Job Description

**Job Title:** Research Assistant / Associate to Ex-solved nanoparticles for catalysis

**Department/Division/Faculty:** Department of Materials

**Campus location:** South Kensington Campus

**Job Family/Level:** Academic and Research Job Family, Level B

**Responsible to:** Dr. Cecilia Mattevi

**Key Working Relationships (internal):** Academic and Research Staff and Postgraduate Students

**Key Working Relationships (external):** Liaise with external collaborators

**Contract type:** Full-Time, Fixed Term appointment for 5 months

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**Purpose of the Post**

We are seeking an outstanding individual with a strong record in the colloidal synthesis of 2D transition metal dichalcogenides, their characterization using transmission electron microscopy, X-ray diffraction, Raman spectroscopy, scanning electron microscopy and light absorption spectroscopy and their application in photoelectrocatalysis and electrocatalysis.

**Research Duties:**

- To take initiatives in the planning of research
- To direct the work of small research teams
- To identify and develop suitable techniques, and apparatus, for the collection and analysis of data
- To conduct data analysis
- To ensure the validity and reliability of data at all times
- To maintain accurate and complete records of all findings
- To write reports for submission to research sponsors
- To present findings to colleagues and at conferences
- To submit publications to refereed journals
- To provide guidance to staff and students
- To attend relevant workshops and conferences as necessary
- To develop contacts and research collaborations within the College and the wider community
- To promote the reputation of the Group, the Department and the College
- To provide guidance to PhD Students
- Contribute to bids for research grants
- To conduct and plan own scientific work with appropriate supervision.
- To maintain highly organised and accurate record of experimental Work.
- To actively participate in the research programme of the Group
- To publish in high quality journals and to present data at national and international meetings.
- To participate in Group research meetings and internal seminars.
- To collaborate with other allied scientists within Imperial College and elsewhere in London and abroad, as appropriate.
- To 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.
- 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.

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Where Imperial or funder conditions necessitate, you will be required to complete timesheets for
Job Description

your work on projects in a timely manner.

Other Duties:

- To undertake any necessary training and/or development
- To undertake appropriate administration tasks
- To attend relevant meetings
- To observe and comply with all College policies and regulations, including the key policies and procedures on Confidentiality, Conflict of Interest, Business Continuity, Data Protection, Equal Opportunities, Ethics related, External Interests, Financial Regulations, Health and Safety, Imperial Expectations (for new leaders, managers and supervisors), Information Technology, and Smoking.
- To undertake specific safety responsibilities relevant to individual roles, as set out on the College Health and Safety Structure and Responsibilities web page: [www.imperial.ac.uk/safety/policies/organisationandarrangements](http://www.imperial.ac.uk/safety/policies/organisationandarrangements).
- To undertake Business Continuity responsibilities relevant to individual roles.

To observe and comply with all College policies and regulations, including the key policies and procedures on Confidentiality, Conflict of Interest, Data Protection, Equal Opportunities, Financial Regulations, Health and Safety, Imperial Expectations (for new leaders, managers and supervisors), Information Technology, Private Engagements and Register of Interests, and Smoking.

To undertake specific safety responsibilities relevant to individual roles, as set out on the College Website Health and Safety Structure and Responsibilities page (http://www3.imperial.ac.uk/safety/policies/organisationandarrangements).

Job descriptions cannot be exhaustive and so 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 adhere to the principles set out in our Equal Opportunities in Employment Policy, Promoting Race Equality Policy and Disability Policy and all other relevant guidance/practice frameworks.

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<tr>
<th>Requirements</th>
<th>Essential (E)</th>
<th>Desirable (D)</th>
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<td><strong>Candidates/post holders will be expected to demonstrate the following</strong></td>
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<td><strong>Education</strong></td>
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<td>Hold, or be about to obtain, a PhD (or equivalent) in Materials/Chemistry or other science/engineering subjects</td>
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<td><strong>Experience</strong></td>
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<td>The successful candidate will have understanding and extensive experimental experience with XRD, SEM, HRTEM, Uv-IVs absorption spectroscopy and Raman spectroscopy.</td>
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<td>The successful candidate will have knowledge and experimental ability to synthesize via colloidal chemistry the following materials: MoSe2, WSe2, doped MoSe2, doped WSe2, MoWSexS1-x, Bi2Te3, MoTe2.</td>
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<td>Experience in handing materials in liquid suspensions and powder form in a clean and methodical manner is essential.</td>
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<td>Knowledge and experimental experience in electrochemical hydrogen evolution is essential based on 2D materials</td>
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<td>Knowledge and experimental experience in photo electrochemistry for water splitting based on 2D materials</td>
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The successful candidate will have ability to use and maintain a Schlenk line and a glove box system.

Knowledge and proven ability to implement safe working practices in laboratories

Skills & Abilities

A demonstrated ability for innovation and original research carried out independently

Good organisational and multi-tasking abilities

Ability to exercise initiative and judgment in carrying out research tasks

Ability to write clearly and concisely to a level consistent with publications in highly regarded international journals

Ability to relate appropriately to others and to work as part of a team

Ability to tackle a wide variety of tasks

Excellent communication and organisational skills

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) Encourage inclusive participation and eliminate discrimination
3) Communicate regularly and effectively within and across teams
4) Consider the thoughts and expectations of others
5) Deliver positive outcomes
6) Develop and grow skills and expertise
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
- Smoing
- Private Engagements and Register of Interests
- Confidentiality
- Conflict of Interest
- Data Protection
- Equal Opportunities
- Financial Regulations
- Health and Safety
- Information Technology
- Smoing
- 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.

As this post is exempt from the Rehabilitation of Offenders Act 1974, a satisfactory (standard/enhanced/enhanced for regulated activity) Disclosure and Barring Service check will be required for the successful candidate.

Further information about the DBS disclosure process can be found at http://www.homeoffice.gov.uk/agencies-public-bodies/dbs/ or by telephoning 0870 90 90 811. You may also wish to view the College’s policy statements on the Recruitment and Employment of Ex-Offenders and the Secure Storage, Use, Retention & Disposal of Disclosures and Disclosure Information.

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.