

University of Birmingham Receives Funding for Powerful New Instrument to Study Molecules in 'Exquisite Detail'

publication date: Jun 4, 2018 | author/source: University of Birmingham

[Previous](#) | [Next](#)

The University of Birmingham has won funding for a powerful new piece of technology called a spectrometer which will allow scientists to better gain insights into the molecular basis of human health – including the progression of cancer and infectious diseases.



The spectrometer, which will operate at a strength around 500,000 times stronger than the earth's magnetic field, will be installed at the University of Birmingham's Henry Wellcome Building for Biomolecular Nuclear Magnetic Resonance as part of a £20 million investment from four of the UK's research councils, led by the Engineering and Physical Sciences Research Council (EPSRC).

The new 1GHz spectrometer uses Nuclear Magnetic Resonance (NMR) - an analytical technique that allows the study of the structure and behaviour of molecules in exquisite detail. NMR can be used in a wide range of areas from physics and chemistry to biomedical science, including allowing for the real-time measurement of cancer cell metabolism. This technique allows scientists to better understand the structures and mechanisms in proteins and other biomolecules, which is often essential for the development of new drugs.

The spectrometer will secure the [University of Birmingham](#)'s place as an internationally leading centre for NMR research for the next decade. Lead applicant Professor Ulrich Günther, of the University of Birmingham's Institute of Cancer and Genomic Sciences, said: "The 1GHz technology will be a crucial step-change for the UK NMR community. "At the University of Birmingham, scientists will benefit from a unique line-up of magnets at a single location which is not available anywhere else in the UK and only in very few places in Europe."

Professor Tim Softley, Pro-Vice Chancellor for Research and Knowledge Transfer at the University of Birmingham, said: "This exciting award will integrate with the strategic priorities outlined in our Life Sciences strategy. "Not only will it give researchers at Birmingham and around the UK an exquisite tool to study challenging problems in structural biology, chemical biology and metabolism, it will serve as a catalyst for attracting scientists to this campus and boost the leading-edge research infrastructure in the immediate vicinity of the Birmingham Life Science Park development. "This means new opportunities for translational science and for exploiting world class research to improve patient outcomes."

The University of Birmingham has already pioneered scientific activities driven by NMR, including the opportunity to decipher how metabolism is regulated in human cells at molecular levels.

The £20m investment was announced by EPSRC on behalf of three other research councils, the Biotechnology and Biosciences Research Council (BBSRC), Medical

Research Council (MRC) and Natural Environment Research Council (NERC), who have supported the funding and also form part of UK Research and Innovation (UKRI), a non-departmental public body funded by a grant-in-aid from the UK government.

UKRI's Chief Executive, Professor Sir Mark Walport said: "The UK's global stature in research and innovation is founded on access to internationally competitive infrastructure. "This investment means researchers will have new systems that provide greater sensitivity and a greater understanding of molecular structures, with potential impacts in pharmaceuticals, biomaterials, materials science and biotechnology."

The £20 million investment will be divided between eight Universities including Birmingham, Liverpool, Warwick, Oxford, Edinburgh, Leicester, Nottingham and Sheffield.

The Universities of Birmingham and Leicester formed a strategic alliance to apply for the EPSRC funding.

Professor Geerten Vuister, of the University of Leicester, said: "It is very stimulating to team up with Professor Ulrich Günther at the University of Birmingham.

"The University of Birmingham's new 1GHz spectrometer will be a crucial step-change for the UK NMR community, and at Birmingham scientists will benefit from a unique line-up of magnets at a single location, that is available nowhere else in the UK and only in very few places in Europe."

Related Articles:

- [World's First 1.2 GHz High-Resolution Protein NMR Data](#)
- [Bruker Announces World's First Superconducting 1.1 Gigahertz Magnet for High-Resolution NMR in Structural Biology](#)
- [JEOL Highlights NMR Expertise at ENC 2018](#)
- [Bruker Introduces the AVANCE NEO NMR Research Platform at ENC 2017](#)
- [Dow Corning uses Malvern Viscotek GPC to provide customers with in-depth polymer structure data](#)
- [Precision Temperature Control for NMR, EPR & XRD Studies](#)
- [The Chemistry Department at Lyon College, Arkansas, uses the Magritek Spinsolve Benchtop NMR System in their Undergraduate Teaching and Research Programs](#)
- [Magritek Launch the Spinsolve ULTRA Benchtop NMR System for Measuring Sub Milli-Molar Components of Neat Mixtures in Under 10 Minutes](#)
- [Magritek Launch New Series of Educational Product Videos about the Spinsolve Benchtop NMR Spectrometer](#)
- [Magritek Reviews the Current Use of Benchtop NMR in Real-Time Monitoring and Optimization of Chemical Reactions](#)
- [New Pre-validated Fluorinated Fragment Library Boosts Drug Screening Efficiency](#)
- [F-DGSi presents the "MODULAR ALLIANCE" series for the GC Market \(H2, N2, ZERO AIR \) in one](#)

- [Magritek Launches a Series of Laboratory Experiment Manuals to Help Undergraduate Students Learn about NMR Spectrometry](#)
- [New ALLIANCE range of laboratory Gas Generators from F-DGSI.](#)
- [New Approach for Inborn Errors of Metabolism \(IEM\) Screening by NMR](#)
- [How to Pack an NMR Spectrometer in a Suitcase](#)
- [Spinovation Biologics Spedia-NMR Gains Momentum in Client Adoption](#)
- [Spinovation Biologics Offers Service Choices To Meet individual Analysis Needs For Bioprocess Optimization](#)
- [Non-Invasive Analysis Using Benchtop TD-NMR](#)

Newsletter Sign up

Subscribe here



Subscribe to receive our newsletters for the latest news on new laboratory products, research, Industry news and more



Weekly Update | Separation Science | Microscopy & Image Analysis | Monthly Update

Popular this Month...

Our Top 10 most popular articles this month

Today's Picks...

Looking for a Supplier?

Search by company or by product

Company Name:

Product:

S E A R C H

Please note Lab Bulletin does not sell, supply any of the products featured on this website. If you have an enquiry, please use the contact form below the article or company profile and we will send your request to the supplier so that they can contact you directly.

Lab Bulletin is published by newleaf marketing communications ltd

[Previous](#) | [Next](#)

[Back to top](#)