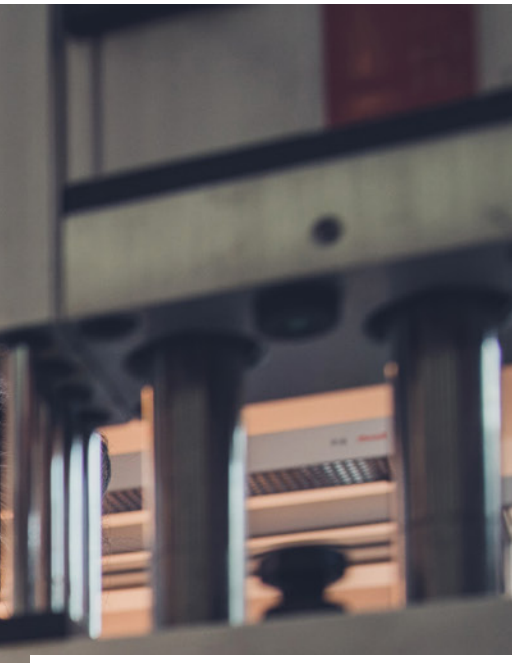
For further information, visit:
https://royalsociety.org/grants-schemes-awards/grants/entrepreneur-in-residence



ECOSYSTEM ECOSYSTEM

The Royal Society's Entrepreneur in Residence scheme is breaking down barriers between industry and academia through the most simple but effective method: placing industrial scientists and entrepreneurs at the heart of our academic institutions. The scheme is proving a great success at Southampton.

CLOSING THE ACADEMIA-INDUSTRY GAP

The Royal Society set up its Entrepreneur in Residence (EiR) scheme five years ago. Since then, it has been bringing industry and academia closer together through appointing highly-experienced industrial scientists and entrepreneurs to spend one day a week at a university. The primary aim is to expose university staff and students to the scientific challenges faced by industry while providing support and expert advice aimed at promoting innovation and the translation of research by universities.

Dr Duncan Holmes, one of the University of Southampton's current EiRs, explained: "The quality of research that takes place at UK universities is well recognised, but the challenge for many years has been converting that research into commercial success. The Entrepreneur in Residence scheme is about breaking down the barriers between industry and academia."

The Royal Society appoints a series of one-year EiR awards annually, which can be extended to two or three years. So far, 64 EiRs have been appointed across 38 universities. Southampton has had five so far – more than any other university to date.

We currently have three EiRs at the University of Southampton – **Duncan Holmes** (Clinical and Experimental Sciences), **Virginia Hodge** (Electronics and Computer Science) and **Chris Hobbs** (Physics and Astronomy). Previous EiRs at the University were **James Otter** (Institute for Life Sciences) and **Adam Hill** (Physics and Astronomy).

On the next page, we meet our three current EiRs to find out about their areas of expertise and how they are supporting our academics.

DUNCAN HOLMES

Clinical and Experimental Sciences

Duncan gained his Chemistry BSc and PhD at Southampton, then undertook postdoctoral research in Zurich, before working for GlaxoSmithKline for nearly 30 years. His career focused on early-stage drug discovery research, then concentrated on building collaborative drug discovery projects with academics across Europe.

He has been an EiR at Southampton since February 2020. He said: "The EiR role has given me a great opportunity to return to the University to meet with many talented researchers, working with them on a diverse range of innovative projects, aiming to create solutions to healthcare problems."

As EiR, Duncan has been offering a range of support including helping on translational grant submissions for funding, discussing the pros and cons about whether to pursue a start-up or an industrial collaboration, and helping people to optimise their research to attract companies to invest in collaborations with them. He has also been offering career mentoring, and has run a range of seminars around early drug discovery and engaging effectively with the pharmaceutical industry.

Outlining what industry wants from academia, Duncan said: "Finding future recruits is a major focus for industry, as well as accessing fundamental research, and understanding the future landscape, accessing unique capabilities, and commercialising academic research."

"In large companies, it's the people in business development or research groups working closest in your field that you should engage with in the first instance."

Duncan Holmes
Clinical and Experimental Sciences

He also provided advice about finding the right person to engage with: "In large companies, it's the people in business development or research groups working closest in your field that you should engage with in the first instance."

Duncan shared his tips on how to get started on working with industry: "Build your networks early through conferences and using LinkedIn, go to trade shows, join professional associations and contact the RIS Technology Transfer team who can help you to identify opportunities. When building a collaboration, develop a shared objective and take time to have regular communication throughout the project."

CHRIS HOBBS

Physics and Astronomy

Following his BSc and PhD in Physics, Chris worked for more than 30 years in industry, initially in materials characterisation, then in asset management and risk management. For the last three years, he has been Head of Business Strategy at the Satellite Applications Catapult.

The Satellite Applications Catapult is part of a network of 'Catapults' with different specialisms across the UK. The Catapults, which receive funding from Innovate UK, have a mission to build collaborations between research and development infrastructure and businesses, academia, charities, service providers, and end users, and to develop solutions to accelerate commercialisation.

The other Catapults are in Medicine Discovery, Compound Semiconductor Applications, Energy Systems, High Value Manufacturing, Offshore Renewable Energies, Digital, Connected Places, and Cell and Gene Therapy. By 2019, there had been nearly 2,500 collaborations between Catapults and academic departments, more than 12,000 industry collaborations, nearly 500 international projects, and nearly 5,000 SMEs had been supported.

As an EiR, Chris provides help for grant submissions, engages researchers with the satellite industry, helps decide if a start-up or an industry collaboration is the way forward, and supports on creating translational research plans. Chris also hosts career discussions and mentoring, and a series of seminars called *Bitesize Business*.

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"The UK Space Agency has a target for Britain to capture 10 per cent of the global space economy by 2030. It is currently sitting at about six per cent."

Chris Hobbs
Physics and Astronomy

Outlining the challenges facing his area of specialism, Chris said: "The current challenges facing the space sector are focused around delivering sector growth. The UK Space Agency has a target for Britain to capture 10 per cent of the global space economy by 2030. It is currently sitting at about six per cent. The Satellite Applications Catapult is focused on helping to address this shortfall.

"Other challenges include an historical lack of sufficient regulatory control over the disposal of satellites, so there is now a high level of space debris to be dealt with. This isn't all bad, as there is ctually a business opportunity. there for companies to resolve this.

"Funding is also a challenge for the space sector, as final capital raises are often significant, some running into the tens of millions of pounds."

VIRGINIA HODGE

Electronics and Computer Science (ECS)

Since her BSc in Computer Science and MSc in Project Management, Virginia has spent over 30 years working in highly technical areas of software and systems engineering, including as a software architect and working in strategic delivery. This work has primarily been within the industries of defence and aviation. She is also a former Vice-President of the Institution of Engineering and Technology.

As an EiR in ECS, Virginia has been giving guest lectures for students and staff, reviewing bids with an industry eye, demonstrating how the commercialisation of software can be improved, mentoring, acting as the interface between academia and professional bodies and supporting diversity initiatives within ECS.

She said: "The EiR role has introduced me to the breadth and depth of ground-breaking research carried out at the University and the opportunity to help by providing guidance to those wanting to exploit it commercially."

Offering advice to academics, she said: "Working on industry projects, it's important to know who you will be working with and to understand that industry is driven by cost, time and quality. Regular reviews of progress are important, and so is risk management. If your research is within areas of industry that are regulated, such as pharma, defence or aviation, it is important to understand that the regulators will require detailed processes to be followed prior to approving the product for use in service. It is important to recognise this at the start of the product development to ensure that their requirements are built into the project plan."

"Working on industry projects, it's important to know who you will be working with and to understand that industry is driven by cost, time and quality."

Virginia Hodge
Electronics and Computer Science

Virginia identified the main challenges facing the aviation and defence sectors as the modernisation of systems, political demands, regulatory control, and the high requirement for funding.

As part of her EiR role, Virginia is Resident Mentor at Future Worlds, the University's on-campus start-up accelerator.