

Job Description

Assistant Professor in Civil Engineering Materials

[Imperial College London](#), seeks an Assistant Professor in Civil Engineering Materials to join the Department of Civil and Environmental Engineering within the Faculty of Engineering. We are Imperial – a world-leading university for science, technology, engineering, medicine and business (STEMB), where scientific imagination leads to world-changing impact.

As a global top ten university in London, we use science to try to understand more of the universe and improve the lives of more people in it. Across our nine campuses and throughout our Imperial Global network, our 22,000 students, 8,000 staff, and partners work together on scientific discovery, innovation and entrepreneurship. Their work navigates some of the world's toughest challenges in global health, climate change, AI, business leadership and more.

Founded in 1907, Imperial's future builds on a distinguished past, having pioneered penicillin, holography and fibre optics. Today, Imperial combines exceptional teaching, world-class facilities and a habit of interdisciplinary practice to unlock scientific imagination.

Imperial has four academic faculties – [Engineering](#), [Medicine](#), [Natural Sciences](#) and [the Imperial Business School](#), as well as a significant number of [interdisciplinary research centres](#) focusing on challenging world problems.

Imperial has a leadership model comprising the [President, Professor Hugh Brady](#), and the [Provost and Deputy President, Professor Peter Haynes](#).

Please refer to [further particulars](#) for more information about Imperial.

1. The Post

Job Title:	Assistant Professor in Civil Engineering Materials
Department/Division	Civil and Environmental Engineering
Faculty:	Engineering
Campus location:	South Kensington
Job Family/Level:	Academic Job Family, Assistant Professor
Accountable to:	Head of Materials Section
Responsible to:	
Key working relationship (Internal):	Other academics, college support staff and students
Key working relationship (external):	Academic staff at other Universities, collaborators, representatives of funders and industry and network partners
Working hours:	As reasonably necessary but normally not less than 35 hours per week
Contract type:	Full-time Open ended

2. Background of the post

The post will be based in the Materials Section of the Department of Civil and Environmental Engineering. The Section is known for wide ranging high-quality research and teaching activities, and it has a leading international reputation. The Section benefits from excellent laboratories and has a thriving community of taught postgraduate MSc students, PhD researchers and post-doctoral researchers. The Section hosts the Imperial's [Centre for Infrastructure Materials](#), which includes state-of-the-art facilities for the characterisation and testing of civil engineering materials.

3. Information about the Faculty of Engineering

The [Faculty of Engineering](#) is one of four faculties within Imperial College London and is led by the Dean, [Professor Nigel Brandon OBE FEng FRS](#). The Faculty seeks to provide international leadership in engineering research and education and is widely recognised as a [world leading engineering school](#). Our departments consistently excel in prominent league table rankings, as does Imperial as a whole. Our Faculty is unique in the UK in supporting world-class education and fundamental research across the full range of engineering disciplines. All [ten of our academic departments](#) are located on our London campuses, giving a concentration of talent that creates a stimulating and vibrant research culture which promotes multidisciplinary collaborations and attracts internationally leading researchers and scholars.

Our academic departments deliver world-class education in engineering in order that our graduates possess the skills, knowledge and attitudes necessary to become international leaders in engineering industry and academia. We provide our students with an outstanding engineering education, which brings together cutting-edge researchers, exceptional teachers and state-of-the-art facilities in inspiring physical and virtual environments. Students at Imperial will meet, work and live with people studying every aspect of engineering.

The Faculty is home to 1,746 staff (421 academics, 828 researchers and 496 support staff) and 7,929 students (of whom around 1,700 are research students). The Faculty is a powerhouse in research across the engineering sciences, with research funding in excess of £100m per year.

The Faculty of Engineering is based at the South Kensington and White City campuses and comprises ten Departments covering all aspects of Engineering:

- [Aeronautics](#)
- [Bioengineering](#)
- [Chemical Engineering and Chemical Technology](#)
- [Civil and Environmental Engineering](#)
- [Computing](#)
- [Design Engineering](#)
- [Earth Science and Engineering](#)
- [Electrical and Electronic Engineering](#)
- [Materials](#)
- [Mechanical Engineering](#)

The Faculty was formed in August 2001 and formally inaugurated in August 2002.

4. The Department of Civil and Environmental Engineering

Led by Professor Washington Yotto Ochieng, CBE, EBS, CEng, FEng, FCGI, the overall mission of our Department is to solve global challenges across the natural and built environment through world-leading education, research and innovation. In the recent UK Research Assessment Exercise (REF 2021), 75% of our research was considered 4* (highest rating).

The Department hosts state-of-the-art facilities, including high-performance computing clusters and advanced imaging facilities, supporting research in autonomous systems, data science, and technological innovation. The Department is currently ranked 2nd in the world by the QS World University Rankings.

4.1 Staffing and size of the Department

The Department comprises approximately 60 academic staff, 100 research staff, and 30 professional services staff, supporting over 600 undergraduate students and 400 postgraduate students.

4.2 Research

The Department has been awarded the top rating in every national review of university research held since 1986. The Department is active in all the major areas of Civil and Environmental Engineering research, and has extensive links with industry, other leading universities, and research and professional organisations throughout the world. Each section within the Department has large and well-equipped laboratories, and they cover all the sub-disciplines of Civil Engineering. All our laboratories have undergone extensive refurbishment and upgrading in recent years. The Department has three open access computer laboratories, and all research groups have their own dedicated computing resources. Current research areas in the Materials Section include:

- Low-carbon, sustainable, materials: Novel cements, concretes, metals, alloys, polymers, glass, ceramics, thermal insulation materials.
- Long-term durability and performance: Concrete degradation, hydrogen embrittlement, microstructure characterisation, fracture mechanics, structural health monitoring, design for durability, service-life prediction.
- Functional and improved materials: Carbon capture and storage, super-hydrophobic surfaces, biomaterials, polymer-based composites.

- Circular economy: Beneficial reuse of wastes, industrial ecology, life-cycle impact assessment, sustainable cities.

4.3 Education

The Department offers a four-year MEng undergraduate programme. This provides a high-level undergraduate course which prepares the brightest and best students to work at the highest level in the profession, either as practitioners or researchers. The current enrolment is ~110 students each year. The first two and a half years of the course contain core material to enable graduates to work towards Chartered Engineer status. The final year and a half provide opportunities to study a wide range of elective subjects and complete a research project. Successful candidates will be expected to contribute to the undergraduate course, in lecturing, tutorial work, and laboratory and project supervision. Candidates will also act as a personal tutor to undergraduate students.

The Department has a well-established programme of MSc courses which are regularly updated regularly. The portfolio is based on the expertise of the six sections: Materials, Environmental and Water Resource Engineering, Fluid Mechanics, Geotechnics, Structures and Transport.

5. The Post – Key Result Areas, Main Duties And Responsibilities

5.1 Research

The postholder will develop and lead an original and internationally recognised programme of research in civil engineering materials. Research expertise may relate to any area of materials relevant to the field, including but not limited to cementitious materials, steel and metals, glass, timber, ceramics, composite materials, biomaterials, and modelling approaches that complement the Department's infrastructure materials characterisation facilities.

The postholder will conduct research independently and collaboratively with colleagues across the Department, Faculty and College, addressing significant engineering and societal challenges. They will be expected to secure external research funding, develop and manage research projects, and build a research group comprising postdoctoral researchers, postgraduate students and undergraduate research projects.

The postholder will supervise, train and mentor research staff and students, disseminate research findings through high-quality peer-reviewed publications and presentations at national and international conferences, and engage with industry, government, regulators and other stakeholders to maximise the impact of their research.

Key responsibilities include:

- Developing and leading a programme of research within the Department.
- Directing, leading or contributing to research activities at the highest internationally recognised standards of scientific rigour.

- Securing research funding and supporting junior researchers in developing successful funding applications.
- Managing research projects and reporting to research sponsors, including participation in audits as required.
- Publishing high-quality research outputs in leading peer-reviewed journals.
- Presenting research findings at national and international conferences.
- Supervising, training and mentoring research staff and students.
- Developing and maintaining collaborations with academic, industrial and commercial partners.
- Collaborating with colleagues across the Faculty of Engineering and contributing to the wider work of the Faculty and College.
- Playing an active role in the national and international research community and relevant learned societies.
- Attending and contributing to Departmental research and administrative meetings as required.
- Fostering multidisciplinary research collaborations within the Department and across Imperial.

5.2 Education - Teaching and Training

The postholder will contribute to teaching and assessment across undergraduate, Master's and doctoral programmes within the Department. This will include delivering lectures, seminars, tutorials, coursework supervision and project supervision. The postholder may be required to teach up to three modules on the MSc Advanced Materials for Sustainable Infrastructure programme, including areas such as Masonry, Timber and Glass.

The postholder will contribute to undergraduate teaching on the MEng Civil Engineering programme, including the third-year design project, and will develop and supervise fourth-year undergraduate projects, MSc research projects and PhD students. They will be expected to review and enhance their teaching practice, provide academic and pastoral support to students, and contribute to curriculum development and assessment activities.

Key responsibilities include:

- Teaching and examining courses at undergraduate, Master's and doctoral level through lectures, seminars, tutorials, coursework and personal supervision.
- Planning, reviewing and enhancing teaching practice.
- Supervising undergraduate, MSc and PhD research projects.
- Providing academic guidance and pastoral support to students.
- Contributing to curriculum development and the enhancement of teaching, learning and assessment.
- Taking a leading role in, or contributing to, the development of teaching methods and assessment practices.
- Acting as a coach, mentor and role model for colleagues through excellent teaching practice.
- Contributing to quality assurance and enhancement activities within the discipline.
- Acting as an external examiner where appropriate.
- Working with relevant national and professional bodies on curriculum development and quality assurance initiatives.

5.3 Strategy and Business Planning

- To participate in the business planning and objective setting process for the academic team and the departments
- To make a significant contribution to building and establishing links between the appropriate departments and colleagues in other parts of Faculty and wider Imperial.
- To play an active part in the strategic planning of financial, staff and research resources.
- To represent the Department, Faculty and Imperial at external meetings, as appropriate.

5.4 Leadership and Team Working

- To demonstrate excellent leadership skills with regard to individual performance, academic teams, the department, Faculty, Imperial, and when participating in national/international initiatives.
- To work collaboratively with all members of the multi-disciplinary team and wider university as required.
- To resolve conflict and difficult situations through negotiation and discussion, involving appropriate parties.
- To adhere to Imperial guidelines on leave including reporting absence.

5.5 Management and Administrative duties

- To lead, play an active part in or contribute to the management of financial, staff and research resources, in line with Imperial's policy and procedures.
- To play a supportive role in unit administration, as appropriate.
- To undertake appropriate administrative tasks in support of the department's teaching and research activities.
- To attend relevant academic or management committees.
- To comply with all Imperial and departmental policies.
- To undertake other appropriate administrative duties commensurate with the grade of the post.

5.6 Staff Management

- To take responsibility for the appointment, management and development of Imperial staff, in line with our policy and procedure.
- To participate in team objective setting as part of the annual job planning cycle.
- To be responsible for the Annual Review Conversation (ARC) with staff who report to the post holder.

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.

6. Annual Review Conversation (ARC) And Mentoring

Annual Review Conversation (ARC)

The Annual Review Conversation (ARC) is an opportunity for staff to have a discussion with their line manager, focusing on everything they need to thrive at work. Building on regular one-to-one meetings, ARC aims to recognise ongoing contributions and plan for the future based on individual and departmental needs and aspirations. Staff are required to participate in these schemes when requested to do so by the Dean of the Faculty or Heads of Departments. ARCs are conducted annually, in conjunction with the line manager.

Mentoring

Imperial will provide a mentor to the appointee through our Mentoring at Imperial scheme.

[Mentoring at Imperial | Administration and support services | Imperial College London](#)

Imperial's mentoring scheme, available to all our job families and Faculties, is a widely used development tool that enhances effectiveness, confidence, and career advancement. Mentoring is based on a trusting, mutually respectful relationship where one colleague supports another's development with their expertise and knowledge. Most mentoring occurs between senior and junior colleagues, although peer mentoring is also possible. Through confidential one-to-one conversations, mentees are encouraged and challenged to achieve their potential and aspirations.

7. Workplace Environment and Inclusivity

The post holder will have office facilities, and access to administrative support at South Kensington campus.

All members of our community are expected to follow the [Imperial Values & Behaviours framework](#). Our values are:

- Respect
- Collaboration
- Excellence
- Integrity
- Innovation

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

- Overseas working
- External interests
- Smoke-free policy
- Probation periods

All employees must undertake specific training and assume responsibility for safety-relevant to specific roles, as set out on [Imperial's Website Health and Safety Structure and Responsibilities](#) page.

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.

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 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 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

Culture and inclusion

Our values are not just a statement on our webpage, they are the fuel behind our commitment towards equality of opportunity, to eliminating discrimination and to creating an inclusive working environment for all.

We therefore 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.

Imperial has a Race Equality Charter [action plan](#) in place after receiving the bronze award in November 2021. We are also a [Disability Confident Leader](#) and [Stonewall Diversity Champion](#).

All staff members are encouraged to engage with our staff networks, including:

- [Imperial As One](#) for Black, Asian and Minority Ethnic staff and allies
- [Able@Imperial](#) for staff with disabilities and allies
- [Imperial Pride Network](#) for LGBTQ+ staff and allies

Our other networks include the [Black Postdoctoral Network](#), [Parents](#), and [Carers'](#) networks.

Imperial has [family leave policies](#) which are available to staff irrespective of gender identity, sexual orientation, gender expression, biological sex, or transitioning. There is also a [flexible working policy](#).

The [Inclusion Team](#) provides advice, guidance and training for all staff to raise awareness of equality, diversity and inclusion, with senior leadership support (including that of the Associate Provosts for EDI).

8. Person Specification

Applicants will be assessed against the following person specifications, taking into account the level of the position for which they are applying:

E – Essential: Requirements without which the job could not be done.

D – Desirable: Requirements that would enable the candidate to perform the job well.

Requirements – Assistant Professor	Essential (E) and Desirable (D)
Education	
PhD in Civil Engineering Materials or related field or equivalent	E
Knowledge and Experience	
A developing national reputation and expertise in the field of Civil Engineering Materials	E
Evidence of contribution to the development and performance of colleagues through coaching and mentoring	E
Experience of preparing grant applications for submission	E

Requirements – Assistant Professor	Essential (E) and Desirable (D)
A portfolio of research publications, confirming national standing (commensurate with career stage)	E
Experience of contributing to Undergraduate and Postgraduate teaching	D
Experience of supervision of higher degrees (PhD)	D
Evidence of a developing research profile and clear future research plans that have the potential to contribute to and strengthen the Department's research priorities and strategic objectives.	E
Skills and Abilities	
Ability to communicate well, conveying ideas and concepts clearly and effectively	E
A high level of analytical capability	E
Ability to develop skills in leading, motivating, developing and managing the performance of colleagues	E
Good leadership skills	E
Ability to work under pressure	E
Good organisational and management skills	E
Ability to work within a multidisciplinary team	E
Collaborative and able to build and sustain effective working relationships, both internally and externally	E

Personal attributes for all levels	Essential (E) and Desirable (D)
A willingness to undertake any necessary training and development activities for the role	E
The understanding and vision required to contribute to the setting and delivery of strategic goals.	E
A willingness to engage in collaborative research	E
A commitment to high-quality teaching and fostering a positive learning environment for students	E
A commitment to work as part of a team in assisting the smooth running of the Materials Section, and its research and teaching programmes	E
A personal commitment to the vision and values of Imperial, including high-quality teaching and research.	E
Supportive and tolerant	E
A willingness to undertake any necessary training and development activities for the role	E

9. Salary And Conditions of Service

A full set of terms and conditions will be given to the successful candidate, together with the Imperial's most important policies, which affect staff. The principal terms and conditions are as follow:

Assistant Professor

The post will be at the **Assistant Professor level** of the **Academic Job Family** and the associated salary range is available at: <https://www.imperial.ac.uk/human-resources/pay-and-pensions/salaries/academic/>

Incremental progression and any performance payments will be in accordance with procedures governing Assistant level in the Academic Job Family. Annual increment date is 1 October up to the maximum of the standard salary scale. For those starting between 2 April – 30 September, subject to satisfactory performance, the first increment will be on the first of the month after six months in post.

Annual cost of living increases will be determined by Imperial through its local collective bargaining machinery.

Salaries are payable on the 24th of each month, except in December, or on the preceding working day where the 24th falls on a weekend, by transfer to a bank or building society account. Deductions in respect of income tax and National Insurance contributions will be made from salaries at the statutory rates.

Academic staff normally take annual leave during Imperial vacations and by arrangement with the Head of Department in the light of academic and departmental requirements. Annual leave entitlement is 43 days for full time staff (pro rata entitlement for part time staff). This is inclusive of 8 days for public holidays and a total of 8 [University closure days](#) each year when Imperial is closed over Easter and Christmas.

At the beginning of the leave year staff will be required to allocate the appropriate number of days of their mandatory leave entitlement to cover the Imperial's Closure days and Public holidays that fall within that leave year. For part-time staff the allocation should cover their normal working days that fall upon an Imperial closure day, bank or public holiday during that leave year.

The occupational pension scheme is the [Universities Superannuation Scheme \(USS\)](#). Staff members who are already members of the Federated Superannuation System for Universities (FSSU) or the National Health Service Superannuation Scheme (NHSPS) may, if they are still eligible, retain their membership in these schemes.

Unless stated otherwise in the offer of employment, or agreed by the head of department, the appointment may be terminated by either side by giving a minimum of three months' notice in writing. For academic members of staff who wish to give notice of their intention to resign from Imperial, the last day of service should fall on one of the following dates: 31 December; 31 March; 30 June or 30 September or at the end of a term by agreement with the Head of Department.

All staff have a probationary period of six months, with the exception of Assistant Professors who normally serve three years.

Staff on a fixed term contract receive notice of the ending of their employment within that contract. No further contractual notice will be given unless the contract is to terminate prior to the end date specified in the offer of employment. In these circumstances, the notice from the Imperial would be as above.

Total Remuneration Package

Our [Total Remuneration Package \(TRP\)](#) includes our sector-leading package of pay, pensions and recognition as well as our range of benefits.

We have many initiatives to support staff in their personal life ([flexible working](#), [private health insurance](#), [staff networks](#), [support for staff](#), [childcare](#) and [carers](#)

[Benefits](#) to support an active lifestyle and health initiatives, such as the [cycle to work scheme](#), and access to onsite [leisure facilities](#).

Childcare

Our staff have access to the [Early Years Education Centre](#) (EYEC) which is the Imperial's 'Outstanding' Ofsted-rated nursery, located at the South Kensington Campus. We also have other [affiliated nurseries](#) located at other campuses.

Imperial offers [support with EYEC fees](#) in the form of a salary sacrifice scheme enabling parents to pay fees before tax and national insurance contributions are taken.

10. Applications

Our preferred method of application is online, on our website at the following link: [Imperial Career's site](#) (select "Job Search"). Please apply online, uploading any relevant supporting documents such as a cover letter, full CV, which should include:

- degrees (including universities and dates);
- past and present posts, list of publications;
- brief description of current and future research plans;
- teaching statement and evidence of teaching scores;
- information on research grants and contracts which have been obtained, student supervision, etc;
- information regarding public engagement undertaken with research activities. Examples include: participating in festivals, working with cultural venues; creating opportunities for the public to inform research; researchers and the public working together to inform policy; citizen researchers and web-based experiments, public debates, etc.

All candidates will be contacted after the shortlisting is completed.