

Khondaker Miraz Rahman, Lecturer in Medicinal Chemistry, Kings College London

Dr Khondaker Miraz Rahman graduated as a pharmacist from the Faculty of Pharmacy of University of Dhaka, Bangladesh in 1997. He worked for 3 years as a research and development pharmacist at SK&F Pharmaceutical before moving to academia in April 2001 and joined the Pharmacy department of University of Asia Pacific, Bangladesh as a Lecturer. In October 2003, he was appointed as a Lecturer in pharmaceutical chemistry at Dhaka University. He was awarded a Commonwealth Scholarship in September 2005 to carry out doctoral studies in the United Kingdom. He completed his PhD research at the London School of Pharmacy (now UCL School of Pharmacy) under the supervision of Professor David Thurston (2009). He joined UCL School of Pharmacy as a CRUK Research Fellow in July 2009 and worked as the Team Leader of Gene Targeting Drug Design Research group from December 2009 to February 2012. He moved to King's College London in January 2012 as a senior research fellow and was appointed as a Lecturer in Medicinal Chemistry at King's College in May 2012. His recent research activities are focused on the application of synthetic medicinal chemistry and chemical biology techniques to the design, synthesis and evaluation of novel anticancer, chemopreventive and antibacterial agents, along with studies to understand their molecular and cellular mechanisms of action. His main research focus is in the discovery of novel sequence-selective DNA-interactive agents as transcription factor inhibitors targeted toward specific sequences of DNA in the promoter regions of different oncogenes. As part of developing small molecules as transcription factor inhibitors, Dr Rahman is also working on identifying new drug like G-quadruplex DNA targeting agents and has successfully developed novel biaryl polyamides as G-quadruplex targeting ligands, and identified new natural products as a novel class of G-quadruplex stabilising agents. He has recently reported 13 drug like novel G-quadruplex targeting scaffolds that were identified by a FRET based high throughput screening campaign. Dr Rahman has been also working on development of a number of novel analytical methodologies to evaluate the DNA interactions of sequence-selective DNA interactive small-molecules. One particular area of success has been the development of a HPLC-MS assay that has been used to measure the kinetics of reaction pyrrolobenzodiazepines with DNA, and to evaluate their sequence selectivity.