

## Job Description

**Imperial College**  
London

<b>Job Title:</b>	Research Assistant/Associate in Polymer and Composite Engineering
<b>Department/Division/Faculty:</b>	Future Materials Group, Dept of Aeronautics, Faculty of Engineering
<b>Campus location:</b>	South Kensington
<b>Job Family/Level:</b>	Research Family, Research Assistant/Associate,
<b>Responsible to:</b>	Dr Koon-Yang Lee
<b>Key Working Relationships (internal):</b>	Supervisor, Technical staff, other PhD students in group, MEng and MSc project students.
<b>Contract type:</b>	Full Time, Fixed term for 24 months

### Purpose of the Post

The Future Materials Group at Imperial College London, led by Dr Koon-Yang Lee is seeking a Research Associate to manufacture “artificial wood”, i.e. cellulose microfibril-reinforced lignin composites with the native cellulose-I structure preserved (mimicking wood cell wall), using simple and intrinsically scalable manufacturing concepts.. It is envisaged that the resulting “artificial wood” will target engineering applications that cannot be achieved by conventional bio-based polymers or renewable natural fibre-reinforced polymers alone and could serve as alternative to traditional glass fibre-reinforced polymers. The post holder will be (i) manufacturing “artificial wood” from (low cost) ionic liquid, (ii) design and manufacture of unidirectional and continuous “artificial wood” fibre-reinforced renewable composites and (iii) optimising the techno-economics and lifecycle of “artificial wood” manufacturing.

### Main Duties:

- To develop, design, manufacture “artificial wood” in a cost-effective and reproducible manner, and to characterise and optimise its thermo-mechanical performance
- To interact with other staff at the consortium partner organisation and other staff and students working in the broad areas of relevance to the project research.
- To write progress reports and prepare results for publication and dissemination via presentations and the WWW.
- To perform reasonable tasks related to the furtherance of the project aims.

### In addition, at Research Associate level:

- To take initiatives in the planning of research
- To direct the work of small research teams
- To write reports for submission to research sponsors
- To submit publications to refereed journals
- To provide guidance to staff and students
- 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.

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- 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.

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

**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.**

Candidates who have not yet been officially awarded their PhD will be appointed as a Research Assistant within the salary range £36,045 - £39,183 per annum.

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<b>Person Specification</b>	
<b>Requirements</b> Candidates/post holders will be expected to demonstrate the following	<b>Essential (E)/ Desirable (D)</b>
<b>Education</b>	
<b>Research Associate</b> Hold a PhD (or equivalent) in engineering or a closely related discipline, or equivalent research, industrial or commercial experience	E
<b>Research Assistant</b> Near completion of a PhD (or equivalent) in engineering or a closely related discipline, or equivalent research, industrial or commercial experience	E
<b>Experience</b>	
Practical experience within a research environment and / or publication in relevant and refereed journals, commensurate with career stage	E
Experience of dealing with specific groups of people, e.g. sponsors, industry	D
Polymer and composite processing involving (ligno)cellulosic materials	E
Synthesis of, or able to demonstrate relevant knowledge on the use of, ionic liquids for (ligno)cellulosic materials processing	E
Physical and chemical characterisation of (ligno)cellulosic materials	E
<b>Knowledge</b>	
Knowledge of research methods and statistical procedures	E
Safe working in a laboratory	E
Basic understanding of (ligno)cellulosic materials physics and chemistry	E
Basic understanding of (ligno)cellulosic materials processing	E
Synthesis of, or at least able to demonstrate relevant knowledge in, ionic liquids	E
<b>Skills &amp; Abilities</b>	
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

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Ability to direct the work of a small research team and motivate others to produce a high standard of work	E (Associate)
<b>Other</b>	
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

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
- 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/>

## **Job Description**

*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.*

April 2021