

Further Particulars

Post title and post number	Lecturer/Senior Lecturers in Geology
Organisation advertising Description	School of Geography, Earth and Environmental Sciences
Post number	38160
Full-time/Part-time	Full Time
Number of hours / weeks to be worked	100%
Duration of post	Open
Post is open to:	Internal and external candidates
Grade	8/9
Salary	Lecturer: Starting salary is normally in the range £37,382 to £44,607, with potential progression once in post to £50,186 a year. Senior Lecturer: Starting salary is normally in the range £45,941 to £53,233, with potential progression once in post to £69,412 a year
Additional information	For additional information, contact Professor Ian Fairchild (Head of School) at i.j.fairchild@bham.ac.uk; call +44(0)121 414 4181/4173 or Professor Tim Reston (Head of Geosystems research group) at t.j.reston@bham.ac.uk; call +44(0)121 414 3188
Terms and conditions	Academic teaching staff (non-clinical)
Closing date	17 June 2013
Interview date	25 June 2013

School of Geography Earth and Environmental Sciences

Online details of the School can be found at <http://www.birmingham.ac.uk/schools/gees/index.aspx>

The School of Geography, Earth and Environmental Sciences (GEES) is a research and teaching division of the University, building on the long-standing foundations of our subjects at Birmingham – geology in 1881 and geography in 1924. GEES is now a large interdisciplinary school with around 65 academic staff, 30 technical and support staff, 30 research staff, 100 doctoral researchers and around 900 undergraduate and 140 taught postgraduate students. Together with the schools of Psychology, Biosciences and Sport & Exercise Sciences, it lies within the College of Life and

Environmental Sciences. Staff have active and diverse links with other schools on campus, particularly Biosciences, Civil Engineering and the Business School, and with research organizations worldwide. The School has been proactive in responding to the Shaping Our Future agenda of the University, including an expansion of its research links, range of postgraduate courses, and international postgraduate student population.

Research in the School centres on six research groupings whose multidisciplinary nature responds to the current international research agenda. These groups are Society, Economy & Environment, the Centre for Urban & Regional Studies, Geosystems, Environmental Health Sciences and Water Sciences. Together, they embrace a wide range of social, natural and applied science, with substantive links across the College of Life and Environmental Sciences and to other colleges in the University. A particular strength is urban research and sustainability, which cuts across our research groupings. New research awards are currently running at around £7 m per year, supported by a diverse and well-managed equipment and laboratory base.

Geosystems Research Group

The Geosystems research group tackles a range of scientific questions concerned with the dynamic behaviour of our planet and its complex history. The group contains scientists with diverse backgrounds and skills, including strong expertise in palaeobiology, geophysical and palaeoclimatic modelling, and geochemical and physical sedimentological approaches to understanding past environments. Our research is strongly grounded in geological field relationships both on the continents and in continental margins and ocean basins, and contemporary processes thereon. A distinctive feature of this group is the broad range of timescales over which we work, which crosses traditional disciplinary boundaries. Hence we are concerned both with processes that occurred on timescales from deep in geological history to archaeological, in addition to conducting experiments and field observations related to contemporary environments. Our research is funded from a range of sources including the Natural Environment Research Council (NERC), the European Community, the petroleum industry and charities. We work with a wide range of collaborators in other institutions in the UK and overseas, particularly in western Europe, the USA and Australia. Joint activity with colleagues in the School's Water Sciences and Environmental Health Sciences groups are also flourishing. The School and the University have a wide range of equipment and facilities to support this work, including recent investments in facilities for computing, seismic imaging, geochemistry, petrology and rock magnetism. A new molecular biomarker laboratory is being established in 2013.

Environmental Health Sciences Research Group

The Environmental Health Sciences research group represents a major grouping with exceptional expertise in aspects of applied atmospheric science and environmental nanoscience. Research in air pollution is nationally leading and in several aspects, internationally leading. Major strengths include both expertise in atmospheric physics and numerical modelling, atmospheric chemistry and links into studies of personal exposure and effects on human health. Studies of the physical, chemical and toxicological properties of airborne particulate matter are a particular strength. The EHS research group has two postdoctoral positions funded by the NERC National Centre for Atmospheric Science who are playing a major role in the NERC Urban Atmospheric Science Initiative and also have a leading position in single particle aerosol mass spectrometry. Complementing the work on air pollution, our studies of urban climatology are advancing both measurement and modelling of urban heat island processes with collaboration in University initiatives in Urban Resilience. Work on climate is also focussed on enhancing the climate resilience of transport systems, including an improved means of forecasting road surface

temperatures for winter maintenance which is now widely applied within the UK. Another aspect of our pollution studies is work on persistent organic pollutants which involves studies both of 'legacy' pollutants such as PCB and more recent contaminants such as brominated and organophosphorus flame retardants, as well as perfluoroalkyl compounds, an area in which the group has an internationally leading position. Work on environmental nanoscience is in many aspects world-leading and has attracted major funding from NERC, including the Facility for Environmental Nanoparticle Analysis and Characterisation (FENAC). Work is focussed on nanoparticle characterisation and studies of the environmental pathways and impacts of nanomaterials in the environment. The group has modern and highly equipped facilities both for laboratory and field research and undertakes numerous international collaborative campaigns.

Water Sciences Research Group

Water is a cross-cutting research issue driving national and international research agenda, and the Water Sciences group at the University of Birmingham undertakes pure and applied research within this dynamic and fast-changing area, to address questions of immediate concern to society and environment. This research reflects the acceleration of environmental stresses, transformation of national/international agendas and ecological and environmental degradation which require new understanding of the key processes governing all aspects of water environments. Measures of the environmental and societal value of water and new paradigms and policies for the integrated management of water to meet future needs are also required.

In this context the Water Sciences Research Group at Birmingham, is advancing our fundamental understanding of surface and ground water processes by undertaking research at multiple scales, which encompasses hydrology, hydroclimatology, biogeochemistry, geomorphology, ecology and modelling. The activities of the Group embrace the work of two long established research teams in Hydroecology and Hydrogeology, which were recognised as internationally excellent by the 2008 Research Assessment Exercise. The core of our research in surface- and ground-water systems aims to i) quantify the physical, chemical and biological processes governing the quantity and quality of water, and the cycling and transfer of nutrients and contaminants and; ii) model the effects of changing water sources and these nutrient fluxes and contamination on aquatic biota.

The scale of the research ranges from pore-scale, through small-scale field sites and drainage basins to continental systems. Our field studies encompass a wide range of climatic conditions, from Arctic to alpine and tropical and a large spectrum of anthropogenic pressures from pristine to urban conditions. Research by the group is funded by national (eg, NERC, EPSRC, EA, SEPA) and international agencies (eg, IAEA, ESF) as well as industry and charities. The group works with a wide range of collaborators in other institutions in the UK and overseas, particularly in Europe, Asia and the USA.

Society, Economy and Environment Research Group

The SEE Research Group conducts theoretically and empirically informed research aimed at understanding how social practices and relations are conditioned by space and place. Within the group we maintain an internationally-leading profile in three principal research areas, organised around shared conceptual issues and empirical challenges,.

These research themes are:

Political and social transitions: this theme brings together colleagues working on the geographies of lived experiences and the everyday (particularly in post Soviet Russia), carceral geographies,

political geography and critical geopolitics, political economic transitions (including lifestyle, employment, coping with unemployment), and issues of competitiveness, innovation and resilience arising from continuing economic turbulence. Colleagues have good external collaborations (international and national policymakers, regional community and civil society groups) and this theme has established an excellent public engagement profile.

Critical urbanism: this interdisciplinary theme brings together research across cultural geography, the work of CURS and physical geography/environmental science. The main strands relate to creative economy (including the role of the cultural sector), regeneration (including brownfield redevelopment), shrinking cities, urban climate, everyday life, urban governance, education and resilience. There is an excellent track record of grant capture and collaboration across government and the third sector.

Environmental and energy inequalities is concerned with research questions spanning the boundary between the physical and the social sciences including adaptation to climate change, environmental justice, energy efficiency and conservation and its associated scientific, social and spatial practices. Wider theoretical and empirical work explores environmental and techno-scientific discourses. This theme has strong links with applied science in GEES on water governance and natural resource allocation using complex quantitative and qualitative datasets to inform resource allocation and policy.

The three themes anchor SEE's lively *Tabula rasa* seminar series, held weekly, which also showcases the work of leading geographers from Schools and Departments in the UK, Europe and from leading overseas Universities and research institutes.

We also have particular strength in theoretically informed empirical research on the European Union, post-Soviet Russia and the near East region. Our research has been funded by the UK's Research Councils, the EU's Framework Programmes, the Nuffield Foundation, the European Science Foundation, and a range of government bodies and charitable organisations from across the world. We strongly engage with policy, especially with regard to urban regeneration, renewable energy, nuclear waste management, fuel poverty, community resilience and climate change mitigation strategies. Further details can be found at:

<http://www.birmingham.ac.uk/research/activity/see>

Centre for Urban and Regional Studies (CURS)

CURS was established in 1966, initially as a research institution in urban and regional studies, but has expanded its activities over the past 25 years. The group's work has an international perspective, drawing on extensive links with research and policy networks and aims to understand the dynamics of places in order to provide a constructive input to the development of policies to deliver more sustainable outcomes for cities and regions. A full merger of the planning component of CURS with the School of Geography, Earth & Environmental Sciences (GEES) occurred in 2011 and has been supplemented by several new appointments in the area of resilience and urban living as part of a major University investment. Economic development activities associated with CURS are predominantly located in the Business School and focus on understanding of the development and re-organisation economic activity at different spatial scales. GEES research encompasses:

- Spatial planning and sustainable urban development
- Urban regeneration and resilience
- Social inclusion and social cohesion

- Neighbourhood change and responsiveness to communities
- Governance and management of places and institutions

It is envisaged that there will be the opportunity to develop and restructure the social science research groupings in the School following the raft of new appointments in 2013.

Job summary

The School of Geography, Earth and Environmental Sciences (GEES) seeks to appoint two Lecturers or Senior Lecturers in Geology, one or both of whom is expected to make an active contribution to research in the Geosystems research group and one of whom may be appointed to a teaching-focused position.

In terms of research expertise, we are looking for individual(s) who will enhance our research power and international reputation in tectonics, crustal and mantle dynamics, and magmatic processes. Our work in this area is currently supported by several UK research council awards and dedicated computing and laboratory facilities.

Evidence of research excellence in the form of international publications and personal research awards is required for an appointment at lecturer level. Evidence of a strong and sustained track record in publishing research of high academic quality and impact and securing external research funding is essential for a senior lectureship, or alternatively industrial experience that evidences a similar high level of achievement and potential for an academic appointment. In addition, a commitment to delivering excellent teaching and learning in geology is essential, including participation and leadership of field courses. One or both of the posts will involve leadership of teaching in the areas of mineralogy and petrology, and mineral deposits.

One of the appointments may be to a teaching-focused position at either lecturer or senior lecturer level and interested candidates should make this clear in their application. Such an appointment is intended for an inspiring teacher who will be able to demonstrate their ability to facilitate students achieving their potential. Evidence of a capacity to develop pedagogic leadership (for a lectureship position) or sustained demonstration of pedagogic leadership (for a senior lectureship position) and/or extensive relevant industrial experience is essential for a teaching-focused appointment. This career track can lead to eventual appointment as Professor.

The successful candidates will undertake administrative tasks (appropriate to their appointment grade) to support delivery of research and teaching within the School of Geography, Earth and Environmental Sciences.

Candidates interested in an appointment at Readership level should approach Professor Fairchild (contacts given above) in the first instance.

Female and BME staff are under-represented in the School and so we would particularly value applications from such candidates. Professor Eva Valsami-Jones is available to discuss the School's equal opportunities policies (valsamie@adf.bham.ac.uk, 0121 4145537).

Main duties

Research

To plan and carry out research, using appropriate methodology and techniques, including:

- Pursuing personal research including developing research ideas and winning support, including financial support;
- Planning, publish and/or executing high quality research;
- Managing research activities, and/or supervising other research staff;
- Developing novel methodologies and techniques appropriate to the type of research being pursued;
- Supervising and examining PhD students, both within the institution and externally;
- Providing expert advice to staff and students within the discipline;
- Applying knowledge in a way which develops new intellectual understandings.

Learning and Teaching

To use a variety of methods teaching and advising individuals and groups of undergraduates, postgraduates, or CPD students, including:

- Teaching and examining courses at a range of levels;
- Planning and reviewing own teaching approaches and acting as a mentor to encourage others to do the same;
- Developing programme proposals and make substantial contributions to the design of teaching programmes more widely in the Department or School, as appropriate;
- Undertaking the full range of responsibilities in relation to supervision, marking and examining;
- Using appropriate approaches to learning and teaching in their field;
- Disseminating scholarship through suitable media;
- Developing and advising others on learning and teaching tasks and methods;
- Devising & supervising projects, student dissertations and practical work;
- Acting as a personal tutor for academic and pastoral issues.

Management/ Administration

To contribute to School administration or have a high level of responsibility for others. This may include:

- Participating in the administration/management of research and/or teaching across the Department/School;
- Leading and managing a team to devise and implement a new and/or revised process (e.g. new programme or a recruitment drive);
- Advising on personal development of colleagues and students;
- Making a major contribution to some administrative activities within the University (e.g. appeals panels, working groups);
- Contribute to widening participation, schools outreach, and/or public understanding of the discipline.

In addition at Senior Lecturer level:

- Leading major funding bids which develop and sustain research support for the specialist area and advance the reputation of the School and University
- Providing expert advice to colleagues, students and external bodies, e.g., government bodies;
- Leading the advancement of the development of programme curricula;
- Acting as a coach and role model through excellent practice and mentoring of colleagues;
- Promoting and market the work of the School in the subject area both nationally and internationally.

Person specification

- Normally, a higher Degree relevant to the research/teaching area (usually PhD) or equivalent qualifications.
- Extensive research/teaching experience and scholarship within subject specialism, with evidence of ability to attract external funding.
- Proven ability to devise, advise on and manage learning/ research.
- Skills in managing, motivating & mentoring others successfully at all levels.

Research

- Experience and achievement reflected in a growing reputation as appropriate for career stage
- Experience and demonstrated success in planning, undertaking and project managing research to deliver high quality results.
- Extensive experience of applying and/or developing and devising successful models, techniques and methods.

Appointment at the Senior Lecturer level will reflect high level peer esteem as evidenced by:

- Excellent reputation in the UK and often internationally, reflected in sustained high quality output, level of innovation, impact on subject and recognition.
- An excellent and sustained record of peer reviewed research publications.
- Successful and sustained supervision of doctoral students to completion.
- Substantial and sustained research income generation, e.g. through research grants, contracts, research consultancy or other external funding.

Teaching

- Ability to design, deliver, assess and revise teaching programmes.
- Experience and demonstrated success in developing appropriate approaches to learning and teaching and advising colleagues

Appointment at Senior Lecturer level will reflect significant experience as evidenced by:

- Successful and sustained use of a range of appropriate teaching methods and assessment strategies that promote high quality learning, including teaching that is flexible, distinctive and current and stimulates learners' natural curiosity;
- Significant and sustained contribution to one or more of the following: strategic development of new programmes, approaches to learning, the development of learning resources;
- High quality and sustained contributions to fostering excellence in teaching activities either within their host institution or externally
- Mentoring and expert advice which develops the skills of colleagues in teaching and in fostering learning.

Appointment to a teaching-focused position at Senior Lecturer level will reflect the following characteristics:

- Significant contribution to the pedagogical knowledge base of the subject that advances teaching through the enhancement of practice, the development of teaching resources and/ or through practice-based research
- There will be evidence of successful and sustained:
 - i. Leadership on the management and the development of approaches to teaching and learning that are innovative to subject area or institution.
 - ii. Leadership on the design and/or renewal of programmes or equivalent.
 - iii. Contribution to debate nationally about new approaches to teaching policy, methods and practices through publications, conferences and activities that advance quality in the field.
 - iv. Engagement in external quality assurance activities related to teaching, eg. external examining

- v. Leadership on development activity in relation to specified area, including admissions, student welfare and student academic support, peer assessment of teaching, new approaches to teaching and learning
- vi. Contribution to the development of the teaching practice of other academic staff within and beyond the school
- vii. Management of teaching programmes
- viii. Significant role in Widening Participation and other outreach activities

Management/Administration

- Ability to contribute to School/Departmental management processes
- Ability to assess and organise resources effectively
- Understanding of and ability to contribute to broader management/administration processes

Planning and Organising

- Plan for and set teaching objectives over a number of years;
- Plan and manage own teaching and tutorials as agreed with the Head of School;
- Plan and deliver against own research objectives;
- Organise meetings/conferences/symposia.

In addition at Senior Lecturer level;

- Project manage research activities and supervise other research staff;
- Lead aspects of School/Departmental management processes e.g. course development.

Scope of the Role

Contributing to the whole range of research, teaching and administration [excepting teaching-focused roles which do not have a research requirement]

Research is likely to involve initiating, conducting and disseminating original research.

Teaching is likely to include programme/module review and development as well as delivery and assessment at all levels. The role will typically also involve developing and advising others, including: (a) providing expert advice to staff and students, (b) supervising and examining PhD students, and (c) developing and advising others on learning and teaching tasks and methods. .

Management and administration is likely to involve contributions at Departmental and School level, and/or making an important contribution to some managerial/administrative activities within the University (e.g. working groups).

Decision making

- Develop learning and teaching approaches, including approach to mentoring
- Develop programme proposals and decide what contributions to make to the design of teaching programmes
- Develop research ideas
- Decide how to develop and undertake the research
- Decide where and when to present research findings and what publications and conferences to target for this purpose (with guidance, if required)
- Advise, supervise and examine PhD students
- Develop knowledge in specialist area
- Contribute to School/Departmental management processes

Internal/external relationships

- Communicating complex and conceptual ideas;
- Participate in and develop external networks;
- Provide expert advice to staff and students within the discipline;
- Contribution to recruitment of students;
- Act as external examiner.
- Develop links with external contacts such as other educational bodies
- Provide expert advice internally and externally in specialist area
- Referee and peer review of articles for peer reviewed academic journals and grant applications by research councils and/or other major funding bodies.
- Maintain contact (including membership of) appropriate professional bodies
- Liaise with the relevant external research community via seminars and conferences