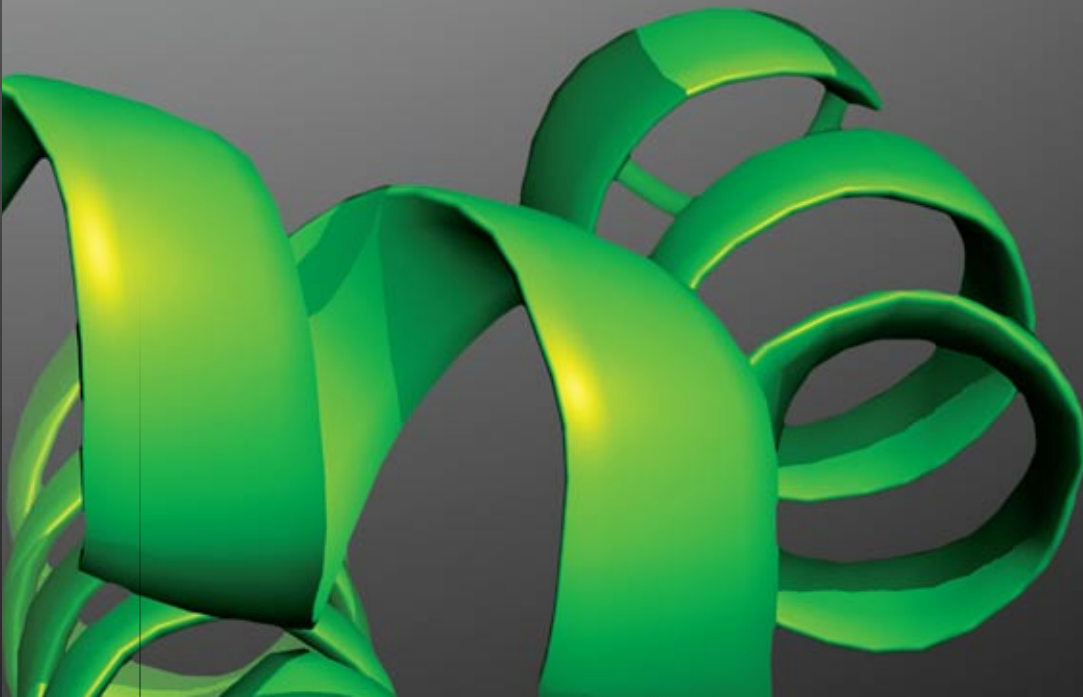


# translational medicine

see the results  
see for yourself...



## ...see the difference world class facilities and skills can make to your business

### Global Challenge

The global challenges relating to human health are, without doubt, some of the most important we face across society. From global pandemics to how we deal with the many health issues associated with ageing and obese populations, the challenges are immense. Central to addressing many of these medical needs, is the ability to respond quickly and bring solutions forward safely. Continuing to invest in effective health research will remain key to achieving this goal.

### Birmingham Science City

To facilitate access to the latest thinking, research and equipment in translational medicine, Advantage West Midlands has invested almost £20M in the development of a range of new facilities at the University of Birmingham and the University of Warwick.

These nationally important facilities are part of the larger investment by Advantage West Midlands in the research infrastructure of the West Midlands region. It unites the Universities of

Birmingham and Warwick in a newly formed Science City Research Alliance (SCRA). The initiative also includes investment in two other platforms – advanced materials and energy.

The investment establishes the West Midlands region as a leading research and technology centre of expertise.

# real tangible now

## Translational Medicine

This project is led jointly by the University of Birmingham and the University of Warwick, but involves other important partners, including the Wellcome Trust, the Wolfson Foundation, the MRC and the NHS. It focuses on expanding and enhancing experimental research and clinical development in five therapeutically important areas:

- Cardiovascular
- Infection
- Metabolism
- Neuroscience
- Reproduction

Underpinning these research themes, is excellence in clinical trials at both institutions.

## Getting Involved

The aim of the project is to encourage industrial and academic collaboration in a range of research and development projects. It provides an opportunity for organisations to access internationally renowned expertise, state-of-the art equipment, and unique clinical facilities.

The objective is to encourage more rapid development of new processes and treatments, and to ensure that the West Midlands region is positioned to benefit from future research investment in health.

## What Next

To find out how your business could benefit from the programme, please contact:

### Dr Rubina Mian

Business Engagement Manager –  
Experimental Medicine  
University of Birmingham  
B15 2SQ  
UK

Email: [r.mian@bham.ac.uk](mailto:r.mian@bham.ac.uk)  
Tel: +44 (0) 7795 207 888

### Dr Debbie Girdlestone

Business Engagement Manager –  
Clinical Trials  
University of Warwick  
CV4 8UW  
UK

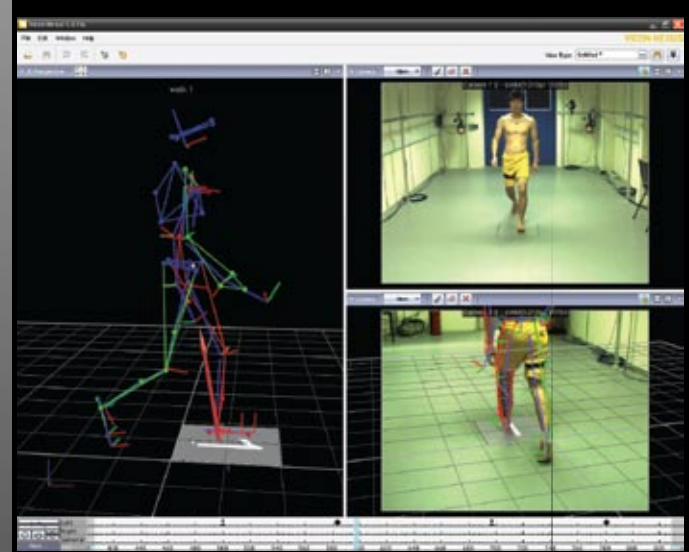
Email: [d.girdlestone@warwick.ac.uk](mailto:d.girdlestone@warwick.ac.uk)  
Tel: +44 (0) 7824 541 198

Clinical Trials Unit at the University of Warwick ▼

Total internal reflection fluorescent (TIRF) microscope at the University of Birmingham ▼



Gait Laboratory at the University of Warwick ▼

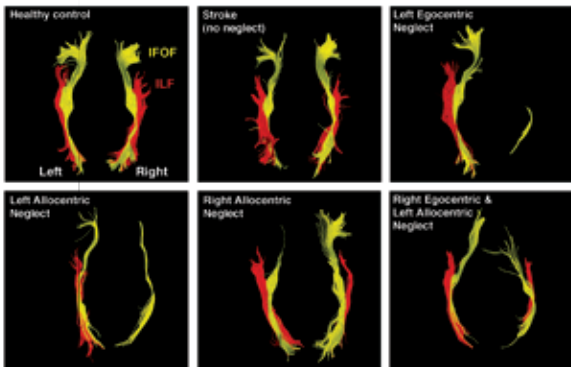
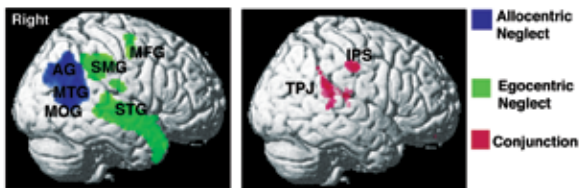
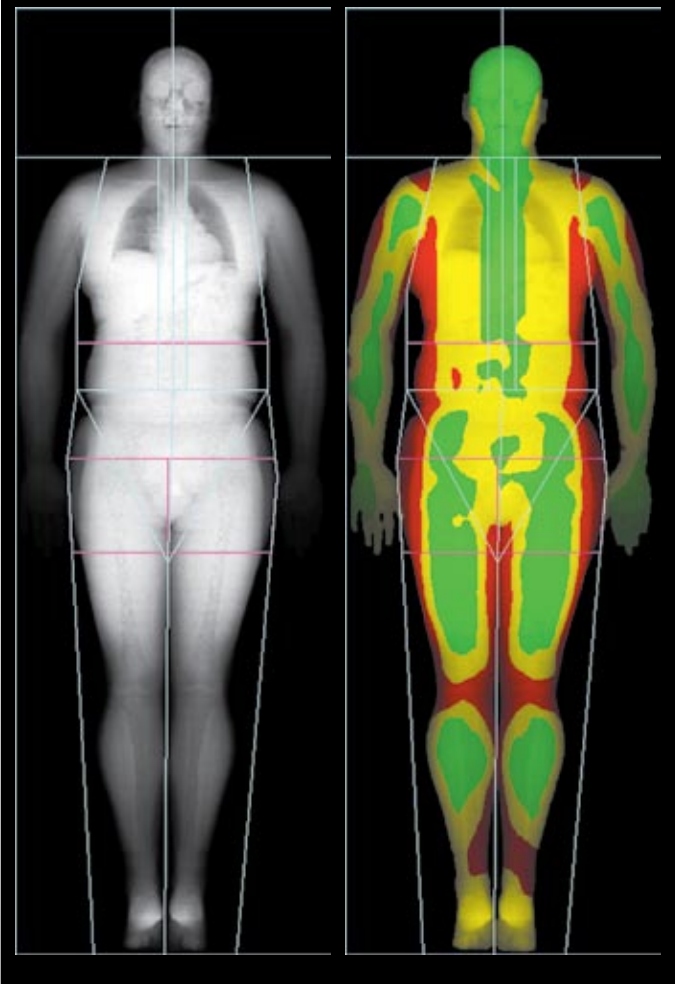


# human biomaterials the resource centre

Human tissue samples and associated datasets represent a most valuable resource for scientists engaged in translational research. Access to such collections will undoubtedly aid the development of better diagnostic and prognostic tools, and new drug therapies. A human tissue bio-repository has been established at the University of Birmingham – the first of its kind in the West Midlands. The Human Biomaterials Resource Centre (HBRC) is dedicated to the collection and storage of appropriately consented, quality-assured biomaterials for distribution to biomedical research groups both in academia and industry. The Director of the HBRC is Dr Jane Steele who works in collaboration with local pathologists, surgeons and other hospital personnel to collect and catalogue the tissue.

The HBRC offers access to existing sample collections, bespoke tissue collection and processing for specific research projects. This includes access to material from patients in a variety of disease settings; tissue which is surplus to diagnosis, waste material, additional samples taken for research purposes, and material taken from patients enrolled in clinical trials. The HBRC is licensed by the Human Tissue Authority and has been ethically approved, so investigators who access material will not need to apply for separate project-specific approval in the vast majority of cases.

Human biomaterials are collected and banked in response to demand for existing research, and will also enable development in important future research areas – such as biomarker discovery programmes. The identification and cataloguing of clinical data alongside the tissue provides powerful insights into the nature and pathology of disease, and will inform future therapeutic strategies.



# calorimetry the whole body concept

Obesity and co-morbidities are two of the major public health concerns facing our society.

The new Dual Whole Body Calorimeter (WBC) in Coventry is a landmark investment for research and development in this area.

The system consists of two sealed rooms with a constant and measured supply of fresh air. The occupant's rate of oxygen consumption and carbon dioxide production are measured to calculate their energy expenditure, through accurate continuous monitoring of the air composition within the room.

This important facility will be used to understand how diet, physical activity and other aspects of behaviour – such as lifestyle and sleep patterns – all impact upon the ability to mitigate weight gain. Furthermore, due to its highly sensitive gas analyser, the WBC will enable us to measure small

*“Obesity is a major risk factor for Type 2 diabetes and therefore we are pleased to hear about the setting up of this facility which will help to advance research in this important area.”*

**Dr Iain Frame**, Director of Research, Diabetes UK

changes in energy expenditure related to new drugs, food products and nutraceuticals.

This facility will open up exciting opportunities to carry out research that we are currently unable to do – such as studying novel gaseous biomarkers for cancer, metabolic, gastrointestinal and respiratory diseases.

The WBC will be under the direction of Professor Sudhesh Kumar as part of the Human Energy Metabolism and Body Composition Research Unit (BCRU) at University Hospital Coventry and Warwickshire.

Birmingham Science City

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WARWICK

change

[www.birminghamsciencecity.co.uk](http://www.birminghamsciencecity.co.uk)

**Dr Filipa Vance**  
Research Support Services  
University of Warwick  
CV4 8UW  
UK

Email: [f.vance@warwick.ac.uk](mailto:f.vance@warwick.ac.uk)  
Tel: +44 (0) 247 615 0204  
Fax: +44 (0) 247 652 4991

**Dr Claire Potter**  
Research and Knowledge Transfer Office (MDS)  
University of Birmingham  
B15 2TT  
UK

Email: [c.potter@bham.ac.uk](mailto:c.potter@bham.ac.uk)  
Tel: +44 (0) 121 414 8262  
Fax: +44 (0) 121 414 7419