

Job Description: Associate Professor (Water Science)

Post title and post number	Associate Professor (Water Sciences)
College/Budget Centre	
School/Department	GEES
Full time/Part time	FT
Duration of the Post	Open-ended
Salary	
Additional information	
Terms and Conditions	Academic Teaching Staff
Closing Date	
Grade	9

Background

We are seeking to appoint an Assistant Professor in Water Science in the School of Geography, Earth & Environmental Sciences (GEES) at the University of Birmingham. Their expertise should address how freshwater and catchment systems respond to climate change, extreme events, human pressures, and/or environmental transitions. The post will strengthen our portfolio of water-related research across the School - ranging from catchment hydrology, river processes and water quality, to aquatic ecosystems, hazards, and water-society interactions.

The role is advertised as a three-legged contract with excellence in research, education and administration all expected, with candidates able to demonstrate a commitment to teaching and school service. We welcome applications from candidates undertaking innovative and impactful research across the physical, environmental, and interdisciplinary dimensions of water science, including but not limited to:

- Hydrological processes, extremes, and human–water interactions
- Freshwater biogeochemistry, water quality, emerging pollutants, and ecosystem responses
- Ecohydrology, land–water connectivity, water-cryosphere, and climate– aquatic ecosystem feedbacks
- Hydroinformatics (including novel AI), data assimilation, uncertainty analysis, and reflective approaches to model design and evaluation
- Hydrological processes linking water, disease, and health
- Earth observation and spatial analysis for monitoring, mapping, and diagnosing change to hydrological processes across scales.

Evidence of a strong track record in publishing work of high academic quality and impact is essential, as is a track record of obtaining external research funding. Applicants should be able to demonstrate delivery of excellent and inclusive teaching and learning at all levels (i.e. undergraduate, postgraduate levels). Teaching may include a range of contributions, notably within our physical geography and environmental science programmes. Applicants are also expected to have a commitment to postgraduate research supervision. Successful candidates will participate in School activities and take on administrative responsibilities appropriate to their appointment.

There are significant opportunities for interdisciplinary collaboration across campus, particularly via the Birmingham Institute for Forest Research (BIFoR), the Environmental Change Outdoor Laboratory (ECOLAB), the Birmingham Institute for Sustainability and Climate Action (BISCA) and

the Institute for Data and AI (IDAI), as well as through global partnerships in Brazil, China, India and North America.

Summary of Role

You will contribute to a range of research, teaching and administration activities. In addition, you will be expected to demonstrate academic citizenship, developing and maintaining generous, mutually respectful and supportive working relationships with all staff and students, and ensuring the way you carry out your role impacts positively on how others can carry out theirs.

Research will involve initiating, conducting and disseminating original scholarship. Your research will have measurable outcomes reflecting your growing national and international reputation. Teaching will include (a) contributing to the undergraduate and Master's teaching programmes (for example BSc Physical Geography, BSc Environmental Science and MSc River Environments and their Management) and (b) enhancement of the student experience or employability that is of manifest benefit to the School and University.

Management and administration are likely to involve contributions at School and College level, and making an important contribution to managerial and leadership activities (e.g. working groups) within the University. This will likely include developing and making substantial contributions to knowledge transfer, enterprise, business engagement, public engagement, widening participation, schools outreach, or similar activities at School level or further within the University.

Main Duties / Responsibilities

Education

You will contribute across the range of teaching and learning activities:

- making a 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;
- leading on the management and the development of approaches to teaching and learning, including designing innovative approaches to digital resources/environments and supporting colleagues to use them that are innovative to the subject area or institution;
- leading on curriculum design at module and programme level to ensure it is contemporary, inclusive, engaging and academically challenging;
- actively engaging students in curriculum design and sharing evidence of "what works";
- making an impactful, high quality contribution to debates about education policy, methods and practices through internal and external publications, subject societies and conference activity;
- developing an external profile evidenced through engaging in external quality assurance activities related to teaching, eg. external examining and engaging with/supporting education in other institutions;
- playing an important and sustained role in the recruitment and admission of students;
- co-supervising doctoral students to completion;
- leading the development of teaching, learning and assessment policies and strategies;
- acting as an education mentor to colleagues in the School/Department/College or more widely;
- leading the development of new and appropriate approaches to learning and teaching. This may be underpinned by research and evaluation of teaching methods and systems
- leading sustained high value impact in knowledge transfer and enterprise (including business engagement, public engagement) that enhances the student experience and/or or

employability, and is of manifest benefit to learning and teaching in the College and the University

- undertaking own teaching, which will include teaching and examining courses at a range of levels, planning and reviewing own teaching approaches, developing programme proposals, supervision, marking and examining. You will ensure that your teaching practice is informed by discipline based research, through participating in the research culture of the School.

Research

To pursue sustained research activity through original research and scholarship, including other research-related contributions through conference papers and presentations and/or consultancy projects and advice, including (as appropriate):

- contributing to the management of research activities and/or supervising other research staff;
- leading successful funding bids;
- consistently publishing internationally excellent research, with some research regarded as world leading, that results in a sustained, highly respected reputation of international quality;
- supervising and examining PhD students, both within the institution and externally;
- providing expert advice internally and externally;
- peer reviewing articles for peer reviewed academic journals and grant applications by research councils and/or other major funding bodies;
- leading sustained impact activity including public engagement and makes a significant contribution to policy development at a national and international level;
- supervising and examine PhD students, both within the institution and externally;
- as appropriate, managing research activities and/or supervising other research staff;
- developing novel methodologies and techniques appropriate to the type of research being pursued.

Management/administration

Lead activities in the Department/ School and represent the School on College/ University committees or working groups. Where appropriate to the discipline, this is likely to include some but not all of the responsibilities listed below:

- making an important contribution to the development and running of the Department or School, for example, leading activity on research and/or teaching assessment
- leading a successful international engagement at School or College level;
- developing and managing staff and resources in support of major research and/or teaching activities
- making important contributions to the development of the Department's research and/or learning and teaching strategy
- contributing significantly to the development and delivery of knowledge transfer, enterprise, business engagement and public engagement activities with sustained high value impact of manifest benefit to the College and the University;
- promoting a culture (including policies and procedures) that embeds equality and values diversity and inclusion
- leading, serving on and assisting the work of committees and task and finish groups beyond School/ Research Institute, e.g., Senate, Council, University Education or Research Committee etc.;
- leading external committees, e.g., those associated with public/professional bodies or delivery of activities for an external body at an appropriate level, e.g., chairing sub committees associated with large elements of work;
- leading/project managing a team to devise and implement a new and/or revised process (e.g. a new research initiative, or a recruitment drive);

- making a sustained contribution to widening participation, schools outreach and/or public understanding of the discipline;
- contributing to administrative activities within the University (e.g. appeals panels, working groups).

Citizenship

- identifying wellbeing issues within the School/College/University and developing appropriate solutions to address these;
- taking collective ownership of challenges faced by the School or College and working with colleagues to develop solutions;
- mentoring and coaching of colleagues, particularly those in the early stages of their career.

Person Specification

- Normally, a higher degree relevant to the research/teaching area (usually PhD) or equivalent qualifications.

Demonstrated excellence in at least Research, with competence in Learning and Teaching and Management and Administration.

Learning and teaching requirements

An excellent teaching profile and performance in terms of both impact and quality. The teaching quality demonstrated to be informed by an appropriate level of scholarship.

Where appropriate, evidence of success under the following headings:

- High national reputation for the development of teaching and learning excellence within the discipline
- Successful and sustained use of a range of appropriate teaching methods, and assessment strategies that promote high quality learning, including learning 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 more widely, i.e. in the Department/School or College and/or externally
- Track record of substantial and sustained high value impact on the enhancement of the student experience, and/or employability
- Mentoring and expert advice which develops the skills of colleagues in teaching and in fostering learning

Research requirements

An excellent national reputation and a developing international profile through significant original research work within the subject specialism water sciences and a clear record of impact.

Evidence of success under the following headings, as appropriate to the discipline:

- 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

- Sustained high value impact knowledge transfer and enterprise that is of manifest benefit to the College and University

Management and administration-related requirements

Demonstrated significant achievement in management and administration-related activities, which may include leadership of activities/initiatives. Evidence of success under the following headings

- Successful and sustained performance in significant administrative/managerial role (s) (e.g. exams officer)
- Significant and sustained high quality innovative contributions to the management/administration of the Department/School/College or University
- Successful and sustained contribution to the corporate life of the School/College/University, displaying willingness to contribute actively to committees, collaborative teaching and administrative tasks
- Actively promotes equality and diversity to internal and external stakeholders
- Able to use data to identify equality and diversity issues
- Experience of developing interventions to address equality and diversity issues
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