

**THE CHURCHILL PROFESSORSHIP OF MATHEMATICS FOR OPERATIONAL  
RESEARCH  
DEPARTMENT OF PURE MATHEMATICS AND MATHEMATICAL STATISTICS**

## **1 The Professorship**

### **Background**

The Churchill Professorship of Mathematics for Operational Research was established in 1966 by a benefaction from Esso in memory of Sir Winston Churchill. In filling the Professorship the Department seeks to either develop new directions or to reinforce existing strengths in the Mathematics for Operational Research. Applications are invited from persons whose work falls within that area, including optimisation, machine learning, information theory, statistics and signal processing.

### **Selection Criteria**

Candidates will be considered for the Professorship on the basis of the following selection criteria, which they should address in their application.

- An outstanding research record of international stature in the Mathematics for Operational Research.
- The vision and leadership necessary to develop an existing research presence or create a new one. An established record in attracting research grant support to further this development.
- A commitment to the training of the next generation of researchers and the ability to attract talented researchers into their field.
- The ability to interact with and inspire undergraduates, research students and postdoctoral fellows.

Candidates will hold a PhD or equivalent postgraduate qualification.

## **2 The Department and the Statistical Laboratory**

The Department of Pure Mathematics and Mathematical Statistics (DPMMS) is one of the two Mathematics Departments in Cambridge, the other being the Department of Applied

Mathematics & Theoretical Physics. The Statistical Laboratory is a sub-department of DPMMS. Together with the Isaac Newton Institute, the two departments occupy the Centre for Mathematical Sciences (CMS). The CMS is a beautiful development west of the city centre and close to other Science Departments. The accommodation is of the highest quality and was designed by mathematicians and architects to facilitate the study of mathematics. It comprises offices, meeting rooms, seminar/lecture rooms, and common rooms, and is equipped with an excellent computer network. It may be viewed at <https://www.dpmms.cam.ac.uk/about/photos/>

DPMMS comprises at present about 40 tenured staff, more than 70 post-doctoral members of the Department and more than 90 PhD students. It gained an excellent quality profile in the 2014 Research Excellence Framework (see: [www.ref.ac.uk](http://www.ref.ac.uk)).

The Faculty holds an Athena SWAN Bronze award for promoting women in Science, Technology, Engineering and Medicine and supports the aims of the Charter Scheme and the LMS Good Practice Scheme in seeking to advance women's careers in the mathematical sciences. New staff are mentored and all staff are offered advice on career and promotion opportunities.

The research environment in DPMMS is very lively. Many regular seminar series meet weekly during term, and there is a steady stream of short-and long-term visitors from around the world. The proximity of the Isaac Newton Institute is a major advantage for mathematics in Cambridge. DPMMS is responsible with DAMTP for teaching the undergraduate and Masters Courses in mathematics. The student body is quite remarkable in size and quality, and is a privilege to teach. We admit in excess of 230 new mathematics undergraduates each year, leading to graduation after three or four years of study. First and second year lectures are generally held in the centre of Cambridge, a short distance from the CMS, while third-year lectures are held in the CMS.

Each student is admitted to the University and also to one of the Colleges (of the University). Undergraduates generally reside in their College, and are taught there by subject supervisors. Undergraduate teaching takes place during three 8/9-week terms; in the final term of the academic year, lecturing occupies the first 4 weeks, and examining the remainder. The teaching of undergraduates in small groups is an essential element of the success of mathematics education in Cambridge and is a College responsibility.

The fourth-year Masters (also known as Part III of the Mathematical Tripos course) attracts a substantial number of strong students from all parts of the world. Approximately 250 students enrol each year, around half of whom come from outside the United Kingdom. A very wide range of graduate level courses are given; in excess of 80 this academic year ranging across the whole of Pure and Applied Mathematics, Statistics, and Theoretical Physics.

### **3 Standard Duties**

#### **Teaching and examining**

The Professor will participate in giving lectures within the Faculty of Mathematics, taking on the same load as other tenured staff. This is usually 48 lectures per year, comprising one undergraduate course and one Masters or graduate level course. All teaching is to specialist mathematicians: there is no service teaching. All academic staff undertake

examining. This description should be regarded as merely a guide to current practice.

### **Research and supervision**

The Professor will be expected to further the subject by research, to lead by involvement in seminars and to act as supervisor of graduate students when appropriate. The Professor will also apply for research grants and foster the research of postdoctoral fellows or research assistants in his or her areas of expertise.

### **Administration**

Administrative duties are shared equitably among the teaching members of the Faculty. The Professors are expected to play significant roles from time to time on the Faculty Board and Faculty Committees dealing with such matters as academic and other appointments, admission of graduate students, research and teaching assessments, the libraries and computing arrangements. They are also encouraged to accept appointment to University Committees.

## **4 The Colleges**

The University, the Faculties and Departments, and the Colleges are linked in a complicated historical relationship that is mutually beneficial but not simple. Students (both graduate and undergraduate) are admitted by one of the 31 Colleges, although in the case of graduate students the Faculties and Departments determine admissions before the Colleges are involved. Almost all undergraduates, and many graduate students, live in a College. The teaching of undergraduate students is shared between the Colleges and the Faculties and Departments, with the Colleges arranging small group teaching (“supervision”) and the Departments providing lecturing, laboratory classes, and advanced supervisions. Most academic staff will also be invited to join a College as a teaching or professorial fellow. College teaching is remunerated separately from the University teaching, and appointment to a College is a separate matter from a University appointment. Membership of a College adds an important social and intellectual dimension for many of the academic staff. The Chair of the Faculty/Head of Department or senior colleagues can give more advice.

## **5 Procedure for Appointment**

The appointment will be made by a Board of Electors, chaired by the Vice-Chancellor or his Deputy, with a membership which includes members of the Department, members of cognate Departments and external experts.

All applications will be acknowledged. The Board of Electors will decide how they wish to proceed towards making an election, which may include interviews and/or presentations. Short-listed candidates may be invited to visit the Department to give a seminar on their work and meet prospective colleagues in the course of the process.

Candidates will be informed of the progress of their applications as agreed by the Electors.

It is anticipated that the successful candidate will take up the appointment on 1 October 2018 or as soon as possible thereafter.

## 6 Enquiries and Applications

Informal enquiries about this Professorship may be directed to Professor Gabriel Paternain, Head of the Department of Pure Mathematics and Mathematical Statistics, Cambridge, telephone +44 (0)1223 337995 or email

[G.P.Paternain@dpmms.cam.ac.uk](mailto:G.P.Paternain@dpmms.cam.ac.uk).

Further information on the University is available at the following address:

[www.cam.ac.uk](http://www.cam.ac.uk).

Applications, consisting of a letter of application together with a statement of current and future research plans, a curriculum vitae and a publications list, along with the details of three referees should be made online no later than **15 March 2018**.

If you are unable to apply online, please contact the Human Resources, University Offices, The Old Schools, Cambridge, CB2 1TT (email [ibise@admin.cam.ac.uk](mailto:ibise@admin.cam.ac.uk)).

## GENERAL INFORMATION

All appointments to University Offices are subject to the Statutes and Ordinances of the University.

### **A Salary**

Salary on appointment will be determined by the Vice-Chancellor at the appropriate point on the University's salary spine for grade 12, taking account of the criteria for the respective contribution band. Professorial salaries are reviewed periodically, on the basis of research, teaching and general contribution, by the Vice-Chancellor with the assistance of a small Advisory Committee.

There is a normal sabbatical entitlement of one term in seven on full pay, subject to the University regulations.

### **B Headship of the Department**

Should a Professor be appointed to the Headship of a Department, a pensionable payment in addition to salary is made.

### **C Recruitment Incentive**

The University has a scheme whereby a single recruitment incentive payment may be made on appointment at the Vice-Chancellor's discretion.

### **D 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 will be made.

### **E Consultancy Work**

The University's policy on consultancy work is that consultancy arrangements must be entered into privately between the employee and the organisation concerned. The consultancy work must not interfere with the duties required of the officer under the officer's contract of employment with the University. Consultancy work is not covered by the University's insurances, even when the University has knowledge that such work is being done. The University must not be regarded as being directly or indirectly involved in any consultancy arrangement through the use of University letterheads, advice given or work done in the individual's capacity as an employee of the University. Individuals undertaking private or consultancy work are advised to take out personal insurance.

Alternatively, professional indemnity cover may be obtained by channelling private work through the University company Cambridge Enterprise Ltd. Anyone wishing to do so should, in the first instance, contact Cambridge Enterprise at [www.enterprise.cam.ac.uk](http://www.enterprise.cam.ac.uk).

### **F Professorial Fellowships**

The great majority of Professors at Cambridge hold a professorial fellowship of a College. Although election to a fellowship is a matter for an individual College, the University takes active steps to draw to the attention of Heads of House the names of those Professors eligible for election.

In seeking the views of referees, their permission will be sought for the release of their comments on the successful candidate if it were to be requested by the professorial fellowship electors of a College.

#### **G Health screening on appointment to University Office and in the case of University Officers undertaking a change of duties**

Offers of appointment made to prospective University officers whose work will fall within certain categories are conditional on the completion of a medical questionnaire and, if necessary, on a satisfactory health check by the Occupational Health Service.

Only the person elected will be asked to complete the questionnaire at the time of election.

#### **H Family friendly policies and benefits**

The University has a range of family friendly policies to aid employee's work-life balance including maternity, paternity and parental leave, flexible working and career break schemes. In addition, childcare vouchers, access to two nurseries and a holiday play scheme are available through the Childcare Office to help support University employees with childcare responsibilities. Further information can be found at:

<http://www.admin.cam.ac.uk/offices/hr/staff/benefits/family.html>

#### **I Eligibility to work and reside in the UK**

UK immigration procedures stipulate that an employer may not consider the appointment of any person unless they have seen evidence of their immigration status. Accordingly, shortlisted candidates, whatever their nationality, will be asked to provide such evidence at an appropriate stage in the recruitment procedure.

#### **J Equal Opportunities Information**

The University of Cambridge appoints solely on merit. No applicant for an appointment in the University, or member of staff once appointed, will be treated less favourably than another on the grounds of sex (including gender reassignment), marital or parental status, race, ethnic or national origin, colour, disability (including HIV status), sexual orientation, religion, age or socio-economic factors.

#### **K Information if you have a Disability**

The University welcomes applications from individuals with disabilities. Our recruitment and selection procedures follow best practice and comply with disability legislation.

The University is committed to ensuring that applicants with disabilities receive fair treatment throughout the recruitment process. Adjustments will be made, wherever reasonable to do so, to enable applicants to compete to the best of their ability and, if successful, to assist them during their employment. We encourage applicants to declare their disabilities in order that any special arrangements, particularly for the selection process, can be accommodated. Applicants or employees can declare a disability at any time.

Applicants wishing to discuss with or inform the University of any special arrangements connected with their disability can, at any point in the recruitment process, contact, Dr Gosia Wloszycka, who is responsible for the administration of the recruitment process for this position, by email on [mw425@admin.cam.ac.uk](mailto:mw425@admin.cam.ac.uk)