

# MIDLANDS ENGINE HEALTH

## Focus on MedTech - Centre for Membrane Proteins and Receptors (COMPARE)

MIDLANDS  
ENGINE



The Centre of Membrane Proteins and Receptors (COMPARE) is a £10 million regional investment forms a unique collaboration between the Universities of Birmingham and Nottingham, bringing together leading researchers to develop novel methods for visualising single membrane proteins. It also seeks to identify new approaches for the prevention and treatment of cardiovascular disease, respiratory disease and cancer angiogenesis.

COMPARE is a world-leading centre for the study of membrane receptors using innovative microscopy and computational methods. Membrane receptors regulate virtually all physiological functions from heart contractility to cell growth, are deeply involved in human disease and are the targets of at least 40% of all drugs on the market.

COMPARE researchers develop revolutionary methods, like single-molecule microscopy, that allow them to directly study receptors as they function within intact cells and tissues with unprecedented detail. The ultimate goal is to foster the development of innovative drugs for common diseases like heart failure, diabetes and cancer. COMPARE's advanced imaging facilities are fully open and accessible to external users from both academia and industry, providing an important regional and national beacon for advanced microscopy and quantitative receptor pharmacology.

Together with Midlands Innovation, COMPARE is developing innovative solutions for remote training and access aimed at further expanding the availability of its unique expertise and technology beyond geographical barriers. Moreover, COMPARE makes an important contribution to training the next generation of multidisciplinary biomedical researchers. This includes a new exciting MSc Programme in Quantitative Bioimaging at the University of Birmingham and COMPARE's Team Science Initiative which focuses on career development and progression across the two Universities.



**Professor Davide Calebiro, COMPARE Co-Director**

"The Midlands offers a uniquely dynamic and collaborative environment for the development of innovative biomedical imaging technology. Midlands academic Institutions have a long-standing track record of collaboration both between them, like in the case of COMPARE, and with industrial partners.

"There have been large strategic investments in biomedical imaging and advanced computing infrastructure, including a recent £4 million EPSRC award to establish a national accelerated computer resource (Baskerville) at the University of Birmingham, in cooperation with Diamond Light Source and the Alan Turing and Rosalind Franklin Institutes. The recently awarded £4.5 million Wellcome Trust four-year PhD training programme in Nottingham has a strong microscopy focus, together with collaborative links with local industrial partners.

"Midlands Engine Health provides a unique incubator where industry, academia, private and public health institutions from our region collaborate to find novel solutions to improve health. This makes the Midlands one of the most attractive places to invest in innovative biomedical technologies."