

# University of Sheffield

## Department of Biomedical Science

The Department of Biomedical Science recognises the impact of its staff. The infrastructure underpins a culture of collaboration and training, to facilitate excellent research and translational science.

The department pursues the traditional disciplines of human anatomy and physiology alongside innovative research programmes in animal models of human disease, stem cells and regenerative medicine.

Our strengths in neurodegeneration, cancer, hearing loss, musculoskeletal disorders and pain & inflammation address important unmet medical needs and generate widespread public interest.

Our excellent infrastructure for both research and teaching, underpins the training of future researchers and policy-makers, the understanding of disease processes and the development of new medicines and diagnostics.

### Delivering Impact

We recognise the impact of all staff. We have an outstanding reputation for research and offer a single, research-led undergraduate degree in Biomedical Science focused on the needs of the next generation of biomedical scientists.

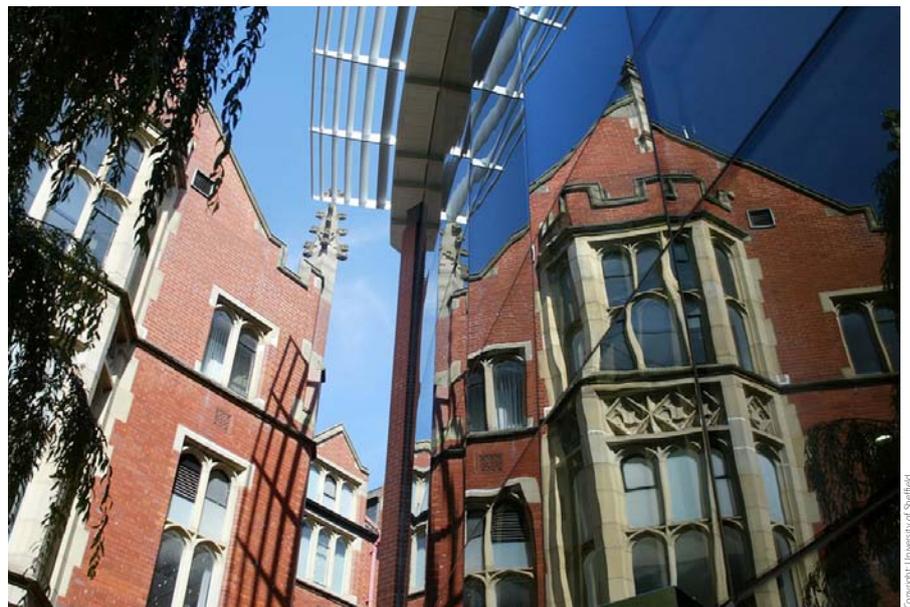
We provide a structured training environment for postgraduates and post-doctoral scientists and have invested in facilities that promote collaborative research. We encourage societal and economic impact through widespread public engagement and have appointed a Business Research Fellow to facilitate awareness and exploitation of our commercial potential.

Active collaborations span the disciplines of Science, Medicine and Engineering, with many European and international links, including shared laboratories in India, China and Singapore. We maximise our impact through partnerships with industry, medical research charities and research councils.

We have achieved a constructive awareness of what is meant by impact in terms of societal, cultural and economic benefit.

We share the vision that an excellent international reputation for research is essential if we are to build an equally strong, international reputation for relevant, challenging and innovative training. Recognition of personal achievements in all areas of research, teaching, innovation and societal engagement is now an integral part of our procedures for career progression for all staff and students.

We have embedded these procedures in the annual departmental reviews of staff performance and have propagated the principle throughout the University.



The Department of Biomedical Science – innovation built on tradition

## Working in partnership

We are creating new opportunities through partnerships that unite the complementary skills of medical charities, research councils, industry and academia.

This produces mutual benefits - charities fund us to use our academic expertise for their research; we benefit from their publicity and market research. This leads to better collaborations between us and the charities, and between our scientists and industry.

Our model is highlighted in the Translational Research Initiative for Hearing (TRIH) recently launched by RNID (Action for Hearing Loss).



Becoming a TRIH Partner will make a real difference to people suffering from hearing loss or tinnitus – and to you or your organisation.

### TRIH an 'easy win' for your organisation:

- identify world class, peer-reviewed R&D projects
- low-risk entry into hearing research
- access to scientific expertise
- assistance and advice on capturing a slice of a market with significant clinical demand
- ability to carry out cutting-edge research through academic partners
- combining forces with other TRIH partners to have a greater impact
- lead the development of cures in an emerging area of real unmet patient need.

We are happy to explore the different ways that not-for-profits, philanthropists, investors and companies can fund TRIH projects, structuring investments so that all parties can benefit.



Image courtesy of TRIH

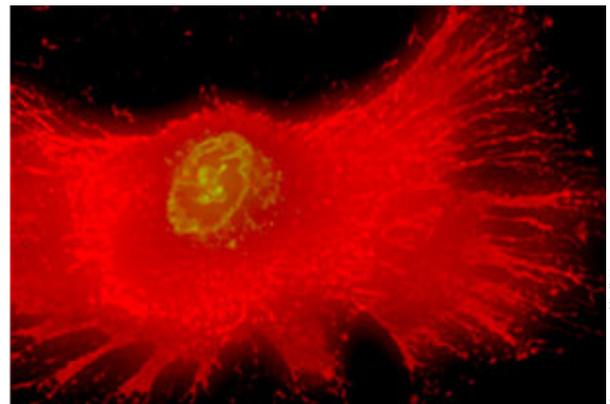
TRIH partners can choose to fund a project independently, co-fund with RNID or fund jointly with other partners

## Repositioning researchers

Dr Beppe Battaglia, from the Department of Engineering Materials, relocated to the Department of Biomedical Science to develop the potential of synthetic polymers to form 'biological' membranes.

Beppe has worked with biologists to synthesise nanoparticles that deliver bioactive molecules to treat neurodegenerative disease, cancer, and infection. His current team of nearly 25 scientists has also focused on techniques to deliver small molecules such as nucleic acids and proteins into cells and tissues for experimental purposes.

Part of this research has led to a commercial product for cell imaging ([www.celluminate.com](http://www.celluminate.com)) generating in excess of £150k in the first year.



False colour confocal micrograph of a human fibroblast filled with dye carried by synthetic nanoparticles

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WITH IMPACT**  
2011



The BBSRC Excellence with Impact 2011 scheme ran from 2008 to 2010. It was developed to reward and esteem those university departments most active in embedding a culture that recognises and values the achievement of impact alongside excellent research.