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| <b>Job Title:</b>                          | Research Associate                                       |
| <b>Department/Division/Faculty:</b>        | Medicine/Infectious Diseases/Medicine                    |
| <b>Campus Location:</b>                    | South Kensington   |
| <b>Job Family/Level:</b>                   | Academic and Research, Level B                           |
| <b>Salary Range:</b>                       | £37,904 - £45,547  |
| <b>Responsible to:</b>                     | Professor Angelika Gründling and Professor Paul Freemont |
| <b>Line Management responsibility for:</b> | N/A  |
| <b>Contract type:</b>                      | Fixed term for 2 years                                   |

## Research Programme

This research programme in Molecular Biology and Structural Biology led by Prof. Angelika Gründling and Prof. Paul Freemont will focus on providing a better understanding of an essential process required for the growth of *Staphylococcus aureus* and other Gram-positive pathogen, with the long-term goal to use this knowledge to develop new methods to prevent the growth, colonization and infection with these organisms. The research programme will focus on providing structural and mechanistic insight into the activity of the diadenylate cyclase DacA, an essential bacterial membrane protein responsible for the production of c-di-AMP. c-di-AMP is a more discovered signalling nucleotide required for the growth of *S. aureus* under standard growth conditions and plays an important role in osmotic regulation and cell wall homeostasis. Methicillin resistant *S. aureus* (MRSA) strains producing reduced levels of c-di-AMP become again sensitive to the cell wall active beta-lactam antibiotics. The reason for this is currently not known. The deadenylate cyclase DacA is part of a highly conserved three-gene *dacA/ybbR/glmM* operon, that also encodes the proposed DacA regulator YbbR and the essential phosphoglucosamine GlmM, which is required for the production of an essential peptidoglycan synthesis. These three proteins form a complex *in vivo* and the complex is thought to play a key role in regulating cellular c-di-AMP levels. This project aims to further characterize this complex on a structural and functional level.

## Purpose of the Post

The post is funded by the Medical Research Council and Wellcome Trust and is to carry out the work outlined in the above research programme in order to publish in high quality journals.

## Key Responsibilities

### Research Duties

- To take initiatives in the planning of research
- To collaborate with other allied scientists within Imperial College and elsewhere in London and abroad, as appropriate
- To ensure the validity and reliability of data at all times
- To maintain highly accurate and complete records of experimental work
- To conduct data analysis
- To publish in high quality journals, and to present data at national and international meetings
- To participate in Group research meetings and internal seminars
- To actively participate in the research programme of the Group
- To contribute to the smooth running of the Group's laboratories and facilities with other scientists, technicians and students
- To promote the reputation of the Group, the Department and the College

## Job Description

- To comply with the College, Division, and Unit safety practices and to attend courses on safety when appropriate
- Any other duties as may be deemed reasonable by Head of group as well as Head of Division/Department/Section

### Other Duties

- To undertake appropriate administration tasks
- To undertake any necessary training and/or development
- Any other duties commensurate with the grade of the post as directed by line manager/supervisor

## Person Specification

### Requirements

Candidates/post holders will be expected to demonstrate the following:

**Essential (E)/  
Desirable (D)**

| Education  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• PhD or equivalent in Structural Biology, Biochemistry, Microbiology, Molecular Microbiology, or a closely related discipline</li> </ul>         | E |
| Knowledge & Experience   |   |
| <ul style="list-style-type: none"> <li>• <b>Extensive knowledge in bacterial inner membrane expression and purification</b></li> </ul>   | E |
| <ul style="list-style-type: none"> <li>• Extensive knowledge in structural biology methods in particular in X-ray crystallography</li> </ul>   | E |
| <ul style="list-style-type: none"> <li>• Extensive knowledge in biophysical methods</li> </ul>   | E |
| <ul style="list-style-type: none"> <li>• Knowledge of research methods and statistical procedures</li> </ul>   | E |
| <ul style="list-style-type: none"> <li>• Practical experience within a research environment and publication in relevant and refereed journals</li> </ul>                                 | E |
| <ul style="list-style-type: none"> <li>• Practical experience in a broad range of molecular biology methods and <i>E. coli</i> genetic manipulation</li> </ul>                           | E |
| <ul style="list-style-type: none"> <li>• Computer literate with a good knowledge of different computer programs with experience in data presentation and statistical analyses</li> </ul> | E |
| Skills & Abilities   |   |
| <ul style="list-style-type: none"> <li>• Ability to conduct a detailed review of recent literature</li> </ul>  | E |
| <ul style="list-style-type: none"> <li>• Ability to develop and apply new concepts</li> </ul>  | E |
| <ul style="list-style-type: none"> <li>• Creative approach to problem-solving</li> </ul>   | E |
| <ul style="list-style-type: none"> <li>• Excellent verbal communication skills and the ability to deal with a wide range of people</li> </ul>  | E |
| <ul style="list-style-type: none"> <li>• Excellent written communication skills and the ability to write clearly and succinctly for publication</li> </ul>                               | E |
| <ul style="list-style-type: none"> <li>• Ability to direct the work of a small research team and motivate others to produce a high standard of work</li> </ul>                           | E |
| <ul style="list-style-type: none"> <li>• Ability to organise own work with minimal supervision</li> </ul>  | E |
| <ul style="list-style-type: none"> <li>• Ability to prioritise own work in response to deadlines</li> </ul>  | E |
| <ul style="list-style-type: none"> <li>• Advanced computer skills, including word-processing, spreadsheets and the Internet</li> </ul>   | E |
| Personal Attributes  |   |
| <ul style="list-style-type: none"> <li>• Willingness to work as part of a team and to be open-minded and cooperative</li> </ul>  | E |
| <ul style="list-style-type: none"> <li>• Flexible attitude towards work</li> </ul>   | E |
| <ul style="list-style-type: none"> <li>• Discipline and regard for confidentiality and security at all times</li> </ul>  | E |
| <ul style="list-style-type: none"> <li>• Willingness to work out of normal working hours (including weekends) if the requirements of the project demand</li> </ul>                       | E |

## Job Description

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| • Willingness to undertake any necessary training for the role   | E |
| • Willingness to travel both within the United Kingdom and abroad to conduct research and attend conferences | E |

Please note that job descriptions cannot be exhaustive and the post-holder may be required to undertake other duties, which are broadly in line with the above key responsibilities.

Imperial College is committed to equality of opportunity and to eliminating discrimination. All employees are expected to follow the [7 Imperial Expectations](#) detailed below:

- 1) Champion a positive approach to change and opportunity
- 2) Communicate regularly and effectively within and across teams
- 3) Consider the thoughts and expectations of others
- 4) Deliver positive outcomes
- 5) Encourage inclusive participation and eliminate discrimination
- 6) Support and develop staff to optimise talent
- 7) Work in a planned and managed way

Employees are also required to comply with all College policies and regulations paying special attention to:

- Confidentiality
- Conflict of Interest
- Data Protection
- Equal Opportunities
- Financial Regulations
- Health and Safety
- Information Technology
- Smoking
- Private Engagements and Register of Interests

They must also undertake specific training and assume responsibility for safety relevant to specific roles, as set out on the [College Website Health and Safety Structure and Responsibilities](#) page.

*The College is a proud signatory to the San-Francisco Declaration on Research Assessment (DORA), which means that in hiring and promotion decisions, we evaluate applicants on the quality of their work, not the journal impact factor where it is published. For more information, see <https://www.imperial.ac.uk/research-and-innovation/about-imperial-research/research-evaluation/>*

*The College believes that the use of animals in research is vital to improve human and animal health and welfare. Animals may only be used in research programmes where their use is shown to be necessary for developing new treatments and making medical advances. Imperial is committed to ensuring that, in cases where this research is deemed essential, all animals in the College's care are treated with full respect, and that all staff involved with this work show due consideration at every level.*

<http://www.imperial.ac.uk/research-and-innovation/about-imperial-research/research-integrity/animal-research/>

*Committed to equality and valuing diversity, we are an Athena SWAN Silver Award winner, a Stonewall Diversity Champion, a Disability Confident Employer and work in partnership with GIRES to promote respect for trans people.*