**Purpose of role**
This Wellcome Trust funded Senior Investigator Award ‘Bacterial Decision Making: To Stick or not to Stick?’ aims to understand why some polymers resist bacterial biofilm formation and others do not. The role will be particularly focussed on in characterising the bio-interface that the bacterial cells experience, and how this causes them to make the decision not to form a biofilm. Experience with bacteria, polymers, surface chemical analysis, in particular ToF SIMS and XPS, will be essential.

<table>
<thead>
<tr>
<th>Main responsibilities</th>
<th>% of time per year</th>
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<tr>
<td>1 Determining polymer structure-performance relationships between polymer libraries and bacterial attachment and biofilm formation.</td>
<td>10%</td>
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<td>2 Carry our surface chemical analysis of polymer micro arrays and scale up samples.</td>
<td>9%</td>
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<td>3 Lead and make significant contributions to scientific publications.</td>
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<td>4 Presentation of results at internal and external meetings.</td>
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<td>5 Identify opportunities and assist in writing bids for research grant applications. Prepare proposals and applications to both external and/or internal bodies for funding, contractual or accreditation purposes.</td>
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<td>6 Build relationships with both internal and external contacts in order to exchange information, to form relationships for future collaborations and identify potential sources of funds and/or opportunities for collaboration.</td>
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<td>7 Co-ordinate the operational aspect of research networks, for example, arranging meetings and updating web sites etc. and contribute to collaborative decision making with colleagues in area of research.</td>
<td>9%</td>
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<tr>
<td>8 Assist in the supervision of undergraduate and/or postgraduate students projects, fieldwork and placements, as appropriate. To participate in the assessment of student knowledge and co-supervise projects at Masters level.</td>
<td>9%</td>
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<td>9</td>
<td>Collaborate with academic colleagues on areas of shared interest for example, course development, collaborative or joint research projects.</td>
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<td>10</td>
<td>Plan and manage own research activity and resolve problems, if required, in meeting own/team research objectives and deadlines in collaboration with others.</td>
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<td>11</td>
<td>Contribute to the organisation of research resources and facilities, laboratories and workshops as appropriate. Undertake general laboratory duties such as ordering of reagents, equipment maintenance, and laboratory housekeeping.</td>
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**Person specification**

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<th>Essential</th>
<th>Desirable</th>
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<tbody>
<tr>
<td><strong>Skills</strong></td>
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- ToF SIMS acquisition and data interpretation
- XPS data interpretation
- Polymer synthesis and characterisation
- A strong commitment to interdisciplinary research, in particular between microbiology and materials for elucidation of mechanistic understanding of biofilm inhibition by polymers
- Excellent oral and written communication skills including the ability to communicate complex information with clarity and write to a publishable standard
- Strong analytical skills including the ability to analyse and illuminate data, interprets reports, evaluate and criticise texts and bring new insights
- Ability to creatively apply relevant research approaches/models/techniques/methods and devise and manage research programmes
- Excellent problem solving, IT and organisational skills including the effective deployment of resources
- Ability to build effective relationships as part of a team and collaborate with others, both internally and externally
- Flexible, proactive and dedicated approach
### Knowledge and experience

- Presenting work effectively to a variety of professional and academic audiences at meetings and conferences
- A consistent track record of published research in peer-reviewed journals and writing high quality reports and papers for publication
- First author publications in high impact factor journals
- Previous success in gaining support for externally funded research projects
- Experience of developing new approaches, models, techniques or methods for characterisation of the biointerface
- Training and/or supervision of staff or students

### Qualifications, certification and training (relevant to role)

- A 1st or upper-second class honours degree in a science subject
- PhD submitted or awarded in the study of biomaterials

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We pride ourselves on the collegial and supportive culture created by our staff. We are dedicated to creating an environment which enables both our staff to thrive and achieve their potential. Our commitment to Equality and Diversity has been recognised in the awarding of an [Athena SWAN Silver Award](https://www.athenaswan.ac.uk/what-is-atena-swan/silver-award).

## Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

### Valuing people

Is always equitable and fair and works with integrity. Proactively looks for ways to develop the team and is comfortable providing clarity by explaining the rationale behind decisions.

### Taking ownership

Is highly self-aware, looking for ways to improve, both taking on board and offering constructive feedback. Inspires others to take accountability for their own areas.

### Forward thinking

Driven to question the status quo and explore new ideas, supporting the team to "lead the way" in terms of know-how and learning.

### Professional pride

Sets the bar high with quality systems and control measures in place. Demands high standards of others identifying and addressing any gaps to enhance the overall performance.

### Always inclusive

Ensures accessibility to the wider community, actively encouraging inclusion and seeking to involve others. Ensures others always consider the wider context when sharing information making full use of networks and connections.
Key relationships with others

Line manager

Professor Morgan Alexander
Professor of Biomedical Surfaces

Role holder

Research Associate/Fellow