



Department of Mathematical Sciences

Professor of Probability



UNIVERSITY OF
BATH

The Probability Laboratory at Bath (Prob-L@B) is one of the largest and most vibrant research groups of its kind in the country with an outstanding international reputation. The driving principle of the laboratory is to maintain a strong network of international collaborations and to attract a high volume flow of outstanding mathematical talents at the postgraduate and postdoctoral level.

With a current membership of more than 20 active researchers in Prob-L@B, the Department of Mathematical Sciences is seeking to appoint a new professor and figurehead of exceptional talent to drive our vision forward. Suitable candidates will be offered the opportunity to be Director of Prob-L@B.

The Department of Mathematical Sciences is committed to high-quality research, teaching and learning. We are placed well within the top ten in the UK in the 2008 Research Assessment Exercise and are listed fourth among Mathematics Departments in the UK in the 2011 Complete University Guide.

Applications from candidates in all areas of probability are welcome. Candidates should have a proven track record of top-ranked publications, and evidence of the ability to obtain research grants is essential. Of particular interest to the selection panel will be the candidate's international outreach and ability to keep motivational momentum within the laboratory.

Informal enquiries about the post may be made to:

Professor Julian Faraway, Head of Department
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or Professor Andreas Kyprianou, Professor of Probability
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The University

The University of Bath is proud to be one of the UK's leading universities, with an international reputation for the quality of our research and teaching.

Our mission is to deliver world-class research and teaching, educating our graduates to become future leaders and innovators, and benefiting the wider population through our research, enterprise and influence.

We have a strong commitment to the people we employ and value the contributions made by all our staff. We offer an excellent working environment, great benefits and a compact and friendly campus.

We have over 2500 staff and nearly 15,000 students. Further facts and figures are available from: www.bath.ac.uk/about/facts/

Research

Our research excels across science, engineering, management, social sciences and the humanities. It influences national and international policy debates, and contributes to sustainable development and technology.

The 2008 Research Assessment Exercise placed Bath's position as one of the top research universities in the UK. Our research portfolio of grants and contracts is worth about £100 million.

Some key areas of research include: built environment; complex systems; digital entertainment; drug development; genomics and biological development; health and wellbeing; innovative manufacturing; low carbon energy; organisation studies; photonics; probability; regenerative medicine; social, political, economic and environmental security; sustainable chemical technologies; sustainable construction; sustainable energy and the environment.

Teaching

We pride ourselves on the student experience we provide. Bath produces well rounded, highly successful graduates who command excellent jobs in the graduate market. In addition to ranking as one of the top universities for employability, our placement programmes give our graduates a real advantage with starting salaries over £4,000 higher than the average for UK graduates.

Our students have access to teachers who are themselves pushing back the boundaries of knowledge through research and innovation.



Academic Investment

The University is making a significant new investment in academic staff in order to further enhance our research profile and the learning environment for our students. This investment will enable us to enhance key areas of existing research strength and teaching.

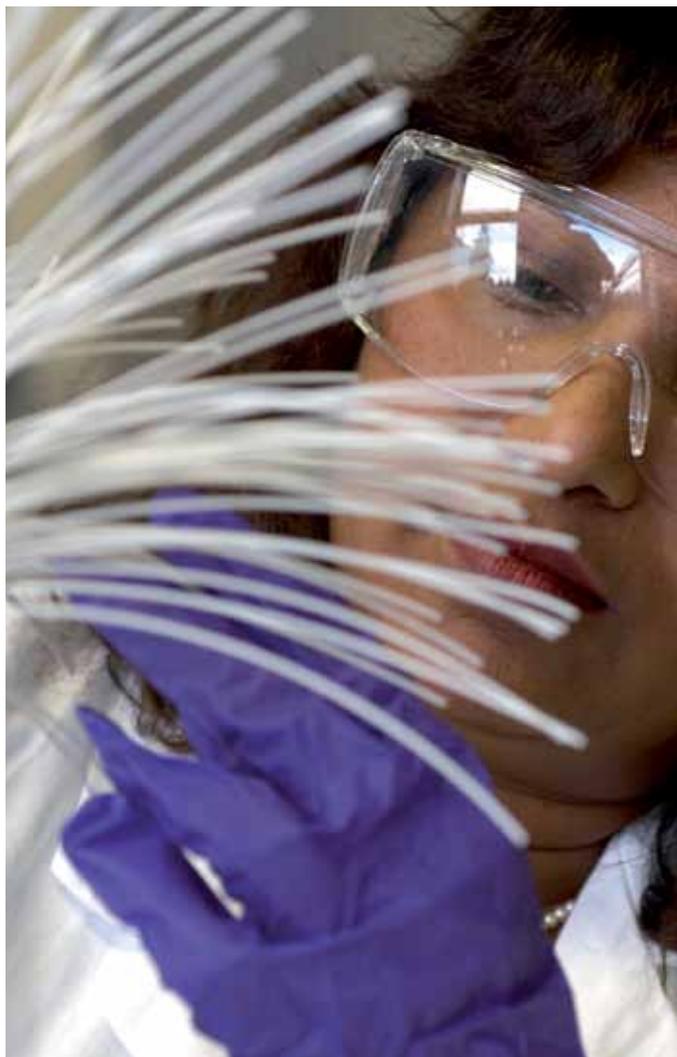
We are seeking to appoint people to professorial positions in a range of areas covering: energy materials, probability, regenerative medicine, healthcare engineering, low carbon vehicles, sustainable construction, security and resilience, public policy, health economics, family business and entrepreneurship, consumer marketing, and management accounting.

The University is committed to appointing world-leading research academics to these posts. Details of responsibilities will be subject to further discussion with the preferred candidates.

However we expect that those appointed will provide outstanding research leadership, including:

- Publishing research in leading academic journals
- Generating significant grant income
- Enhancing our research culture and activities
- Supporting collaborative research activity
- Promoting our research to external bodies such as funding agencies, industry, and government

Those appointed will also: contribute to academic strategic planning; engage in teaching; and undertake administrative and associated tasks, as appropriate.



Faculty of Science

We are the largest Faculty in the University, and currently have nearly 3,000 undergraduate students and over 500 postgraduate students. In total there are over 600 staff, of whom some 300 are academic and research staff.

The Faculty comprises six departments and a cross-faculty degree programme:

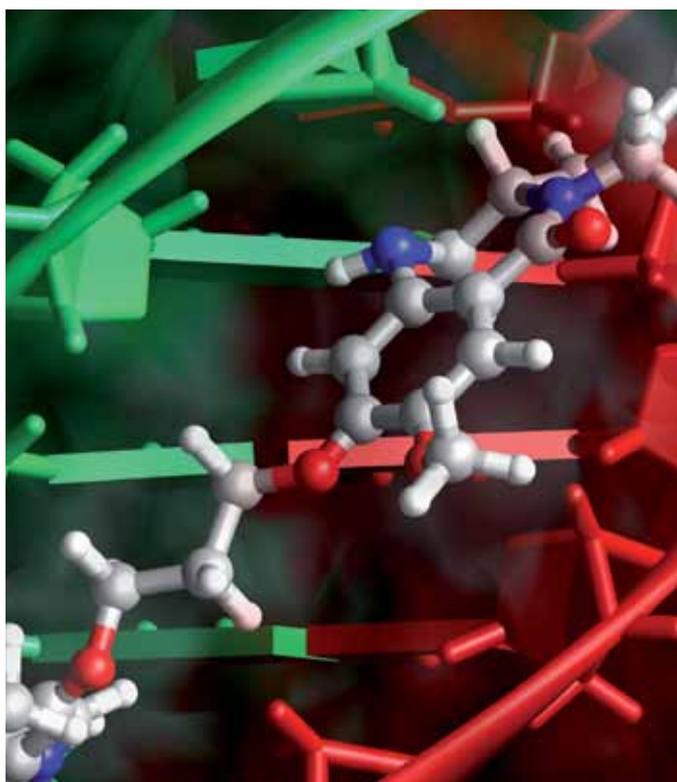
- Biology & Biochemistry
- Chemistry
- Computer Science
- Mathematical Sciences
- Natural Sciences (cross-faculty degree programme)
- Pharmacy & Pharmacology
- Physics

The Faculty prides itself on its excellence in research that provides the foundation from which our unique style of teaching and learning has developed. Total research income for the last academic year was in excess of £15 million.

Undergraduate and postgraduate teaching in the Faculty provides our students with a breadth of knowledge, and quality and flexibility of learning. There are opportunities for placements, research projects and study year abroad options. The Faculty has strong links with business and is keen to build on this and encourage an enterprise culture amongst our staff and students. In addition our graduates are highly successful in the employment market.

Graduate School

We are home to postgraduate students engaged in research or taking taught courses within life sciences, physical sciences and mathematics. Our role is to provide a forum for formal and informal interdisciplinary exchanges, offering both academic and social activities. Generic skills training courses are provided by the Graduate Centre via the Graduate School. The Graduate School is responsible for supporting postgraduate students throughout their lifecycle at the University; from admission, through progression stages to submission and completion.



The Department of Mathematical Sciences



Introduction

The Department of Mathematical Sciences is one of six departments in the Faculty of Science. The Department is committed to high-quality research, teaching and learning. We are consistently ranked among the top mathematics departments in the UK. Since 2010 the Department of Mathematical Sciences is housed in the new 4W building at the heart of the Claverton Campus.

Research in probability in the Department of Mathematical Sciences started when in 1992 Prof. David Williams, FRS, one of the worldwide leading probabilists at the time, joined the University of Bath. From this seed, one of the largest and most vigorous probability groups of the UK has grown. In 2007 the group became Prob-L@B, Probability Laboratory at Bath, in order to consolidate our external visibility and research activities into a cohesive portfolio, and to demonstrate the commitment of the department to the development of probability as an activity of highest priority.

Staff

The Department is currently headed by Prof Julian Faraway. It has some 50 academic faculty, including six permanent and two associated members of Prob-L@B. The current permanent members of the laboratory are Dr. Alex Cox, Dr. Simon Harris, Dr. Antal Jarai, Prof. Andreas Kyprianou, Prof. Peter Mörters and Prof. Mathew Penrose. Prob-L@B also maintains strong research interaction with the pure and applied analysis groups within the department, in particular through the associated members Dr Karsten Matthies and Dr Johannes Zimmer.

Research

The Department was rated well within the top ten departments in the UK for research in each of the three areas Pure Mathematics, Applied Mathematics and Probability & Statistics in the most recent Research Assessment Exercise, conducted in 2008 by the Higher Education Funding Council for England for the purpose of distributing research funding. The Department is committed to the development of probability as one of its research strengths, and offers full support for the activities of Prob-L@B.

One of the principles of the laboratory is to attract a high volume flow of outstanding young researchers and, in this respect, the rainbow of research activities that takes place within Prob-L@B starts right at the masters level with research supervisions, leading through to a large contingency of PhD supervisions (currently 10) and a handful of postdoctoral appointments (typically 3-5). Research connectivity is of prime importance as reflected through the regular research oriented

taught courses and reading groups, at least one of which is offered every semester on a variety of different classical and emerging topics in probability. A healthy mix of probability, analysis and statistics PhD students and postdocs, numbering between 15 and 25, usually attend these courses and the weekly seminar attracts a regular attendance of 20-25 from the laboratory alone. There is regular contact with the international community through a continual flow of international visitors averaging around 15-20 per year, as well as an annual long-term visitor. The laboratory also aims to host at least one research workshop per year.

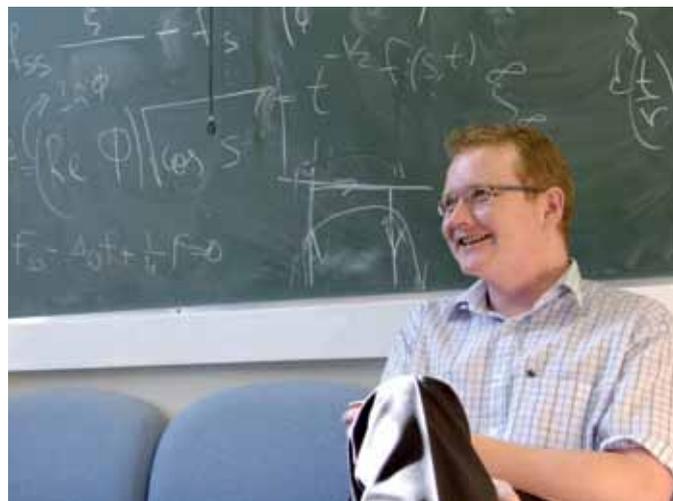
Research interests within the laboratory are extremely broad with a non-exhaustive list of key words including: percolation theory, self-avoiding random walk, lace expansions, self-organized criticality, random graphs and networks, large deviations, stochastic process in random media, random fractals, geometric probability, Brownian motion, random walks and local time problems, Skorohod embedding, stochastic geometry, empirical spatial processes, self-similar Markov processes, continuous-state branching processes and superprocesses, branching random walk and branching diffusions, fragmentation and coalescent processes, optimal stopping and control theory, stochastic differential equations, applications in mathematical finance and insurance mathematics. Further information on current and past activities within the laboratory can be found on the laboratory webpages:

www.maths.bath.ac.uk/~ak257/pab/pab.html
www.maths.bath.ac.uk/~ak257/pab/previousguests.html

The appointee will engage fully with the academic life of the Department and will promote the University, the Department and the Laboratory through publication in top-quality academic journals, through participation in international conferences, and by bringing such events to Bath. We would expect the candidate to run an active programme of postgraduate student and postgraduate researcher recruitment and supervision. The appointee will demonstrate leadership in building further, on top of its existing solid foundations, the research presence in this area as opportunities arise and by promoting the research profile of the group both nationally and internationally.

Teaching

The Mathematics freshman class, numbering over 270, is among the five best-qualified nationally, and the ambitious standard of the undergraduate programme promises a supply of candidates suitably qualified for graduate studies. Departmental postgraduate taught provision includes established Masters Programmes in 'Mathematical



Sciences', 'Mathematical Biology' and 'Modern Applications of Mathematics', with a total current enrolment of 34. Postgraduate research is vibrant with an expanding PhD population, currently standing at more than 50. One fifth of this number are PhD students supervised by members of Prob-L@B. To increase the international competitiveness of the Bath Mathematical Sciences PhD, a Graduate Doctoral College was launched in 2004 providing students with 3¹/₂ years funding to attend a set of graduate-level courses as an integral part of their PhD. This initiative has been strengthened by the EPSRC-supported Taught Course Centre involving the universities of Bath, Bristol, Imperial College, Oxford and Warwick. These five universities share video-linked graduate mathematics courses using an Access Grid node at each university. Bath currently contributes four courses, including one on an advanced topic in probability theory.

The appointee will share in the normal teaching duties within the Department, including giving lectures, and supervising student projects. Undergraduate and masters level teaching activities, wherever possible should be integrated into the long term vision for the laboratory. A normal administrative load will be envisaged, taking account of the work that will be necessary with regard to the laboratory.

Further Information

Salary will be commensurate with the position.

Full details of the role and associated Person Specification, together with how to apply can be found at www.bath.ac.uk/excellence



The City

Living in Bath

The World Heritage City of Bath is one of the most interesting, elegant and vibrant cities in the UK. The city is known for its many beautiful buildings and the natural hot springs which gave the city its name.

From the historic Roman Baths to the contemporary Thermae Bath Spa, the city has a unique blend of architectural heritage and modern living.

Bath is home to several excellent museums and galleries, and hosts various arts festivals throughout the year.

There are over 150 restaurants, cafés and traditional pubs set within a great range of shopping from high street stores and small specialist shops to a flea market.

Bath is a beautifully green city, adorned with floral displays and bounded by wooded hills.

The mainline railway means London is within easy reach and the nearby motorway connects Bath to the rest of the UK.

Bath has an excellent range of schools with a wide choice of secondary education. There are numerous parks, play areas and open spaces including the wonderful Royal Victoria Park, one of the first public parks in the country.

Bath is surrounded by magnificent countryside and interesting places. Stonehenge, Salisbury, Wells, Glastonbury, Cheddar Gorge, Oxford and Bristol are all within easy reach of Bath.

The city offers many enjoyable outdoor activities. You can take a boat trip on the River Avon, walk beside the Kennet and Avon Canal or make use of the superb sports facilities.

