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|---------------------------|---------------------------|-----------------------------|--|
| <b>Job title</b>          | Research Associate/Fellow | <b>Job family and level</b> | Research and Teaching Level 4 (Appointment will be Level 4 Career training grade where an appointment is made before PhD has been completed) |
| <b>School/ Department</b> | School of Life Sciences   | <b>Location</b>             | University Park Campus   |

## Purpose of role

The purpose of this role will be to support a research project funded by the NC3Rs to develop a stem cell model of the immune system for understanding how the foreign body response (FBR) is regulated. You will be expected to plan and conduct work using approaches or methodologies and techniques appropriate to the type of research and will be responsible for writing up your work for publication.

You will join an established team, led by Prof Amir Ghaemmaghami, whose main areas of research interest include immune-instructive materials, foreign body response, wound healing, innate immune cells biology and immune-competent tissue models. This post will involve working with microfluidic devices and extensive cell culture and characterisation of immune cells using different techniques including fluorescence microscopy, flow cell cytometry, immunohistochemistry and PCR. You will have the opportunity to use your initiative and creativity to identify areas for research, develop research methods and extend your research portfolio.

The successful candidate will be responsible for working with microfluidic/organ-on-chip type devices and their immunological and histological characterisation and correlative data analysis with support from stem cell researchers in the project in collaboration with [Dr Nick Hannan's group](#) in the School of Medicine. The project will also involve close collaboration with [Dr Shrike Zhang's group](#) in Harvard Medical School in the USA including potential for spending some time in their laboratory.

The School of Life Sciences recognises the importance of continuous professional development and therefore the importance of providing opportunities, structured support and encouragement to engage in professional development each year.

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](#).

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|   | Main responsibilities   | % time per year |
|---|---|-----------------|
| 1 | <ul style="list-style-type: none"> <li>Cell culture of immune and stromal cells including macrophages, T cells and fibroblasts.</li> </ul>  | 25%             |
| 2 | <ul style="list-style-type: none"> <li>Applying analytical methods (automated fluorescence microscopy, flow cell cytometry, IHC) to monitor immune response to different materials</li> </ul> | 20%             |
| 3 | <ul style="list-style-type: none"> <li>Working with microfluidic devices</li> </ul>   | 15%             |
| 4 | <ul style="list-style-type: none"> <li>Lead and make significant contributions to scientific publications.</li> </ul>   | 15%             |
| 5 | <ul style="list-style-type: none"> <li>Presentation of results at internal and external meetings.</li> </ul>  | 10%             |
| 6 | <ul style="list-style-type: none"> <li>Assistance in the supervision of undergraduate and postgraduate students.</li> </ul>   | 5%              |
| 7 | <ul style="list-style-type: none"> <li>Organisation and assistance in general laboratory duties such as ordering of reagents, equipment maintenance, and laboratory housekeeping.</li> </ul>  | 5%              |
| 8 | <ul style="list-style-type: none"> <li>Active contribution to group meetings by e.g. problem solving, suggestions, <i>etc.</i></li> </ul>   | 5%              |

## Person specification

|  | <b>Essential</b>  | <b>Desirable</b>   |
|--|---|--|
| <b>Skills</b>  | <ul style="list-style-type: none"> <li>• Experience of mammalian-derived cell culture.</li> <li>• Experience with immunochemical analysis of immune cells</li> <li>• Excellent information technology and computing skills.</li> <li>• Careful experimentalist with high level data processing capabilities.</li> <li>• Excellent oral and written communication skills including the ability to communicate complex information with clarity.</li> <li>• Problem solving skills.</li> <li>• Ability to work independently and as part of a team.</li> <li>• Flexible, proactive and dedicated approach.</li> </ul> | <ul style="list-style-type: none"> <li>• Experience with human macrophage and fibroblast cell culture.</li> <li>• Experience of analysing foreign body response to biomaterials</li> <li>• Previous experience of using organ-on-chip devices</li> </ul> |
| <b>Knowledge and experience</b>                                      | <ul style="list-style-type: none"> <li>• Working knowledge of microfluidic devices and 3D culture systems.</li> <li>• Experience of working with immune cell co-cultures</li> <li>• Present work effectively to a variety of professional and academic audiences at meetings and conferences.</li> <li>• Write high quality reports and papers for publication.</li> </ul>  | <ul style="list-style-type: none"> <li>• First author publications in the highest impact factor journals.</li> <li>• Working with iPSC derived cells</li> </ul>  |
| <b>Qualifications, certification and training (relevant to role)</b> | <ul style="list-style-type: none"> <li>▪ A first degree in Biology, Chemistry, Materials, Pharmacy, Physics, Engineering, or related discipline.</li> <li>▪ PhD submitted or awarded in a relevant biological sciences area.</li> </ul>   |  |



The University of Nottingham is focused on embedding equality, diversity and inclusion in all that we do. As part of this, we welcome a diverse population to join our work force and therefore encourage applicants from all communities, particularly those with protected characteristics under the Equality Act 2010.



The University is a signatory of the Declaration on Research Assessment (DORA). As such we commit to focus on the scientific content of publications (where requested or provided as part of the recruitment and selection process) as a basis for review of quality, and consideration of value and impact of research conducted, rather than any proxy measures such as Journal Impact Factor.

## 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



