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Research Assistant / Associate

Department/Division/Faculty:	Department of Physics
Campus/Location:	South Kensington Campus
Job Family/Level:	Research Job Family, Research Assistant or Research Associate* (Research salary scale)
Responsible to:	Professor Riccardo Sapienza
Line management for:	N/A
Key working Relationships (Internal):	Research Assistants/ Associates, PhD students
Key Working Relationships (External):	N/A
Contract type:	Full Time - Fixed Term (up to 24 months)

Purpose of the Post

The post arises from a collaboration funded by the ERC Advanced grant "Light interaction with synthetically moving metamaterials - LUMINOUS" and the UKRI Programme Grant "Next Generation Metamaterials: exploiting four dimensions – META4D" with the objective of advancing our understanding of temporal metamaterials and materials with synthetic motion. The successful applicant will be expected to work with Professor Riccardo Sapienza in London and our experimental collaborators to develop experiments in the field of metamaterials and perform advanced temporal spectroscopy of dispersive time-varying metamaterials.

At Research Associate level: To carry out research programmes in photonic metamaterials, nanophotonics, ultrafast spectroscopy and time-resolved measurements, undertake project management and/or supervise multi-disciplinary teams. We are looking for expertise in experimental spectroscopy. The Research Associate will be expected to submit publications to refereed journals and to attract external research funding.

Key Responsibilities

Main Duties:

- Develop ultrafast time-resolved optical experiments to study optical metamaterials, and to use it to study synthetic motion.
- Characterisation of time-varying photonic metamaterials to identify and develop suitable techniques, and apparatus, for the collection and analysis of data.
- Assist with the analysis of data.

- Ensure the validity and reliability of data at all times.
- Maintain accurate and complete records of all findings.
- Assist with the writing of reports to research sponsors.
- Present findings to colleagues.
- Provide advice to other staff and students.
- Assist with the publication of findings.
- Attend relevant workshops and conferences as necessary.
- Develop contacts within the College and the wider community.
- Promote the reputation of the Group, the Department and the College.

In addition, at Research Associate level:

- Take initiatives in the planning of research.
- Direct the work of small research teams.
- Write reports for submission to research sponsors.
- Submit publications to refereed journals.
- Provide guidance to staff and students.
- Provide guidance to PhD Students.
- Contribute to bids for research grants.
- Conduct and plan own scientific work with appropriate supervision.
- Maintain highly organised and accurate record of experimental Work.
- Actively participate in the research programme of the Group.
- Publish in high quality journals and to present data at national and international meetings.
- Participate in Group research meetings and internal seminars.
- Collaborate with other allied scientists within Imperial College and elsewhere in London and abroad, as appropriate.
- Contribute to the smooth running of the Group's laboratories and, facilities with other scientists, clinicians, technicians and students within the laboratories.
- Assist in the supervision of undergraduate and postgraduate research students and research assistants as required.

Other Duties:

- To undertake any necessary training and/or development.
- To undertake appropriate administration tasks.
- To attend relevant meetings.

Where Imperial or funder conditions necessitate, you will be required to complete timesheets for your work on projects in a timely manner.

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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 in Optics, Photonics, Metamaterials or a closely related discipline, or equivalent research, industrial or commercial experience **Candidates who have not yet been officially awarded their PhD will be appointed as Research Assistant.* **Research Assistant:** A first / masters degree (or equivalent) in Physics, Engineering, Material Science or related.	E
Experience	
Practical experience within a research environment and / or publication in relevant and refereed journals	E
Experience with optical metamaterials and nanophotonics	E (Associate)
Experience with ultrafast lasers and spectroscopy	E
Practical experience in a broad range of techniques for structured light	D
Practical experience optical apparatus design and microscopy	D
Knowledge	
Knowledge of experimental methods in optics	E
Knowledge of research methods and statistical procedures	E
Skills & Abilities	
Ability to conduct a detailed review of recent literature	E
Ability to develop and apply new concepts	E
Creative approach to problem-solving	E
Excellent verbal communication skills and the ability to deal with a wide range of people	E
Excellent written communication skills and the ability to write clearly and succinctly for publication	E
Ability to organise own work with minimal supervision	E
Ability to prioritise own work in response to deadlines	E
Advanced computer skills, including word-processing, spreadsheets and the Internet	E
Ability to direct the work of a small research team and motivate others to produce a high standard of work	E (Associate)
Willingness to work as part of a team and to be open-minded and cooperative	E

Flexible attitude towards work	E
Discipline and regard for confidentiality and security at all times	E
Willingness to undertake any necessary training for the role	E
Willingness to travel both within the United Kingdom and abroad to conduct research and attend conferences	E
Willingness to work out of normal working hours (including weekends) if the requirements of the project demand	E

Further Information

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.

Our values are at the root of everything we do and everyone in our community is expected to demonstrate Imperial:

- Respect
- Collaboration
- Excellence
- Integrity
- Innovation

Employees are also required to comply with all Imperial policies and regulations.

We are committed to equality of opportunity, to eliminating discrimination and to creating an inclusive working environment for all. We encourage candidates to apply irrespective of age, disability, marriage or civil partnership status, pregnancy or maternity, race, religion and belief, gender reassignment, sex, or sexual orientation. You can read more about our commitment on our webpages.

Imperial 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/

Imperial 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 which are ultimately aimed towards finding new treatments and making scientific and medical advances, and where there are no satisfactory or reasonably practical alternatives to their use. Imperial is committed to ensuring that, in cases where this research is deemed essential, all animals in our care are treated with full respect, and that all staff involved with this work show due consideration at every level. Find out more about animal research at Imperial.

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