



**ST JOHN'S COLLEGE
CAMBRIDGE**

**Further particulars for the
College Associate Lectureship and
Fellowship in Pure Mathematics**

March 2018

Requirement

St John's College is looking to appoint a College Associate Lecturer and Fellow in Pure Mathematics from 1 October 2018. This is an early career development post and is offered for a fixed-term period of five years.

The successful candidate will be expected to teach nine hours of small group teaching a week during the twenty teaching weeks of the year (amounting to 180 hours of contact time) and to assume a role as Director of Studies in Pure Mathematics.

St John's College

St. John's College was founded in 1511 by Lady Margaret Beaufort, the mother of King Henry VII. It is one of the largest of the Colleges in the University of Cambridge. It is a registered charity and the charitable purposes of the College are the advancement of education, religion, learning and research.

The College has some 160 Fellows covering the complete range of academic disciplines. The student body is made up of both undergraduate and graduate students. The College has some 530 undergraduates in residence and admits approximately 170 new undergraduates every October. St John's has on average approximately 320 graduate students in residence and admits over 100 new graduate students every year. The College is a very diverse community with 15% of its undergraduates and 55% of its graduates coming from overseas. The College is actively engaged in a range of initiatives to widen the participation of undergraduates from low-income households.

The advancement of learning and research is a fundamental aim of the College. The College employs between 12 and 15 full-time research Fellows, and provides an academic home to a further post-doctoral Research Associates who participate in the social and intellectual life of the College. The successful appointee can expect to benefit from participating in an inter-disciplinary community of scholars, and drawing financial benefits which will directly support his or her academic research.

Further information on the College can be found on the College website www.joh.cam.ac.uk

Mathematics at St John's College

Each year the College admits around 15 Mathematics undergraduates, chosen from about 70 applicants, many of whom are drawn from outside the United Kingdom. Students are admitted to the College strictly on merit.

Currently the College has 6 Fellows in Pure Mathematics: Dr Ben Garling, Professor Peter Johnstone, Dr Quentin Berthet, Dr Alexandre Bouayad, Professor Richard Samworth and Professor Yuri Suhov. There are also 8 Fellows in Applied Mathematics: Dr Sue Colwell, Dr Matthias Dörrzapf, Dr Alan Macfarlane, Professor Nick Manton, Dr George Reid, Dr David Stuart, Dr John Taylor and Professor Andrew Woods.

The main teaching duties of the successful applicant will be to provide supervisions to undergraduates reading for the Mathematics Tripos. The appointee's teaching load will be nine hours per week consisting of supervisions and example classes. Undergraduates are normally supervised in groups of two, while example classes are held for the cohort of 15-20 students in their first year of study.

Details about the papers offered on the Mathematical Tripos may be accessed at <http://www.maths.cam.ac.uk/undergrad/index.html>.

The applicant will also be expected to assume the role of Director of Studies in Pure Mathematics. The main purpose of this role is to oversee the teaching of undergraduates and ensure that the college maintains its high standards for instruction and student support. The duties of this role include coordinating supervisions

for the Pure Mathematics courses, meeting the students individually several times per year, and participating in College open days, orientation sessions, admissions and interviews.

The successful applicant will be expected to take a special role in developing the academic abilities of the first-year Mathematics undergraduates, and in supporting the general intellectual culture among the Mathematics students in the College. The College has an active Mathematics Society, the Adams Society, and the successful candidate would be expected to contribute to its activities: <https://www.joh.cam.ac.uk/adams-society>.

The College Library has a well-stocked Mathematics collection which contains most of textbooks required for undergraduate study. Access to online material is available through the University network and the Faculty of Mathematics.

The Faculty of Mathematics

The Cambridge Faculty of Mathematics is strongly committed to involving its College Lecturer members in its intellectual and social life. Many of the current tenured University Teaching Officers in the Faculty began their careers as College Lecturers in Mathematics before being appointed to a University post. The Cambridge Faculty provides a supportive environment for developing the research abilities of its younger members. It hosts many visiting speakers and arranges a programme of research seminars.

The Mathematics Faculty consists of the Department of Pure Mathematics and Mathematical Statistics (DPMMS) and the Department of Applied Mathematics and Theoretical Physics (DAMTP). DPMMS currently has about 40 University Teaching Officers and a number of College teaching or Research Fellows in Mathematics. There are around 700 undergraduates in Part I or Part II and around 200 students reading for Part III of the Mathematical Tripos and about 100 research students within DPMMS.

The Betty and Gordon Moore Library is one of the largest university mathematics libraries in the United Kingdom, housing Cambridge University Library's working collections in mathematics, physics, astronomy, computer science, materials science, and engineering, including relevant material received under Legal Deposit legislation.

Further information about the Faculty may be found at <http://www.maths.cam.ac.uk/> and about the University of Cambridge at <http://www.cam.ac.uk>. The appointee may be invited to deliver a limited number of lectures or seminars in the Faculty, to present research seminars to Faculty colleagues, and participate in the setting and marking of University examinations.

Principal Responsibilities and Duties

Job Title: College Associate Lecturer

Job purpose: A fixed-term early career stage appointment in which the College Associate Lecturer will:
(a) Work under the direction of the overall Director of Studies for Mathematics and the Director of Education & Senior Tutor at St John's College to provide excellent supervisions in Pure Mathematics in courses from the Mathematical Tripos at the University of Cambridge; (b) Undertake scholarly research within his/her specialist field and build a high quality publication record; (c) Undertake other academic activities, all with a view to developing an academic career in Mathematics.

Department: Teaching

Responsible to: The overall Director of Studies in Mathematics and the Director of Education & Senior Tutor at St John's College

Main responsibilities

Teaching

- To organise and teach at least 9 hours of supervisions and/or example classes (pair/small-group teaching) per week (excluding preparation and marking time) to undergraduate students within the College, and potentially at other colleges pursuant to reciprocal teaching arrangements, during the twenty teaching weeks of the Cambridge academic year (equivalent to 180 hours of contact time per academic year). The number and frequency of supervisions to be given, and the size of the supervision group, must be agreed with the Director of Studies for Mathematics (or other designated person in the case of departmentally arranged supervisions).
- To provide clear guidance to students at the start of a set of supervisions about what is expected of them in terms of preparation, participation in supervision discussions, deadlines for submission of work and the arrangement of supervision times.
- To ensure that students receive timely feedback on their supervision work during term, both week by week in supervisions and through CAMCORS, the undergraduate supervision reporting system.
- To respond effectively to feedback from students on the quality of the supervision provided.
- To liaise regularly with the overall Director of Studies in Mathematics on student progress, in particular reporting any problems in student academic performance.
- To liaise regularly with other Pure Mathematics Fellows on the organisation and progress of teaching in the subject and on library provision for the subject.
- To maintain good relations with the Faculty of Pure Mathematics, keeping up-to-date with changes in Faculty courses and policy and participating, if the opportunity arises, in the teaching and examining activities of the Faculty (which would be remunerated at the appropriate Faculty rate).

Research & publication

- To pursue scholarly research within his/her specialist field and to keep abreast of developments in research and scholarship in that field.
- To present and publish the results of his/her research with a view to building up a high quality publication record.
- To participate in Faculty submissions in the Research Excellence Framework (REF) and, where feasible, to publish research at intervals consistent with the requirements of the REF.
- To participate in the activities of national and international organisations, publications and conferences concerned with research and scholarship in his/her specialism.
- Where appropriate and necessary, to seek external support for his/her research and scholarship activities, either individually or in collaboration with others.

Direction of Studies

- To act as Director of Studies in Pure Mathematics, organising and overseeing the undergraduate teaching programme.
- Any such work would be separately remunerated and a separate job description would be issued.

Admissions

- To contribute to initiatives at St John's to widen the access and participation of students from non-traditional backgrounds.
- To attend Open Days and other visits of prospective candidates and school teachers and, if requested to do so, to help organise such events.
- To assist in producing and updating admissions information in Mathematics.
- To assist in responding to admissions related enquiries through the academic year.

- To participate in admissions assessments and interviews (admissions interviews would be separately remunerated)

Examining

- To participate in the organisation, setting, invigilating and marking of College Examinations and Progress Tests (for which additional remuneration is paid).

Mentoring and training

- To attend the College induction process and the induction course entitled 'Pathways in Higher Education Practice' organised by the University.
- To attend regular informal meetings with an assigned mentor who is a Fellow of the College which may cover publication strategies, the balance of research, publication and teaching, when and how to apply for University posts and advice on such applications, and connections with the Faculty of Mathematics or equivalent faculties elsewhere and opportunities for undertaking teaching and/or examining duties there
- To participate in an annual appraisal system.

Additional responsibilities

- To attend and when required, contribute to, induction events for new students.
- To provide references for students if requested
- To contribute to the academic life of the College, fostering and promoting excellence in the study environment for Mathematics and engaging in societies, seminars and other events and activities relating to Mathematics.
- To assist colleagues in enhancing intellectual support for Graduate students in Mathematics at St John's and building connections between Graduate and Undergraduate communities in Mathematics.
- To assist in assessing applications for Research Fellowships, when requested to do so.
- To serve on a small number of College committees, if requested to do so.

The above description is not exhaustive and the individual would undertake other responsibilities appropriate to an early-career appointment if reasonable and asked to do so.

Person specification

Candidates will have an exceptional academic record with a doctorate or postgraduate degree in Pure Mathematics.

Candidates will have the communication skills necessary for successful small group teaching, including the ability to explain problems and ideas lucidly, to listen to students' questions and views sympathetically, to enthuse and inspire them and to provide timely feedback to students. Previous teaching experience would be an advantage.

Candidates must also have good interpersonal and organisational skills, and must be able and ready to fulfil the administrative and pastoral functions required of the post.

Terms and Conditions

Length of contract:

- This post is offered for a period of five years and is non-renewable.

Stipend and Pension:

- The stipend offered will be in the range of £34,550 and £39,992 per annum (placement on the scale will be dependent on experience). This stipend is based on nine hours teaching a week for twenty weeks per year. The actual stipend paid will be adjusted to reflect the actual number of supervisions delivered.
- The stipend is pensionable under the Universities Superannuation Scheme (USS).
- For this post College Council may consider appropriate applications for leave for research purposes.
- Additional remuneration will, if applicable, be paid for examining and interviewing of candidates for admissions and for taking on a Director of Studies (see below).

Additional payment for Director of Studies role:

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| Basic | £800 |
| Plus per pupil (sole direction) | £160 |
| Plus per pupil (direction shared) | £80 |

Additional payment for Interviews:

Payments for each interview of an applicant for admission as an undergraduate shall be made equal to one half of the hourly intercollegiate supervision rate for classes of one (currently £14.20 per interview).

Additional payment for Examinations:

Payments for College Progress Tests and Examinations shall be made at the rates specified in the University Statutes and Ordinances under 'Payments to Examiners and Assessors 3(a)' which are currently:

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|---|------|
| For acting as an Examiner | £110 |
| For marking answers to a complete written paper of at least three hours | £9 |
| For marking answers to a complete written paper of two hours | £5 |
| For marking answers to a complete written paper of less than two hours | £4 |

Other non-contractual benefits include:

- Nomination to the College Nursery.

Benefits for Fellows of the College

Accommodation:

St John's College currently provides its Fellows with a number of alternative types of assistance with housing as summarised below.

- **Living in College**

A Fellow who wishes to reside in the College may apply for single residential accommodation (a 'residential set'). This is provided free of rent but is subject to the payment of a service charge to the College to cover the provision of utilities and furniture.

- **Housing allowance**

Any Fellow who cannot take up the opportunity to live in College as he/she has a partner/family with whom he/she wishes to reside, may apply during the first four years of his/her Fellowship for a non-pensionable housing allowance to assist with renting a flat or house. The allowance is currently the lower of £590 per month and 50% of the rent the Fellow is actually paying. The housing allowance is taxable. The payment of the allowance can start up to one month before entry into the Fellowship and terminates on the fourth anniversary of commencement of the Fellowship.

- **House Purchase Scheme**

The College currently runs a House Purchase Scheme to assist Fellows with the purchase of a flat or house in the Cambridge region. This is a co-ownership scheme, with the College and the Fellow co-owning a property selected by the Fellow. The College's contribution is a maximum of £150,000. Rent is payable by the Fellow to the College each year at 1.25% of the value of the College's contribution, with the rent indexed annually by CPI. The Fellow is responsible for the maintenance and insurance of the property. When the property is eventually sold, the value of the College's share is the College's original contribution indexed by two recognised East Anglia house price indices. The Fellow can increase his/her share of the property at any time through purchasing some or all of the College's share.

The above is just a brief summary and further details of the housing assistance provided by the College are available on request.

Dining:

- Fellows are able to dine and lunch at the Fellows' Table as often as desired, with ninety meals per quarter (either lunch or dinner) being at College expense. A personal guest may also be brought to dinner or lunch at the Fellow's expense.

Fellows Grants and allowances:

- Fellows can apply for Teaching and Research Grants to provide assistance with research activities, attending conferences and purchasing books, and for obtaining secretarial assistance if required. The normal monetary limit for such grants is currently £1,750 per year (with an ability to carry forward unspent allowance, within limits). However, for Research Fellows grants for research may exceed this cap and the maximum amount is in the discretion of the Council;
- Fellows may apply for a grant from the College to support a seminar or conference they are organising in the College under the Research Enterprises and Conferences scheme;
- Research Fellows may obtain support in the purchase of computer equipment;
- Fellows may claim reimbursement of expenses of entertainment on behalf of the College (up to a specified monetary limit, currently £250 p.a.).

Healthcare and well-being schemes

Fellows are eligible to join two healthcare schemes following 3 months' service:

- A BUPA medical insurance scheme, which is non-contributory for single cover up to the retirement age and contributory for family cover. Non-contributory or contributory BUPA membership is a taxable benefit; and
- A Simplyhealth cash-plan scheme, to provide support for day-to-day expenses, which is non-contributory for cover for the Fellow and dependent children under 18 years and provides cover up to the state pension age. Fellows are assumed to want to be included in the scheme unless they exercise the right to 'opt-out'. This is a taxable benefit.

Sporting Facilities:

- Fellows are welcome to utilise the College sporting facilities and the Fitness Centre.

The benefits offered to Fellows are non-contractual and subject to change.

Please note that this is intended as a summary. More detailed information can be found in the Fellows' Handbook which is sent to new Fellows on joining the College and in the Standing Orders which are made available via the College's website.

Informal enquiries

Please note Candidates wishing to make informal enquiries about the post should contact Recruitment at recruitment@joh.cam.ac.uk in the first instance.

Recruitment Process

Please include in your application:

- A brief covering letter summarising why you believe yourself to be suitable for the role and why the role appeals to you;
- A list of publications;
- A statement of current research interests and any teaching experience (maximum 2 pages)
- A full Curriculum Vitae;
- A completed application form;
- The names and contact details of three referees who are prepared to recommend you. Applicants are asked to arrange for these three references to be submitted to the HR Department by the closing date.

Applications should be sent:

By email to: recruitment@joh.cam.ac.uk

Or post to: HR Department, St John's College, Cambridge, CB2 1TP, England

To arrive no later than **12 noon** on **Monday 21 May 2018**.

Information provided will be treated as confidential and processed in accordance with the College's Data Protection Policy a copy of which may be obtained from the Data Protection Officer, St John's College, Cambridge, CB2 1TP.