

BPS Sir Collin Dollery Award 2022

Student: Taranveer Khangura
Degree: iBSc in Medical Science
Grade: First Class Honours

My name is Taranveer Khangura, and I am a 4th Medical Student at Queen's University Belfast. In the 2022/2023 academic year, I pursued an intercalated BSc in Medical Science at Queen's and applied for the Sir Collin Dollery Clinical Pharmacology Award after being informed by my supervisors that I met the criteria for the award, namely that I was undertaking a research project with a primary focus in pharmacology and taking two taught modules which heavily incorporated pharmacological teaching.

Being one of the first recipients of the award I was thrilled and extremely grateful that the British Pharmacological Society and the Dollery family had decided to support my intercalated year. The award enabled me to dedicate more of my time to collecting credible data to produce a good quality research project. My research investigated the steroid sparing potential of using a drug that inhibits the downstream regulatory element antagonist modulator (DREAM) to reduce pulmonary inflammation in people with Cystic Fibrosis (pwCF). Specifically, the inflammation in CF is hallmarked by chronic activation of NFκB signaling. NFκB is negatively regulated by the ubiquitin editing protein A20; however, A20 is chronically under expressed in pwCF due to overexpression of its transcriptional repressor DREAM. Our research on human CF bronchial epithelial cells demonstrated promising results that metformin, a drug identified as possessing DREAM inhibiting properties, has the potential to enhance the effect of corticosteroid therapy. Further research is required to confirm that the results seen are indeed due to enhanced A20 levels via reduction of DREAM binding. I am extremely grateful to have been able to undertake this project as I learnt tissue culture protocols and laboratory techniques including ELISAs and Western Blots, used data analysis software, and bettered my ability to read and understand scientific literature through regular journal clubs. In particular, I am extremely grateful for the support provided by my wonderful thesis supervisor Dr Bettina C Schock at the Wellcome-Wolfson Institute for Experimental Medicine (WWEIM) at Queen's. Currently, we are working on a manuscript for publication of our research findings.

Furthermore, the award served as an additional motivator to work hard throughout the year, in both my research and taught modules. I am delighted that I was able to attain a First-Class Honours in my intercalated BSc with a First-Class mark in my dissertation. In June, I

had the privilege to attend the British Society of Gastroenterology Live 23' Conference where I was able to apply the knowledge I gain as part of my Principles of Pharmacology and Therapeutics module. Specifically, the module explored different gastrointestinal pathologies, their current treatments, and emerging novel therapeutics. Furthermore, I have been inspired by my module speakers to consider pursuing an MSc in Toxicology later in my medical career as I thoroughly enjoyed learning about this topic and recognise its clinical applications within medicine.

Altogether, I am extremely grateful to the British Pharmacological Society and the Dollery family for supporting my year out and encourage any student that meets the award criteria to apply. The opportunities provided by the award have allowed me to expand my knowledge of clinical pharmacology and demonstrated its importance in clinical practice, which I will carry with me as I return to complete my medical degree in August.

(And my advice to intercalators, especially those undertaking lab projects, is to take it to ask for help whenever you need it – your supervisor is there to support you after all.)