Equipment and Facilities at the University of Nottingham available for contract work

The University of Nottingham has a wealth of equipment and facilities spread throughout its faculties and research areas. The following are available for contract R&D.

For all facilities, initial enquiries should be directed to Matthew.Piggott@nottingham.ac.uk who will direct enquiries to the appropriate team.

Sir Peter Mansfield Imaging Centre

We have world leading MRI capabilities at the Sir Peter Mansfield Imaging Centre. This is an interdisciplinary, cross-faculty centre for innovative imaging in experimental and translational medicine, bringing together researchers who develop new medical imaging techniques with clinicians and scientists who use them. It is spread over two sites – University Park and the Queen's Medical Centre. We have:

- staff with training and experience in working to Good Clinical Practice (GCP) standards
- clinically qualified radiographers available if required

Human Imaging facilities

- 0.5 Tesla Paramed Upright MRI Scanner
- 1.5 Tesla GE HDxt MRI Scanner
- 3.0 Tesla GE Discovery MR750 MRI Scanner
- 3.0 Tesla Philips Achieva MRI Scanner
- 3.0 Tesla Philips Ingenia Wide Bore MRI Scanner
- 7.0 Tesla Philips Achieva MRI Scannr
- CTF MEG Scanner
- Mock Scanner

Other facilities

- GE SPINlab MRI Hyperpolariser
- Krypton Hyperpolariser
- Xenon Hyperpolariser

Additive Manufacturing and 3D printing

The Centre for Additive Manufacturing is at the cutting edge of research and its application into healthcare. With 100 academics, researchers and dedicated technicians, our research is enhanced by £10 million additive manufacturing laboratories, supported by state-of-the art testing facilities.

The group works closely with business to translate its technology through to commercial use, through its consultancy company www.addedscientific.com

Interface and Surface Analysis Centre (ISAC)

ISAC is a centre of excellence in surface and interface analytics in partnership with the UK's national metrology institute the National Physical Laboratory (NPL). ISAC is a gateway to the hub of world leading experts and facilities at the University of Nottingham and NPL. We co-ordinate and project manage consultancy and analysis services for, and in collaboration with, commercial and research partners.

From chemical identification to microscopic visualisation, mechanical testing to biological assays, ISAC offers a complete suite of analytical capabilities. With world leading experts in materials characterisation, nanotechnology, biomedical surfaces, mechanical engineering and beyond, ISAC offers quality analysis and interpretation in a variety of scientific and industrial applications (e.g. manufacturing processes, failure analysis and product development).

Facilities include

- Atomic force microscopy (AFM)
- Ellipsometry
- Raman spectroscopy
- Scanning electron microscopy (SEM)
- Surface Plasmon Resonance (SPR)
- Transmission Electron Microscopy (TEM)
- Time of Flight Secondary Ion Mass Spectrometry (ToF-SIMS)
- Liquid contact angle measurement
- X-ray photoelectron spectroscopy (XPS)
- Micro-CT Hounsfield Facility – 3D X-Ray imaging
- Liquid Chromatography-Mass Spectrometry (LC-MS)
- Nanosensing
- Particle size analysis
- Spectroscopy suite

School of Life Sciences Imaging (SLIM)

SLIM provides cutting-edge imaging facilities to researchers across the University, as well as external collaborators. SLIM encompasses 3 units

- Super-resolution confocal microscopy (SRM)
- Advanced microscopy unit (electron microscopy, fluorescence, microscopy, histology and light microscopy, image analysis)
- Cell signalling imaging (CSI) (fluorescence imaging, high content imaging, high throughput screening)

Other facilities in the life sciences include:

- Centre for Biomolecular Studies CNS High-field NMR facility
- Centre for Biomolecular Studies Robotics suite for high throughput genetic engineering and screening of variants libraries
- Centre for Genetics and Genomics: Deep Seq: Next Generation Sequencing Facility
- Dynamic Nuclear Polarisation MAS NMR Facility The first of its kind in the UK opened in Nottingham in 2015, thanks to a grant from the EPSRC.

Medical Imaging Unit

The Medical Imaging Unit (MIU) in the School of Medicine is available for clinicians and scientists who wish to use MRI techniques to enhance their research using the state-of-the-art University facilities. Services available:

- PET-CT,
- SPECT-CT,
- Gamma Scintigraphy Unit,
- Optical SPOT imaging,
- radiochemistry laboratory
- Quality control facilities for the development and production of radiopharmaceuticals to GMP standards

Tissue Directory and Coordination Centre

This national biobank directory connects researchers with tissue samples and data. The Tissue Directory is the UK's only register of sample collections that covers multiple diseases and allows searching based on age, gender, disease classification, sample type and available datasets

Advanced Data Analysis Centre

The Advanced Data Analysis Centre (ADAC) undertakes research on a range of projects ranging from small proof-of-concept studies with a handful of data points to large national data infrastructure projects.

Bioinformatics:

- Genome / Epigenome analysis
- Interpretation of genome resequencing data
- Expression analysis by microarray / next-generation sequencing
- Systems Biology
- Phylogenetics
- Molecular Evolution

Informatics

- Artificial intelligence
- Machine Learning
- Big Data Analysis
- Health Informatics

Nottingham Clinical Trials Unit

The Nottingham Clinical Trials Unit's (NCTU) mission is to conduct high quality, high impact multicentre trials to improve health and well-being. The unit is a UK Clinical Research Collaboration registered Clinical Trials Unit, and has close links with local NHS Trusts and with the National Institute of Health Research (NIHR) Nottingham Biomedical Research Centre. NCTU has a broad portfolio of studies to evaluate drugs, devices and complex interventions. We also design and conduct methodological research to improve how we do trials.