Job Related Information

This document includes information about the role for which you are applying and the information you will need to provide with your application.

1. Role Details

<table>
<thead>
<tr>
<th>Vacancy reference</th>
<th>14687</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job title:</td>
<td>Post-Doctoral Research Associate</td>
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<tr>
<td>Reports to:</td>
<td>Senior Lecturer in Ecology</td>
</tr>
<tr>
<td>Salary:</td>
<td>£29,799 to £38,833</td>
</tr>
<tr>
<td>Terms and conditions:</td>
<td>Research</td>
</tr>
<tr>
<td>Grade</td>
<td>AC1/AC2 (appointment dependent on experience)</td>
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<tr>
<td>Duration of post:</td>
<td>36 months</td>
</tr>
<tr>
<td>Working hours:</td>
<td>Full Time</td>
</tr>
<tr>
<td>Location:</td>
<td>Milton Keynes / Colchester</td>
</tr>
<tr>
<td>Closing date:</td>
<td>14/06/2018 12.00 noon</td>
</tr>
<tr>
<td>Type of application form accepted:</td>
<td>Short Application Form, CV, Covering letter detailing how you meet the person specification</td>
</tr>
<tr>
<td>Number of referees required:</td>
<td>Three</td>
</tr>
<tr>
<td>Unit recruitment contact:</td>
<td>Zoe Anderson</td>
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</table>
2. Summary of duties

The Open University and the University of Essex have received funding from the UK Space Agency for the project *Trace Gas Biosignatures: Implications for NOMAD*. The project will investigate the production of volatile organic compounds (VOCs) in a Mars analogue environment and use this information to interpret data from the NOMAD (Nadir and Occultation for Mars Discovery) instrument onboard the ExoMars Trace Gas Orbiter. The aim of the instrument is to investigate the origins of methane and other trace gases in the Martian atmosphere, which could be due to biological (from extinct or extant life), geophysical or exogenous processes.

The post-holder will be expected to work as part of an interdisciplinary team, which will be based at the Open University and will spend up to eight months at the University of Essex. To be effective in this role, the post-holder would have experience working in a microbiology or molecular biology laboratory.

**Main Duties**

- To carry out field work in sulfate-rich lakes located in north America
- To characterize the VOC profile, microbial community and geochemistry of these lakes
- To use microcosm experiments to determine the biotic and abiotic produced VOCs in the lakes
- To carry out sub-surface Mars simulation experiments under a variety of environmental conditions
- To statistically compare the laboratory based data with that of NOMAD
- To write papers on the research and publish them in peer-reviewed journals, and to present findings at international conferences and workshops
- To carry out administrative tasks associated with the work, such as risk assessments
- To undertake any other duties, where required, as directed by the PI on the project.

**Other Duties**

All staff are expected to:

- Comply with the University’s Health and Safety and Equal Opportunities policies in the performance of their duties.
- Take reasonable care of the Health and Safety of themselves and that of any other person who may be affected by their acts or omissions at work.
- Co-operate with the Open University and the University of Essex in ensuring as far as is necessary, that Statutory Requirements, Codes of Practice, University Policies and Departmental Health and Safety arrangements are complied with.
- Attend appropriate staff development events.

3. Person specification

**Requirements  (E = Essential/ D = Desirable)**

**Education, qualifications and training**

- PhD in environmental/geo microbiology, molecular biology, geochemistry, or a related field.
Knowledge, work and other relevant experience

**Essential:**
- Experience with culturing microorganisms
- Experience with measuring microbial activity
- Experience with designing and running laboratory-based growth experiments
- Data handling skills, e.g. bioinformatics, statistical analysis
- Ability to communicate research results effectively as demonstrated by a record of peer-reviewed publications and conference presentations.

**Desirable:**
- Field work experience
- Experience working with microorganisms from extreme environments
- Experience with molecular analysis of microbial communities
- Experience of measuring VOCs, e.g. using GC-MS
- Experience with molecular analysis of microbial communities
- An understanding of the principles of astrobiology/planetary sciences.

Personal abilities and qualities

**Essential:**
- *Solving problems:* Experience of analysing problems and working creatively to develop innovative and workable solutions
- *Communication skills:* Both oral and written in a variety of contexts, including the ability to offer and receive constructive criticism
- *Time management:* Ability to plan and organise work to agreed deadlines
- *Fostering high performance:* Demonstration of taking full responsibility and accountability for tasks while making effective use of available resources, information and feedback to improve efficiency, productivity and overall performance.
- *Respecting the individual:* Demonstration of a personal commitment to developing interpersonal skills, with an understanding of impact on individuals, respecting and valuing diversity

**Desirable:**

4. Role specific requirements e.g. Shift working

5. About the unit/department

**Faculty of Science, Technology, Engineering & Mathematics**

The Faculty of Science, Technology, Engineering and Mathematics (STEM) is comprised:

- School of Computing & Communications
- School of Environment, Earth & Ecosystem Sciences
- School of Engineering & Innovation
- School of Life, Health & Chemical Sciences
We deliver significant social and economic impact:

- School of Mathematics & Statistics
- School of Physical Sciences
- Knowledge Media Institute
- Deanery including teams supporting Curriculum, Research and Enterprise, Laboratory Infrastructure and Faculty Administration

“We aspire to be world leaders in inclusive, innovative and high impact STEM teaching and research, equipping learners, employers and society with the capabilities to meet tomorrow’s challenges”

The Faculty of STEM consists of 700 staff and 1,800 Associate Lecturers. The Faculty delivers over 185 modules across undergraduate and postgraduate curriculum, supporting nearly 19,000 students (full time equivalents) which is 29% of the OU total.

The Faculty generates more research income (circa £17M) than any other Faculty in the University, supported by a comprehensive laboratory infrastructure.

We are proud of our distinctive values and capabilities underpinning our aspiration:

**We are inclusive:**
- We transform people’s lives, ensuring STEM education is openly accessible to many thousands of students from diverse backgrounds – our students express high satisfaction with their study experience
- We engage the public in exciting citizen science and engineering, including through free open educational resources, multi-platform broadcasting, outreach to inspire the next generation and with programmes to encourage more women into STEM

**We are highly innovative:**
- We are at the forefront of innovative developments in teaching practical science and engineering at a distance, through simulated and remote access laboratories and practical experimentation
- Our high quality teaching and curriculum are informed by world-leading research, strong links with professional bodies and communities of practitioners, as well as by scholarship focused on continuously improving our STEM pedagogy

**We deliver significant social and economic impact:**
- We provide STEM higher education at a scale and reach unsurpassed in the UK, with a sizeable international reach and further growth potential
- We inject transferable STEM skills and knowledge direct into the workplace for immediate employee and employer benefit, as students combine study while working
- The employability value of our courses is underpinned by accreditation from leading STEM Professional Bodies and Learned Societies, as well as partnerships and sponsorship with leading employers
- Our high quality, applied and academically relevant teaching and research addresses real-world issues, delivering impact for industry and society, including addressing pressing STEM skill-shortages across the UK

**School of Environment, Earth and Ecosystem Sciences**
The School of Environment, Earth and Ecosystem Sciences comprises approximately 50 academic and research staff, along with an average of 20 PhD students, working in fields as diverse as biodiversity, biogeochemistry, ecology, palaeoenvironmental change, geochemistry, oceanography, palaeontology, sedimentology, tectonics and volcanology. We also have >150 Associate Lecturers located across the UK and Ireland, and who are integral to the support and delivery of our curriculum.

Our curriculum centres around two inter-related disciplines: Earth Science and Environmental Sciences, and is available to study globally. We currently offer qualifications in: Earth Sciences; Environmental Science (accredited by the Institution of Environmental Sciences); Geography and Environmental Science (in collaboration with the Open University Faculty of Arts and Social Sciences); and Natural Sciences with either an Earth Science or Environmental Science specialism. We are passionate about developing
innovative and agile approaches to curriculum design best suited to the delivery of science in an online and distance learning environment. In line with this, we are currently refreshing our honours level Environmental Science curriculum and plan to expand our Masters offerings in Earth and Environmental Sciences in the near future.

Our research centres round four interlinked themes: Dynamic Earth; Earth systems modelling; Ecosystems; and Palaeoenvironmental change. Within these groups, we investigate both short-term and long-term processes to advance knowledge and understanding of interactions between past and present Earth and environmental systems. Key specialisms include: understanding the formation of mountain belts; modelling global ecosystems and processes; developing and using marine and terrestrial proxies to assess palaeoenvironmental change; the biogeochemistry of terrestrial ecosystems; the anthropogenic influence on terrestrial ecosystems; deciphering igneous processes and monitoring active volcanoes.

Supporting our research are some exceptionally well-equipped research facilities, which are shared across the Faculty. Specifically within the School, our facilities include:

- a suite of newly refurbished ecosystem laboratories designed for ecohydrology, biogeochemistry and biodegradable waste management, comprising controlled environment growth chambers, a soil- physics lab, flexible preparation laboratory space including walk-in cold stores, incubators, drying ovens and furnaces, and analytical facilities tailored for analysis of soil, water and air samples as well as a full range of biological and environmental materials;
- a suite of Earth Science laboratories comprising radiogenic, noble gas and stable isotope mass spectrometry facilities, Cameca NanoSIMS ion imaging system and a dual beam FIB-SEM, ICP-MS facilities, electron probe microanalysis, and palaeoenvironmental/pollen analysis facilities, all supported by world-class clean laboratory facilities enabling the processing of low level geological samples uncompromised by environmental contamination.

Overall, our mission statement “investigating past and present environments, to create positive actions for a sustainable future”, is central to all our teaching, research, enterprise and external engagement activities, while our strong sense of collegiality and community continues to shape and direct the interdisciplinary approaches used throughout our work.

6. How to obtain more information about the role or application process

If you would like to discuss the particulars of this role before making an application please contact Dr Karen Olsson-Francis - email: Karen.Olssonfrancis@open.ac.uk

If you have any questions regarding the application process please contact Zoe Anderson on +44 (0)1908 332313 or email: STEM-Recruitment@open.ac.uk.

7. The application process and where to send completed applications

<table>
<thead>
<tr>
<th>Your application should contain:</th>
<th>Short Application Form</th>
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<tbody>
<tr>
<td></td>
<td>CV</td>
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<td></td>
<td>Cover Letter</td>
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Please ensure that your application reaches the University by: 14/06/2018
E-mail your application to: [STEM-Recruitment@open.ac.uk](mailto:STEM-Recruitment@open.ac.uk)

Or post it to Name/Job title: Zoe Anderson, Staffing Adviser

Department/Unit: Deanery, Faculty of Science, Technology, Engineering & Mathematics

Address: The Open University, Walton Hall, Milton Keynes, MK7 6AA

### 8. Selection process and date of interview

<table>
<thead>
<tr>
<th>The interview panel will be chaired by:</th>
<th>Dr Karen Olsson-Francis (Senior Lecturer in Ecology)</th>
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| The other members of the interview panel will be: | TBC  
| | TBC |
| The interviews will take place on: | TBC |
| The selection process for this post will include | Interview |

We will let you know as soon as possible after the closing date whether you have been shortlisted for interview. Further details on the selection process will also be sent to shortlisted candidates.

Applications received after the closing date will not be accepted.