



# **Marie Curie COFUND Programme Application Guidelines**

## **SPaRK**

Supporting Pioneer doctoral Researchers through 3i Knowledge partnerships

Round Two

**10 PhD Studentships/Early Stage Researcher Contracts Available**

**Studentships start October 2018**  
**Closing Date and Time for Submission of Application**  
**Wednesday 11<sup>th</sup> April 2018 @ 16.00 UTC**

<b>CONTENTS</b>		<b>Page</b>
<b>Section One</b>	What is SPaRK?	2
<b>Section Two</b>	Employment Contract and Salary	5
<b>Section Three</b>	Job Details	5
<b>Section Four</b>	Projects for Application	7
<b>Section Five</b>	Eligibility Requirements	20
<b>Section Six</b>	The Selection Process	20
<b>Section Seven</b>	How to Apply	23
<b>Section Eight</b>	General Information	27
<b>Section Nine</b>	Application Checklist and Contact Details	29

## Section One: What is SPaRK?

SPaRK is a Horizon2020 funded Marie Skłodowska-Curie doctoral training programme that supports interdisciplinary PhD students at Queen's University Belfast. PhD students funded within Marie Skłodowska-Curie programmes have the title of Early Stage Researcher (ESR).

At its core, the SPaRK Programme is driven by the need to develop future leaders whose skills combine disciplinary excellence with a capacity for interdisciplinary, intersectoral and international (3i) working that creates genuinely disruptive thinkers. These are the thinkers who will have the edge in a highly competitive, global job market.

Why? Because they have not only disciplinary expertise but also the intellectual flexibility required to respond to a constantly changing professional environment and broader socio-economic landscape. In essence, SPaRK combines ground-breaking research projects with higher level skills development at cohort level which seeks to produce creative thinkers and problem-solvers.

SPaRK researchers are based in academic Schools or research institutes across all three of Queen's Faculties: Arts, Humanities and Social Sciences (AHSS); Engineering and Physical Sciences (EPS); and Medicine, Health and Life Sciences (MHLS). In addition, they are trained as a cohort via the Graduate School to be Thinkers, Leaders, Innovators and Communicators who are Future-Ready. The Graduate School provides world-class facilities as well as an intellectual hub for 3i training, debate and dialogue.

## What does it mean to be a 3i Researcher?

Unlike other doctoral training programmes, SPaRK recognises that game-changing intersectoral, international and interdisciplinary collaboration does not happen simply by making opportunities for mobility available. Rather, the SPaRK programme is designed to offer a dynamic and innovative model of professional and scientific development at doctoral level that proactively trains researchers in the skills and competencies necessary to maximise the potential of these 3i partnerships.

The SPaRK project will fund PhD places which focus on leadership, innovation, creativity, and mentoring by sectoral leaders at their core. Every SPaRK funded PhD project will also be interdisciplinary, will involve training and development programmes, and will involve meaningful engagement with a non-HEI partner.

### Intersectoral dimension

- Mentoring of doctoral candidates by researchers and/or experts from the non-academic sector; all researchers will have a third supervisor from an external partner.

- Inviting researchers working in industry or other organisations from the non-academic sector to deliver workshops on leadership, innovation, creative thinking, entrepreneurship, exploitation of research results, ethics, patenting etc.
- Exposing researchers to various socio-economic actors gathered in the Graduate School, which will act as an intersectoral hub for the SPaRK cohorts.
- Offering placement opportunities to enable researchers to develop their projects through contact with/immersion in non-academic partner organisations.

### **Interdisciplinary dimension**

- Each ESR will have a co-supervisor from a different discipline.
- ESRs from different disciplines will benefit from high level cohort training in which skills development programmes are delivered across disciplines.
- Opportunities for laboratory rotations and visits.
- Training research leaders in all areas of knowledge, from physical sciences to humanities, from social sciences to life sciences.

### **International dimension**

- Candidates will be selected with the support of international experts as evaluators.
- Candidates will be internationally mobile in line with the mobility requirement.
- Promoting engagement with the international community at Queen's University Belfast.
- Opportunities to take courses abroad to acquire specific skills.
- Developing partnerships and collaborations with research institutes, companies and other relevant socio-economic actors in different countries.
- Supporting ESRs' participation in international conferences and events.

## **The Marie Skłodowska-Curie actions in Horizon 2020**

The Marie Skłodowska-Curie actions (MSCA) aim to support the career development and training of researchers – with a focus on innovation skills – in all research disciplines, through international and intersectoral mobility.

The MSCA are expected to finance around 65 000 researchers between 2014 and 2020, including 25 000 doctoral candidates. The actions will address several objectives of the Europe 2020 strategy, including the Innovation Union flagship initiative. The latter states that the EU will need at least one million new research jobs if it is to reach the target of spending 3% of EU GDP on research and development by 2020.

By funding excellent research and providing attractive working conditions, the MSCA offer high-quality professional opportunities open to researchers of any age, nationality or discipline.

## Section Two: Employment Contract and Salary

SPaRK ESRs will be employees of Queen's University Belfast while completing their doctoral study and thus enjoy a wide range of opportunities and benefits. They will receive full social security coverage, ensuring them access to healthcare and will have full membership of the Universities Superannuation Scheme. ESRs will also benefit from other general conditions for QUB staff members such as annual leave entitlement (23 days), child care vouchers and the Perks Card.

Further information on terms and conditions can be found at the following website link (Academic/Support staff section).

<https://www.qub.ac.uk/directorates/HumanResources/MoreDetails/EmployeeBenefits/PayandConditions/TermsandConditions/>

For further information on Queen's commitment to excellence as an employer, please go to: [www.qub.ac.uk/sites/StaffGateway](http://www.qub.ac.uk/sites/StaffGateway)

The SPaRK Programme offers a generous remuneration package based on a basic per annum salary of £21,917.17 with pension or £25,576.45 without pension.

For further information on the remuneration package, contact Ms Aveen Lavery, EC Research Finance Manager ([a.lavery@qub.ac.uk](mailto:a.lavery@qub.ac.uk)).

## Section Three: Job Details

Position: Early Stage Researcher (Full-time) – Marie Curie COFUND SPaRK Programme

School/Department: Dependent on project

Reference:

Closing Date: 16.00 UTC, 11<sup>th</sup> April 2018

Salary: £21,917.17 with pension or £25,576.45 without pension.

### **JOB PURPOSE**

Reporting to their Principal Supervisor, the Early Stage Researcher is responsible for the completion of a PhD within the time-scale set (three years). The ESR will be fully responsible for the development of a research plan and subsequently for the delivery of that plan leading to successful completion of the PhD. The ESR is also responsible for attendance on a training and development programme which will involve participation in a range of training

events and collaboration with an external project partner within the non-academic sector. The ESR will be responsible for working with other researchers within the Marie Curie SPaRK Cohort and with researchers and staff within their School.

## **MAJOR DUTIES**

1. Plan for and complete a PhD within the time-scale set (3 years) ensuring that a project management approach is applied to enable a successful outcome.
2. Working closely with the Supervisory Team, ensuring that all expectations are met with regards to Queen's University Postgraduate Research Regulations (i.e. differentiation, annual progress reviews, viva completion)
3. Ensure that ethical considerations have been taken into account in the completion of the PhD and reported fully.
4. Ensure that research data is gathered appropriately and professionally and that research is written up with reference to the correct sources.
5. Attend meetings with the Supervisor Team as required and keep track of objectives set and timescales for completion.
6. Maintain a Career Development Plan as agreed with the Principal Supervisor and ensure that development needs are met within the time-scale of the Programme.
7. Attend conferences and meetings as agreed with the Supervisory Team.
8. Attend training events as outlined in the programme induction session and support the achievement of cohort projects as required.
9. Plan for and complete the employer placement as agreed with the Supervisory Team. Ensure that any expectations agreed with the employer with regards to the placement are met.
10. Ensure that research is disseminated as appropriate and as agreed with the Supervisory Team (i.e. use of PURE, Open Access arrangements).

### **Planning and Organising:**

1. Create a project plan to ensure timely completion of PhD and apply project management principles to the PhD.
2. Plan and organise time so that all the objectives of the SPaRK Programme are met, including completion of PhD project, attendance at training and development events, completion of placement etc.
3. Actively plan personal and career development, ensuring that objectives are set and met during the programme.

### **Internal and External Relationships:**

1. Ensure that communication is maintained with all those working on the SPaRK Programme, including the Supervisory Team, the SPaRK Coordinator, relevant departments and staff within the University, external mentors and placement coordinators.
2. Ensure that SPaRK Project Coordinator is kept informed of any personal or cohort issues within the Programme that will affect its successful completion.

## **ESSENTIAL CRITERIA**

1. Able to evidence having already reached academic threshold for PhD study as defined within the SPaRK Programme and in relation to disciplinary norms.
2. Is an Early Career Researcher as defined by the European Union in its funding agreements.

3. Complies with the mobility rule as defined by the European Union in its funding agreements.
4. Has experience of research and of working in research teams.
5. Has a significant level of ambition in relation to their future as researchers.
6. Is able to communicate a clear statement of motivation for the project and the programme.
7. Is able to show motivation and willingness to work with partners from the non-Higher Education Sector.
8. Is able to communicate their research vision to a non-academic audience.
9. Is able to present information in a comprehensible and engaging manner.
10. Able to work and attend training events in different locations throughout Europe as determined and agreed with the supervisory team.

#### DESIRABLE CRITERIA

1. Evidence of exceptional academic achievement in relation to degree (undergraduate and Masters) awards.
2. Evidence of high quality and relevant professional experience that has equipped the researcher with outstanding skills.
3. Evidence of scholarly publication.

## Section Four: Projects for Application

Only the projects listed below can be applied for within the SPaRK Programme. More than one project can be applied for, however each different project application requires a separate application on the University Direct Admissions Portal.

**It is recommended that all applicants should contact the relevant principal supervisor below *before* making an application.**

### Faculty of Arts, Humanities and Social Sciences

There is more detailed information on all the projects, on the 'projects' section of the website.

Project Title	Principal Supervisor	Email Contact	School Project Based In	Minimum Academic Entry Requirements	English Language Requirements
Mental Health Pathways from Childhood to Adulthood	Prof Duncan McVicar	d.mcvicar@qub.ac.uk	Management	Normally a UK 2.1 Honours degree (or equivalent qualification acceptable to the University) and a UK Masters degree in a relevant discipline with a final result of 60% (or equivalent qualification acceptable to the University).	Evidence of an IELTS* score of 7.0, with not less than 6.0 in any component is required (*taken within the last 2 years).
Chinese Customs Houses and	Dr Emma Reisz	Emma.Reisz@qub.ac.uk	History, Anthropology,	The minimum academic requirement for admission to a research degree programme is	Evidence of an IELTS* score of 6.5, with not less than 5.5 in any

Sino-Western Encounter in the Unequal Treaty Era (1854-1949)			Philosophy and Politics	normally an Upper Second Class Honours degree from a UK or ROI qualification acceptable to the University.	component (*taken within the last 2 years) is required.
Speaking out in banking and finance-- Institutional and organizational frameworks.	Prof Kate Kenny	k.kenny@qub.ac.uk	Management	<p>Normally a UK 2.1 Honours degree (or equivalent qualification acceptable to the University) and a UK Masters degree in a relevant discipline with a final result of 60% (or equivalent qualification acceptable to the University).</p> <p>Applicants who hold a UK 2.2 Honours degree (or equivalent qualification acceptable to the University) may be considered if they hold a UK Masters degree in a relevant discipline with the result stipulated above (or equivalent HE provider, and a Masters-level qualification or an equivalent qualification acceptable to the University).</p>	Evidence of an IELTS* score of 7.0, with not less than 6.0 in any component is required (*taken within the last 2 years).
The impact of intimate partner violence (IPV) on teenage women's educational well-being.	Dr Maria Pentaraki	m.pentaraki@qub.ac.uk	Social Sciences, Education and Social Work	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University	Evidence of an IELTS* score of 6.5, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Precarity, debt and the social work profession in Greece through a political economy lens.	Dr Maria Pentaraki	m.pentaraki@qub.ac.uk	Social Sciences, Education and Social Work	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.5, with not less than 5.5 in any component (*taken within the last 2 years) is required.

King Cotton's Future: Speculation and innovation in the 19th century Anglo-American Cotton trade.	Dr Matthias Blum	Matthias.Blum@qub.ac.uk	Management	Normally a UK 2.1 Honours degree (or equivalent qualification acceptable to the University) and a UK Masters degree in a relevant discipline with a final result of 60% (or equivalent qualification acceptable to the University).	Evidence of an IELTS* score of 7.0, with not less than 6.0 in any component is required (*taken within the last 2 years).
An interdisciplinary research project to develop a hybrid model of simulation-based education and training for healthcare professionals preparing to work in conflict zones.	Dr Paul Murphy	p.murphy@qub.ac.uk	Arts, English and Languages	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.5, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Developing an art-based methodology to improve healthcare in pregnancy.	Dr Paul Murphy	p.murphy@qub.ac.uk	Arts, English and Languages	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.5, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Resilient Water Management as a Circular Economy: Network analysis of pollution abatement in the NI water system.	Prof Rob Gilles	r.gilles@qub.ac.uk	Management	Normally a UK 2.1 Honours degree (or equivalent qualification acceptable to the University) and a UK Masters degree in a relevant discipline with a final result of 60% (or equivalent qualification acceptable to the University).	Evidence of an IELTS* score of 7.0, with not less than 6.0 in any component is required (*taken within the last 2 years).

The Value of Community-based Art Projects.	Dr Rosalind Silvester	r.silvester@qub.ac.uk	Arts, English and Languages	Normally a 2.1 Honours degree or above in a related subject or equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.5, with not less than 5.5 in any component, or an equivalent qualification acceptable to the University is required. *Taken within the last 2 years.
The Authority of the Authority.	Prof Thèrèse Murphy	t.murphy@qub.ac.uk	Law	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 7.0, with not less than 5.5 in any component is required (*taken within the last 2 years).
The Place of Law in Disaster Relief.	Prof Thèrèse Murphy	t.murphy@qub.ac.uk	Law	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 7.0, with not less than 5.5 in any component is required (*taken within the last 2 years).
Festivalisation, Culture and Conflict	Prof Margaret Topping	m.topping@qub.ac.uk	Arts, English and Languages	Normally a 2.1 Honours degree or above in a related subject or equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.5, with not less than 5.5 in any component, or an equivalent qualification acceptable to the University is required. *Taken within the last 2 years.

## Faculty of Medicine, Health and Life Sciences

There is more detailed information on all the projects, on the 'projects' section of the website.

Stem Cells – Novel Targets for Parasite Control?	Prof Aaron Maule	a.maule@qub.ac.uk	Biological Sciences	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.5, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Enzyme Discovery from the Salt of the Earth: Discovery of transaminase enzymes from extremely halophilic microorganisms from an ancient hypersaline environment for Active Pharmaceutical Ingredient (API) synthesis.	Prof Brendan Gilmore	b.gilmore@qub.ac.uk	Pharmacy	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.

Novel Anti-inflammatory Approaches to Ameliorate Chronic Inflammatory Lung Disease.	Prof Chris Taggart	c.taggart@qub.ac.uk	Medicine, Dentistry and Biomedical Sciences	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Monitoring drug levels through responsive hydrogel sensors.	Prof Colin McCoy	c.mccoy@qub.ac.uk	Pharmacy	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Extraction of biomolecules from renewable sources for the manufacturing of biomedical materials.	Dr Eneko Larrañeta	e.larraneta@qub.ac.uk	Pharmacy	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Impacts of improved animal parasite control on community-led markets for sustainable food.	Prof Eric Morgan	Eric.Morgan@qub.ac.uk	Biological Sciences	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.5, with not less than 5.5 in any component (*taken within the last 2 years) is required.

3D-printed bioscaffolds incorporating peptide hydrogel for use in regenerative medicine.	Dr Garry Laverty	Garry.Laverty@qub.ac.uk	Pharmacy	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Dissection of protease signalling during bacterial infection for drug and biomarker discovery.	Dr Gunnar Schroeder	g.schroeder@qub.ac.uk	Medicine, Dentistry and Biomedical Sciences	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.5, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Development of a <b>Nanomedicine</b> in an <b>Electrospun Patch for Wound Healing</b> ' ( <b>NEW</b> )	Prof Helen McCarthy	h.mccarthy@qub.ac.uk	Pharmacy	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.
An exploration of complex treatment decisions with older people deciding between dialysis and palliative care in end-stage kidney disease.	Dr Helen Noble	Helen.Noble@qub.ac.uk	Nursing and Midwifery	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.5, with not less than 5.5 in any component (*taken within the last 2 years) is required.

Network Pharmacology for Novel Cancer Combination Therapies and Diagnostics.	Dr Ian Overton	i.overton@qub.ac.uk	Medicine, Dentistry and Biomedical Sciences	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Invasive Species in an Artificial World.	Prof Jamie Dick	j.dick@qub.ac.uk	Biological Sciences	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.5, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Pre-nucleation aggregates in amorphous pharmaceuticals.	Dr Katharina Edkins	k.edkins@qub.ac.uk	Pharmacy	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Developing mobile technology for home monitoring of diabetes in pregnancy.	Dr Lana McClements	l.mcclements@qub.ac.uk	Medicine, Dentistry and Biomedical Sciences	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.

International comparison of health and academic outcomes in children and youth with brain injuries.	Dr Mark Linden	m.linden@qub.ac.uk	Nursing and Midwifery	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.5, with not less than 5.5 in any component (*taken within the last 2 years) is required.
A Platform for Precision Phenotyping of Farmed Animals.	Dr Nikki Marks	n.marks@qub.ac.uk	Biological Sciences	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.5, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Transforming care for people with diabetes.	Dr Noleen McCorry	n.mccorry@qub.ac.uk	Medicine, Dentistry and Biomedical Sciences	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Metabolomics for early detection of Pancreatic Ductal Adenocarcinoma Recurrence.	Dr Richard Turkington	r.turkington@qub.ac.uk	Medicine, Dentistry and Biomedical Sciences	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.

Agricultural Policy and Public Health: Integrative Frameworks to Explore Food Security.	Dr Vikki O'Neill	vikki.oneill@qub.ac.uk	Medicine, Dentistry and Biomedical Sciences	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.
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## Faculty of Engineering and Physical Sciences

There is more detailed information on all the projects, on the 'projects' section of the website.

Improved vertical wind profile estimations to support offshore wind farm maintenance and operations Activities.	Dr Aoife Foley	a.foley@qub.ac.uk	Mechanical and Aerospace Engineering	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Van der Waal's Heterostructures Based on Two-Dimensional Materials: Towards Electronics and Optoelectronics Applications.	Dr Elton Santos	e.santos@qub.ac.uk	Maths and Physics	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.

Synthesis and modelling of multifunctional hierarchical thin-ply/CNTs/GNP composites.	Dr. Giuseppe Catalanotti	g.catalanotti@qub.ac.uk	Mechanical and Aerospace Engineering	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.
The Impacts Of Permafrost Degradation On Peatland Biota And Transport Infrastructure In The Central Northwest Territories, Canada	Dr Helen Roe	h.roe@qub.ac.uk	Natural and Built Environment	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.5, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Biological effects of laser-accelerated ion bursts.	Prof Marco Borghesi	m.borghesi@qub.ac.uk	Maths and Physics	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component. (*taken within the last 2 years) is required.
Discovering and Understanding Selective Oxidation Catalysts.	Dr Mark Muldoon	m.j.muldoon@qub.ac.uk	Chemistry and Chemical Engineering	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Rational engineering lipases for industrial applications.	Dr Meilan Huang	m.huang@qub.ac.uk	Chemistry and Chemical Engineering	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required

Measuring effects of ageing on cortical activity during posture-cognitive multitasking using fNIRS and EEG.	Dr Mihalis Doumas	m.doumas@qub.ac.uk	Psychology	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 7.0, with not less than 6.5 in any component (*taken within the last 2 years) is required.
Development of an Intelligent, Robotic Manufacturing Cell for Rotational Moulding.	Dr Peter Martin	p.j.martin@qub.ac.uk	Mechanical and Aerospace Engineering	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Interplay between electron-electron and electron-phonon interactions in nanostructures.	Dr Tchavdar Todorov	t.todorov@qub.ac.uk	Maths and Physics	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Real-time Flood Monitoring System Employing Telecommunications Networks and Machine Learning.	Dr Trung Duong	Trung.q.Duong@qub.ac.uk	Electronics, Electrical Engineering and Computer Science	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Human-robot motor coordination: robots inferring human intention.	Prof Seán McLoone,	s.mcloone@qub.ac.uk	Electronics, Electrical Engineering and Computer Science	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.

Semi-supervised learning for soft sensors in advanced manufacturing.	Prof Seán McLoone,	s.mcloone@qub.ac.uk	Electronics, Electrical Engineering and Computer Science	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Motion Planning And Representation Learning Under Uncertainty For Motor Primitives And Robotics.	Dr Wasif Naeem	w.naeem@ee.qub.ac.uk	Electronics, Electrical Engineering and Computer Science	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Next Generation Chiral Analysis for Ultrafast Science and Commercial Applications.	Dr Jason Greenwood	j.greenwood@qub.ac.uk	Maths and Physics	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.0, with not less than 5.5 in any component (*taken within the last 2 years) is required.
Investigation of factors affecting the bioavailability of contaminants in rural and urban soils to humans	Dr Siobhan Cox	s.cox@qub.ac.uk	Natural and Built Environment	The minimum academic requirement for admission to a research degree programme is normally an Upper Second Class Honours degree from a UK or ROI HE provider, or an equivalent qualification acceptable to the University.	Evidence of an IELTS* score of 6.5, with not less than 5.5 in any component (*taken within the last 2 years) is required.

## Section Five: Eligibility Requirements

The following criteria must be met, in order for applications to be shortlisted for evaluation. The criteria are set by The Marie Skłodowska-Curie actions in Horizon 2020, Co-funding of regional, national and international programmes (COFUND).

**Early Stage Researcher:** ESR's must be, at the time of recruitment (understood as the call deadline: 11<sup>th</sup> April 2018), in the first four years (full-time equivalent) of their research careers and ***must not have been awarded a doctoral degree***. This is measured from the date when the researcher obtained the degree entitling him or her to embark on a doctorate, ***either in the country in which the degree was obtained or in the country in which the researcher is recruited***, even if a doctorate was never started or envisaged.

**Mobility Rule:** Researchers shall not have resided or carried out their main activity (work, studies, etc.) in the country of their host organisation ***for more than 12 months in the 3 years immediately prior to the call deadline (11<sup>th</sup> April 2018)***. Compulsory national service and/or short stays such as holidays are not taken into account.

In relation to the SPaRK Programme, the country of the host organization is **United Kingdom**, of which Northern Ireland is a part.

All applications will be checked to ensure that eligibility requirements have been met and ineligible applicants will be informed by **11<sup>th</sup> May 2018**.

### Applicants who applied for Round 1

Applicants who have already applied for the SPaRK Programme (Round 1) can apply for Round 2. Following review of Round 1, some changes have been made to the evaluation process and therefore previous applicants who are reapplying will be evaluated against an amended set of criteria and evaluation methods.

## Section Six: The Selection Process

### STAGE 1: ELIGIBILITY CHECK

The Eligibility Committee will check each application against the eligibility criteria as detailed in Section Three. If ineligible, applicants will be informed by **11<sup>th</sup> May 2018**.

### STAGE 2: EVALUATION OF ACADEMIC MERIT AND OF RESEARCH EXPERIENCE AND RESEARCH AMBITION

Each application will be reviewed independently by three evaluators, one of whom will be the principal supervisor for the project, one of whom will have a level of externality to the project (i.e. from another research cluster) and one of whom will be from a partner institution). All reviewers will mark the applications against the evaluation criteria and produce a short evaluation report per applicant. The process of evaluation of academic merit, research experience and research ambition will be scrutinised by an Evaluation Committee and a short-list of candidates will be selected for interview based on scores to date. Shortlisted candidates will progress to the interview stage and unsuccessful applicants will be notified of the outcome of the stage two evaluation process by **22nd June 2018**.

### **STAGE 3: LEADERSHIP VIDEO AND INTERVIEW**

Shortlisted applicants will be required to create and submit a 3-minute video which evidences their leadership potential. The ability to evidence leadership potential will be measured through applicants understanding of the concept of leadership and through their ability to self-reflect on their own leadership experience and leadership strengths and weaknesses.

Shortlisted applicants will also be interviewed by the Evaluation Committee. Interviews will be carried out through Skype Video. If, due to internet connection difficulties, it is difficult to hold a Skype Video interview with an applicant, a conference call will take place instead. At the interview, applicants will be required to communicate the potential societal impact of the SPaRK research project they are applying for, to an audience of both academic and non-academic members of staff.

The Evaluation Committee will review evaluation scores with the benefit of the additional scoring provided by the leadership videos and interviews and make final decisions on successful and unsuccessful applicants. Applicants who have progressed to stage 3 of the selection process will receive communication regarding whether they have been selected for positions on the SPaRK Programme by **20<sup>th</sup> July 2018**.

### **STAGE 4: APPOINTMENT OF SUCCESSFUL APPLICANTS**

The recommendations of the Evaluation Committee will be ratified by the Appointments Committee. Successful candidates will receive a letter of offer from the Human Resources Department. Contracts of employment will be conditional upon satisfactory references, satisfactory medical report, the fulfilment of any conditions specified in the offer of a place on a PhD programme from the Admissions and Access Service, confirmation of right to work in the United Kingdom and the ability to secure a valid visa and work permit, if required, from UK Visas and Immigration.

### **Evaluation Criteria, Methods and Marks Attributed**

**Applicants must be awarded at least 60% of the maximum points for *each* criterion to be shortlisted for interview.**

Criterion	Description	% of total marks attributed	Evaluation Methods
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<b>Stage Two: Evaluation of academic merit and of research experience and research ambition</b>			
Criterion 1	1.1 Academic merit assessed via academic qualifications, reference/s and academic publication.  <b>PLEASE NOTE THE MINIMUM ACADEMIC REQUIREMENTS FOR EACH PROJECT ARE LISTED IN SECTION FOUR.</b>	50%	Transcripts and Certificates  Academic reference/s  'Previous research experience' section of application form
Criterion 2	2.1 Level of research ambition both in relation to the SPaRK Project/s applied for and in relation to the applicant's research interests more broadly.	10%	Provisional Research Plan
	2.2 Level of research experience in respect of research environments within and outside of the Higher Education Sector, as well as sectors and organisations which are impacted by research outcomes.	10%	Cover Letter  'Previous research experience' section of application form  'Employment experience' section of application form  'Professional qualifications' section on application form.
<b>Stage Three: Evaluation of leadership potential, ability to communicate research vision and experience and potential for working with non-Higher Education Sectors</b>			
Criterion 3	Ability to evidence leadership potential through an understanding of the concept of leadership and through an ability to self-reflect on leadership experience and	10%	Creation of a three-minute leadership video

	leadership strengths and weaknesses.		
Criterion 4	Ability to communicate the potential societal impact of the SPaRK research project they are applying for, to experts and non-experts.	10%	Skype video interview
Criterion 5	Willingness and potential for working with partners from non-Higher Education Sectors.	10%	Skype video interview
		100%	

## Section Seven: How to Apply

Applications are made through the Queen's University Postgraduate Applications Portal. Applicants can save their application data and return to it, to complete later. Applicants must complete all elements of the online application form, noting the specific requirements for the SPaRK Programme as indicated below.

If applying for more than one project, applicants must submit multiple applications (dependent on the number of projects applied for). Applicants who have applied to SPaRK in the first recruitment round, can use their previous login details. However, applicants will be required to review and update their personal and contact details as well as academic and professional qualifications, before submitting a new application.

Closing date for submission of applications is 16.00 UTC on 11<sup>th</sup> April 2018.

The notes in this document relate specifically to applying to the SPaRK Programme and therefore **should be followed closely whilst completing the online application.**

**PLEASE NOTE THAT THE DIRECT APPLICATIONS PORTAL WILL BE UNAVAILABLE FROM 17.00 UTC ON FRIDAY 23<sup>RD</sup> MARCH 2018 TO 10.00 UTC ON MONDAY 26<sup>TH</sup> MARCH 2018.**

1	Register as an applicant via the Queen's online application portal: <a href="https://dap.qub.ac.uk/dapprd/portal">https://dap.qub.ac.uk/dapprd/portal</a>
2	<p>Complete <b>MY DETAILS</b> section as below:</p> <p><b>Personal Details</b> Please complete all fields.</p> <p><b>Address Details</b> Please complete all fields.</p> <p><b>Other Information:</b>  <b>Disability / Special Needs/ Medical Condition</b> Please complete fields as directed on application portal.  <b>Publicity</b> Please complete as directed on application portal.</p> <p><b>Criminal Record</b> Please complete as directed on application portal.</p> <p><b>Experience:</b>  <b>Academic History - Second Level/High School Experience</b> Please complete as directed on application portal.</p> <p><b>Academic History - Undergraduate / Postgraduate Details/Professional Experience</b> Applicants must tick all applicable boxes if appropriate and complete academic details as instructed on the subsequent pages.</p> <p><b>Professional Qualifications</b> Please enter any professional qualifications if relevant.</p> <p><b>Employment Experience</b> Please complete as directed on application portal. Under 'post held' please indicate whether paid or unpaid along with post title.</p> <p><b>Previous Research Experience: Details of Previous Research / Publications / Experimental / Technical Experience</b> Please complete as directed on application portal (maximum of 500 characters)</p>

	<p><b>English Language Background</b> Please complete as appropriate.</p> <p><b>Applicants whose first language is not English or whose degree was not taught in a country deemed to be majority English speaking, will need to provide evidence of English language proficiency. The English language requirement for each of the projects is outlined in the table at Section 4 of this document.</b></p> <p><b>Applicants should use the ‘Upload English Language Certificate’ button to upload a copy of their English language qualification certificate at the time of application. The qualification must be one that is acceptable to the University.</b></p> <p><b>Applicants who cannot evidence an acceptable English language qualification when applying will still be considered eligible for shortlisting and for interview if appropriate. However, any offer of employment and any offer of a place on a PhD programme, will be conditional on the applicant satisfying the English language requirement for the PhD for which they have applied.</b></p> <p><b><i>Therefore, we would strongly encourage those applicants who do not have an acceptable English language qualification, to apply for the relevant test, at the earliest opportunity.</i></b></p> <p>For further information on English language requirements for entry to Queen’s University, and a list of the English language qualifications acceptable to the University, please visit:</p> <p><a href="https://www.qub.ac.uk/International/International-students/Applying/English-language-requirements/">https://www.qub.ac.uk/International/International-students/Applying/English-language-requirements/</a></p> <p><u>School Certificates and University Transcript</u> Use the ‘Upload University Transcript’ button to upload a single PDF file which includes:</p> <ol style="list-style-type: none"> <li>1. A copy of your official undergraduate degree <i>transcript</i> (and if applicable, postgraduate degree <i>transcript</i> with an authorised translation into English, if appropriate. If you are undertaking a Masters Degree which is due to be completed before October 2018, please upload a copy of the official transcript for your studies to date, together with an English translation if appropriate. You can get this from your current University.</li> <li>2. A copy of the <i>official final award certificate</i> for your undergraduate (and if applicable, postgraduate) degrees, together with an authorised translation into English, if applicable.</li> </ol>
3	<p>Complete <b>MY APPLICATIONS</b> section as below</p> <p>Click ‘New Application’</p>

**Application Type**

Select Postgraduate Research

**Select Course**

Click on the School that the project you are applying for is based in. The School will be listed in the Table of Projects in Section 4 of this document and on the website. Then click on the subject area. Then click on Doctor of Philosophy.

**Postgraduate Research Application**

Add the title of the project for which you are applying (as listed in the Table of Projects in Section 4 of this document).

**Supervisor**

Add the name of the principal supervisor as listed in the Table of Projects in Section 4 of this document.

**Attendance Mode**

Select full time. This course is not offered as part time.

**Start Date**

Enter: October 2018

**Additional Information**

Type 'SPaRK' in the text box as well as confirmation that you have contacted the principal supervisor in relation to the project as recommended above. In this section you should also confirm your compliance with the **mobility rule** that is a key criterion for assessing eligibility. For a definition of the mobility rule see Section 5 of this document.

**Documents:**

Use the 'Upload Document' function to submit a single PDF file which includes the following:

1. A letter outlining your **motivation for applying to the SPaRK programme and relevant research experience** in respect of research environments within and outside of the Higher Education Sector, as well as sectors and organisations which are impacted by research outcomes (max. 2 pages of A4 with min. font size of 11pt).
2. A provisional **research plan** (max. 1 page of A4 with min. font size of 11pt).

**Referee Details**

Provide the email, name, address and telephone details for **two** referees. Please ensure this information is current and accurate.

- At least one of your referees should be able to comment on your *academic ability* (academic referee) and should be from the higher education provider you are currently attending or most recently attended.
- You can choose to provide the details of a referee who has been a previous employer/manager in either a paid or voluntary work setting.

People who have known you only personally (e.g. family, friends) or in the distant past (e.g. schoolteachers) are not usually suitable.

Please advise your referees in advance of submitting your application that they will be contacted by email to request a reference.

### **Funding**

Click Yes, I wish to be considered for funding.

### **Application for Funding**

Please tick the box to indicate that you wish to be considered for University administered funding and answer the questions which follow fully. In answer to the question 'To which body do you intend to apply?', please enter 'SPARK' in the box. Please also indicate whether you are prepared to self-fund if unsuccessful for the SPaRK project.

## **Section Eight: General Information**

### **Certified translations**

If your documents are not in English they should be accompanied by a formal certified translation into English provided either by the awarding institution, or alternatively by an official translator.

We will not be able to accept documents that you have translated yourself.

If you do not have translations at the time of application, please forward by email to [postgrad.admissions@qub.ac.uk](mailto:postgrad.admissions@qub.ac.uk) at the earliest opportunity.

### **Difficulty in Uploading Information to the Direct Admissions Portal**

If you are having difficulty in uploading information to the Direct Admissions Portal, please email the Admissions and Access service before the application deadline.

Tel: +44 (0)28 9097 3004

WWW: [www.qub.ac.uk](http://www.qub.ac.uk)

Email: [postgrad.admissions@qub.ac.uk](mailto:postgrad.admissions@qub.ac.uk)

### **Equal Opportunities**

Queen's University Belfast is committed to the promotion of equality of opportunity and to creating and sustaining an environment that values and celebrates the diversity of its staff and student body, in pursuance of the principle of equality of opportunity which was enshrined in the University's charter of 1908. SPaRK fully embraces this ethos, and incorporates a commitment to it in all stages of its recruitment process and subsequent ESR experience.

The project will value and promote equality and diversity and will seek to ensure that it treats all individuals fairly and with dignity and respect. It is opposed to all forms of unlawful and unfair discrimination.

The project will seek to provide equality to all, irrespective of gender, including gender re-assignment; marital or civil partnership status; having or not having dependants; religious belief or political opinion; race (including colour, nationality, ethnic or national origins, including Irish Travellers); disability; sexual orientation, and age.

Shortlisted applicants who declare a disability will be contacted by the programme administrator to determine if any special arrangements should be put in place during the interview process.

The University's Equality and Diversity Policy may be found at the web page below:

<https://www.qub.ac.uk/directorates/HumanResources/DiversityandInclusionUnit/PoliciesandProcedures/EqualityandDiversityPolicy/>

### **Right to work**

In applying for the SPaRK Programme, applicants are agreeing that they have the right to work in the UK.

### **Evidence of Qualifications at Registration**

All successful applicants will be required to provide original documentary evidence of their qualifications at registration.

## Section Nine: Application Checklist and Contact Details

- ✓ **Have you contacted the relevant project supervisor?**
- ✓ **Have you completed all sections of the application form?**
- ✓ **Have you uploaded the following information as one PDF file using the 'Upload University Transcript' button?**
  1. An official copy of your undergraduate degree (and if applicable, postgraduate degree) **transcript** with an authorised translation into English, if applicable. If you are undertaking a Masters Degree which is due to be completed before October 2018, please upload a copy of the official transcript for your studies to date together with an English translation if applicable. You can get this from your University.
  2. A copy of the **official final award certificate** for your undergraduate degree (and if applicable, postgraduate degree) with an authorised translation into English, if appropriate.
- ✓ **Have you uploaded the following using the 'Upload English Language Certificate' button?**
  1. A copy of your **English Language qualification certificate** in satisfaction of the English language requirement for the programme, if appropriate.
- ✓ **Have you uploaded the following information as one PDF file using the 'Upload Document' button?**
  1. A letter outlining your **motivation for applying to the SPaRK programme and relevant research experience** in respect of research environments within and outside of the Higher Education Sector, as well as sectors and organisations which are impacted by research outcomes (max. 2 pages of A4 with min. font size of 11pt).
  2. A provisional **research plan** (max. 1 page of A4 with min. font size of 11pt).

## Contact Details

For any problems you are having in relation to the use of the Direct Applications Portal please contact the Admissions and Access Service at:

Email: [postgrad.admissions@qub.ac.uk](mailto:postgrad.admissions@qub.ac.uk)

Tel: +44(0)28 9097 3004

For queries in relation to the SPaRK Programme contact the SPaRK Programme Team at the following email address: [sparkproject@qub.ac.uk](mailto:sparkproject@qub.ac.uk)

**PLEASE NOTE THAT THE UNIVERSITY WILL BE SHUT FOR THE EASTER BREAK FROM 9.00 UTC FRIDAY 30<sup>TH</sup> MARCH UNTIL 9.00 UTC MONDAY 9<sup>TH</sup> APRIL. ANY QUERIES YOU HAVE WITH REGARDS TO YOUR APPLICATION CAN BE MADE FROM 9.00 UTC MONDAY 9<sup>TH</sup> APRIL.**