

## **Fully-funded PhD: The role of the atmosphere in shaping and sustaining microbial communities on glaciers**

### **Supervisors:**

James Bradley, *Queen Mary University of London, UK*  
Anne Jungblut, *Natural History Museum, UK*

### **Co-supervisors:**

Chris Greening, *Monash University, Australia*  
Jackie Goordial, *University of Guelph, Canada*  
Elizabeth Trembath-Reichert, *Arizona State University, USA*

### **Location:**

Queen Mary University of London, UK.  
The Natural History Museum, London.

### **Application deadline:**

3<sup>rd</sup> October 2022.

### **Start date:**

January 2023 or as soon as possible thereafter.

### **Summary:**

The atmosphere forms a bridge between Earth's major biomes, linking terrestrial, aquatic, and glacial systems. The continual exchange, transport and dispersal of microorganisms between the atmosphere and its adjacent habitats shapes these environments via processes that are not yet fully understood. The cryosphere shares many of the same characteristics as the atmosphere, for example: low substrate availability, freezing temperatures, and high UV radiation. This PhD project will examine the ecological links between the atmosphere and the cryosphere – in particular, glacier surfaces in polar regions. Using state-of-the-art genomic and biogeochemical techniques, the student will investigate the role of the atmosphere in shaping microbial communities in snow and ice habitats, as well as in sustaining them by providing sources of energy. There will be opportunities for fieldwork in Svalbard and/or other polar environments to collect atmospheric samples, as well as samples of snow and glacier ice for analyses. The student will collaborate across multi-disciplinary teams in London (Queen Mary University of London and the Natural History Museum) and internationally (Australia, Canada, and the USA), and be embedded into a wider project that investigates the atmosphere as a microbial ecosystem. This PhD project would suit a student with interests in environmental microbiology, biogeochemistry and polar environments.

For further information please contact **James Bradley** ([james.bradley@qmul.ac.uk](mailto:james.bradley@qmul.ac.uk)).

### **Application Deadline:**

Apply before **3<sup>rd</sup> October 2022** for full consideration. We anticipate interviews to be held during the week beginning 24<sup>th</sup> October. We anticipate a start-date of January 2023 or as soon as possible thereafter.

### **Funding:**

This is a fully-funded 3-year position.

### **Eligibility Criteria and Candidate Profile:**

The position is open to candidates of any nationality. Candidates must hold a degree in the natural or physical sciences (e.g. Biology, Earth Sciences, Chemistry, Physics, Mathematics, Geography, or related discipline). We are looking for highly motivated, independent students with good communication skills. Previous research experience and knowledge of microbiology and biogeochemistry is highly desirable.

**How to apply:**

To apply, please click here:

[https://mysis.qmul.ac.uk/urd/sits.urd/run/siw\\_ipp\\_lgn.login?process=siw\\_ipp\\_app&code1=R FQM-L8ZM-01&code2=0014](https://mysis.qmul.ac.uk/urd/sits.urd/run/siw_ipp_lgn.login?process=siw_ipp_app&code1=R FQM-L8ZM-01&code2=0014)

Your application must include a Personal Statement (2 pages max), Research Proposal (1 page max), Curriculum Vitae (2 pages max), and the names and contact details of up to three academic references. In your personal statement, please identify your research interests, outline relevant skills, training, experience and qualifications, and explain why you are interested in this programme and how it fits your career development plans. In your research proposal, please briefly outline how your research will address one or more of the themes described in the project summary above.

Please also email Dr. James Bradley (james.bradley@qmul.ac.uk) prior to the deadline to confirm your intention to apply.

**English Language:**

If you are from a non-English speaking country, you will need to provide evidence of English language ability according to the QMUL policy for postgraduate students. For candidates who have not yet met these requirements, we will include this as part of your offer conditions.

**Benefits:**

- Working on the forefront of Arctic microbiological research.
- Training and collaboration offered by the host institution (QMUL), the Natural History Museum, and international partners in Australia, Canada and the USA.
- Develop and apply innovative techniques in microbiology in the lab and field.
- Participate in remote Arctic fieldwork.
- Training and participation in international research events including conferences and workshops.
- You will be fully integrated into the research and outreach programs of two leading London institutions, including access to world-class laboratories at the Natural History Museum.
- Outreach activities targeted at a wide audience.
- You will be employed by the host organisation for 36 months.
- A competitive salary plus allowances.
- University fees are covered by the studentship.

For further information on the research area, please visit: <http://www.jbradleylab.com>