Job Description

Imperial College London

Job Title:	Research Associate
Department/Division/Faculty:	NHLI/Cardiovascular Science (Myocardial Function)/Medicine
Campus location:	Hammersmith campus
Job Family/Level:	Research, Research Associate
Responsible to:	Professor Costanza Emanueli
Line Management responsibility for:	N/A at the moment, but the post could become co-supervisor of BSc, MRes and PhD students and research technicians
Key Working Relationships (internal):	The Emanueli team and internal collaborators (for scientific activities); Mr Peter O'Gara (for health and safety and administration); BIC and CBS facility staff (for in vivo work)
Key Working Relationships (external):	The PIs and managers of the British Heart Foundation Centre of Vascular Regeneration (CVR); postdocs and PhD students operating as part of the CVR; Prof Dan Peer and Peer lab members (Tel Aviv University), Dr Ipsita Roy (Westminster University)
Contract type:	Full-time, fixed-term until 30 September 2021

Research Programme

This post at the National Heart and Lung Institute (NHLI) is for an outstanding postdoctoral research associate. This a fantastic opportunity for a basic science scientist who is passionate, knowledgeable and very well published in cardiovascular regeneration in the setting of ischemia disease. The focus of this project is on therapeutic angiogenesis, extracellular vescicles, microRNAs, nanomedicine and biomaterial.

The post is supervised by Professor Costanza Emanueli holds a British Heart Foundation Chair in Cardiovascular Science.

The post will join the BHF Centre of Vascular Regenerative Medicine (https://www.cvs.ed.ac.uk/funding/bhf-centre-vascular-regeneration). This is coordinated by the University of Edinburgh and includes PIs based at Imperial College London, KCL and the University of Bristol. The candidate will join a highly successful team, which benefits from many national and international scientific collaborations. Our team is very well published in the field of post-ischemic therapeutic angiogenesis, microRNAs and extracellular vesicles.

The post-holder will carry out mechanistic and translational research in exosomes. They will be a highly motivated scientist and contribute to the delivery of outstanding research.

Purpose of the Post

This BHF-funded post will carry out research in endogenous exosomes and their mechanisms used to influence cardiovascular responses *in vitro*, *ex vivo* and in rodent models of myocardial ischaemia or ischaemia/reperfusion. The post will also contribute to develop new biomaterials to deliver therapeutic exosomes to the vascular endothelium of the ischaemic heart with the aim to promote vascular regeneration and blood flow recovery. For optimal development of this project, the post-holder will be working at developing and updating any promising technologies enabling to study exosomes and will integrate with multi-disciplinary teams within the Imperial College London. BHF Regenerative Centre and also collaborative partners based abroad.

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The post holder will be expected to work with the Head of the Group to publish research articles in high quality international journals and to contribute in grant proposal writing.
Moreover, they will co-supervise undergraduate and post-graduate students for their research projects

Key Responsibilities

Research Duties

- To conduct and plan own scientific work with appropriate supervision.
- To optimise and develop protocols to enable the separation and characterisation of exosomes
- To conduct data analysis
- To ensure the validity and reliability of data at all times
- To maintain highly organised and accurate record of experimental work and any related documents (including health and safety and ethics documents, when relevant)
- To participate in Group/Unit research meetings and internal seminars.
- To present findings to colleagues and at conferences or workshops
- To write scientific reports for submission to the BHF CVR2 management
- To write parts of research articles for submission to scientific journals
- To contribute to prepare research grants
- To provide guidance to graduate and undergraduate Students for their research projects

Other Duties

- To contribute to the smooth running of the Group's/Unit's laboratories and, facilities with other scientists, clinicians, technicians and students within the laboratories.
- To comply with the College, Division, and Unit safety practices and to attend courses on safety when appropriate.
- Any other duties as may be deemed reasonable by Head of group as well as Head of Division/Department/Section.
- To promote the reputation of the Group, the Department and the College
- To undertake appropriate administration tasks
- To attend relevant meetings
- To undertake any necessary training and/or development
- To support the annual submission to "ResearchFish"
- Any other duties commensurate with the grade of the post as directed by line manager / supervisor

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Person Specification

Requirements Candidates/post holders will be expected to demonstrate the following:	**Essential (E)/ Desirable (D)**
Education	
• **Research Associate:** Hold a PhD (or equivalent) studies in molecular and cellular biology, bioengineering or a closely related discipline, or equivalent research, industrial or commercial experience	E
• **Research Assistant:** Near completion of a PhD (or equivalent) in studies in molecular and cellular biology, bioengineering or a closely related discipline, or equivalent research, industrial or commercial experience	E
Knowledge & Experience	
• Cellular and molecular biology, cardiovascular biology, microRNAs and other non-coding RNA, epigenetics, microscopy, microfluidics, flow cytometry	E
• Knowledge of research methods and statistical procedures	E
• Practical experience within a research environment and / or publication in relevant and refereed journals	E
• Computer literate with a good knowledge of different computer programs with experience in data presentation and statistical analyses	E
• Practical experience in a broad range of techniques including confocal and electron microscopy, methods for DNA/RNA analyses, cell culture and cell biology, flow cytometry (including for detection and separation of exosomes)	E
• Experience of working with exosomes (mechanistic and/or translational)	E
• Experience with stem cell therapies and angiogenesis	D
• Cardiovascular research experience	E
• Experience with the use of imaging software	E
• Experience in developing new technologies	D
Skills & Abilities	
• Ability to conduct a detailed and critical review of recent literature	E
• Ability to develop and apply new concepts	E
• Creative approach to problem-solving	E
• Excellent verbal and written communication skills. Ability to give scientific talks and to write clearly and succinctly for publication	E
• Ability to supervise the work of students and technicians and to work collaboratively with other postdocs and research fellow.	E
• Ability to lead by example in the lab and motivate others to produce a high standard of work	E
• Advanced computer skills, including word-processing, spreadsheets and the Internet	E
Personal Attributes	
• Willingness to work as part of a team and to be open-minded and cooperative	E
• Ability to lead by example and motivate others to produce a high standard of work	E
• Ability to develop positively constructive working interactions with the Head of the Group, the team members and collaborators as well as a wide range of non-research staff	E
• Ability to prioritise own work in response to deadlines	E
• Willingness to undertake any necessary training for the role and the project. This will include visiting external labs in the UK and overseas, possibly for extended period	E
• Willingness to work out of normal working hours (including weekends) if the requirements of the project demand	E

• Discipline and regard for confidentiality and security at all times	E

Please note that job descriptions cannot be exhaustive and the post-holder may be required to undertake other duties, which are broadly in line with the above key responsibilities.

Imperial College is committed to equality of opportunity and to eliminating discrimination. All employees are expected to follow the 7 Imperial Expectations detailed below:

1) Champion a positive approach to change and opportunity
2) Communicate regularly and effectively within and across teams
3) Consider the thoughts and expectations of others
4) Deliver positive outcomes
5) Encourage inclusive participation and eliminate discrimination
6) Support and develop staff to optimise talent
7) Work in a planned and managed way

Employees are also required to comply with all College policies and regulations paying special attention to:

- Confidentiality
- Conflict of Interest
- Data Protection
- Equal Opportunities
- Financial Regulations
- Health and Safety
- Information Technology
- Smoking
- Private Engagements and Register of Interests

They must also undertake specific training and assume responsibility for safety relevant to specific roles, as set out on the College Website Health and Safety Structure and Responsibilities page.

The College is a proud signatory to the San-Francisco Declaration on Research Assessment (DORA), which means that in hiring and promotion decisions, we evaluate applicants on the quality of their work, not the journal impact factor where it is published. For more information, see https://www.imperial.ac.uk/research-and-innovation/about-imperial-research/research-evaluation/

The College believes that the use of animals in research is vital to improve human and animal health and welfare. Animals may only be used in research programmes where their use is shown to be necessary for developing new treatments and making medical advances. Imperial is committed to ensuring that, in cases where this research is deemed essential, all animals in the College's care are treated with full respect, and that all staff involved with this work show due consideration at every level.
http://www.imperial.ac.uk/research-and-innovation/about-imperial-research/research-integrity/animal-research/

Committed to equality and valuing diversity, we are an Athena SWAN Silver Award winner, a Stonewall Diversity Champion, a Disability Confident Employer and work in partnership with GIRES to promote respect for trans people.

May 2020