



Job title	Research Fellow in High Power, Power Electronic Converters (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	Faculty of Engineering, Power Electronics, Machines and Control Research Group	Location	Department of Electrical & Electronic Engineering, Jubilee and University Park Campuses

Purpose of role

This post is associated with ongoing research in the development and control of power electronic converters. Good communication skills are essential since the successful candidate will work closely with other colleagues and industrial partners.

	Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)	% time per year
1	To deliver research as part of a collaborative team and contribute to the achievement of specific research objectives	60%
2	To collaborate in writing papers for submission to journals and conferences and prepare progress reports on the results of research.	5%
3	To assist in the co-ordination of the research and related administrative tasks, including liaising with external project collaborators and providing assistance with supervision of doctoral students.	5%
4	To write up research work for publication and/or contribute to the dissemination at national/international conferences, resulting in successful research outputs.	10%
5	To build relationships with both internal and external contacts in order to exchange information, to form relationships for future collaborations and identify potential sources of funds and/or opportunities for collaboration.	5%
6	To co-ordinate the operational aspect of research networks, for example, arranging meetings and updating websites etc and contribute to collaborative decision making with colleagues in area of research.	2.5%
7	To provide support, guidance, and supervision to other staff within the research team, where appropriate in own area of expertise.	5%

8	To supervise postgraduate students projects and placements, as appropriate. To participate in the assessment of student knowledge and co-supervise projects at Masters and PhD level.	5%
9	To utilise and contribute to organising research resources, facilities and laboratories as appropriate.	2.5%

Person specification

	Essential	Desirable
Skills	<ul style="list-style-type: none"> • Outstanding programming skills including software for programming DSP/FPGA control platforms • Outstanding IT skills in using of Power Electronic design software, including packages such as PLECS, and MATLAB/Simulink • Excellent oral and written communication skills, including the ability to communicate with clarity on complex information. • Presentation skills. • Ability to work well in a team and proven experience with industrial collaboration. • Ability to work to deadlines and prioritise tasks. • Creativity and analytical thinking skills to carry out as well as manage innovative and high quality research 	<ul style="list-style-type: none"> • Ability to foster a research culture and commitment to learn in others • Creativity and leadership in problem solving • Project management skills/experience
Knowledge and experience	<ul style="list-style-type: none"> • Practical experience in design, construction and testing of power electronic converters • Experience in the implementation and design of modulation and control applied to power electronic converters • Experience of power electronics research • Good knowledge of advanced design, analysis, control methods and hardware construction/testing for power electronic converters • Extensive knowledge of the technologies needed in Power Converter design and implementation 	<ul style="list-style-type: none"> • Relevant experience in an International leading research team • High quality publications in peer reviewed journals
Qualifications, certification and training (relevant to role)	<ul style="list-style-type: none"> • Hold or be shortly due to obtain a PhD, or equivalent in Electrical Engineering related to work on Power Electronic Converters or a very closely related topic 	



The University strongly endorses Athena SWAN principles, with commitment from all levels of the organisation in furthering women's careers. It is our mission to ensure equal opportunity, best working practices and fair policies for all.

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:

- Valuing people** Is always equitable and fair and works with integrity. Proactively looks for ways to develop the team and is comfortable providing clarity by explaining the rationale behind decisions.
- Taking ownership** Is highly self-aware, looking for ways to improve, both taking on board and offering constructive feedback. Inspires others to take accountability for their own areas.
- Forward thinking** Driven to question the status quo and explore new ideas, supporting the team to "lead the way" in terms of know-how and learning.
- Professional pride** Sets the bar high with quality systems and control measures in place. Demands high standards of others identifying and addressing any gaps to enhance the overall performance.
- Always inclusive** Ensures accessibility to the wider community, actively encouraging inclusion and seeking to involve others. Ensures others always consider the wider context when sharing information making full use of networks and connections.

Key relationships with others

