

## Candidate Information

<b>Position:</b>	Research Fellow
<b>School/Department:</b>	School of Chemistry and Chemical Engineering
<b>Reference:</b>	18/106753
<b>Closing Date:</b>	Tuesday 25 September 2018
<b>Salary:</b>	£33,199 per annum
<b>Anticipated Interview Date:</b>	Thursday 4 October 2018
<b>Duration:</b>	12 months

### JOB PURPOSE:

To assist in EPSRC funded project on application of zwitterionic salts in development of protein-resistant surfaces. This is an exciting, highly interdisciplinary research position with focus on synthesis of novel molecular structures, physico-chemical characterisation, and critical evaluation of performances of materials and surfaces. The post holder will be able to independently plan and deliver research activities and to assist in development of original research proposals. Candidate will hold a relevant PhD (or be close to completion) in the field of chemistry, materials science, chemical engineering, or a related subject area.

### MAJOR DUTIES:

1. Develop and plan an area of personal research and expertise, and undertake research under supervision within the specific EPSRC research project as a member of a research team.
2. Design, synthesis and characterisation of novel zwitterionic materials.
3. Carry out analyses, interpretations of correlation between the material chemical structures, properties and effect on surface characteristics, and critical assessment of material performances in targeted applications using a range of methodologies and techniques.
4. Present regularly research progress reports to the project supervisor and the members of the research group, or to external audiences to disseminate and publicise research findings.
5. Prepare, often in consultation with supervisor, material for publication in national and international journals and presentations at international conferences.
6. Assist in the preparation of research proposals and applications to external bodies.
7. Carry out routine administrative tasks associated with the research project to ensure that project is successfully completed on time and within budget.
8. Carry out occasional undergraduate supervision, demonstrating or lecturing duties within the post holder's area of expertise and under the direct guidance of a member of academic staff, assist in supervision of PhD students who work in the same research area.
9. To keep abreast of developments in own specialism and related disciplines.

### Planning and Organising:

1. Plan for specific aspects of research programmes. Timescales range from 1-12 months in advance and contribute to research group planning.
2. Plan for the use of research resources where appropriate.
3. Plan own day-to day activity within framework of the agreed research programme.
4. Coordinate and liaise with other members of the research group over work progress.

### Resource Management Responsibilities:

1. Ensure research resources are used in an effective and efficient manner.
2. Provide guidance as required to support staff and any students who may be assisting with research.

### Internal and External Relationships:

1. Liaise on a regular basis with colleagues and students.
2. Build internal contacts and participate in internal networks for the exchange of information and to form relationships for future collaboration.
3. Join external networks to share information and ideas.
4. Contribute to the School's outreach programme by establishing links with local community groups, industries etc.

**ESSENTIAL CRITERIA:**

1. Have or be about to obtain a PhD in chemistry, chemical engineering, material science, or a related subject.
2. At least 3 years recent relevant research experience in organic synthesis and characterisation of materials, and surface modification.
3. Highly skilled to select and use analytical methods and techniques for characterisation (NMR, IR, UV-vis, SEM, DSC, TGA, rheometer, and QCM) and undertake research with minimal supervision.
4. Proven track record of delivering to deadlines.
5. Track record of publication appropriate to career stage.
6. Evidence of communicating complex information to a variety of audiences.
7. Proven ability to assess and organise resources to ensure delivery to project milestones.

**DESIRABLE CRITERIA:**

1. Research experience in design and synthesis of zwitterions and ionic liquids, measurement of phase equilibria (liquid-liquid and gas-liquid), and molecular modelling.
2. Experience in writing reports and publishing papers in high impact journals.
3. Experience in assisting in supervision of PhD students or other researchers.