

Cancer Imaging



Why we focus on Cancer Imaging

Imaging plays a crucial role in the clinical management of patients with cancer. Both anatomical (CT/MRI) and Molecular imaging (PET/SPECT) modalities provide essential information on the localisation and staging of disease as well as on an individual's prognosis and response to therapy. Imaging is also invaluable in the pre-clinical development of improved and novel therapeutic strategies, providing unique *in vivo* information that informs decision-making in drug development and reducing the numbers of experimental animals required for laboratory studies.

What we do

- BCI is at the forefront of cancer imaging in both the Clinical and Pre-clinical arenas. Our clinical academics focus on the role of CT and MR imaging in gynaecological (ovarian, endometrial and cervical) cancers as well as the ability of PET/CT imaging to assess and predict response to cancer therapies.
- We employ a range of dedicated pre-clinical imaging modalities (PET/CT, SPECT/CT, bioluminescence, fluorescence, ultrasound) to address a spectrum of biological questions ranging from *in vivo* characterisation of disease models to assessment of novel therapeutic agents in a number of experimental cancers.
- The group has a long history of involvement with the Imaging, Biotech and Pharmaceutical Industries and, in view of its specialised expertise and facilities, has undertaken numerous collaborative studies with industry as well as Academia.

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Key Publications

- Coulstock et al, Liver-targeting of interferon-alpha with tissue-specific domain antibodies, *PLoS One*. 2013;8(2)
- Welti et al. Contrasting effects of sunitinib within in vivo models of metastasis, *Angiogenesis*. 2012 15(4):623-41.
- Bharwani *et al.* Ovarian Cancer Management: the role of imaging and diagnostic challenges. *Eur J Radiol*. 2011; 78: 41-51.
- Finucane *et al.* Quantitative Accuracy of Low-Count SPECT Imaging in Phantom and In Vivo Mouse Studies. *Int J Mol Imaging* 2011; 1973-81.
- Kayani *et al.* Sequential FDG-PET/CT as a Biomarker of Response to Sunitinib in Metastatic Clear Cell Renal Cancer. *Clin Cancer Res* 2011; 17: 6021-6028.
- Sala *et al.* Advances in magnetic resonance imaging of endometrial cancer. *Eur Radiol* 2011; 21: 468-473.
- Hong *et al.* Filled and glycosylated carbon nanotubes for in vivo radioemitter localization and imaging. *Nat Mater* 2010; 9: 485-490.
- Sosabowski *et al.* Targeting of CCK-2 receptor-expressing tumors using a radiolabeled divalent gastrin peptide. *J Nucl Med* 2009; 50: 2082-2089.

Who does the research

Dr. Jane Sosabowski Pre-clinical molecular imaging,
Radiochemistry

Major Funders

- Barts and the London Charity
- Cancer Research UK
- GlaxoSmithKline