**University of Leicester**

**MRC AIM Studentship Project 2025-6 entry.**

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This is an iCASE studentship with Abcam Ltd,

Hannah Cable, Oversight of iCASE industry placement

**Section 2 – *Project Information***

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| **Project Title** | iCase: Exploration of markers of fibrotic and inflammatory signalling, and associated clinical phenotypes, in patients with Interstitial Lung Diseases (ILDs) |
| **Project Summary**  |
| Interstitial Lung Diseases (ILDs) are a family of lung conditions associated with inflammation and/or fibrosis (scarring). Many ILDs can result in progressive fibrosis and rapid patient deterioration, associated with a large symptom burden and short life expectancy. The available treatments include drugs to reduce inflammation, or slow down progressive scarring (anti-fibrotics). The process for working out which treatment approach(es) a patient will benefit from is slow, expensive and rely on subjective judgements. Cheaper, faster and more robust tests to identify the most suitable treatment approach, or clinical trial, for each patient, are urgently needed. The project will address this need by using bioinformatics, in-vitro models, and preliminary clinical approaches (blood test development), to identify key molecules that predict ILD progression and response to different treatments. This PhD project is part of an exciting collaboration with Abcam Ltd. (Cambridge) and the University of Nottingham, with the student spending up to 6 months with our collaborating partners. Abcam Ltd. will fund the costs of the placement, including travel and accommodation, and support research costs. The vision is to enable better patient outcomes by improving utilisation of existing treatments, and better patient selection for clinical trials, by creating robustly validated commercial diagnostic tests. |
| **References** |
| \*Allen, Richard L, et al. "Longitudinal lung function and gas transfer in individuals with idiopathic pulmonary fibrosis: a genome-wide association study." *Lancet Respir Med* 11 (2023): 65-73. \*Ayoubi, Riham, et al. "A consensus platform for antibody characterization." (2024). Accepted Nature Protocols – HV lead UK author. Bowman, Willis S., et al. "Proteomic biomarkers of progressive fibrosing interstitial lung disease: a multicentre cohort analysis." *The Lancet Respiratory Medicine* 10.6 (2022): 593-602. Grewal, Japnam S., et al. "Role of a regional multidisciplinary conference in the diagnosis of interstitial lung disease." *Annals of the American Thoracic Society* 16.4 (2019): 455-462. Han, Qian, et al. "The role of follow-up evaluation in the diagnostic algorithm of idiopathic interstitial pneumonia: a retrospective study." *Scientific Reports* 9.1 (2019): 6452. Huang, Yong, et al. "Machine learning of plasma proteomics classifies diagnosis of interstitial lung disease." *American Journal of Respiratory and Critical Care Medicine* ja (2024). \*Khan, Fasihul, et al. "Comprehensive Characterisation of Individuals with Fibrotic Interstitial Lung Disease: Baseline Insights from the Injustis Study." Maddali, Manoj V., et al. "Molecular endotypes of idiopathic pulmonary fibrosis: a latent class analysis of two multicenter observational cohorts." *American Journal of Respiratory and Critical Care Medicine* 210.4 (2024): 455-464. \*Virk, H. S., Biddle, M. S., Smallwood, D. T., Weston, C. A., Castells, E., Bowman, V. W., ... & Roach, K. M. (2021). TGFβ1 induces resistance of human lung myofibroblasts to cell death via down‐regulation of TRPA1 channels. *British journal of pharmacology*, *178*(15), 2948-2962. Walsh, Simon LF, et al. "Multicentre evaluation of multidisciplinary team meeting agreement on diagnosis in diffuse parenchymal lung disease: a case-cohort study." *The lancet Respiratory medicine* 4.7 (2016): 557-565. \*authored/co-authored by members of the team |