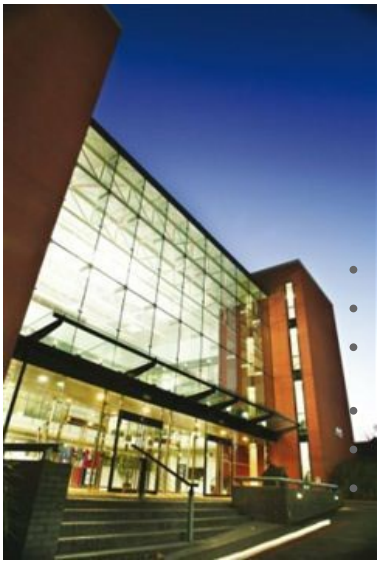
Facilities

The Research and Training Centre in Physical Sciences for Health is based in the Chemistry West Building at the centre of the **University campus in Edgbaston (/community/university-campus/index.aspx)**, adjacent to **Chemistry (/schools/chemistry/index.aspx)**, **Biosciences (/schools/biosciences/about/index.aspx)**, **Computer Science (http://www.cs.bham.ac.uk/)**, **Chemical Engineering (/schools/chemical-engineering/index.aspx)** and **Mechanical Engineering (/schools/mechanical-engineering/index.aspx)** and close to **Medicine (http://www.medicine.bham.ac.uk/about/index.shtml)**, **Physics (/schools/physics/index.aspx)** and other science departments.



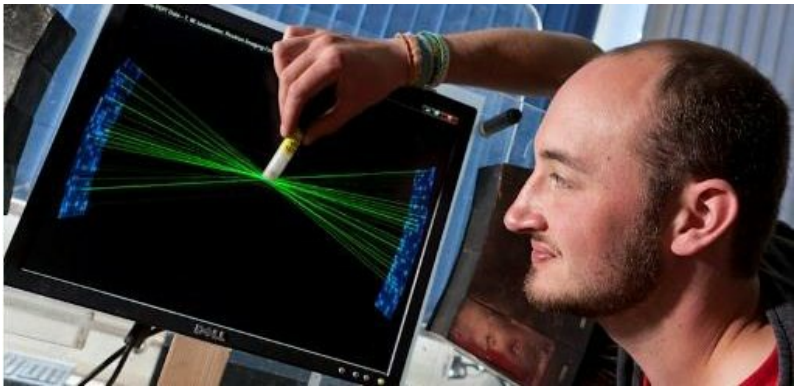
During the first year students have a permanent assigned space to study within the centre. In the second to fourth years their 'home' is in the research group of their project lead supervisor and their time is spent in the research facilities of the various academic schools involved. They concurrently use the centre facilities for training, seminars and discussions, with the use of a dedicated hot-desking space including full computer and network access, and a suite of imaging processing and data handling programmes.

Imaging and characterisation facilities include:

- A range of atomic-scale microscopies
- Electron microscopies
- Confocal microscopies (including two-photon and intravital facilities)
- Very high field NMR (to 900 MHz)
- Mass spectrometry (including FT-ICR MS)
- Spectroscopies including fluorescence, infrared, absorption, circular and linear dichroism
- SPR
- Multispectral imaging (UV, VIS, IR)
- X-ray crystallography
- Microcalorimetry
- SPMs
- Micro-MRI
- SkyScan micro X-ray tomography
- Scanning laser vibrometry
- PEPT
- 3T fMRI scanner

All large instruments are made available through professionally managed imaging centres including the **Biomolecular NMR Spectroscopy Centre (/facilities/chemical-analysis/nmr-spectroscopy.aspx)**, Birmingham University Imaging Centre (BUIC), **Centre for Electron Microscopy (/facilities/electron-microscopy/index.aspx)**, **Birmingham Advanced Light Microscopy facility (BALM) (/facilities/balm/index.aspx)**, **Advanced Mass Spectrometry facility (/facilities/advanced-mass-spectrometry/index.aspx)** and HP Visual and Spatial Technology Centre.

The imaging studies also benefit from the **Metabolomics (/facilities/genomics/about/metabolomics.aspx)**, **Genomics (/facilities/genomics/about/index.aspx)** and **Proteomics (/facilities/genomics/about/proteomics.aspx)**, and Systems Biology and data analysis initiatives within the University. Computing is supported by powerful servers run by University Information Services. Synchrotron radiation offers exciting possibilities in imaging at lengthscales ranging from the cell to the whole body. It offers new modes of imaging that complement existing techniques.



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