

# Seminar

Wednesday 22 February, 2006

11 am - Room 701

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## *Image-guided radiotherapy*

Image-guided radiotherapy is not a new concept within radiotherapy, however, in recent years it has regained in popularity and attention. This can be attributed to the fact that it is now possible to deliver highly conformal dose distributions with a very high degree of geometrical and dosimetrical accuracy. This has led to the development of new imaging approaches and the integration of existing techniques to achieve the following goals: a) to ensure that the actual treatment deviates as little as possible from the planned treatment, i.e. to account for patient set-up errors and changes in the anatomy and the daily tumour location and b) to visualize not just anatomical but also functional/biological information in order to target tumour cells more specifically.

The first part of the presentation focuses on introducing image guided radiotherapy and looks at the correction of both translational and rotational errors based on the interplay between 3D volume imaging (cone-beam CT) and a robotic treatment couch. Some experimental work dealing with real-time tracking of lung tumours is also included.

The second part of the presentation deals with the integration of functional imaging into radiotherapy planning and addresses problems associated with this.

**ALL WELCOME**

### Contact Details

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