

Job Details

Position:	Marie Curie Early Stage Researcher
School/Department:	School of Electronics, Electrical Engineering and Computer Science
Reference:	12/102392
Closing Date:	Monday 14 January 2013
Salary:	£35,005 per annum with a monthly mobility allowance of up to £921
Anticipated Interview Date:	Monday 18 February 2013
Duration:	Three years

JOB PURPOSE:

To be an active member of a research project team assisting in the delivery of research and training activities within a specified project scope aimed to meet overall research objectives and to submit a thesis in fulfilment of the requirements of a PhD degree.

MAJOR DUTIES:

1. Enrol in a PhD by research programme and carry out the research and training activities specified by a personal development plan (PDP).
2. Conduct research in one of the following topical areas:
 - Multiband transmitter and power amplifier architectures
 - Electrochromic materials for tunable devices
 - Adaptive antennas for interference mitigation in cellular wireless networks
 - Passive intermodulation in passive and tunable components and devices
3. Undertake basic research that includes computer simulations, design and implementation of the prototype devices for laboratory experiments, critical evaluation, analysis and interpretation of the obtained results in consultation with the assigned supervisor.
4. Record, analyse and write up results of own work and contribute to the production of research reports and publications.
5. Prepare regular progress reports on the performed research and training activities.
6. Present the research outcomes to the group research seminars and to external audiences to disseminate and publicise research findings.
7. Actively participate in the PhD training activities.
8. Study and follow the technical literature including academic papers, journals and textbooks to keep abreast with the state-of-the-art in the project topical area.
9. Carry out undergraduate supervision/demonstrating/teaching duties under supervisor direction and according to the university regulations.
10. Undertake mandatory industrial placement at Bell Labs Ireland, Alcatel-Lucent.
11. Work closely with industrial collaborators and facilitate knowledge transfer between QUB and Bell Labs Ireland.
12. Carry out routine administrative duties as requested, e.g. arranging research programme group meetings, maintaining research programme group website, contributing to organisation of the programme group training events.
13. Take part in an outreach programme.

Planning and Organising:

1. Contribute to the PDP development and regular updates.
2. Manage own time and meet agreed deadlines.
3. Plan own day-to-day activity within the framework of the agreed research and training programme.
4. Contribute to the planning of research and training activities, reports and publications.
5. Actively contribute to organisation of outreach activities events.

Resource Management Responsibilities:

1. Ensure research resources are used in an effective and efficient manner.
2. Provide guidance as required to support staff and any students involved with research and training.

Internal and External Relationships:

1. Liaise with research colleagues and support staff on routine matters.
2. Make internal and external contacts to develop knowledge and understanding and form relationships for future collaboration.
3. Attend and contribute to relevant meetings and training events.
4. Contribute to the School and project outreach programmes by establishing links with local community groups, industries etc.

ESSENTIAL CRITERIA:

1. 1st class or 2.1 Honour Degree or equivalent in Electrical Engineering, Physics or related discipline awarded after 1 June 2009.
2. Demonstrable knowledge of High Frequency Design techniques, Antennas, Microwave devices and circuits, Electromagnetic materials.
3. Familiarity with the basics of the microwave and/or circuit simulation tools and general use software.
4. Sufficient breadth or depth of specialist knowledge in microwaves devices, antenna theory or high frequency devices design, RF material physics.
5. Ability to act effectively as a laboratory demonstrator.
6. Willingness to contribute to the School and project outreach activities.
7. Strong analytical and problem solving skills.
8. Ability to logically conceptualise and summarise the research findings.
9. Advanced computing skills.
10. Excellent verbal and writing communication skills.
11. Ability to interact with colleagues and staff.
12. Demonstrable intellectual ability.
13. Ability to communicate complex information clearly.
14. Ability to organise resources, manage time and meet deadlines.
15. Be eligible and qualified for enrolment in the PhD programme at QUB.
16. Be willing and able to spend 50% of their contract time for mandatory industrial placement at Bell Labs Ireland, Alcatel-Lucent, Dublin, Ireland.
17. Be willing to travel to programme meetings and present at conferences.

DESIRABLE CRITERIA:

1. Specialisation in microwaves, antennas or high frequency devices and RF systems, material physics, non-linear wave phenomena, or related disciplines.
2. Experience in the design of nonlinear and/or active RF devices.
3. Familiarity with microwave measurements techniques.
4. Knowledge of the electromagnetic simulators such as CST Microwave Studio and ADS, and generic tools: Mat Lab, Mathcad, etc.
5. Placements or work experience in an industrial research and/or development environment.
6. A practical experience of applying specialist skills and techniques required for undertaking PhD programme.
7. Willingness to assist in undergraduate supervision and teaching.
8. Experience in the website development and maintenance.