IMPERIAL

Research Associate in Low-Cost Vaccine Manufacturing Using Yeast

Department/Division/Faculty:	Chemical Engineering
Campus/Location:	South Kensington
Job Family/Level:	Research Job Family, Research Associate* (Research salary scale)
Responsible to:	Prof Karen Polizzi
Line management for:	N/A
Key working Relationships (Internal):	Prof Robin Shattock, Dr Sarah Joseph
Key Working Relationships (External):	Dr Mohammad Mainul Ahasan (Incepta Biopharma Ltd)
Contract type:	Fixed Term

Purpose of the Post

The post is part of the Future Vaccine Manufacturing Research Hub funded by the EPSRC and the Department of Health and Social Care with the overall aim of developing low-cost manufacturing platforms for vaccines. We lead a work package focused on using the yeast *Pichia pastoris* (*Komagataella phaffi)* as a platform for the production of vaccines based on virus-like particles.

The specific aim of the post is to carry out research programmes that provide increased yield of vaccine in a product-independent way, manipulate bioprocessing conditions or genetics to obtain desired glycoforms and to facilitate technology transfer to Incepta Biopharma Ltd who are project partners. The postholder will be expected to undertake project management and supervise multi-disciplinary teams as well as submit publications to refereed journals and to attract external research funding.

Key Responsibilities

Research Duties:

- To design expression constructs and create strains of *Pichia pastoris* expressing various virus-like particle (VLP) vaccines
- To identify and implement genetic engineering strategies to increase vaccine productivity

- To develop suitable small-scale processes for the production and purification of VLP vaccines and advise on scale up at Incepta
- To undertake bioassays and characterise the glycosylation patterns of VLPs and understand how these link to the genetic background of the strain and bioprocessing conditions
- To take initiatives in the planning of research
- To direct the work of small research teams
- To identify and develop suitable techniques, and apparatus, for the collection and analysis of data
- To conduct data analysis
- To ensure the validity and reliability of data at all times
- To maintain accurate and complete records of all findings
- To write reports for submission to research sponsors
- To present findings to colleagues and at conferences
- To submit publications to refereed journals
- To provide guidance to staff and students
- To attend relevant workshops and conferences as necessary
- To develop contacts and research collaborations within the College and the wider community
- To promote the reputation of the Group, the Department and the College
- To provide guidance to PhD Students
- Contribute to bids for research grants
- To conduct and plan own scientific work with appropriate supervision.
- To maintain highly organised and accurate record of experimental work
- To actively participate in the research programme of the Group
- 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 collaborate with other allied scientists within Imperial College and elsewhere in London and abroad, as appropriate
- To contribute to the smooth running of the Group's laboratories and, facilities with other scientists, clinicians, technicians and students within the laboratories
- Assist in the supervision of undergraduate and postgraduate research students and research assistants as required
- 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 any necessary training and/or development
- To undertake appropriate administration tasks
- To attend relevant meetings

Where Imperial or funder conditions necessitate, you will be required to complete timesheets for your work on projects in a timely manner.

IMPERIAL

Person Specification

To be deleted when JD is finalised:
Please note: When advertising roles at this level, we advise that the selection panel includes a minimum of three appropriate academic, research and/or innovation panel members. This is required to support eligibility under the Global Talent Visa Academic and Research (A&R) endorsement route, where applicable for international candidates. Failure to meet this requirement may restrict our ability to support a successful Global Talent endorsement application unless the role, candidate and contract meets all endorsed funder route requirements. Further guidance can be found on intranet pages.

Requirements Candidates/post holders will be expected to demonstrate the following:	**Essential (E)/ Desirable (D)**
Education	
Hold (or close to completion) a PhD in life sciences, bioengineering, chemical engineering or a closely related discipline, or equivalent research, industrial or commercial experience * **Candidates who have not yet been officially awarded their PhD will be appointed as Research Assistant.*	E
Experience	
Practical experience in the design of expression constructs for *Pichia pastoris*	E
Practical experience in a range of protein characterisation assays such as SDS-PAGE, Western blotting, ELISA, and dynamic light scattering	E
Practical experience with recombinant protein expression in *Pichia pastoris*	E
Practical experience within a research environment and / or publication in relevant and refereed journals	E
Practical experience with the analysis of glycosylation patterns on proteins	E
Experience of dealing with industrial collaborators	E
Practical experience within a research environment and / or publication in relevant and refereed journals	E
Knowledge	
Knowledge of vaccine production processes	E
Knowledge of scale-up of bioprocesses	E
Knowledge of research methods and statistical procedures	E
Skills & Abilities	
Ability to conduct a detailed review of recent literature	E
Ability to develop and apply new concepts	E
Creative approach to problem-solving	E
Excellent verbal communication skills and the ability to deal with a wide range of people	E

Excellent written communication skills and the ability to write clearly and succinctly for publication	E
Ability to organise own work with minimal supervision	E
Ability to prioritise own work in response to deadlines	E
Advanced computer skills, including word-processing, spreadsheets and the Internet	E
Ability to direct the work of a small research team and motivate others to produce a high standard of work	E
Willingness to work as part of a team and to be open-minded and cooperative	E
Flexible attitude towards work	E
Discipline and regard for confidentiality and security at all times	E
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
Willingness to work out of normal working hours (including weekends) if the requirements of the project demand	E

Further Information

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.

Our values are at the root of everything we do and everyone in our community is expected to demonstrate Imperial:

- Respect
- Collaboration
- Excellence
- Integrity
- Innovation

Employees are also required to comply with all Imperial policies and regulations.

We are committed to equality of opportunity, to eliminating discrimination and to creating an inclusive working environment for all. We encourage candidates to apply irrespective of age, disability, marriage or civil partnership status, pregnancy or maternity, race, religion and belief, gender reassignment, sex, or sexual orientation. You can read more about our commitment on our webpages.

Imperial 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/

Imperial 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 which are ultimately aimed towards finding new treatments and making scientific and medical advances, and where there are no satisfactory or

reasonably practical alternatives to their use. Imperial is committed to ensuring that, in cases where this research is deemed essential, all animals in our care are treated with full respect, and that all staff involved with this work show due consideration at every level. Find out more about animal research at Imperial.

As this post is exempt from the Rehabilitation of Offenders Act 1974, a satisfactory Disclosure and Barring Service (DBS) check, at the appropriate level, will be required for the successful candidate.

[November 2026]