Pre-Congress Symposium 1
Dosimetry + Translational Molecular Imaging & Therapy Committee
Monday, October 4, 09:00-12:15

Session Title
Pre-Clinical Dosimetry and Extrapolations from Animal Models to Humans

Chairperson
Francesco Cicone (Catanzaro, Italy)

Programme
09:00 - 09:20  Francesco Cicone (Catanzaro, Italy): Introduction - Preclinical Dosimetry, Challenges and Prospects
09:20 - 09:45  Jesus Ruberte (Barcelona, Spain): Comparative Anatomy and Physiology - It's Not Just Size That Matters
09:45 - 10:15  Roswitha Beck (Munich, Germany): “Clinical” Challenges, Animal Handling and Reproducibility
10:15 - 10:30  Break
10:30 - 11:00  Cinzia Pettinato (Milan, Italy): Building Bridges Between Humans and Animals - Technological Developments
11:00 - 11:25  Silvano Gnesin (Lausanne, Switzerland): Methodological Aspects of Dose Extrapolations
11:25 - 11:55  Nicolas Chouin (Nantes, France): In Vivo Radiobiology and Dose/Response Effects
11:55 - 12:00  Summary by Chairperson
12:00 - 12:15  Live Discussion & Q&A’s

Educational Objectives
The symposium is addressed to at least three different professional categories in the field of nuclear medicine and molecular imaging, namely nuclear medicine physicians, medical physicists and preclinical scientists (biologists, pharmacologists etc.). Therefore, it is possible to envision different educational objectives, depending on the specific competences and awareness of each one of these three professional categories.

1. For Nuclear Medicine Physicians: Understand the potentialities of pre-clinical dosimetry and dose extrapolations for the development of new theragnostic radiopharmaceuticals, and the sources of variability associated with in vivo experiments on small animals.
2. For Medical Physicists: Understand the challenges associated with biological experiments in vivo and the potential source of uncertainty which should be kept in mind when extrapolating radiation doses from animal models to humans.
3. For Preclinical scientists: Learn the different methodologies for extrapolating dosimetry from animal models to humans

Summary
There is a growing interest in generating radiation dosimetry data from preclinical studies using novel radiopharmaceuticals and/or innovative radionuclides. Extrapolating time-integrated activities from classical biodistribution data represents the standard, but similar measures can now be obtained from sequential small animal imaging. Dose extrapolations from animals to humans present several challenges that will be addressed in the proposed pre-congress symposium.

Key Words
Preclinical dosimetry, dose extrapolations, small animal radionuclide imaging, drug development, animal handling, animal phantoms, micro PET