2017 SCI Scholars

SCI's Scholarships, which attract high calibre students across the UK, are awarded to high achieving PhD students in their second year of research. They each receive the sum of £5,000 over a two year period. The Scholars presenting at today's meeting are are now in their final year of studies.

James Adams
University of Manchester

My current position is a 3rd year PhD student at The University of Manchester, under the supervision of Dr Lydia Tabernero and Prof David Procter on a competitive BBSRC DTP PhD studentship. This was preceded by an MSci in Chemistry at The University of Nottingham, where I received 5 awards, 3 publications and the opportunity to work in collaboration with GSK.

I was awarded a prestigious SCI scholarship in 2015, for which I am very grateful, not only from the honour of holding this award but for the many opportunities it has afforded me. The connections and experiences I have been exposed to as part of this scholarship have helped shape my future career.

My main passion for science is derived from my ambition to make a difference in people's lives for the better, though the application of research. I am looking forward to the opportunity to present at the SCI AGM on how the SCI scholarship has aided my development as a scientist, how I have been able to work with SCI and finally updating you on the progress of my research.

Presentation abstract: 'Drugging the Undruggable: Novel Approaches to Targeting Protein Tyrosine Phosphatases'

Protein tyrosine phosphatase (PTP) malfunction is associated with diseases ranging from cancer to diabetes and represents some 6% of the potential targets in the body for drug development.

Countless active site PTP inhibitors have been reported; however, no PTP inhibitor to-date has made it to market. This can be attributed to the folowing: PTPs have a conserved active site thus it is hard to create selective inhibitors and to avoid severe side effects. Secondly, due to the nature of the active site, potent inhibitors tend to be highly polar and as a consequence they have poor cell permeability.

Through the use of structural analysis and computational studies of different phosphatases and their functional states, we have identified alternative binding sites for exploitation that could help address the issues of selectivity and cell permeability.

Our initial efforts to prove the feasibility of our novel approach have targeted an enzyme called HePTP. This enzyme is over expressed in patients with myelodyplastic syndrome, acute myeloid leukemia and T Cell acute lymphoblastic leukemia.