University of Cambridge

Department of Applied Mathematics and Theoretical Physics

University Lectureship in Biological Physics

Applications are invited for a University Lectureship in Biological Physics to be held in the Department of Applied Mathematics and Theoretical Physics (DAMTP).

Candidates should have an outstanding record of theoretical research in biological physics or related areas. The successful candidate will be expected to carry forward a programme of research in biological physics, involving the application of physical principles and mathematical techniques to the understanding of living systems and ideally, have a strong interaction with experimental research. We welcome applications from those working in areas such as biological fluid dynamics and biomechanics, as well as, for example, physical aspects of development, evolution and ecology. The post is part of an on-going cross-departmental effort in Cambridge to promote connections between the physical, mathematical and life sciences. The successful applicant will join a substantial and growing research effort within DAMTP in biological physics and mathematical biology. For more information about this research see: http://www.damtp.cam.ac.uk/research

The position

University Lecturer is one of four grades of academic post at the University of Cambridge, the others being Senior Lecturer, Reader and Professor. Rapid promotion through the grades is possible for candidates whose achievements merit this. A University Lectureship in Cambridge is roughly equivalent to an Associate Professorship in the US.

The person appointed will be required to contribute to teaching, examining and administration and to research, including the supervision of graduate students and generation of research funding. So far as formal lecturing is concerned, the average load in DAMTP is some 40 hours per year, typically one undergraduate course and one graduate-level course. There is a normal sabbatical entitlement of one term in seven on full pay, subject to University regulations.

The Department

The Department of Applied Mathematics and Theoretical Physics is the largest and strongest of its kind in Great Britain, as evidenced, for example, by the rating of the Applied Mathematics panel in the 2008 Research Assessment Exercise.

The Department currently consists (including confirmed future appointments) of 28 Professors (10 of whom are FRS), 8 Readers, 4 Senior Lecturers, 16 Lecturers, 1 Assistant Director of Research, approximately 80 Post-doctoral Fellows and approximately 110 Research Students. Over 800 undergraduate and postgraduate students are enrolled in Parts I to III (years 1 to 4) of the Mathematical Tripos. Part III is not only the 4th year of the undergraduate course, but attracts more than 100 students each year from outside Cambridge, who take it as a one-year postgraduate course and are awarded a Masters degree.

DAMTP shares responsibility for teaching in the Mathematical Tripos with its sister Department, the Department of Pure Mathematics and Mathematical Statistics (DPMMS). DAMTP also has
responsibility for teaching mathematics to undergraduates taking Natural Sciences. DAMTP and DPMMS are accommodated, along with the Isaac Newton Institute for Mathematical Sciences and the Betty and Gordon Moore Library (covering mathematical, physical sciences and technology) at the Centre for Mathematical Sciences, a new purpose-built complex in Wilberforce Road.

Research in DAMTP is loosely organised into eight broad subject areas: Applied and Computational Analysis, Astrophysics, Geophysics, Fluid and Solid Mechanics, Mathematical Biology, Quantum Information, High Energy Physics and General Relativity and Cosmology. The boundaries between the areas are not rigid and evolve with time. Many members of staff contribute to more than one area and this is regarded as a key factor in the continuing success of DAMTP. Research in each of the subject areas involves collaboration with strong groups nationally and internationally, and participation in numerous interdisciplinary projects and programmes. Many members of DAMTP have valuable links with industry and other non-academic sectors.

The Department has a large amount of computing power, consisting mainly of a sophisticated heterogeneous network of UNIX workstations and Linux PCs, but also incorporating some Windows and Macintosh systems. The Department has an extensive laboratory, the G.K. Batchelor Laboratory, in which numerous fluid mechanical, biological physics and other experiments are undertaken. There are strong links with the Isaac Newton Institute for Mathematical Sciences. At any time the Institute runs two parallel research programmes, each usually lasting six months and attracting several dozen mathematical scientists nationally and internationally.

Further information about the University of Cambridge, the Department of Applied Mathematics and Theoretical Physics, and mathematics in Cambridge may be found on the websites: http://www.cam.ac.uk, http://www.damtp.cam.ac.uk and http://www.maths.cam.ac.uk

Biological Physics and Mathematical Biology in DAMTP

Current research in DAMTP at the interface of mathematics and biology includes statistics and computational biology (Prof. S. Tavaré FRS, FMedSci), computational neuroscience (Dr. S.J. Eglen), infectious diseases (Dr. J.R. Gog), biological fluid dynamics (Prof. T.J. Pedley FRS, emeritus), and biological physics (Prof. R.E. Goldstein). The biological physics effort is centred on a substantial experimental program, housed in the G.K. Batchelor Laboratory, which is focused on problems in cellular and evolutionary biology. The laboratory has extensive infrastructure, including facilities for cell growth, molecular biology, microfluidics, confocal microscopy and micromanipulation, high-speed imaging, and tracking microscopy. A dedicated, centrally funded machine/electronics shop provides world-class device fabrication and technical expertise in the service of the experimental groups.

The above groups have strong connections with the larger community of fluid and solid mechanics in DAMTP, and with groups in other Departments, including Genetics, Oncology Research, Plant Sciences, Physiology, Development and Neuroscience, Zoology, and Physics. They currently receive significant support from a variety of funding sources, including the EPSRC, BBSRC, Wellcome Trust, Leverhulme Trust, and the European Research Council.

Courses in mathematical biology and biological physics are popular in Part II and Part III, and there is a growing effort to link together teaching in this area across departments. A number of interdisciplinary seminars bring together researchers in these areas on a regular basis.
Applications

The closing date for applications is 9 December 2011.

Applications should be sent by email to the Secretary to the Head of Department, email: HoDSec@damtp.cam.ac.uk, and should include a full curriculum vitae, list of publications, a one page statement of research interests and future plans and the contact details of three academic referees, and should be accompanied by a completed application form CHRIS 6 Parts I and III (downloadable from: http://www.admin.cam.ac.uk/offices/hr/forms/chris6/)

Applicants should ask their referees to email references directly to the Secretary to the Head of Department (email as above) to reach her by the closing date.

Terms and Conditions of Employment

General Information

General information about employment at the University of Cambridge is available at www.cam.ac.uk/jobs.

Period of Appointment

Appointments made at University Lecturer level will be for a probationary period of five years, with appointment to the retiring age thereafter.

USS

University Lecturers are eligible to join the nationwide superannuation scheme for academic and academic-related staff, the University’s Superannuation Scheme (USS).

Salary

The salary scale for a University Lecturer is £36,862 a year, rising to £46,696 a year. The starting point on the scale will depend on previous experience.

Removal Expenses

If the person appointed is not resident in Cambridge, a contribution from University funds towards expenditure incurred in removal to Cambridge to take up a University office may be made.

College Teaching and Fellowship

Many University Lecturers at Cambridge also accept a teaching appointment in a College, for which they undertake typically 4-6 hours a week of undergraduate supervisions (tutorials) and in which they are normally elected to a Fellowship. The remuneration for such a position typically amounts to £3,000 - £4,000 per year.