# Role profile

| Job title | Research Associate/Fellow (Title will be 'Research Associate' where an appointment is made before PhD is completed) | Job family and level | Research and Teaching Level 4 (Appointment will be Level 4 Career Training Grade where an appointment is made before PhD has been completed) |
|---|---|---|---|
| School/ Department | Optics and Photonics Research Group, Faculty of Engineering | Location | University Park Campus |

## Purpose of role

This new position will be to develop nanoscale imaging techniques based on the optical and mechanical resonances of nanostructures. This involves the design, modelling, fabrication and measurement of the opto-mechanical properties of nano structures. These nano structures will then be used to enhance the resolution of phonon microscopy imaging techniques.

| | Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role) | % time per year |
|---|---|---|
| 1 | To deliver research as part of a collaborative multidisciplinary team and contribute to the achievement of specific research objectives. | 60% |
| 2 | To contribute to papers for submission to peer-reviewed journals and conferences. | 15% |
| 3 | To present the results of research at project progress meetings. | 10% |
| 4 | To assist in the co-ordination of the research and related administrative tasks, including liaising with external project collaborators, day-to-day laboratory management and providing assistance with supervision of students. | 15% |

## Person specification

| | Essential | Desirable |
|---|---|---|
| **Skills** | ▪ Proven research skills<br>▪ Oral and written communication skills, including the ability to communicate with clarity on complex information. | ▪ Advanced Matlab programming<br>▪ Experienced with Linux<br>▪ Development of hardware drivers in C/C++<br>▪ MECA500 robotics |

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|  | <ul><li>Skilled in the design and implementation of optical systems</li><li>Computer programming skills</li><li>Good analytical skills</li><li>Ability to build relationships and collaborate with others, internally and externally.</li><li>Ability to work well in a team environment</li><li>Ability to work to deadlines and prioritise tasks</li><li>Excellent presentation skills</li><li>Demonstrate initiative and creativity in problem solving</li><li>Optical design and building</li></ul> | <ul><li>Good signal processing and data analysis skills in matlab with laser ultrasound data</li></ul> |
| **Knowledge and experience** | <ul><li>Previous experience in a multidisciplinary research environment</li><li>Experience in laser ultrasound</li><li>Experience of optical design, techniques and experimentation</li><li>Experienced Class 4 laser user</li><li>Experience of designing class 4 laser safety systems</li><li>Laser ultrasonics</li></ul> | <ul><li>Experiment design and optimisation</li><li>Working in multidisciplinary team</li><li>Experience with LIPA</li><li>Experience with PA</li><li>Experience with Aconity Midi+ SLM</li><li>Low level programming, inc drivers.</li></ul> |
| **Qualifications, certification and training (relevant to role)** | <ul><li>Good honours degree (BSc/Eng or MSc or equivalent) in Physics, Electrical and Electronic Engineering, or other relevant engineering or science subject</li><li>PhD or be near to completion in Physics or Electrical and Electronic Engineering, or other relevant engineering or science subject</li></ul> | <ul><li>PhD in Electrical and Electronic Engineering</li></ul> |

# Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

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| **Valuing people** | Is friendly, engaging and receptive, putting others at ease. Actively listens to others and goes out of way to ensure people feel valued, developed and supported. |
| **Taking ownership** | Is clear on what needs to be done encouraging others to take ownership. Takes action when required, being mindful of important aspects such as Health & Safety, Equality, Diversity & Inclusion, and other considerations. |
| **Forward thinking** | Drives the development, sharing and implementation of new ideas and improvements to support strategic objectives. Engages others in the improvement process. |
| **Professional pride** | Is professional in approach and style, setting an example to others; strives to demonstrate excellence through development of self, others and effective working practices. |
| **Always inclusive** | Builds effective working relationships, recognising and including the contribution of others; promotes inclusion and inclusive practices within own work area. |

# Key relationships with others

**Line manager**

Professor of Applied Optics

**Role holder**

**Research Associate/ Fellow**

**Colleagues**          Students