

## ITTP Studentship Awards for 2008-2023

Host Institution	Collaborator Institution	Title
<b>2024</b>		
Queen Mary University of London	Queen Mary University of London, AstraZeneca	Unravelling mechanisms of drug-induced myocarditis using human cardiovascular-chip models integrated with immune cells
University of Cambridge	University of Cambridge, AstraZeneca	Understanding how targeted protein degradation alters the cellular ubiquinome and its subcellular localisation
MRC Toxicology Unit	AstraZeneca	Unravelling and predicting toxicity of Antibody Drug Conjugates in the lung using genome-wide multi-omics and CRISPR-Cas9
University of Liverpool	University of Edinburgh, AstraZeneca	A novel approach to predicting drug-induced liver injury using circulating free DNA
<b>2023</b>		
MRC Toxicology Unit	University of Liverpool	Defining the off-targets of antibodies produced by vaccines
MRC Toxicology	AstraZeneca, NATA	Understanding and predicting the toxicity of nucleic acid therapeutics in the healthy and diseased heart
UEA	AstraZeneca	Generating a toxicological screening system to understand and predict drug-induced pulmonary hypertension
University of Liverpool	University of Liverpool, GSK	Establishing a systems toxicology approach for drug safety assessment in the 21st century: in vitro to in vivo extrapolation of hepatic metabolism and stress responses
MRC Toxicology Unit	AstraZeneca, MRC Toxicology Unit	Impact of microbiome metabolism on drug-induced liver toxicity
<b>2022</b>		
University of Cambridge	AstraZeneca	Identification and characterisation of AAV toxicity biomarker Identification and characterisation of AAV toxicity biomarkers through application of spatial proteomics

MRC Toxicology Unit	AstraZeneca, University of Liverpool	Mitochondrial Toxicity in iDILI: defining contribution and mechanisms in monocyte derived hepatocyte-like (MH) cells from iDILI patients for safer drug development
University of Liverpool	University of Liverpool, Oxford University	Evaluation of the role of MR1-dependent activation of MAIT cells in drug-induced immunotoxicity
University of Reading	University of Reading, MRC Toxicology Unit, Venomtech Limited	An integrative toxicology approach to assess the myotoxic profiles of selected invertebrate venoms on skeletal muscle
MRC Toxicology Unit	Procter and Gamble, Imperial College London	Toxicity differences between animal models and humans: the role of the gut microbiota
<b>2021</b>		
MRC Toxicology Unit	AstraZeneca, NATA	Exploring the molecular mechanisms underlying toxicity of RNA-based therapeutics: unbiased identification of off-targets
MRC Toxicology Unit	AstraZeneca	Assessing the epigenetic changes associated with on-target CRISPR-induced toxicity
MRC Toxicology Unit	Novartis, AstraZeneca	Investigating epigenetic mechanisms underlying idiosyncratic Drug-Induced Liver Injury (iDILI)
MRC Mitochondrial Biology Unit	AstraZeneca, MRC Toxicology Unit	Mitochondrial toxicity in human drug induced liver injury: defining contributions and mechanisms to inform safer drug development
<b>2020</b>		
MRC London Institute of Medical Sciences	Imperial College	Understanding the influence of membrane transporter heterogeneity on the efficacy and toxicity of chemotherapeutics
<i>MRC Toxicology Unit</i>	<i>AstraZeneca</i>	<i>Identifying mechanisms underlying haematological toxicity caused by a class of epigenetic drugs in clinical trials</i>
MRC Centre for Drug Safety Science	AstraZeneca, University of Newcastle	Immune-related adverse events observed following sequential dosing of immune checkpoint inhibitors and low molecular weight drugs
University of Newcastle	MRC Centre for Drug Safety Sciences, MRC Toxicology Unit, UCB Biopharma SPRL	Identification of molecular mechanisms of late-occurring cardiotoxicity induced by oncology therapeutics
<b>2019</b>		

Imperial College	AstraZeneca	Understanding the role of cohesin and the impact of structural variation on gene expression regulation in the 3D genome
MRC Toxicology Unit	AstraZeneca/ MRC Centre for Drug Safety Science / CRUK Cambridge Institute	A detailed definition in preclinical models and patients of the immune cell depletion of the ATR inhibitor AZ6738 alone and in combination with gemcitabine.
University of Leicester	Public Health England	A real-time molecular epidemiological investigation into the contribution of fungal spores to seasonal asthma spikes
Swansea University	AstraZeneca	High content imaging and the use of machine learning in genotoxicity space
<b>2018</b>		
University of Oxford	Syngenta	Novel genetic approaches to predictive developmental and reproductive toxicology
Imperial College	AstraZeneca, MRC Toxicology Unit	Developing Predictive Phenotypic Signatures of Drug-Induced Mitochondrial Toxicity
MRC Centre for Drug Safety Sciences	GSK	Evaluation of Organoids and Systems Biology to develop Adverse Outcome Pathways of Gastrointestinal Toxicity
MRC Toxicology Unit	AstraZeneca	Human iPS cell derived models of drug-induced neurotoxic effects on mitochondrial biology and metabolism
<b>2016</b>		
University of Durham/ Newcastle University	MRC Centre for Drug Safety Sciences / Covance / UCB Biopharma SPRL	Evaluation of methodologies for <i>in vitro</i> prediction of human drug-induced proarrhythmia and cardiotoxicity of oncology therapeutics.
MRC Toxicology Unit	University of Nottingham	Adverse outcome pathways for examining toxicity in neurons
MRC Toxicology Unit	AstraZeneca	To explore the toxicity pathways induced by cellular delivery of modified nucleotides
University of the West of England, Bristol	AstraZeneca	Bridging in vitro and in vivo testing: the utilisation of a novel in vitro three-dimensional model of the human bone marrow for toxicity and genotoxicity testing
<b>2015</b>		
University of Cambridge	AstraZeneca	Molecular mechanisms of bile salt export pump (BSEP) inhibition in drug-induced liver injury

MRC Toxicology Unit	AstraZeneca	Designing novel mRNA-based therapeutic approaches for non-toxic delivery of genetic material
University of Dundee	MRC Centre for Drug Safety Sciences	Development of a Mammalian Toxicity Reporter Model for Metastatic Melanoma Therapies
MRC Centre for Drug Safety Sciences	iThera Medical / UCL	Integrated imaging and circulating biomarkers for the assessment of drug-induced hepatotoxicity
<b>2014</b>		
Newcastle University	EFSA	The role of gut permeability and increased systematic inflammatory mediators on chemical (food and drug) toxicity.
University of Manchester	University of Sheffield / NHS	Origins and biological significance of alkyl DNA damage in human sperm.
University of Liverpool	AstraZeneca	Manipulation of the physiological and toxicological phenotype of human hepatocytes by targeting cellular differentiation and de-differentiation
Imperial College	King's College London	Metabolic phenotyping, cell death and inflammation; an integrative mechanistic approach for improved stratification of paracetamol-induced acute liver failure.
Imperial College	AstraZeneca	Development of novel in vitro systems and quantitative structure-activity relationships for the prediction of adverse xenobiotic hydrolysis events.
<b>2013</b>		
University of Liverpool	University of Edinburgh / Newcastle University / Novartis	An integrated assessment of miRNA-122 and HMGB1 as mechanistic biomarkers of drug-induced liver injury.
University of Dundee	University of Dundee	Influence of p53 pathway in determining efficacy or toxicity of treatment with novel polo-like kinase-1 (PLK1) targeted anti-cancer therapeutic agents.
MRC Toxicology Unit	Eli Lilly	Development and analysis of mouse models to probe the function and on target toxicity of drugs that target G-protein coupled receptors.
MRC Toxicology Unit	GE Healthcare	Developing novel biomarkers of cardiotoxicity
<b>2012</b>		

MRC Toxicology Unit	Mission Therapeutics / University of Cambridge	Predicting cell toxicity: The role of protein synthesis in the DNA damage response
MRC Toxicology Unit	Newcastle University / University of Aberdeen	Investigating the adverse effects of novel tumour-specific IAP antagonists.
MRC Toxicology Unit	University of Dundee	Determining the role of microRNAs in the Nrf2 pathway following exposure to toxic agents and their effects on metabolism.
Imperial College	Health Protection Agency / GSK	miRNA biomarkers of inflammatory lung pathophysiology arising from administered pharmaceuticals and pollution components.
<b>2011</b>		
University of Bristol	Many	Dissecting Mechanisms of Nanoparticle-mediated Foetal Toxicity
University of Liverpool	AstraZeneca	Understanding the role of micro RNA in drug-induced cardiovascular toxicity
University of Dundee		Mechanism of inhibition of inflammation by the antioxidant transcription factor Nrf2
<b>2010</b>		
Imperial College	CREAL	Metabonomic and epidemiological analyses of disinfection by-products in public water and risk of adverse birth outcomes
University of Liverpool	NHS Leeds	An investigation to define piperacillin and ceflazidime antigenicity and immunogenicity in patients with cystic fibrosis
University of Liverpool	MRC Toxicology Unit	Defining the chemical and molecular basis of toxicity induced by the endoperoxide class of antimalarials
University of Liverpool	Imperial College	Mechanisms of Aminoglycoside-induced nephrotoxicity – integrated molecular, proteomic, metabonomic and histological translational biomarkers
University of Cambridge	GSK	A metabolomics investigation of drug-induced hepatic phospholipidosis
<b>2009</b>		
University of Southampton	University of Birmingham	Nanotoxicology: particle and nanoparticles interactions with opsonins
Imperial College	COMET	In vivo comparative metabolic modelling of interspecies variation in hepatocytotoxicity

University of Southampton	National Oceanography Centre	Investigation of the potential health effects of transition metals in particulate air pollution
University of Cambridge	Syngenta	A functional genomic approach to understanding lipid biosynthesis and organelle proliferation in the liver as an early indicator of the effects of non-genotoxic carcinogens
University of Aberdeen		Regulation of hepatic drug transporters: species differences and effect of cholestasis
University of Liverpool	Pfizer	Structure-metabolism analysis of the disposition and immunogenicity of PEGylated proteins
University of Liverpool	University of Liverpool	Integrated assessment of serum biomarkers of drug bioactivation, lipid peroxidation, apoptosis and necrosis in animal models of hepatic and renal stress.
Newcastle University	Wyeth	Myofibroblasts and their regulation of hepatic stem/progenitor cell function after injury
<b>2008</b>		
MRC Toxicology Unit	GSK	Role of miRNA species and mRNA translation in mechanistic and evaluative toxicology in differentiated cardiac, hepatocyte and pancreatic islet cells from stem cells.
University of Aberdeen		Cannabinoid receptor antagonism and malformations in developing brain
University of Dundee		Inhibition of apoptosis by transcription factors Nrf1 and Nrf2 occurs mainly through regulation of intracellular redox status
University of Dundee	University of Dundee	Non catalytic mechanisms involved in glutathione S-transferase P (GST-P)-mediated cytoprotection
University of Leicester		Mitochondrial DNA-damage and toxin induced vascular endothelial cell ageing
University of Manchester	University of Manchester / MRC Toxicology Unit	Interleukin 17 and the development of allergic sensitization to chemicals
King's College, London	GE Healthcare	Development of human stem cell populations for integrative toxicology
University of Dundee		The role of PPAR-delta agonists in hepatic steatosis

University of Liverpool	AstraZeneca	Investigation of drug-specific cellular responses relevant to drug-induced immune liver injury in man
University of Birmingham	University of Birmingham	Susceptibility of alternative mRNA processing to interference by small molecules; implications for drug design and toxicity
MRC Toxicology Unit	MRC Toxicology Unit	Role of Bcl-2 family proteins in neurotoxic cell