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A 3-Year Fully Funded (non-clinical) PhD Studentship at Imperial College London

Expected start date: October 2026

Applications are invited for a fully funded PhD position within the Inflammation and Repair Section at the National Heart and Lung Institute (NHLI), Faculty of Medicine.

NANOMICO – Decoding Nanoparticle–Epithelium–Immune Interactions in the Human Lung in Early-life

This project is a joint initiative between Imperial College London and Technical University of Munich and will investigate how inhaled nanoparticles affect the human respiratory microbiome, epithelial function and pulmonary immune responses. The combined effects of multiple inhaled exposures with nanoparticles, such as concurrent virus and/or bacterial infections and/or allergen exposure on epithelial function and immune responses will be a central component, together with a focus on early-life changes. The successful candidate at Imperial will closely collaborate with researchers at Technical University of Munich, whose expertise is in nanoparticle assessment and antimicrobial resistance, and participate in an interdisciplinary and highly international research environment at the interface of microbiology, respiratory medicine, immunology, environmental health, and systems biology.

The Project

The PhD project at Imperial focuses on the early-life pulmonary epithelial and immune responses following nanoparticle exposure in the human lung. The candidate will investigate how nanoparticles influence epithelial function, responses to concurrent exposures such as infection and downstream immune responses and impact on lung structure and inflammation using complex cell cultures.

The project will make use of the paediatric severe asthma translational research programme at Imperial and the collection of lower airway samples from children undergoing bronchoscopy, in addition to state-of-the-art flow cytometry and imaging facilities.

Eligibility

We are looking for an outstanding and highly motivated candidate with:

- A Masters' degree (or equivalent) in Microbiology, Environmental Sciences, Biotechnology, Molecular Biology, Bioinformatics, or a related discipline
- Strong interest in immunology and host–microbe interactions
- Experience in molecular microbiology, flow cytometry, cell culture techniques
- Knowledge in bioinformatics or multi-omics approaches is advantageous
- Experience with primary airway cell cultures and complex co-cultures will be beneficial
- Excellent communication skills in English

- Motivation to work in an interdisciplinary and international team

Please note that candidates must fulfil the college admission criteria.

We Offer

- A highly innovative and interdisciplinary doctoral project at the interface of environmental microbiology, respiratory health, and nanotoxicology
- Close collaboration with leading researchers at Technical University of Munich
- Access to cutting-edge imaging and flow cytometry platforms
- An international research environment with strong opportunities for networking and scientific exchange
- A planned research stay at Technical University of Munich during the PhD project
- Participation in international conferences and training activities

Supervisors

- **Prof Sejal Saglani**, National Heart and Lung Institute, Faculty of Medicine, Imperial College London profiles.imperial.ac.uk/s.saglani

- **Prof Clare Lloyd**, National Heart and Lung Institute, Faculty of Medicine, Imperial College London profiles.imperial.ac.uk/c.lloyd

Funding

The award is funded by the National Heart and Lung Institute and the Technical University of Munich with funding available for three years' full-time study. The funding provides tuition fees (Home rate), stipend (£22,780 per annum plus inflationary increases) and a small amount for travel to Munich and consumables.
For overseas fee-paying students, the fee waived would be at the Home rate and successful applicants will need to pay the difference in the tuition fee if assessed as overseas.

How To Apply

Please send your application as a single PDF with:

- CV (including degrees and grades)
- Personal statement detailing your research interests, expertise and reasons for applying
- Contact details of two academic references (we only contact referees for successful applicants)

Applications must be sent via email to:

Prof Sejal Saglani, email: s.saglani@imperial.ac.uk

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Further information

Please contact Prof Sejal Saglani for informal discussion about the position.