

Example of a compliant **screen-shot** that meets RLMT requirements:

The screenshot shows a web browser window displaying the Imperial College London job portal. The browser's address bar shows the URL: <https://www.imperial.ac.uk/jobs/description/ENG00804/research-associate-architected-materials-containing-hierarchical-crystals-across-multiple-lengthscales>. The page features the Imperial College London logo and navigation menus for 'Study', 'Research & Innovation', 'Be Inspired', and 'About'. A sidebar on the left contains links for 'Log in', 'Set up/manage job alerts', and 'Imperial staff benefits'. The main content area displays the job title 'Research Associate in architected materials containing hierarchical crystals across multiple lengthscales', a brief description of the research, and key details such as the location (South Kensington Campus), position type (Full time, fixed term), and salary (£37,486 – £46,499 plus benefits). The page also includes buttons for 'Apply now' and 'Save this job'.

Recruiters' guidance | Administra... | Research Associate in architected...  
Imperial College of Science, Technology and Medicine [GB] | <https://www.imperial.ac.uk/jobs/description/ENG00804/research-associate-architected-materials-containing-hierarchical-crystals-across-multiple-lengthscales>  
Apps | UKVI / Right to work | Imperial Pages | Human Resources | Technology solutions | Imported | Other bookmarks

Imperial College London  
Scientists fine-tune signalling pathways to tweak responses to stimuli in yeast  
Science Communications students inspire the next generation  
Imperial marks new milestone at The Invention Rooms  
More News >

Study | Research & Innovation | Be Inspired | About | Visit | What's on | Give | A-Z | Information for | Search

Jobs  
Account | Equality and diversity | Policies | Guidance and FAQs | Career programmes | Log in

Home / Jobs / Research Associate in architected materials containing hierarchical crystals across multiple lengthscales

## Research Associate in architected materials containing hierarchical crystals across multiple lengthscales

We recently presented a groundbreaking research that uses 3d printing to realise the mimicry of the microstructure observed in crystalline metals to employ crystals' hardening mechanisms to develop robust and damage-tolerant architected materials (Damage-tolerant architected materials inspired by crystal microstructure, Nature 2019; 565:305). The use of crystalline alloys as the base materials to fabricate crystal-like architected materials...

Reference: ENG00804  
Date posted: 4 April 2019  
Closing date: 17 May 2019

Apply now  
Save this job

Location  
**South Kensington Campus**  
([map](#))

Position type  
**Full time, fixed term**

Salary  
**£37,486 – £46,499** plus [benefits](#)

Department: Department of Materials | Category: Researcher / Non Clinical Researcher

### Job description

#### Job summary

Imperial staff benefits  
Starting out  
Children and family  
Mind, body and soul  
Time away  
Healthcare  
Social activities  
Financial benefits  
Planning for life beyond work  
Perks of the job

Type here to search  
09:41 05/04/2019

Example of a compliant **screen-shot** that meets RLMT requirements:

Recruiters' guidance | Administrators | Research Associate in architected materials

Imperial College of Science, Technology and Medicine [GB] | <https://www.imperial.ac.uk/jobs/description/ENG00804/research-associate-architected-materials-containing-hierarchical-crystals-across-multiple-scales>

Apps | UKVI / Right to work | Imperial Pages | Human Resources | Technology solutions | Imported

Account | Equality and diversity | Policies | Guidance and FAQs | Career programmes | Log in

## Job description

### Job summary

We recently presented a groundbreaking research that uses 3d printing to realise the mimicry of the microstructure observed in crystalline metals to employ crystals' hardening mechanisms to develop robust and damage-tolerant architected materials (Damage-tolerant architected materials inspired by crystal microstructure, Nature 2019; 565:305). The use of crystalline alloys as the base materials to fabricate crystal-like architected materials opens a new frontier of research as it leads to the generation of an excitingly new family of materials (termed meta-crystals) comprising highly scalable hierarchical crystal structure: intrinsic micro-crystals within architected macro-crystals. You will explore many more exciting opportunities offered by this approach.

The qualified candidate will use advanced design and simulation software to mimic microstructure found in nature, and in combination with functional materials, to develop new meta-materials that are not only mechanical robust, but also smart. 3D printing and material characterisation techniques will be used to fabricate and study the behaviour of designed materials. You need to team up with other students and effectively collaborate with our key academic and industrial partners in UK and USA.

A focus of the role is to enhance the academic impact of the project in terms of publications and collaborations with experimental and modelling groups across additive manufacturing, metallurgy, microstructure and modelling spectrum.

### Duties and responsibilities

#### Key Responsibilities

Research

- To conduct excellent research involving the development and application of a simulation framework for design and fabrication of architected materials.
- To integrate the design and modelling work as fully as possible with fabrication via 3D printing.
- To carry out material characterisation including microstructure and mechanical behaviour.
- To work openly, collegiately, keenly and positively with close colleagues.
- To achieve the milestone and deliverables set out in the consortium project plan.
- To direct and support the work of small research teams including undergraduate and postgraduate students.
- To draft publications and prepare them for submission to refereed journals.
- To prepare material for presentation in oral and poster formats and to deliver presentations at seminars, conferences and workshops.
- To maintain accurate and complete records of all findings and to ensure that research data is managed appropriately.
- To write reports for use internally and by research sponsors as required.
- To contribute to writing bids for research grants.
- To take responsibility for organising resources and effective decision making in support of research.
- To ensure the validity and reliability of data at all times.
- To prepare material for presentation in oral and poster formats.
- To present findings to colleagues and at conferences.

### Essential requirements

Example of a compliant **screen-shot** that meets RLMT requirements:

The screenshot shows a web browser window with two tabs: 'Recruiters' guidance | Administra...' and 'Research Associate in architecte...'. The address bar shows the URL: <https://www.imperial.ac.uk/jobs/description/ENG00804/research-associate-architecte...>

The website header includes navigation links: **Study**, **Research & Innovation**, **Be Inspired**, and **About**. A secondary navigation bar contains: **Account**, **Equality and diversity**, **Policies**, **Guidance and FAQs**, **Career programmes**, and **Log in**. A search bar is located on the right.

### Essential requirements

We wish to appoint an individual with a strong track record in additive manufacturing, microstructure, crystal plasticity and functional materials. You will also be a conscientious, innovative scientist who has successfully completed or is Hold, or be about to obtain, a PhD (or equivalent) in a relevant physical science or engineering discipline (e.g. materials, mechanical engineering and physics).

Candidates/post holders will be expected to demonstrate the following

- Hold, or be about to obtain, a PhD (or equivalent) in a relevant physical science or engineering discipline (e.g. materials, physics, mechanical engineering).
- Outstanding track record of research, as evidenced by publications in peer-reviewed journals and presentations at workshops and conferences.
- Expertise in using CAD and simulation software for structure design
- Expertise in operating 3D printing for polymers and metals.
- Expertise in electron microscopy.
- Experience in continuum mechanics and crystal plasticity.
- Knowledge of physical metallurgy.
- Knowledge of functional materials.
- Experience in mechanical testing.
- Ability to conduct a detailed review of recent literature.
- Ability to formulate key research questions and to devise a strategy to employ a range of analytical/computational techniques to address them.
- Ability to apply new concepts and a creative approach to problem-solving.
- Excellent verbal communication skills and the ability to deal with a wide range of people.
- Excellent written communication skills including the ability to write clearly and succinctly for publication.

### Further information

Imperial College London is a science-based institution with the greatest concentration of high-impact research of any UK university. The Faculty of Engineering, consistently rated among the best in the world, is made up of ten academic departments and is committed to increasing its research activity by focusing on engineering-led multidisciplinary growth areas that target a number of global challenges.

**\*Candidates who have not yet been officially awarded their PhD will be appointed as Research Assistant within the salary range £34,397 - £37,486 per annum.**

Further information can be obtained from Dr. Minh-Son (Son) Pham ([son.pham@imperial.ac.uk](mailto:son.pham@imperial.ac.uk)).

Further guidance may be sought from Mrs Darakshan Khan ([d.khan@imperial.ac.uk](mailto:d.khan@imperial.ac.uk)).

For technical issues when applying online, please contact: [recruitment@imperial.ac.uk](mailto:recruitment@imperial.ac.uk).

The Windows taskbar at the bottom shows the search bar with 'Type here to search', several application icons (Edge, File Explorer, Chrome, Teams, Word), and the system tray with the date '05/04/2019' and time '09:42'.

Example of a compliant **screen-shot** that meets RLMT requirements:

The screenshot shows a web browser window with two tabs: 'Recruiters' guidance | Administra...' and 'Research Associate in architecte...'. The address bar shows the URL: <https://www.imperial.ac.uk/jobs/description/ENG00804/research-associate-architecte...>

The website header includes navigation links: **Study**, **Research & Innovation**, **Be Inspired**, **About**, **Visit**, **What's on**, **News**, **Give**, **A-Z**, **Information for**, and a **Search** icon.

A secondary navigation bar contains: **Account**, **Equality and diversity**, **Policies**, **Guidance and FAQs**, **Career programmes**, and **Log in**.

### Essential requirements

We wish to appoint an individual with a strong track record in additive manufacturing, microstructure, crystal plasticity and functional materials. You will also be a conscientious, innovative scientist who has successfully completed or is Hold, or be about to obtain, a PhD (or equivalent) in a relevant physical science or engineering discipline (e.g. materials, mechanical engineering and physics).

Candidates/post holders will be expected to demonstrate the following

- Hold, or be about to obtain, a PhD (or equivalent) in a relevant physical science or engineering discipline (e.g. materials, physics, mechanical engineering).
- Outstanding track record of research, as evidenced by publications in peer-reviewed journals and presentations at workshops and conferences.
- Expertise in using CAD and simulation software for structure design
- Expertise in operating 3D printing for polymers and metals.
- Expertise in electron microscopy.
- Experience in continuum mechanics and crystal plasticity.
- Knowledge of physical metallurgy.
- Knowledge of functional materials.
- Experience in mechanical testing.
- Ability to conduct a detailed review of recent literature.
- Ability to formulate key research questions and to devise a strategy to employ a range of analytical/computational techniques to address them.
- Ability to apply new concepts and a creative approach to problem-solving.
- Excellent verbal communication skills and the ability to deal with a wide range of people.
- Excellent written communication skills including the ability to write clearly and succinctly for publication.

### Further information

Imperial College London is a science-based institution with the greatest concentration of high-impact research of any UK university. The Faculty of Engineering, consistently rated among the best in the world, is made up of ten academic departments and is committed to increasing its research activity by focusing on engineering-led multidisciplinary growth areas that target a number of global challenges.

**\*Candidates who have not yet been officially awarded their PhD will be appointed as Research Assistant within the salary range £34,397 - £37,486 per annum.**

Further information can be obtained from Dr. Minh-Son (Son) Pham ([son.pham@imperial.ac.uk](mailto:son.pham@imperial.ac.uk)).

Further guidance may be sought from Mrs Darakshan Khan ([d.khan@imperial.ac.uk](mailto:d.khan@imperial.ac.uk)).

For technical issues when applying online, please contact: [recruitment@imperial.ac.uk](mailto:recruitment@imperial.ac.uk).

The Windows taskbar at the bottom shows the search bar with 'Type here to search', several application icons (Edge, File Explorer, Chrome, Teams, Word), and the system tray with the time '09:42' and date '05/04/2019'.