Contribution ID: **236** Type: **oral (invited speaker)**

Radioactivity from within: Using radionuclides to track health and disease

Friday, 19 October 2012 10:00 (30 minutes)

Molecules appropriately equipped with signal-transmitting (radioactive) tags are critical tools for our ability to non-invasively track the molecular processes that are fundamental for maintenance of life, the development of disease and the efficacy of the interventions designed to stop, reverse or stabilize those disease processes. The radionuclide chosen for this molecular imaging is important since it can affect the distribution and retention in the body, the quality of the images obtained and the radiation doses to the subject. The molecules used to track the processes may visualize either by means of their passive, compartmental distributions or through their active distribution and metabolism and/or binding interactions with specific targets such as receptors, integrins, adhesion molecules. The successful use of imaging molecules as pharmacodynamic markers of the effects of drugs on the body is highly dependent on the diversity of molecules being developed and on the depth of the characterizations from bench to bedside being performed. It is important to study the quantitative pharmacokinetics of what happens to the radioactive molecules in vivo during the relevant observation period (i.e. their uptake, localization and elimination) at least during the development stage before clinical implementation. Examples of some implications of these evaluations from preclinical to clinical positron emission tomography (PET) will be presented here.

Primary author: Dr STONE-ELANDER, Sharon (Karolinska Institute, Stockholm, Sweden)

Presenter: Dr STONE-ELANDER, Sharon (Karolinska Institute, Stockholm, Sweden)

Session Classification: Internal Emitters

Track Classification: Internal Emitters