



The Open  
University

# RESEARCH BENEFITTING ENTERPRISE AND INDUSTRY



# Introduction

## Open to Enterprise and Industry

**The Open University is unique among UK universities in combining a mission to widen access to higher education with research excellence. We have over 1000 research academics working at the forefront of knowledge in the sciences, social sciences, arts and humanities.**

We're not a typical university. For the last 50 years, we've been game-changers in education, with a track record of outstanding success. We bring this progressive thinking to our partnerships with industry and enterprise.

The Open University ranks in the top third of UK universities for research and development. Our Milton Keynes campus has world-class research facilities. Our laboratories produce a wide range of technologies from those that go into space to innovation that aids everyday life.

Our researchers are not just leaders in their fields, they're client-focused and results-oriented. We work with enterprise and industry daily in creative and driven ways that change how we live in the UK and beyond.

# Geraint Morgan

## PROTECTING THE SCOTCH WHISKY INDUSTRY

**We're adapting chemical analysis tools developed for space missions to help stamp out counterfeit spirits.**

The UK's spirits drinks sector loses huge sums every year to fakers imitating top brands.

Detecting the better-quality fakes is hard and requires skilled chemists working in specialised laboratories.

*We're working with the Scotch Whisky Research Institute (SWRI)...* to develop a quick, reliable, low-cost test that can be carried out by enforcement authorities, such as SWRI.

Our method can detect thousands of different chemical compounds, which is perfect for identifying the unique 'chemical fingerprint' that gives each brand of Scotch its distinctive taste.

Ultimately, the aim is to use our expertise in miniaturising technology for space to develop a portable system for on-the-spot detection and enforcement.

*As world leaders in space instrumentation research...* we've built key scientific hardware for numerous ESA missions.

Our miniaturised analytical equipment was used to 'sniff' the chemical composition of a comet.

Now, as a partner in the government funded SPRINT (SPace Research and Innovation Network for Technology) programme, we're

working with industry to translate that innovative technology into novel commercial products.



Our multidisciplinary team of chemists, physicists, engineers, microbiologists and software engineers was assembled to create miniaturised detectors for space. We're using that expertise to create end-to-end solutions for businesses on earth.

**Dr Geraint Morgan**  
Enterprise Lead, School of  
Physical Sciences



[www.open.ac.uk/research/themes/space](http://www.open.ac.uk/research/themes/space)



# Giles Mohan

## UPSKILLING THE INTERNATIONAL DEVELOPMENT SECTOR

**We're enabling aid agencies and charities to access affordable, high-quality staff training anywhere in the world.**

*The development and humanitarian sectors are changing...* so staff need to upskill regularly to meet the challenges.

For many, especially in the Global South, conventional training is unaffordable or logistically impossible.

*We're partnering with agencies to create a new era...* of professional development for the entire sector. We're creating work-based short courses that are high-quality, low cost, scalable and deliverable to any location, using appropriate distance-bridging technology.

*Our new, free online course on Safeguarding Essentials...* is helping thousands of aid workers keep children and vulnerable people safe from abuse.

We developed the course in partnership with Unicef, Oxfam and Save the Children, in response to an urgent need in the sector.

*Our commitment to international development runs deep...* and springs from the university's founding mission to promote access to education and social justice for all.

Since 1997, our distance education masters has enabled thousands of development

professionals to achieve a highly respected qualification.

*We don't just teach international development...* we practise it. International development is one of our flagship Strategic Research Areas.

More than this, we partner governments, NGOs, funders and local agencies to deliver development programmes in the field.



*As a university, our course content and delivery are underpinned by extensive research, practice and experience. And by our enduring commitment to the sector.*

**Professor Giles Mohan**  
Chair of International Development,  
Faculty of Arts and Social Sciences



[fass.open.ac.uk/development](https://fass.open.ac.uk/development)



# Clara Mancini

## TECHNOLOGY FOR DOGS WITH IMPORTANT JOBS

**Thousands of disabled people rely on assistance dogs. Our canine-centred technology is making life better for dogs and owners.**

Assistance dogs support their owners in many ways. They help with tasks, like opening doors, switching on lights and working household appliances.

*Using technology designed for humans is hard for dogs...* so we're developing a 'toolkit' for assistance dogs, designed with their help.

*Our animal-computer interaction lab was the first university centre in the world...* to systematically research how animals interact with machines and computers.

Building on our expertise in human-computer interaction, we put the animals' perspective at the centre of our work.

*We joined forces with Dogs for Good and Petplan Charitable Trust...* to make dog-friendly button controls that are easily fitted into homes or public environments, like shops and restaurants.

*Our canine controls help assistance dogs learn more quickly...* and perform better, improving the quality of life for dogs and their owners.

*We're working with city centre premises in Milton Keynes...* to install canine controls in accessible toilets, creating the world's first 'dog-smart' city.



Our research is relevant to every organisation that looks after animals or makes products for animals. We look at how other species experience the world and enable them to influence what we design for them so that we can meet their needs.

### **Dr Clara Mancini**

Head of Animal-Computer Interaction Laboratory, School of Computing and Communications, STEM Faculty, Dog-Smart Homes: Accessibility for Mobility Assistance Dogs



[www.open.ac.uk/blogs/ACI/](http://www.open.ac.uk/blogs/ACI/)



# David Male

## FIGHTING BRAIN DISEASES

**We're supporting pharmaceutical companies and laboratories around the world to deliver treatments for chronic conditions that affect the brain.**

*Diseases of the brain and central nervous system are hard to treat...* because a protective barrier blocks the entry of 95% of drugs and 100% of gene therapies and biological agents.

*With our partners in the pharma industry, we're developing new approaches to treatment...* using nanocarriers that penetrate the barrier and directly target conditions like Alzheimer's disease and multiple sclerosis.

We've developed cell lines to create a realistic three-dimensional tissue-culture model of the blood-brain barrier.

The D3 line has become the industry standard, supporting research by pharmaceutical companies and labs around the world.

*We're working with industry to deliver solutions...* tailored to their needs.

We've patented a new technique with Midatech Pharma that uses ultra-small, gold nanoparticles to carry therapeutics into the brain.

In collaboration with MedImmune, part of AstraZeneca, we're trialling peptides that target the brain's natural transport systems and can be harnessed to carry therapeutic genes and biomolecules.

All our work, including imaging and electron microscopy, is conducted in our state-of-the-art laboratory facilities on the Open University campus.



With the range of facilities at our disposal, we can apply the appropriate techniques for the particular problem we are presented with by industry.



**Professor David Male**, Immunologist And **Professor Nacho Romero**, Cell Biologist, 'In vitro models of the blood brain barrier' project





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## **FIND OUT MORE**

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