IMPERIAL

Assistant Professor in Chemical Engineering (three positions)

Imperial College London, seeks Assistant Professors (three positions) to join the Department of Chemical 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
Department/Division	Chemical Engineering
Faculty:	Engineering
Campus location:	South Kensington
Job Family/Level:	Academic Job Family, Assistant Professor
Accountable to:	Head of Department
Responsible to:	Head of Department
Key working relationship (Internal):	Chemical Engineering Department and beyond
Key working relationship (external):	Department's Strategic Advisory Board, external funders, external collaborators
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

Due to the changing nature and strategic importance of the chemical engineering discipline to address global challenges, the Department of Chemical Engineering at Imperial is growing and invites applications from outstanding individuals to join our academic staff at the Assistant Professor level and establish an ambitious and world-leading research programme. Three positions are available.

We are open to multiple research areas in chemical engineering/related fields and prioritise research innovation and promise of the candidate's work. We will consider synergies with existing research in the Department as well as with current and upcoming research clusters and initiatives at Imperial (e.g. Sustainable Futures Lab, The Centre for Engineering Biology, The Sargent Centre for Process Systems Engineering, automation and high-throughput experimental research facilities: ATLAS & DigiBAT, Bezos Centre for Sustainable Protein, Future Vaccine Manufacturing Hub, Rio Tinto Centre for Future Materials, School of Convergence Science).

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 Omar Matar FREng. 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 Chemical Engineering

The Department of Chemical Engineering, officially formed in 1912, is located across three buildings (the ACE Extension, Bone and Roderic Hill Buildings) on the main College campus, in South Kensington, London.

The Department of Chemical Engineering's mission is to make the world a better place through Research and Education, in line with the overall College strategy. We strive to deliver world-leading research, education and leadership in chemical engineering and its transformational application to industry. Our Department consistently ranks among the top 10 Chemical Engineering Department in the world in various global rankings (e.g. QS World University rankings).

Our Departmental aims are underpinned by values and beliefs which guide our behaviour including Collaboration, Respect, Excellence, Innovation and Integrity. Our key behaviours include embracing diversity, being open-minded and approachable, engaging and benefitting society and working with industry at home and overseas on disruptive and innovative research.

We strongly value the dedication of the Chemical Engineering community in working together to fulfil our mission and are committed to developing a safe environment of wellbeing and productivity within which Departmental members develop personally and professionally.

We are a proud to have held a Silver Athena SWAN Award since 2009 in recognition of good practice towards the advancement of gender equality in our department. Our award was renewed in 2014, 2018 and again in 2024.

4.1 Staffing and size of the Department

We have 46 academic staff, and 7 teaching fellows supported by technical and professional staff. We count over 220 PhD students and over 100 research associates and research fellows. Our Department is among the largest Chemical Engineering Department in the world.

4.2 Research

Research excellence, innovation, technology leadership and impact on the practice of chemical engineering are the drivers of our research programme. Chemical Engineering at Imperial College is internationally renowned and, with over 300 researchers, has the UK's largest chemical engineering research activity. Research in the Department has a strong international profile and was ranked in REF 2021 as having the highest proportion of 4* "world-leading" research of any UK University, alongside College's other departments in the Engineering unit of assessment. The annual turnover of the Department is around £45M. Our funding comes from a range of sources including Research Councils, Industry, Government Agencies and the European Union.

Research in the Department is characterised by:

- Scales of investigation extending from the molecular interactions which determine fluids and solids properties, to the mega-scale organisation of whole supply chains.
- A balance between modelling/simulation work and experimental investigation, across all these scales. Modelling from quantum mechanics to systems engineering, and experimental investigations from probing particle interactions at the nano-scale to the performance of large pilot plant facilities controlled by advanced algorithms.
- Translational research demonstrating the application of chemical engineering technologies across industry, including commercialisation and entrepreneurship activities, industry-academic partnerships and spin-outs.
- The combination of a wide range of activities with an unusual depth and breadth of technical expertise, made possible both by the large number of research active staff, and the tradition of recruiting from a wide range of disciplines.

Our current **research priority areas** include:

- Net Zero
- Sustainable manufacturing
- Digitalisation
- Biotechnology

Our research is centred on nine **research themes**:

- Biomedical engineering and industrial biotechnology
- Energy and environmental engineering
- Materials
- Multiphase transport processes
- Multi-scale computational chemical engineering
- Multi-scale thermodynamics and molecular systems
- Separations
- Reaction engineering and applied catalysis
- Soft matter engineering

Our research is growing in the areas of digitalisation, biotechnology and sustainability as demonstrated by recent initiatives led by the Department such as the Sustainable Futures Lab, ATLAS, DigiBAT, Bezos Centre for Sustainable Protein, and Future Vaccine Manufacturing Hub.

Our Department welcomes **translational work** and has a **dedicated Enterprise Committee** whose aim is to create the ecosystem to nurture entrepreneurial activities by offering mentorship, creating networking opportunities and securing seed funding.

Suitable candidates with an interest in energy and environmental policy can initially be hosted and based for the first 3 years at the Grantham Institute -Climate Change and Environment before transferring to the Department.

4.3 Education

Undergraduate teaching

The Department offers a four-year MEng undergraduate programme, accredited by the Engineering Council. The aim is to provide 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 approx. 150 students each year. All Chemical Engineering students study the same core programme for the first two years, covering fundamental science and mathematics and how these apply to practical engineering problems. Successful candidates will be expected to make a significant contribution to the undergraduate course, in lecturing, tutorial work, laboratory and project supervision. The Department places considerable importance on design, and candidates will also be expected to play a role in this. Candidates will also act as a personal tutor to several undergraduate students. State-of-the-art undergraduate facilities include the Carbon Capture Pilot Plant. Our Department is leading in terms of embedding sustainability considerations in our curriculum delivery and our Teaching Lab recently received a LEAF Gold Award.

Postgraduate teaching

The Department has a well-established programme of postgraduate courses including a PhD degree programme, with around 220 students and four full-time MSc programmes in Advanced Chemical Engineering, which have a current population of over 110 students. All programmes cater for experimentalists and computational researchers alike. MSc students also conduct a research project with a research group in the Department.

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

5.1 Research

- To develop a broad range of research within department.
- To direct, lead, or contribute to, a research area at the highest scientifically rigorous levels.
- To supervise, train and mentor research staff and students at the highest scientifically rigorous levels.
- To obtain funds and research grants and to encourage and guide junior research staff to do the same.
- To manage research projects.
- To write reports for research sponsors and to take part in Audit.
- To publish high quality research in peer reviewed journals.
- To attend and present work at national and international conferences.

- To develop contacts with other research organisations, both academic and commercial.
- To collaborate with and strengthen links with colleagues within the Faculty of Engineering across all departments and contribute to the work of the Faculty and Imperial.
- To play a role in the national and international research community and learned societies.
- To attend and contribute to research and administrative meetings within the Department as and when requested.
- To foster scientific collaborations through organising, attending and contributing to multidisciplinary meetings, within the Department and with other appropriate parties at Imperial.

5.2 Education - Teaching and Training

- To teach and examine courses at all levels – undergraduate, masters and higher research degrees – through lectures, seminars, tutorials, course work and personal supervision.
- To plan and review own approach to teaching.
- To act as a coach and role model through excellent practice and mentoring of colleagues.
- To supervise PhD candidates.
- To provide pastoral support for students.
- To contribute to curriculum development.
- To take a leading role in, or contribute to, the development of teaching and teaching methods and assessment.
- To contribute to the enhancement of quality teaching within the field.
- To act as an external examiner for postgraduate students.
- To work with national bodies on curriculum development and quality assurance.

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 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. For more information, see About Imperial research | Research | Imperial College London

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 Chemical Engineering or related field or equivalent	E
Knowledge and Experience	
A developing national reputation and expertise in the field of Chemical Engineering or a related field	E
Evidence of contribution to the development and performance of colleagues through coaching and mentoring	E
Experience of preparing grant applications for submission	E
A portfolio of research publications, confirming national standing (commensurate with career stage)	E
Experience of training Undergraduate and Postgraduate students	E
Experience of supervision of higher degrees (PhD)	E
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	
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

Personal attributes	
A commitment to work as part of a team in assisting the smooth running of the Group 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 fist 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 and childcare

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.