Imperial College London
Department of Civil and Environmental Engineering

Academic Posts in Geotechnical Engineering

Lecturer (Assistant Professor), Senior Lecturer/Reader (Associate Professor) and Professor

Salary range: Lecturer £44,150 to £49,200
SL/Reader minimum £54,250 - negotiable
Professor minimum £68,970 – negotiable

Imperial College is one of the world’s leading teaching and research institutions and the Department of Civil and Environmental Engineering has an outstanding international reputation, consistently achieving the highest rating in research assessment exercises. The Department is ranked 1st in the UK and 1st in Europe in the latest QS World Rankings for Civil Engineering.

Applicants are invited for a full time academic post in the Geotechnics Section of the Department of Civil and Environmental Engineering. The successful candidate will join a vibrant team of specialists working in experimental and theoretical Soil Mechanics, Engineering Seismology and Engineering Geology. The post holder will share teaching in Geotechnics at undergraduate and postgraduate level and will also be active within our research group, where current interests range from particulate micromechanics up to full scale field behaviour.

The appointment can be at any level ranging from Lecturer to Professor. The applicants’ research interests can be in any area of Geotechnics although it must be academically challenging and highly fundable. For early career applicants it would be advantageous if the research area was to compliment current expertise within the Section. The main selection criteria will be academic and research excellence.

Applicants should have a relevant PhD (or equivalent) and a track record of high quality research, demonstrated by recent exceptional publications in internationally leading journals. Applicants will be expected to submit their four best journal papers published since January 2008.

For an informal discussion you may contact Professor David Potts, Head of Section: Tel: +44 (0) 207 594 6084, e-mail: d.potts@imperial.ac.uk General questions about the Department can be directed to the Departmental Operations Manager, Mr Colin J Kerr: e-mail: c.j.kerr@imperial.ac.uk

For more information or to apply, please visit our website at http://www3.imperial.ac.uk/employment using vacancy reference number EN20130025TT

Closing Date: 28 February 2013
Imperial College London

Department of Civil and Environmental Engineering

Academic Posts in Geotechnical Engineering - Further Particulars

1.0 The College

Imperial College London consistently achieves one of the highest rankings nationally and internationally, as listed in the Times Higher QS World University Rankings 2012-2013.

The Rector and President, Sir Keith O’Nions FRS, is the College’s academic head and chief executive officer. The Chairman of the Court and Council is Baroness Eliza Manningham-Buller.

1.1 The Mission

Imperial College embodies and delivers world class scholarship, education and research in science, engineering and medicine, with particular regard to their application in industry, commerce and healthcare. We foster interdisciplinary working within the College, and collaborate widely externally.

1.2 Strategic Intent

The College’s vision and intent is to;

- Continue to be a world-leading institution for scientific research and education,
- To harness the quality, breadth and depth of our research capabilities to address the difficult challenges of today and the future,
- To develop the next generation of researchers, scientists and academics,
- To provide an education for students from around the world that equips them with the knowledge and skills they require to pursue their ambitions,
- To make a demonstrable economic and social impact through the translation of our work into practice worldwide,
- To engage with the world and communicate the importance and benefits of science to society.

1.3 Formation and History

Imperial College was established in 1907 in London’s scientific and cultural heartland in South Kensington, as a merger of the Royal College of Science, the City and Guilds College and the Royal School of Mines. St Mary’s Hospital Medical School and the National Heart and Lung Institute merged with the College in 1988 and 1995 respectively.

In 2007, the Imperial College Healthcare NHS Trust, was formed by merging Hammersmith and St Mary’s Hospitals’ NHS Trusts with the College, forming the country’s largest NHS Trust. This also established the UK’s first Academic Health Science Centre (AHSC) bringing together healthcare services, teaching and research for maximum synergistic benefits.

Imperial College was an independent constituent part of the University of London until July 2007, when it was granted a new royal charter declaring it an independent university in its own right.

The academic structure of Imperial College is divided into three faculties, the Faculties of Engineering, Natural Sciences and Medicine. The College’s other major academic unit is the Business School.

1.4 Staff and Students
The academic and research staff of 3,392 includes 68 Fellows of the Royal Society, 68 Fellows of the Royal Academy of Engineering, 78 Fellows of the Academy of Medical Sciences, one Fellow of the British Academy, four Crafoord Prize winners and two Fields Medalists. Fourteen Nobel Laureates have been members of the College either as staff or students.

The College has 13,964 students, of whom 36 percent are postgraduate. Thirty per cent of students come from outside the European Union. External assessment of the College’s teaching quality in many different subject areas has been judged to be of high standard. The proportion of women students has increased to 36 percent of the total.

1.5 Research

The quality of the College’s research has been judged consistently to be of the highest international standard and the proportion of income from research grants and contracts is one of the highest of any UK university.

The concentration and strength of research in science, engineering and medicine gives the College a unique and internationally distinctive research presence.

Generous support for the College’s work comes from a wide variety of sources. From industry there are donations towards certain senior academic posts, advanced courses, bursaries and scholarships. The single largest contribution to the College from industrial concerns is in the form of contracts to carry out research. The College also gains considerable support from research councils and charities to undertake research.

1.6 Teaching and Learning

The College’s overall educational aim is to ensure a stretching and exhilarating learning experience and, while maintaining its traditional emphasis on single honours degree courses, it also aims to give students the opportunity to broaden their experience through courses relevant to student and employer needs.

In its MSc. course provision, the College seeks to provide a wide range of specialist courses in areas in which it has particular expertise. Many of those offered by non-medical departments emphasise the valuable interaction between scientific/technological training and industrial experience, whilst those offered by the medical departments focus on subjects at the interface between basic science and medicine and on specialist education for doctors and other health professionals in training. In addition, the College’s wide range of PhD programmes reflect its aim of pursuing research at the frontiers of scientific, engineering, management and medical knowledge and the increasingly interdisciplinary nature of this research.

The Centre for Educational Development raises and consolidates the profile of learning, teaching and educational development throughout the College. Newly-appointed non-clinical lecturers will be expected to develop and expand their teaching skills, and there are many learning and teaching activities for more experienced staff.

On 1 October 2011, the Graduate School of Life Sciences and Medicine merged with the Graduate School of Engineering and Physical Sciences, to form a single entity. The merged Graduate School is the focus of postgraduate education and research and maintains, enhances and monitors quality, disseminates best practice, while initiating and developing new programmes, particularly those with an interdisciplinary slant. It also has quality assurance responsibilities for the two non-faculty departments of Humanities and the Business School.

The College’s teaching quality is audited regularly, both internally and externally. Recent external audit found teaching quality to be of a high standard.

1.7 Location

The College now has one of the largest operational estates of any UK University. It includes six central London campuses, the main South Kensington campus, the Charring Cross campus, the Chelsea and Westminster campus, the Hammersmith campus, the Royal Brompton campus and St Mary’s campus.
2.0 The Faculty of Engineering

The Faculty of Engineering is one of three faculties within Imperial College London and is led by the Principal, Professor Jeff Magee. The Faculty comprises nine academic Departments and houses the Energy Futures Lab, one of Imperial's Grand Challenge Institutes. It is one of the largest engineering faculties in the UK, with around 1,200 staff, over 5,000 students and research income of £60M.

Please see the Faculty of Engineering web pages for further information:
http://www3.imperial.ac.uk/engineering

3.0 The Department of Civil and Environmental Engineering

The Department of Civil Engineering and Environmental Engineering is located in its own building on the main College campus, in South Kensington, London. It has some 45 academic staff, supported by technical, clerical and computing staff, and about 40 Research Fellows/Assistants; the latter being employed on external funds, mostly contracts and grants awarded by Research Councils, Industry, Government Agencies and the European Union.

The Department is recognised nationally and internationally as one of the leading centres of education and research in Civil and Environmental Engineering. It has consistently achieved the highest possible rating in all national assessments of research. In this latest exercise Civil Engineering was one of six departments within Imperial College to be top-rated in their discipline; 95% of its staff being judged as world-leading or internationally excellent. In the latest QS World Rankings for Civil Engineering the Department is 1st in the UK and 1st in Europe. It has extensive links with Industry, universities, research and professional organisations throughout the world. Many staff hold positions on Technical and Code Committees, Government and Professional Bodies, as well as acting as advisors or consultants to UK and overseas Research Institutes, Companies and Governments.

The Department is organised into five sections, which act as focal points for research and specialised teaching. These are:

- Environmental and Water Resource Engineering
- Fluid Mechanics
- Geotechnics
- Structures
- Transport Studies

The Department has its own library, housing books, journals, periodicals and reports, and five large and well-equipped laboratories which cover all the sub-disciplines of Civil Engineering, most of which 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. It also has access to the College Field Station, which is used for surveying and for certain specialised fieldwork, including the teaching of highway design and construction.

3.1 Undergraduate Teaching

The Department offers a four year MEng undergraduate programme, the aim of which 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 90 students each year. The first two and a half years of the course contain core material which will enable graduates to work towards Chartered Engineer status, and the final year and a half offers a wide range of elective subjects. The 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 a number of undergraduate students.

Management of the undergraduate course is the responsibility of the Director of Undergraduate Studies (DUGS), and there are a number of subject tutors and year co-ordinators who look after specific parts of the
course. Policy is established by the Undergraduate Teaching Committee, which is chaired by the DUGS; major decisions being approved by the Departmental Management Committee.

3.2 Postgraduate Teaching

The Department has a well-established programme of MSc courses which are updated regularly. The current portfolio is based on four main themes, or Clusters; Environment, Geotechnics, Structures and Transport. Within a Cluster, students have a wide range of choices of engineering subjects and can also elect to study either Business Management or Sustainable Development instead of some of their technical material. In these cases, the Business or Sustainability component amounts to 20% of the programme of study.

3.3 Research

This Department has been awarded the top grade in every national review of university research held since 1986. The most recent review confirmed that the department is the largest and the top-ranked Department of Civil and Environmental Engineering within the UK; 95% of its staff being judged as world-leading or internationally excellent. Research is vital for the Department in terms of its reputation and standing.

The Department is active in all the major areas of Civil Engineering research. The areas relevant to this post include:

- Experimental soil mechanics, including fundamental experiments into particulate mechanics, soil behaviour under general stress conditions, unsaturated behaviour, cyclic loading, geothermal problems and ground freezing and the characterisation of natural soils through advanced laboratory techniques.
- Numerical soil mechanics including constitutive relationships and computational numerical analysis by advanced Finite Element and Discrete Element Methods.
- Applications of the above to investigate, and field monitoring of, slopes, foundations, embankments, retaining walls, tunnels and offshore foundations.
- Engineering geology, including structural geology and applications in earthquake hazard analysis, sedimentology and quantification of soil micro/macro fabric, geochemistry and regional geotechnical characterisation including GIS and remote sensing techniques.
- Engineering seismology, including seismic hazard assessment, strong motion characterisation, soil dynamics and liquefaction.

All members of the academic staff are expected to be research active, in terms of publishing papers in the leading journals and conferences, supervising research students and obtaining funding to support their students and research activities. Applicants must have a track record of very high quality research, demonstrated by recent exceptional publications in internationally leading journals. As part of their application, candidates are required to submit their 4 best journal papers published since January 2008.

4.0 The Posts Available

4.1 General

A number of posts are available, at any level, from Lecturer to Professor, depending on the quality of candidates, their experience and their level of achievement. The appointees will join the Department’s Geotechnics Section, one of five specialist groups, reporting on a day-to-day basis to the Head of Section and ultimately to the Head of Department. We welcome applications from top-level candidates in any domain relevant to our broad ranging interests in civil engineering geotechnics.

4.2 Research Activity

The appointees will be expected to plan, resource and direct an original and very high quality research programme, to include:

- Development of a research group, based on the supervision of research students and staff.
- Planning and successful execution of original and significant research projects.
- Attraction of grants and contracts to fund these activities.
• Interaction with other academics and with industry.
• Dissemination of results via the leading international journals and conferences.

4.3 Teaching

Successful candidates will be capable of contributing to the Department's wide spectrum of courses. They will teach and examine at all levels, including undergraduate, master's and higher research degree students, through lectures, seminars, course work, tutorials and personal supervision. In addition, because the Department’s teaching places great emphasis on project-based design and laboratory work, they will be involved in the supervision of laboratory and/or design groups. All Lecturers are required to attend training courses in teaching methods and course design, unless they can demonstrate existing qualifications or suitable experience. The appointees will be required to:

• Plan and review his or her own approach to teaching;
• Contribute to the development of teaching, teaching methods and assessments in the department to enhance the quality of teaching;
• Develop approaches to teaching which are innovative and reflect best practice developing elsewhere;
• Develop course proposals and contribute to curriculum development;
• Supervise research projects at both undergraduate and master’s levels

4.4 Administrative work

We have a number of Officers who are responsible for procedures and practices necessary for the smooth running of the Department, and in due course, the appointees will be expected to contribute to this work. Examples include course management, student admissions and industrial liaison.

5.0 The Person Specification

Candidate must have a PhD (or equivalent) relevant to the post of interest, and a proven track record of high-quality research activity, demonstrated by technical publications in peer-reviewed journals. Relevant industrial experience would be an advantage. They should be:

• able and willing to communicate well, conveying ideas and concepts clearly and effectively;
• able to present Engineering in an enthusiastic and motivating way;
• willing to be innovative as a teacher and comfortable with the use of IT in teaching;
• willing to give time to students;
• fully aware of the key issues in their own areas of research;
• in possession of the skills, experimental and/or computational, to investigate these;
• able to demonstrate a track record of carrying out high quality research and publishing it in leading international journals;
• able to demonstrate the vision and imagination to take forward research in their discipline;
• able, in due course, to coordinate, organise, lead and inspire the work of others;
• able and willing to seek external funding, from Research Councils, Government, EU and Industry, with the help, advice and support of the Department; and
• able to demonstrate potential to achieve national and international eminence in their chosen field.

We recognise that some candidates will not necessarily be able to show evidence of some of these requirements, in which case they will be expected to be able to show evidence of their potential to achieve them.

The appointees will be expected to observe and comply with all College policies and regulations, for example, Health and Safety, financial regulations, data protection, etc.

Imperial College is committed to equality of opportunity, equal treatment and to eliminating discrimination. All employees are expected to adhere to the principles set out in the Equal Opportunities in Employment Policy, Promoting Race Equality Policy, Disability Policy, Gender Equality Policy, and all other relevant guidance and good practice frameworks.
6.0 Salary and Conditions of Service

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

The posts will be graded in a range from Level C (Lecturer) to Level E (Professor) in the Academic and Research Job Family, depending on experience and achievements to date. The salary scale for Level C appointments is £44,150-49,200. The minimum salary for an SL/Readership appointment is £54,250 and the minimum for a Professorial appointment is £68,970 and the salary for appointment as Reader of Professor is negotiable.

Incremental progression and any performance payments will be determined in accordance with standard procedures and are available for reference through the Human Resources Division, or through line managers. Annual cost of living increases will be determined by Imperial College through its local collective bargaining machinery. The annual increment date is 1st October up to the maximum of the standard salary scale.

Salaries are payable on the 24th day of each month (earlier in December) by transfer to a bank or building society account. Deductions in respect of income tax and National Insurance contributions will be made from salary at the statutory rates.

Academic appointments are conditional on medical clearance by the College Occupational Health Service confirming that the candidate is fit for employment.

Academic staff normally take annual leave during College vacations and by arrangement with the Head of Department in the light of academic and departmental requirements. Annual leave entitlement is 39 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 six days each year when the College is closed over Easter and Christmas.

In some years, because of the day of the week on which Christmas Day falls, a decision may be made to increase the College closure to seven days. In these circumstances the annual leave entitlement will be increased to 40 days for full-time staff (again pro-rata for part-time staff).

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 College 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 a College closure day, bank or public holiday during that leave year.

The College Closure days and Public Holidays are listed on the HR website.

The occupational pension scheme is the Universities Superannuation Scheme (USS). Staff 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. 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. Lecturers have a training and development review period (probation), which lasts 3 years.

In leadership, management and supervisory roles, new members of staff will be required to familiarise themselves with Imperial’s Expectations, which will help them fulfill their role at the College. More information can be found at the following web page: http://www3.imperial.ac.uk/hr/procedures/support.

7.0 Applications
Our preferred method of application is online via our website at the following link: http://www3.imperial.ac.uk/employment (select “Job Search/Academic” and then use the job title or reference number EN20130025TT). Please complete and upload an application form as directed and submit any other relevant supporting documents such as your full CV.

Applicants must complete a College application form and attach to it a copy of their CV, to include the following information:

- Applicant's full name, private address, telephone number and e-mail address
- Degrees (including Universities and dates)
- Past and present posts
- List of publications
- Brief description of future research plans
- Copies of their 4 best journal papers published since January 2008
- 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.

Alternatively, if you are unable to apply online, please contact Mr Colin J Kerr, Departmental Operations Manager, on +44 (0) 207 594 6044, or email c.j.kerr@imperial.ac.uk to request an application form.

Closing date: 28 February 2012