Yinzhou Feng

BALR PhD Student Representative

Personal statement

The Global Burden of Disease Study 2023 identifies respiratory diseases as major causes of illness, disability and mortality worldwide. Yet, in the UK, research investment remains disproportionately low relative to disease burden. The impact of respiratory illness across the lifespan motivates me to tackle life-threatening lung diseases, understand their mechanisms, and help turn scientific discoveries into relief for patients.

I am grateful to BALR for raising the profile of respiratory science and creating opportunities for people to enter the field. My training has shown me that doctoral progress depends on a supportive community. As PhD Student Representative, I would help students feel less isolated and bring their priorities to the committee. I would also connect clinical and basic researchers, and help improve access to training and mentoring.. With committee guidance, I would contribute to conference organisation and abstract and grant review.

Student leadership roles at Fudan and Oxford equip me to represent peers from diverse backgrounds and support their needs. As Vice President of the Student Union at Fudan University's School of Basic Medical Sciences, I helped organise peer-support groups, research training lectures and student celebrations. During Shanghai's April 2022 COVID-19 lockdown, I volunteered with Guardians of Shanghai, categorising urgent medical requests and organising medical advice and information. Our efforts helped people overcome barriers to potentially life-saving care. In the Oxford Chinese Students and Scholars Association, I help organise welcoming events for alumni and visiting scholars. These experiences have developed my creativity, organisational skills and teamwork. I would use these skills to bring students' priorities to the committee and help them access training and mentoring opportunities.

My clinical background and research training at Fudan and Oxford equip me to connect patient needs with experimental medicine and science. In a retrospective multicentre study of 737 patients, I found hyaluronic acid improved COVID-19 mortality prediction and was associated with inflammation and viral burden. As first author of a Journal of Thoracic Disease study, I investigated dupilumab in 40 patients with asthma or asthma-COPD overlap, observing early and sustained symptom improvements. These experiences inform how I assess clinical relevance, sample selection and data quality.

At the CAMS Oxford Institute, University of Oxford, my DPhil research integrates single-cell transcriptomic and surface-protein profiling of paired blood and pleural fluid samples with clinical data to build a neutrophil atlas of human pleural infection. Analysing 191,946 immune cells from 15 infection cases, five non-infective controls and four healthy donors, I identified 13 major immune cell types and distinct circulating and intrapleural neutrophil states. Inflammatory and ageing-associated subsets were enriched in pleural fluid, while higher abundance of IL1B-expressing neutrophils correlated with longer hospital stays. I am exploring their molecular mechanisms and potential for therapeutic intervention. I have presented this work at BTS and ERS and contributed to collaborative papers in ERJ and Thorax.

As BALR PhD Student Representative, I would work to make the PhD experience more supportive, connected and rewarding. I hope to help every BALR PhD student feel welcomed, supported and able to thrive.