. Propose new ways to improve the efficacy of commercial translation of ideas : creating.		
16:15-16:45		Dr Chris Behrenbruch, Telix Pharmaceuticals Ltd, Melbourne, Australia	30 mins
	Product development from an industry perspective Learning objectives: 1. Understand the basic requirements for medical product development 2. Understand basics of how companies evaluate ideas for potential product integration 3. Understand what is required to translate research SW/HW into a medical product.		
16:45-17:15		Dr Christine Lorenz, Siemens Medical Solutions Research & Development, Knoxville, TN, USA	30 mins
	Alpha-phase testing from a customer perspective Learning objectives: 1) Identify aspects of alpha phase testing. 2) Discuss examples.		
17:15-17:45		Prof. Bernd Pichler, Werner Siemens Imaging Centre, Tuebingen University, Germany	30 mins

Sunday 22 April 2018

16:15-17:45	NUCLEAR MEDICINE INNOVATION 2: NEW NUCLEAR MEDICINE TECHNOLOGY		
	Chair: Prof. Thomas Beyer, Medical University Vienna, Austria		
	Advancing Molecular Imaging Technologies Learning Objectives: 1. To explain the concept of time-of-flight PET 2. To describe a mechanism by which detectors can emit light very promptly following a photon interaction 3. Explain why depth of interaction encoding is necessary to achieve uniform spatial resolution.		
16:15-16:45		Prof. Simon Cherry, University California, Davis, USA	30 mins
	The Next Stage in Data Processing: the Future of Quantitative SPECT in Clinical Nuclear Medicine Learning Objectives: Participants will gain knowledge on i) Future trends in data processing specific for SPECT quantification ii) How these techniques may impact clinical management and protocols.		
16:45-17:15		Dr Kathy Willowson, University of Sydney, Sydney, Australia	30 mins
	The Next Stage in Ancillary Devices Learning Objectives: i) Identify the minimal requirements for localized production of radiopharmaceuticals ii) Describe the advantages and disadvantages of centralized and decentralized models		
17:15-17:45		Dr Thomas Bruckbauer, ABT Molecular Imaging, Louisville, USA	30 mins

Monday 23 April 2018

14:00-15:30 NUCLEAR MEDICINE INNOVATION 3: IMAGE-BASED THERANOSTICS			
	Chair: TBC		
14:00-14:30	<p>What is "Theranostics" and How Will it Change the Role of Nuclear Medicine Physicians in Patient-care</p> <p>Learning Objectives:</p> <ol style="list-style-type: none"> 1. Understand how this contemporary form of treatment moves away from the one-medicine-fits-all and trial and error medicine approach, to offering the right treatment, for the right patient, at the right time, with the right dose, providing a more targeted, efficient pharmacotherapy. 2. Understand the applications of theranostics through specific examples. 	Prof. Rod Hicks, Peter MacCallum Cancer Centre, Melbourne Australia	30 min
14:30-14:45	<p>New Challenges in Patient-specific Dosimetry of Therapy Radiopharmaceuticals - Pros</p> <p>Intended learning objectives:</p> <ol style="list-style-type: none"> 1. What you see is what you get "WYSIWIG" Dosimetry: voxel-based dosimetry is intuitive and easy to use 2. High lesional dosimetry can predict response and better inform oncologists, radiation oncologists and surgeons 3. Low lesional dosimetry can predict futility and redirect management to alternative strategies 	Prof. Michael Hofman, Peter MacCallum Cancer Centre, Melbourne Australia	15 min
14:45-15:00	<p>New Challenges in Patient-specific Dosimetry of Therapy Radiopharmaceuticals – Cons</p> <p>Intended learning objectives:</p> <ol style="list-style-type: none"> 1. Why do we want to know absorbed doses in organs and tumors 2. What information is lacking with regard to dosimetry 3. How can we improve dosimetry 	Dr. Alexander Haug, Medical University Of Vienna, Austria	15 min
15:00-15:30	<p>Medico-economics of New Targeted Personalized Therapeutics</p> <p>Learning Objectives:</p> <ol style="list-style-type: none"> 1. Understand Nuclear Medicine industry is now fully mature and able to answer to (almost) any technical and regulatory needs and constraints: remaining gaps will be identified 2. Understand the NM economic history and future -Over the past fifty years a kind of natural selection has driven the market to specific economic targets. The future of nuclear medicine will be motivated by economics, rather than science: radionuclides, radiopharmaceuticals and technologies with the highest chances of success will be discussed 3. Conventional pharmaceutical industry has now recognized the interest in radiopharmaceuticals in particular through personalized/precision medicine. Impacts on research topics (stronger selection) and development programs (higher budget) will lead to drastic changes that will be highlighted 4. Implications to the overall increased value of the nuclear medicine segment and future role of researchers and physicians. 	Dr Richard Zimmermann, Chrysalium Consulting SARL, France:	30 min

Tuesday 24 April 2018

15:15-16:45 NUCLEAR MEDICINE INNOVATION 4: RADIOMICS "PLUS" AND ENTREPRENEURSHIP			
	Chair: Prof. Osman Ratib, University Hospital of Geneva, Switzerland		
15:15-15:45	<p>What is Radiomics+ ? Prediction Models Based on Convergent Data</p> <p>Objectives</p> <ol style="list-style-type: none"> 1. This session will address advances in "predictive analytics", that is post-acquisition data analysis and prediction model generation for efficient, accurate and personalized patient management. 2. Appreciate current endeavours to move beyond radiology-based radiomics to a "radiomics+" that includes molecular and other, non-genetic biomarker information. 	Dr Antoine Leimgruber, Riviera Chablais Hospital, Vevey, Switzerland	30 mins
15:45-16:15	<p>3. Sharing is Caring: On the Need of Open Research Data</p> <p>Learning Objectives</p> <ol style="list-style-type: none"> (1) Introduction to new concepts of Open Research Databases and Big-Data repository and their impact on development of new paradigm of data-driven patient management and personalised healthcare. (2) Understanding the underlying challenges and requirements as well as the ethical and legal framework that regulate the setup and usage of large collection of patient data for open research (3) Presentation and critical evaluation of existing solutions and their specific applications (4) Review of potential applications in molecular imaging and in support of multi-centric clinical trials. 	Prof. Osman Ratib, University Hospital of Geneva, Switzerland	30 mins
16:15-16:45	<p>User Experiences, Practicalities and Business Models for Start-ups – The Clarity Pharmaceuticals Journey</p> <p>Learning Objectives</p> <ol style="list-style-type: none"> 1. To learn and understand the business models for a start-up in the radiopharmaceutical field 2. To understand the challenges specific to radiopharmaceutical therapy, such as PRRT using copper-67, compared to standard oncology pharmaceuticals 3. To understand the complexities of developing new radioisotopes for clinical trials and industrial use such as copper-64 and copper-67 4. To learn about copper isotopes as suitable isotopes for developing countries due to their half-life and opportunity for centralised manufacture and GMP production 	Dr Matthew Harris, Clarity Pharmaceuticals, Sydney, Australia	30 mins