

**Physics R&D at the Institute of Nuclear Medicine, UCL.
By Professor Brian Hutton**

**e-Health Research Centre
19 September 2007
11a.m.**

The Institute of Nuclear Medicine is based in the new University College Hospital in London and is well equipped with 2 PET/CT and 6 SPECT systems (2 SPECT/CT). The UCL based R&D group currently has 4 research fellows and 4 PhD students. There is a broad physics research program with particular interest in computer analysis of nuclear medicine and multi-modality studies and development and evaluation of novel instrumentation. Projects include correction for respiratory motion, investigating choice of collimators used with resolution modelling, optimising low-dose CT, evaluation of ultra-fast SPECT and optimizing system design for use with high resolution detectors. The group supports clinical research projects which include use of CT perfusion, monitoring the effects of therapy and modelling of novel tracers. The presentation will provide insight to a selection of these projects.

Professor Brian Hutton spent 20 years in Nuclear Medicine at Royal Prince Alfred Hospital, Sydney and 9 years at Westmead Hospital before commencing his current appointment as Chair of Medical Physics in Nuclear Medicine and Molecular Imaging Science at UCL in 2004. He has established a new research group there funded through the Institute of Nuclear Medicine, several industrial contracts and a major EC-based collaborative grant. Professor Hutton's interests continue to cover all aspects of image and data processing applied to Nuclear Medicine but also the design of systems for emission tomography. He also leads a major international IAEA funded project on Technologist training.