THE UNIVERSITY OF ABERDEEN

SCHOOL OF GEOSCIENCES

HYDROLOGICAL MODELLER – POSTDOCTORAL FELLOW

We seek a 3 year Postdoctoral Research Fellow to join the NERC Newton Fund and National Science Foundation of China (NSFC) project 'Red Soil CZ: From natural to anthropogenic evolution of Red Soil and its impact on ecosystem function in the Critical Zone'. This post provides vital Hydrological Modelling expertise to a consortium of researchers from the University of Aberdeen and the University of York in the UK, and five institutions in China, led by the Institute of Soil Science, Chinese Academy of Sciences.

The project assembles a multidisciplinary team of environmental modellers, geologists, hydrologists, biogeochemists and soil scientists. Using over a decade of data from China's only existing international Critical Zone Observatory at the Sunjia Watershed and a new integrated research programme we seek to provide the scientific underpinning and translational science to improve the management of red soils to enhance food productivity using fewer inputs, with less environmental impact and under changing climatic conditions. Red soils support about 40% of China's agricultural production, but their inherent low fertility and pressures from intensive agriculture, atmospheric deposition and water scarcity threaten their sustainable use.

The Hydrological Modeller will work on the NERC project 'Red Soil CZ: From natural to anthropogenic evolution of Red Soil and its impact on ecosystem function in the Critical Zone'. The Fellow will integrate a large data-set being collected from a Critical Zone Observatory established in the red soil region of China, in addition to nearby controlled experiments and laboratory studies. Hydrological models will be applied and developed to 1) to simulate and understand the spatio-temporally variable hydrological and sediment/solute carrying process dynamics at multiple scales, (2) to predict changes in these dynamics as a result of land use and climate change, while assessing the validity and uncertainty of the resulting predictions, and (3) to establish the models such that they are able to provide the support needed by decision-makers to enhance food production and water usage in a sustainable way. As part of the wider project, the Fellow will have an exciting opportunity to work within a broad project team and to integrate their work with a range of ecosystem processes, notably biogeochemical cycling.

Qualifications for this post include a PhD in hydrology, soil science, or a related field of environmental science. It is expected that the successful candidate has experience in the development and application of hydrological models and has strong numerical/computational skills (experience with programming in e.g. MATLAB/R is essential). Experience in incorporation of tracers, solutes and/or sediment movement into hydrological models would be highly desirable. The post is based at the University of Aberdeen but will involve regular visits to project partners in China.

Informal enquiries should be made to Dr Josie Geris (j.geris@abdn.ac.uk) or to Prof Paul Hallett, (paul.hallett@abdn.ac.uk).

Should you require a visa to undertake paid employment in the UK you will be required to fulfil the minimum points criteria to be granted a Certificate of Sponsorship and Tier 2 visa. As appropriate, at the time an offer of appointment is made you will be asked to demonstrate that you fulfil the criteria in respect of financial maintenance and competency in English. Please do not hesitate to contact [Adviser name & e-mail address] for further information.

To apply online for this position visit www.abdn.ac.uk/jobs