Institute of Translational Medicine
2010-2014
ITM: Research Themes

Women’s & Children’s Health
- Global Evidence Based W&CH (systematic reviews and clinical trials)
- Perinatal and Paediatric Pharmacology
- Musculoskeletal and Inflammation
- Infection
- Respiratory disease
- Cancer (endometrium, paediatric oncology)

Biostatistics
- Clinical Trials
- Statistical Genetics
- Statistical Modelling

Molecular & Clinical Cancer Medicine
- Biology of cancer and precancerous conditions
- Cancer diagnosis
- Preclinical and clinical evaluation of novel therapy
- Biomarker discovery and development

Molecular & Clinical Pharmacology
- Personalized Medicines
- Nervous system disease
- Infection Pharmacology
- Drug Safety Science

Cellular & Molecular Physiology
- Tissue/Systems Physiology
- Cell Signalling in Health and Disease
- Protein Homeostasis

Gastroenterology
- Microorganisms and the gut
- Gastrointestinal cancer

Clinical & human studies

In vivo models

In vitro models
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**Pathological & Toxicological**
- Pathological
- Toxicological
ITM: Cross Cutting Themes

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- Gastrointestinal cancer

**Disease**
- Cell death
- Cell signalling
- Inflammation
- Immunology
- Patient variation
- Novel interventions
Centre for Drug Safety Science

Understanding Mechanisms of Adverse Drug Reactions
Centre vision and strategy 2014 - 2019

Research Programmes

- Hypersensitivity
- Liver Toxicity
- GI Toxicity
- Industry Interactions

Patient Populations of Clinical Importance

- Infection
- Paediatrics
- Cancer
- Inflammation

Cross-Cutting Science

- Stratified Medicine
- Biomarkers
- Bioanalysis
- Molecular Chemistry
- Informatics
- Stem Cells and Safety Science

Industry Interactions
Centre vision and strategy 2014 - 2019

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In vitro
Animal
Man
BIO-ANALYSIS
UKRMP Safety and Efficacy Hub

- £4.5m MRC Award over 4 years.
- 4 partner sites – UoL (lead), Manchester, UCL, Edinburgh.
- 3 PhD Students started Oct 2013 (UoL), 10 PDRAs to be appointed over 4 sites; 4 at UoL – recruitment underway), Administrator in post (UoL).
- Chair of Pre-clinical Imaging advertised (UoL).
- Additional £3.5m MRC Capital Award – Pre-clinical Imaging.
  - Multispectral Optoacoustic Tomography (MSOT) instrument installed end Sep 2013
  - IVIS Spectrum due to be installed by end Dec 2013.
  - Refurbishment of Yellow Block, Physiology, to house high field small animal MR scanner (£2m) – project plan underway.
  - Specification currently being drawn up for low-field bench top MR scanner, to be installed at Manchester.
UKRMP

Clinical studies
Translational models

Cell phenotype

Kidney models

Bioanalysis

Imaging

SPIONs

The University of Manchester

Centre for Regenerative Medicine

Centre for Advanced Biomedical Imaging

University of Liverpool

MRC Centre for Drug Safety Science

The University of Manchester
Key initial objective is to establish image analysis and processing protocols to quantitatively measure cellular bio-distribution with the different modalities.

Kidney Model

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<th>UoL</th>
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<td>Induced Kidney Injury</td>
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Labelling

- GNRs
- Reporters
- SPIONs

Imaging

- MSOT
- PET/MRI

Liver Model

Bioanalysis

UoL/UoM

Imaging

UCL

UoE

UoL/UoM