

## Biographies: AstraZeneca Postdoctoral Researchers



### Toby Gurran

Toby studied his undergraduate degree in Biological Sciences at the University of Oxford, during which he undertook a 10 week summer internship with Cancer Research UK in London investigating the structure of DNA-repair enzymes. Following this, Toby did a one year Masters by Research at the University of York, which included a project on prostate cancer metastasis, and another on nanopore sequencing.

After his Masters, Toby joined the first intake of the AstraZeneca R&D Graduate Scheme, completing two years of placements exploring innovative science at Alderley Park in the North West of England. After the Graduate Scheme, Toby progressed onto a four year PhD in genetics of colorectal cancer predisposition at the University of Edinburgh Institute of Genetics and Cancer. He then returned to AstraZeneca on the postdoctoral scheme and is now working towards identifying clusters and novel subtypes of cancer patients based on their transcriptional profiles.



### Sarina Kajani

Sarina is currently a postdoctoral fellow in the Cardiovascular, Renal and Metabolism (CVRM) group at AstraZeneca, based in Gaithersburg, Maryland, US.

Sarina earned her Bachelors of Science in Cell and Molecular Biology before pursuing a Master's degree in Immunology. Given her avid interest in metabolism, Sarina then went on to investigate obesity-driven inflammatory responses in preclinical models as part of her PhD studies at University College Dublin.

Since then, Sarina has taken the leap over the pond to the US, to further investigate obesity-driven perturbations in metabolism. Specifically, she is interested in the hormonal cues that regulate liver biology in the setting of non-alcoholic fatty liver disease.



## **Kai Liu**

Kai started his career as a plant biologist in China but soon turned his skills towards drug delivery, completing a Master's degree at the Eastern China Normal University related to polymeric delivery systems. Taking a big step and moving to Ireland, Kai started a PhD in the laboratory of Kenneth Dawson. This laboratory is focused on the interaction of biological systems with nanomedicines, particularly in terms of the coronas that form on the surfaces of nanoparticles when they are exposed to biofluids. Here Kai acquired the analytical skills that set the stage for his postdoctoral research at AstraZeneca.

Since joining AstraZeneca, Kai has developed a unique high-throughput system for retrieving lipid nanoparticles from biofluids that in turn has allowed corona composition to be analysed systematically using mass spectrometry. The focus of his postdoctoral work has been to explore how physiological states can affect corona composition and therefore nanoparticle function. As part of his broader postdoctoral experience Kai also provides data on coronal composition for a range of internal projects and external collaborators.



## **Abdou Mohamed Nagy**

Abdou specialises in molecular virology, providing new insights and approaches to inhibit viral infection and treat viral diseases.

Abdou received his Bachelor's degree in veterinary medical sciences from Zagazig University in Egypt in 2008, followed by a Master's in avian virology from the same university in 2012.

Abdou moved to the US in 2014 to continue his studies, completing a PhD at Kansas State University. His PhD research focused on using synthetic biology and virus reverse genetic systems to develop novel virus-vectored vaccines against highly variable viruses that carry pandemic potential, such as avian influenza viruses.

Abdou is currently working as a postdoctoral fellow at AstraZeneca, based out of Gaithersburg, Maryland, US. He is leading research projects on the development of novel cell lines using advanced technologies such as CRISPR/Cas9 for large-scale production of gene therapy viral vectors. Abdou is exploring the potential to create adeno-associated virus (AAV) biotherapeutics in a low-cost manner to be accessible to millions of patients around the world.