



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Development of Vaccine Production via Cell Free Expression



Salary: Grade 7 (£39,105 - £46,485 p.a.)

Reference: FBSMB1297

Closing date: 06 February 2025

Available on a fixed-term basis until 31/12/2026

This role will be based on the university campus. We are open to discussing flexible working arrangements.

Research Fellow in development of vaccine production via cell free expression

School of Molecular and Cellular Biology

Are you an ambitious researcher looking for your next challenge? Do you wish to do research relevant to global health? Do you have an established background in molecular virology? Do you want to further your career in one of the UKs leading research intensive Universities?

Virus-like particles (VLPs) offer a low cost solution to vaccine development and are already in clinical use (e.g. against human papillomavirus and hepatitis B virus). They also avoid containment restrictions associated with the culture of infectious virus as are required for most conventional vaccine manufacture. We have developed VLP-based vaccine candidates for polio and hand, foot and mouth disease. These are produced in the yeast *Pichia pastors* by co-expression of the viral P1 precursor protein and the protease.

The current project will involve investigation of cell-free expression technologies for VLP production. This could dramatically speed up manufacturing and could be used to supply vaccines at point-of-care e.g. in the global south.

Our approach combines both industrial and academic expertise in cell free expression, VLP technology with automation, in order to build a platform automated cell-free expression system for the decentralised manufacture of VLPs based on *Pichia* lysate.

The project is funded by CEPI and project partners are Centre for Process Innovation (Darlington), Imperial College London, LiberumBio, FioCruz, Universities of Waterloo, and Toronto.

The successful candidate will work alongside other members of the team to purify and characterise VLPs.

For these roles, you should have a PhD (or close to completion) in molecular virology or a closely allied discipline. You should also have expertise in ELISA and in protein characterisation by Western blotting, as well as experience of working with yeast and purification of protein complexes.

Main duties and responsibilities



- Designing, planning and conducting a programme of investigation, in consultation with [Professors Stonehouse](#) and Rowlands and colleagues;
- Generating independent and original research ideas and methods on VLP vaccine characterisation, with an aim to extend the group research portfolio;
- Making a contribution to the dissemination of research results by publication in leading peer-reviewed journals, and by presentation at national and international meetings;
- Working independently and as part of a larger team of researchers, both internally and externally, to develop new research links and collaborations and engage in knowledge transfer activities where appropriate;
- Contributing to the supervision of junior researchers and PhD students and acting as a mentor to less experienced colleagues;
- Evaluating methods and techniques used and results obtained by other researchers and relating such evaluations to your own research;
- To contribute to, and to encourage, a safe working environment.

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.

Qualifications and skills

Essential

- A PhD (or close to completion) in molecular virology or a closely allied discipline;
- Expertise in protein characterisation by Western blotting and ELISA;
- Experience of transformation and purification of proteins from yeast;
- Experience in purification of VLPs or viruses using sucrose density gradients;
- Accepted publications in internationally recognised, peer-reviewed journals;
- The ability to design, execute and write up research independently;
- A developing track record of peer reviewed publications in international journals;
- Excellent communication skills, both written and verbal, and the ability to communicate your research at national and international conferences;
- Good time management and planning skills, with the ability to meet tight deadlines;



- A proven ability to work well both independently and as part of a team;
- Ability to work accurately and carefully;
- A strong commitment to your own continuous professional development

You may also have:

- Experience in electron microscopy;
- Experience in using DLS;
- Experience of column-based protein purification methods;
- Experience of working under high-level containment;
- Experience of nucleic acid quantification, in particular PaSTRy assays;
- Evidence of pursuing external funding to support research.

How to apply

You can apply for this role online; more guidance can be found on our [How to Apply](#) information page. Applications should be submitted by **23.59** (UK time) on the advertised closing date. «**closing date: insert hyperlink to job advert on Stonefish**»

Your application should include:

- A supporting statement providing evidence to support each requirement listed on the 'What will you bring to the role' section of the Candidate Brief (no more than two sides of A4, minimum font size 11);
- An academic curriculum vitae, including a list of your publications.

Contact information

To explore the post further or for any queries you may have, please contact:

[Nicola Stonehouse](#), Professor in Molecular Virology

Email: n.j.stonehouse@leeds.ac.uk

Additional information

Find out more about the [Faculty of Biological Sciences](#) and the [School of Molecular and Cellular Biology](#)



As an international research-intensive university, we welcome students and staff from all walks of life and from across the world. We foster an inclusive environment where all can flourish and prosper, and we are proud of our strong commitment to student education. Within the Faculty of Biological Sciences, we are dedicated to diversifying our community and we welcome the unique contributions that individuals can bring, and particularly encourage applications from, but not limited to Black, Asian, those who belong to a minority ethnic community; people who identify as LGBT+; and disabled people. Candidates will always be selected based on merit and ability.

The University of Leeds and the Faculty of Biological Sciences are committed to providing equal opportunities for all and offer a range of family friendly policies. The University is a charter member of Athena SWAN (the national body that promotes gender equality in higher education), and the Faculty of Biological Sciences was awarded a Silver award in 2020. We are proud to be an inclusive Faculty that values all staff, and are happy to consider job share applications and requests for flexible working arrangements from our employees. Our Athena SWAN [webpage](#) provides more information.

Working at Leeds

We are a campus-based community and regular interaction with campus is an expectation of all roles in line with academic and service needs and the requirements of the role. We are also open to discussing flexible working arrangements. To find out more about the benefits of working at the University and what it is like to live and work in the Leeds area visit our [Working at Leeds](#) information page.

Information for disabled candidates

Information for disabled candidates, impairments or health conditions, including requesting alternative formats, can be found under the 'Accessibility' heading on our [How to Apply](#) information page or by getting in touch by [emailing HR via hr@leeds.ac.uk](mailto:hr@leeds.ac.uk).

Salary Requirements of the Skilled Worker Visa Route

Please note: If you are not a British or Irish citizen, you will require permission to work in the UK. This will normally be in the form of a visa but, if you are an EEA/Swiss citizen, this may be your status under the EU Settlement Scheme.



Please note that this post may be suitable for sponsorship under the Skilled Worker visa route but first-time applicants might need to qualify for salary concessions. For more information, please visit [the Government's Skilled Worker visa page](#).

For research and academic posts, we will consider eligibility under the Global Talent visa. For more information, please visit [the Government's page, Apply for the Global Talent visa](#).

Criminal record information

Rehabilitation of Offenders Act 1974

A criminal record check is not required for this position. However, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our [Criminal Records](#) information page.

