

Research Role Profile

<b>Job Title:</b>	Research Fellow in Microbial Electrochemical Systems
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<b>Responsible to:</b>	Professor Claudio Avignone Rossa
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<b>Responsible for:</b>	Not applicable
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<b>Job Summary and Purpose:</b>
To undertake research in accordance with the specified research project(s) under the supervision of the principal investigator.

<b>Main Responsibilities/Activities</b>
<p>To undertake a range of research activities within a specified research area, assuming responsibility for specific areas of projects and making use of new research techniques and methods, in consultation with the research award holder or supervisor. This may include fieldwork, interviews, laboratory experimentation, critical evaluation and interpretation, computer-based data analysis and evaluation or library research.</p> <p>Using initiative and creativity to identify areas for research develop new research methods and extend the research portfolio. Analysing and interpreting results of own research. Write up results and prepare papers for submission to appropriate journals and conferences, and other outputs as required and/or appropriate. Attend appropriate conferences for the purpose of disseminating research results of personal development. The post holder may also contribute to writing bids for research grants and will contribute to collaborative decision making with colleagues in areas of research.</p> <p>Continually to update knowledge and develop skills, and translate knowledge of advances in the area into research activity.</p> <p>To plan and manage own research activity in collaboration with others. To carry out administrative tasks associated with specified research funding, for example risk assessment of research activities, organisation of project meetings and documentation. Implementation of procedures required to ensure accurate and timely formal reporting and financial control.</p> <p>To contribute to teaching in the Faculty by carrying out student supervision and/or demonstrating within the post holder's area of expertise and under the direct guidance of a member of departmental academic staff, as appropriate.</p> <p>The post holder may occasionally be required to supervise more junior research staff.</p>

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### Person Specification

#### The post holder must have:

A doctoral degree in a relevant discipline (although individuals who have almost completed a doctoral degree may be appointed). Consideration may also be given to individuals who do not hold a doctoral degree but have required skills based on a number of years' experience in specified / relevant fields

The post holder will have authority over some aspects of project work and must be capable of providing academic judgement, offering original and creative thoughts and be able to interpret and analyse results.

### Relationships and Contacts

Direct responsibility to the principal investigator or academic supervisor. The post holder may work on original research tasks with colleagues in other institutions involved in the project. There may be additional reporting and liaison responsibilities to external funding bodies or sponsors. The post holder may be asked to serve on a relevant Faculty committee.

### Special Requirements

To be available to participate in fieldwork as required by the specified research project

#### All staff are expected to:

- Positively support equality of opportunity and equity of treatment to colleagues and students in accordance with the University of Surrey Equal Opportunities policy.
- Help maintain a safe working environment by:
  - Attending training in Health and Safety requirements as necessary, both on appointment and as changes in duties and techniques demand
  - Following local codes of safe working practices and the University of Surrey Health and Safety Policy
- Undertake such other duties within the scope of the post as may be requested by your Manager.

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### Addendum

This document provides additional information relating to both specific aspects of the post/faculty and any post specific person specification criteria. The information contained within this document should always be read in conjunction with the accompanying generic Job Purpose.

#### Job Title:

Research Fellow in Microbial Electrochemistry

### Background Information/Relationships

The Researcher will join a project which is part of the Horizon 2020 project GREENER (Integrated Systems for Effective Environmental Remediation), in collaboration with a team composed by universities and companies from Europe and China. The main objective of GREENER is the development of innovative, efficient and low-cost hybrid solutions integrating bioremediation technologies with bioelectrochemical systems, in particular addressing the removal of pollutants from water, soil and sediments. The researcher will be based in the Systems Microbiology laboratory at the University of Surrey.

Our approach combines the analysis of contaminants and the physico-chemical and microbiological characteristics of polluted environments to establish integrated solutions, considering the effectiveness of biodegradation, the costs, the environmental risks and the social aspects. The project involves fundamental studies of the metabolic activities of microbial communities, and will be performed at lab-scale as well as pilot-tests to test feasibility for in-field applications.

This Research Fellow post is within the Systems Microbiology Group led by Dr Claudio Avignone Rossa. The successful applicant will have to opportunity to collaborate across the Section to expand their skills and knowledge in Biofilms, Microbial Communities, and Microbial Bioelectrochemistry.

### Person Specification

This section describes the sum total of knowledge, experience & competence required by the post holder that is necessary for standard acceptable performance in carrying out this role. This is in addition to the criteria contained within the accompanying generic Job Purpose.

#### Qualifications and Professional Memberships

**Essential/  
Desirable**

A higher research degree (PhD) (or near completion) Doctoral Degree (or close to completion): in Biotechnology, Microbiology, Biochemistry or closely allied subject

Essential

**Technical Competencies (Experience and Knowledge)** This section contains the level of competency required to carry out the role.

**Essential/  
Desirable**

Experience in the analysis of the composition, structure and function of environmental microbial communities.

Essential

Experience of bioinformatic data analysis

Essential

Interest in the application of Bioelectrochemical Systems for the degradation of environmental pollutants in water or soil

Desirable

Experience in designing and conducting microbial experiments and metabolic and biochemical analysis

Essential

Ability to work independently and to operate efficiently in an interdisciplinary research team

Essential

Scientific writing skills and proficiency in English

Essential

### Key Responsibilities

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This document is not designed to be a list of all tasks undertaken but an outline record of any faculty/post specific responsibilities. This should be read in conjunction with those contained within the accompanying generic Job Purpose.

1. Undertake analysis of microbial communities in contaminated water and soil samples, and the identification and selection of microbial species able to degrade organic and inorganic pollutants.
2. To design and construct artificial communities to be tested in bioelectrochemical systems, based on the metabolic capability of selected microorganisms
3. Liaise with other members of the consortium and colleagues from related groups in relation to technical and experimental details, and to advise and direct their experimental work.
4. Participate in the dissemination of the results of the project at scientific meetings and in published articles
5. Contribute to UG and PG supervision
6. Participate in academic activities (seminars, workshops, festival of research) organized by the Department, School and Faculty

**N.B. The above list is not exhaustive.**