Dr Ioannis Paraskevopoulos is a senior lecturer in the Department of Computing and Information Systems at the University of Greenwich. In 2016, he was awarded a Royal Academy of Engineering Industrial Fellowship to collaborate with QinetiQ¹ to develop disruptive gaming platforms for use in training and education.
RESEARCH
Through gamification (applying elements of game playing to other areas of activity), engineers are developing novel technologies that are creating new opportunities for learning and behaviour change. A Royal Academy of Engineering Industrial Fellowship enabled Dr Paraskevopoulos to bring significant expertise in this field to a collaboration with multinational defence technology leaders, QinetiQ.

“The opportunity to work on a cutting-edge project with QinetiQ was unmissable,” says Dr Paraskevopoulos. “The Industrial Fellowship provided the ideal framework for us to develop an innovative platform for, and with the aid of, the Royal Navy to support and enhance the training and education of submariners.”

By combining machine learning, virtual reality and gamification, they developed a state-of-the-art solution for innovative learning that can be used in many scenarios, beyond defence.

IMPACT
The Industrial Fellowship gave QinetiQ access to expertise in an area of identified need. “They benefited from my experience in developing serious games and gamification for training and education,” explains Dr Paraskevopoulos. “I contributed to the overall system architecture design and acted as technical leader for the gamification component of the platform.”

In-house funding for maritime training was used to develop the concept demonstrator. It covered a range of topics in a submarine use case including a total training environment from individual to whole boat training. It also engaged innovative learning techniques such as fully immersive, 3D virtual walkthroughs of synthetic compartments and interactive, gamified team scenarios.

“My Industrial Fellowship provided me with invaluable skills and knowledge of industrial practices that had an immediate impact on my professional development.”

Students at the University of Greenwich also benefited from the collaboration. “I have used the experience to develop a new course on ‘gamification,’” notes Dr Paraskevopoulos. “We are in discussion with QinetiQ about PhD scholarships, a mentorship scheme and placements for undergraduate students. We have also organised invited talks with experts from both sides.”

PROFESSIONAL DEVELOPMENT
The Industrial Fellowship enabled Dr Paraskevopoulos to consolidate a relationship with QinetiQ. “It was an invaluable opportunity to gain experience in a world-leading industrial environment,” he adds. “I also had access to a wide range of professional development resources, such as project management and leadership courses, at QinetiQ.”

ROYAL ACADEMY OF ENGINEERING INDUSTRIAL FELLOWSHIP SCHEME
The Industrial Fellowships scheme provides an invaluable opportunity for early- to mid-career academics to undertake a collaborative research project in an industrial environment. The scheme aims to strengthen the strategic relationship between the university and the industry host by providing an opportunity to establish or enhance collaborative research between the two parties and enhance the quality of teaching.

1. “QinetiQ is dedicated to defending sovereign capability, protecting lives and securing the vital interests of our customers.”
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