ROLE PROFILE

Job Title: Research Associate/Fellow - Understanding Bacterial Surface Sensing for Better Biomaterials: Surface Metabolite Analysis

School/Department: This is a collaborative project between the School of Pharmacy and the School of Life Sciences

Job Family and Level: Research & Teaching Level 4 Training Grade/Level 4

Contract Status: Fixed-term for a period of 1 year, with a funding end date of 31 October 2020

Hours of Work: Full-time (36.25 hours per week)

Location: School of Pharmacy, University Park

Responsible to: Professor Morgan Alexander

Purpose of the New Role:
A novel class of polymers developed in our labs show great promise in reducing infections in the clinic. The reason bacteria do not form adherent biofilms on their surface is not well understood so in this Wellcome Trust funded project we aim to elucidate the bacterial surface sensing processes in an interdisciplinary collaboration recruiting both cutting edge analytics and state of the art microbiology. This approach will equip us to design the biomaterials of the future to reduce device centred infections for the post antibiotic era. The work is a continuation of successful collaboration between Morgan Alexander and Paul Williams.

The successful candidate will be responsible for experiments utilising both novel surface chemical analysis to analyse bacterial cell secreted metabolites and bacterial tracking at the surface of novel polymers.

This is a collaborative project between the School of Pharmacy and the School of Life Sciences. This fulltime post will be offered on a fixed-term contract for a period of 1 year; funding end date 30 November 2020.

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.

Main Responsibilities

1. Applying recently developed mass spectrometry based surface analytical procedures to monitor surface adsorbates from bacterial secreted small and macromolecules.
2. Applying recently developed individual cell tracking procedures elucidate the role of the surface in biofilm formation.
3. Lead and make significant contributions to scientific publications.
4. Presentation of results at internal and external meetings.
5. Assistance in the supervision of undergraduate and postgraduate students.
6. Organisation and assistance in general laboratory duties such as ordering of reagents, equipment maintenance, and laboratory housekeeping.
7. Active contribution to group meetings by e.g. problem solving, suggestions, etc.
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<th>Knowledge, Skills, Qualifications &amp; Experience</th>
<th>Essential</th>
<th>Desirable</th>
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<tr>
<td><strong>Qualifications/ Education</strong></td>
<td>• First degree in Chemistry, Materials, Pharmacy, Physics, Engineering, or related discipline.&lt;br&gt;• PhD (or near completion) in the physical or biological sciences.</td>
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<td><strong>Skills/Training</strong></td>
<td>• Biomaterials.&lt;br&gt;• Surface Chemical Analysis.&lt;br&gt;• Bacterial-surface interactions.&lt;br&gt;• Bacterial cell tracking.&lt;br&gt;• Excellent information technology and computing skills.&lt;br&gt;• Careful experimentalist with high level data processing capabilities.&lt;br&gt;• A strong commitment to interdisciplinary research, in particular between microbiology and materials.&lt;br&gt;• Excellent oral and written communication skills including the ability to communicate complex information with clarity.&lt;br&gt;• Excellent organisational skills.&lt;br&gt;• Problem solving skills.&lt;br&gt;• Ability to build relationships and collaborate with others, both internally and externally.&lt;br&gt;• Ability to work independently and as part of a team.&lt;br&gt;• Flexible, proactive and dedicated approach.</td>
<td>• Polymer synthesis.</td>
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<td><strong>Experience</strong></td>
<td>• Experience with surface chemical analysis data acquisition and interpretation.&lt;br&gt;• Present work effectively to a variety of professional and academic audiences at meetings and conferences.&lt;br&gt;• Write high quality reports and papers for publication.</td>
<td>• First author publications in the highest impact factor journals.</td>
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Informal enquiries may be addressed to Professor Morgan Alexander (morgan.alexander.nottingham.ac.uk, tel 0115 951 5119). Please note that applications sent directly to these Email addresses will not be accepted.

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