

# Health and Human Development



*Health and Human Development research crosses disciplinary boundaries to find solutions to complex health issues and improve peoples' lives. We conduct research on human development and learning from infancy through adulthood into old age. We investigate perceptual, social, and linguistic problems using a combination of experimental, observational, computational, and neuropsychological techniques. We also develop and evaluate novel statistical methods of study design and data analysis for pharmaceutical companies and medical research units.*

## Access Expertise

- Advanced manufacturing
- Analytical skills
- Behavioural, computational and neuropsychological techniques
- Medical and pharmaceutical statistics

We work in partnership with Lancaster University's Faculty of Health and Medicine, which offers an additional and complimentary blend of biomedical, medical, and social science expertise.

## Forming Partnerships

Organisations can access our expertise through five types of collaborative partnership:

- Collaborative research
- Facilities for research and development
- Commercialisation of intellectual property
- Professional training
- Student engagement

## Benefits of Collaboration

- Access unique knowledge and technologies
- Access our multi-million pound facilities
- Gain extra resources through student engagement activities
- Tap into our global network
- Work with us to develop new products and processes

"Collaboration with Lancaster University has enormous potential to really benefit patients."

Professor Charles McCollum, University Hospital of South Manchester, commented on working with our aviation experts applying their expertise to healthcare.



Becky Gordon, Operations Manager

### Working in Partnership

We have extensive links with the NHS and work with a range of private and public sector organisations.

We work as part of a wider multidisciplinary team across Science and Technology at Lancaster. Our colleagues have expertise in advanced manufacturing, chemistry, the demand and supply of energy, environmental sciences, information and communication technologies, mathematics and statistics, quantum technology, and security and protection sciences.

### Partnership Examples

#### Aviation Technology Applied to Healthcare

Professor Garik Makarian collaborated with the University Hospital of South Manchester to develop a real-time patient monitoring and risk prediction system, similar to those used by pilots to monitor the safety of their aircraft. The new tool has been designed to make sense of a diverse range of patient data to provide health care professionals with a clearer indication of what might happen to their patients in the near future, buying them precious time to take preventative action. Doctors can then potentially access this information at any time, even from home on their laptop or phone.

- Air quality models and GIS mapping
- Anthropology of health and illness
- Atmospheric particles and health
- Biomedical physics
- Clinical trial methodology
- Design and development for medical devices, surgical guides and pre-operative planning tools
- Diabetes mellitus and cognitive performance and the role of glucose and insulin in Alzheimer's disease
- Epidemiological methods
- Infrared spectroscopy
- Impoverished nutrition
- Language acquisition and a typical language development
- Long-term social impacts of disaster recovery
- Microfluidic and biofluidic devices, electronics design for test, reliability and health monitoring
- Neuropsychological markers of degenerative diseases
- Nuclear medicine-radiation detection
- Parasite-human interactions with malaria
- Radio frequency hardware development and signal and imaging processing for medical scanners
- Voice recognition for speech therapy

### Route to Access

"As part of my role as Operations Manager I also oversee the partnership development for Health and Human Development. Having worked at the university for many years I have broad network of contacts and I'm keen to facilitate new partnerships in this area.

"Across Science and Technology at Lancaster we cover a broad range of expertise from individual human behaviours and analytical methodologies through to manufacturing new medical products. Please contact me for more information."

**Becky Gordon**  
Operations Manager

### For further information contact:

Becky Gordon, Operations Manager for Business Partnerships and Enterprise  
Faculty of Science and Technology, Lancaster University, Lancaster, LA1 4YQ  
Tel: +44 (0)1524 510188 Email: b.gordon@lancaster.ac.uk

Science and Technology  
www.lancs.ac.uk/sci-tech/enterprise