Professor Eleanor Stride

Research Fellow

Professor Eleanor Stride is a Professor of Engineering Science at the Institute of Biomedical Engineering, University of Oxford. From 2005 to 2010, she held a Royal Academy of Engineering Research Fellowship, which enabled her to investigate the development of novel microbubble agents for use in the detection and treatment of cancer.

ROYAL ACADEMY OF ENGINEERING

"My Research Fellowship laid the foundations for my research career and was invaluable in enabling me to build up the expertise, networks and resources to become and independent researcher."

RESEARCH

During her PhD, Professor Stride developed an interest in ultrasound therapy and the use of microbubbles for targeted drug use. The Research Fellowship provided her with the opportunity to build on this and define her own research objectives while at University College London (UCL). "The Fellowship allowed me to develop the ideas and skills that have formed the bedrock of my research," explains Professor Stride.

Through a combination of modelling and experimentation, Professor Stride investigated the properties of gas microbubbles, designed new agents for targeted drug delivery and optimised processes for existing ones. The Fellowship also gave her freedom to pursue a parallel enquiry in the complementary area of micro- and nano-encapsulation, developing new methods for fabricating bubbles, capsules and other nano- and microscale layered structures for a range of biomedical and other applications.

IMPACT

Professor Stride has developed a research group since her completing her Fellowship that has a broad portfolio. The group has developed new types of ultrasound responsive particles that can be magnetically targeted to increase treatment localisation and is seeking to translate this work into clinical use in the coming years. Understanding the biophysical interactions that underpin drug delivery has been another key area. "In collaboration with colleagues at Imperial College London and the Weatherall Institute of Molecular Medicine, we have developed new techniques for characterising the surface properties of drug-carrying particles and their interactions with cells," Professor Stride adds.

Professor Stride's research in micro- and nano-encapsulation led to her setting up her first spin-out company, AtoCap Ltd, alongside collaborators. The company currently focuses on the delivery of antibiotics for the treatment of chronic conditions. Professor Stride is also launching a second company through the University of Oxford for a new cancer therapy.

PROFESSIONAL DEVELOPMENT

UCL offered Professor Stride a Readership at the end of her Fellowship and she later moved to the University of Oxford where she was promoted to a full professorship in 2014. Professor Stride now leads a research group that includes eight PhD students, eight postdoctoral students and four master's project students. She has achieved this by leveraging funding from the Engineering and Physical Sciences Research Council, among others. "The reputation of the Academy and the Fellowship has undoubtedly been valuable in my subsequent applications for grant funding," she explains. "Working with the Academy has also given me fantastic opportunities for public engagement."

RAENG RESEARCH FELLOWSHIPS

Royal Academy of Engineering Research Fellowships are designed to promote excellence in any field of engineering. The scheme provides support for high-quality engineers and encourages them to develop successful academic research careers. Research Fellows receive funding for five years and are mentored by a Fellow of the Academy.

Royal Academy of Engineering
Prince Philip House, 3 Carlton House Terrace, London SW1Y 5DG
@RAEngNews | Email: research@raeng.org.uk | www.raeng.org.uk