



The Personnel Unit

THE PERSONNEL UNIT

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Further Particulars

Post title	Lecturer/Senior Lecturer - Mathematical Analysis
Reference number	S177
School/department	School of Mathematics
Closing date for receipt of applications	15/1/2007
Hours	Full time
Salary range	£32,471 - £49,116 The successful candidate will be appointed at an appropriate grade depending on experience and qualifications.
Post duration	Permanent position
Number of vacancies available	1
Personnel contact(s)	Ms. Jo Gerald email: j.a.gerald@bham.ac.uk tel.: 0121 415 9000
Informal enquiries to	Prof. C Parker email: c.w.parker@bham.ac.uk tel.: 0121 414 6199 or Prof. A V Sobolev email: asobolev@maths.bham.ac.uk tel.: 0121 414 6600

Details

Role Purpose

As part of the continuing programme to broaden its research base in pure mathematics, the School seeks to expand its group in Mathematical Analysis. Research areas of particular interest to us are Partial Differential Equations, Spectral Theory, Harmonic Analysis.

Analysis

The Pure Mathematics Group contributes to research in various parts of algebra, model theory, combinatorics and analysis. Birmingham is recognised, nationally and internationally, as one of the leading centres in the EU for research in group theory and related topics. At the same time as reinforcing our research presence in Algebra, in line with the International Review of Mathematics (IRM pg. 27) the School has committed to reinforcing the existing strength the Analysis.

A permanent appointment in Analysis is sought to strengthen the Analysis group, to broaden its research profile, and to open new possibilities for collaboration both within the School and outside

Main Responsibilities

- To plan, design and co-ordinate broad research activities and programmes
- To contribute to the development of research strategies of the School
- To develop methodologies and techniques appropriate to the type of research being pursued and that add to the knowledge/understanding appropriate to the discipline
- To publish results of research in articles and/or books which lead to an enhanced reputation in the subject area and enhance the School's research profile
- To contribute to the development of innovative research proposals and contribute to funding bids which develop and sustain research support in the specialist area
- Successful supervision of doctoral students to completion
- To engage in scholarly activity that will enhance the School's and University's reputation such as membership of academic bodies and external examining bodies
- To teach and examine courses at all levels, ie undergraduate, postgraduate and/or higher research degree students, through lectures, seminars and personal supervision.
- To plan and review own teaching approach
- To develop and apply innovative teaching approaches and materials to enable learning and enthuse students
- To develop programme proposals and contribute to the wider design of the School's teaching programme
- To undertake the full range of responsibilities in relation to supervision, marking and examining to ensure that students progress is being monitored and reported in line with the School's procedures.

Knowledge, Skills, Qualifications and Experience Required

PhD in Mathematics or adjacent discipline with substantial experience of teaching and research in Analysis, preferably in Partial Differential Equations, Spectral Theory and/or Harmonic Analysis.

Excellent presentation skills

Excellent communication skills both written and verbal

Job Features

Planning and Organising

Plan and manage research activities, publications and research proposals

Plan and manage own teaching and tutorials as agreed with the Head of School.

Decision Making

Make professional decisions about the appropriate methodology in research.

Make professional decisions about delivery methods and assessments in teaching

Internal/External Relations

Strengthening and widening existing networks for research and teaching.

In addition: To secure a Senior Lecturer Grade 9 appointment the individual would be required to undertake the following responsibilities and would also be required to have additional skills, knowledge and experience outlined below :-

Role

Senior Lecturer – Teaching & Research (grade 9)

Main Responsibilities

- To make a major contribution to the management of research activities
- To lead major successful funding bids which develop and sustain research support for research in Analysis.
- To secure publication of key results in leading journals and/or books, which further develop the national and international reputation of the individual and the school.
- To provide expert advice to colleagues, students and external bodies e.g

Government bodies

- To provide leadership of research that contributes to the progression of Analysis
- To referee and peer review articles for peer reviewed academic journals and grant applications by research councils and/or other major funding bodies
- To develop programme curricula within the School, ensuring these meet the standards within the University and external institutions
- To oversee the development and review of teaching provision for students at all levels, having responsibility for their design and quality
- To develop and review approaches to teaching which advance techniques and standards locally, contribute to institutional policy and serve as a contribution to the wider debate
- To plan and review own teaching load and approach to teaching, and share this good practice with others.
- To contribute to the determination of the academic standards framework throughout the University
- To ensure that the teaching activity achieves the educational standards of the School and University

Knowledge, Skills, Qualifications and Experience Required

Extensive high level research and reputation over many years, supported by a relevant PhD and extensive professional success and achievement

Research strength in analysis

Experience in cross-disciplinary collaboration is beneficial

The capability to attract substantial external funds and research grants;

Vision in developing undergraduate courses for single, joint and combined honours programmes

Job Features

Planning and Organising

Involved in planning of the School Research Strategy and contribute to the School's planning process

Decision Making

Internal/External Relationships

Lead and develop internal and external networks

FURTHER INFORMATION

1. Research in the School

The School of Mathematics has three research groups, in Pure Mathematics, in Applied Mathematics and Management Mathematics. Once the present round of recruitment has been completed the complement of full-time staff will stand at around 40, of whom 17 will belong to the Pure Mathematics group. Currently the Pure Mathematics members of staff supervise 15 research students.

The Pure Mathematics Group contributes to research in various parts of algebra, analysis, combinatorics and model theory. Birmingham is recognised, nationally and internationally, as one of the leading centres in the EU for research in group theory and related topics. A grade of 5 was obtained in the last Research Assessment Exercise, indicating a high level of international excellence. Research students are welcomed in all the group's areas of interest, which are briefly described here. There are three weekly seminar series: in Algebra, Analysis and Combinatorics, given by visiting speakers. Various other seminars take place on a regular basis; these often involve the active and enthusiastic participation of our postgraduate students. Each year there are also postgraduate courses for research students and staff given on topics of current research, thus creating a lively environment for pure mathematics research. Full details of the Pure Group's research interests can be found at <http://www.mat.bham.ac.uk/research/pure/research.htm>. The members of the Pure Mathematics Group are listed below:

Head of Group:

Prof. A.V. Sobolev (Differential Equations, Spectral Theory)

Professors:

Professor R. T. Curtis (construction and geometry of the sporadic simple groups)
Professor C.W. Parker (finite groups and amalgams)
Professor S. Shpectorov (representation theory, finite groups)

Readers:

Dr A.D. Gardiner (algebraic graph theory)
Dr P. Flavell (finite groups)

Senior Lecturers:

Dr C. Good (topological spaces and axioms of set theory)
Dr. D. Hundertmark (mathematical physics)
Dr R.W. Kaye (model theory)

Lecturers:

Dr J. Bennett (harmonic analysis)
Dr C. Hoffman (representation theory, finite groups)
Dr I. Korchagina (finite group theory)
Dr D. Kühn (graph theory and combinatorics)
Dr D. Osthus (graph theory and combinatorics)
Mr B.J. Philp (mathematical logic)
Dr S. M. Goodwin (algebraic and finite groups)

Research Fellows:

Dr N Fountoulakis (combinatorics)
Dr. J. Selden (partial differential equations, spectral theory)
Dr. H. Kang (differential geometry, spectral theory)

Emeritus and Honorary Professors:

Emeritus Professor W.N. Everitt (differential equations, spectral theory)
Emeritus Professor J.S. Wilson (groups, connections with model theory)
Professor R. Weiss (buildings, groups)
Professor R. Wilson (Computational group theory)

2. Teaching

The School runs a 3-year single honours BSc programme in Mathematical Sciences, and 4-year single honours MSci programmes in Pure Mathematics, Applied Mathematics, Management Mathematics, Mathematical Statistics or the less specialised Mathematical Sciences. In addition it runs a large number of joint honours programmes with partner Schools from both the Sciences and the Arts. At present we have an annual intake of around 140 full time equivalent students. As one of only two departments of mathematics to be awarded 24 out of 24 in the last Teaching Quality Assessment, the School takes great pride in its undergraduate programmes. Indeed, the national Higher Education Academy is based in the School under the directorship of a member of staff.

The successful candidates will, of course, be expected to contribute to our undergraduate programmes and will carry a similar lecturing and supervising load to that required in other UK research-based departments.

3. Computing Facilities

In the School's Watson Building there are good computing facilities for academic staff, postdoctoral fellows and postgraduate students. All rooms have networked computers that allow access to School, central University and Internet facilities. There are also computer laboratories and facilities providing high quality laser and colour printing.

Central facilities provided by Information Services include two multi-processor Compaq 8200 Alphaservers. One of these is dedicated to numeric-intensive and parallel processing while the other is reserved for more general work. Recently the School has been funded by the JREI to purchase a multi-processor supercomputer (SUN), and research grants from the EPSRC support PC clusters for research purposes. A wide range of mathematical software is available including GAP, MAGMA, MEAT-AXE, NAG, Gino, Maple, Matlab, Minitab, Glim, BMDP, SAS, SPSS, Genstat and Fluent.

4. The City of Birmingham

Birmingham is Britain's second city and is at the centre of the national rail and motorway networks. Its International Airport has flights to the major national and European airports.

The city is well equipped with theatres, art galleries and concert halls. The new Symphony Hall, one of the leading concert halls in Europe, is home to the internationally renowned City of Birmingham Symphony Orchestra. Birmingham is also the home of the Birmingham Royal Ballet (formerly Sadlers Wells).

5. General Guidance for Candidates

Applications should include

1. A completed University standard application form
2. a full curriculum vitae;
3. a list of publications;
4. a description of research;
5. the names and addresses of three referees (FAX numbers and email addresses would be useful).

6. Further Information

The School website is at <http://www/mat.bham.ac.uk>. The School welcomes informal enquiries from interested persons who may wish to contact:

Professor A.V. Sobolev (a.sobolev@bham.ac.uk) or

Professor Chris Parker (c.w.parker@bham.ac.uk).

More information

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