

**NIHR Senior Clinical Academic Career Development
NIHR Southampton BRC Respiratory and Allergy Research Theme**

The NIHR Southampton Biomedical Research Centre (BRC), in association with the School of Clinical and Experimental Sciences at the Faculty of Medicine, University of Southampton, is offering an exciting opportunity for outstanding clinical academics in the area of paediatric or adult respiratory medicine and allergy. This position will provide senior researchers with an opportunity to develop research aligned to the BRC Respiratory and Allergy Theme that will have impact on human health and disease.

Please complete this short application by 10th December 2023 and send it with a 2-page CV to BRC@uhs.nhs.uk. A panel interview will be scheduled for shortlisted applicants in early January 2024 (tbc).

Applicant Details:

Title/ Name:	
School & Faculty/ UHS Division / Specialty	
Email:	
Name of Head of UHS Department for this application:	

Research Project Details:

Research Project Title:	
Start date:	
End date:	

Head of UHS Department Approval

Signature:.....

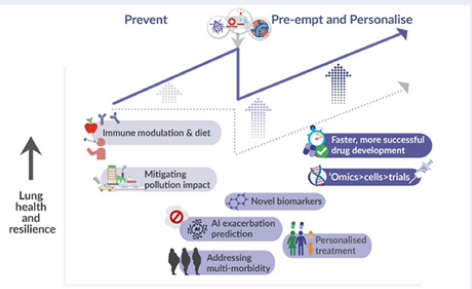
Date:

Please append 2-page proposal covering the sections below:

- Background of the research aligned to BRC Theme SMART Objectives (see attached)
- Hypothesis, Objectives
- Study design/scientific methods, analysis plan/statistics, timelines, contingencies
- Research outputs
- Research Partners internally and externally.
- Resources available for you to conduct this research or that you may require
- Future Career Development

In addition, applicants should answer the following question: What qualities do you feel make a good leader? How do you align with these, and how might you develop your leadership skills further? (250 words)

Respiratory and Allergy Theme (2022-2027): Scientific Aims and SMART Objectives (n=20)

Scientific Aims	Short term SMART scientific objectives	Medium term SMART scientific objectives	Long term SMART scientific objectives
<p>Respiratory and Allergy (RA) Delivering preventive interventions for allergy and respiratory disease, identifying biomarkers to provide earlier and more accurate diagnosis and personalise therapy, and utilising our ex-vivo models and innovative trial designs to accelerate identification of new therapeutic approaches.</p> <p>Research Questions?</p> <ol style="list-style-type: none"> 1. How can respiratory and allergic disease be prevented across the life-course? 2. How can we improve clinical outcomes through earlier diagnosis and personalised treatment? 3. How do we develop new respiratory treatments in a much shorter time frame, with higher success rates? 	<p>(1) 1b-i: Reducing impacts of air pollution on the development and exacerbation of lung disease- i. Research database design and establishment of SOPs for integration of air pollution data sources with clinical lung health screening data</p> <p>(2) 2a-i: Identifying new diagnostic markers of early respiratory disease- i) Extend the existing Paediatric PCD database to include longitudinal adult data</p> <p>(3) 2a-i: Identifying new diagnostic markers of early respiratory disease- i) Proof of concept that RNAseq of nasal cells can enhance diagnostic uplift by discovering and validating splice altering variants 'missed' by genetic testing of blood DNA</p> <p>(4) 2b-i: Precision medicine strategies to treat lung-disease, allergy and multimorbidity i) To optimise breathing retraining for adolescents as a personalised strategy to manage anxiety and dysfunctional breathing in asthma</p>	<p>(7) 1b-ii: Reducing impacts of air pollution on the development and exacerbation of lung disease- ii) Define personal-level exposure to PM concentration for high risk-individuals</p> <p>(8) 2a-i: Identifying new diagnostic markers of early respiratory disease i) Extend nasal nitric oxide as a screening test for PCD into pre-school age group</p> <p>(9)2c-i: Novel strategies to predict, prevent and treat acute exacerbations- testing phase.</p> <p>(10) 3. Pipeline for accelerated drug development from new targets to proof of concept. – Validation of four models and progression of target identification</p>	<p>(11) 1a-i: Reducing risk of developing asthma and allergy in early life. i) Feasibility and safety of rapidly dissolving tablet allergen formulation in infants to design a definitive effectiveness study.</p> <p>(12) 1a-ii: Reducing risk of developing asthma and allergy in early life- ii). To develop approaches to help parents introduce allergens into infant diets earlier to prevent food allergy which will be tested in a definitive effectiveness study.</p> <p>(13) 1b-iii: Reducing impacts of air pollution on the development and exacerbation of lung disease- iii) Determining the relationship between source specific longitudinal air pollution exposure and ILA progression or regression</p> <p>(14) 2a-ii: Identifying new diagnostic markers of early respiratory disease ii) Develop the infrastructure to interrogate health records to screen for rare disease syndromes using PCD as an exemplar</p> <p>(15) 2a-ii: Identifying new diagnostic markers of early respiratory disease ii) Identify novel genetic causes of PCD to facilitate diagnostic testing.</p> <p>(16) 2a-ii: Identifying new diagnostic markers of early respiratory disease ii) Age specific versions of PICADAR as screening tools for PCD</p> <p>(17) 2a-iii: Identifying new diagnostic markers of early respiratory disease - iii) To develop novel diagnostic markers of COPD and ILD</p> <p>(18) 2b-ii: Precision medicine strategies to treat lung-disease, allergy and multimorbidity ii) multimodal physical and emotional support intervention to address multimorbidity in difficult-to-treat asthma.</p> <p>(19) 2c-i: Novel strategies to predict, prevent and treat acute exacerbations. Testing and Scaling.</p> <p>(20) 3. Pipeline for accelerated drug development from new targets to proof of concept - Progression from new targets to preclinical models and/or proposals/external funding for early phase clinical trials</p>
 <p>The diagram illustrates a research pipeline for accelerated drug development. It starts with 'Prevent' and 'Pre-empt and Personalise' strategies. Key components include: Immune modulation & diet, Mitigating pollution impact, Novel biomarkers, AI exacerbation prediction, Addressing multi-morbidity, Omics>cells>trials, and Faster, more successful drug development. The pipeline leads to 'Personalised treatment' and 'Addressing multi-morbidity'. An upward arrow on the left indicates 'Lung health and resilience'.</p>	<p>(5) 2c-i: Developing Novel strategies to predict, prevent and treat acute exacerbations</p> <p>(6) 3. Pipeline for accelerated drug development from new targets to proof of concept. Establishment of a cross-disciplinary advanced cell culture working group</p>		