

Setting our sights on infectious diseases

A WCAIR CONFERENCE ON DRUG DISCOVERY & DEVELOPMENT

12-15 May 2019, University of Dundee

Speakers and times correct at time of writing

Sessions will take place in Lecture Theatre 3 on the first floor of the Dalhousie Building, University of Dundee. Breaks and lunch will be co-located with the posters in the Dalhousie Foyer and level 1 gallery.

SUNDAY 12TH MAY

REGISTRATION

Will be open in the Dalhousie Building Foyer from 3pm.

SESSION 1: THE CURRENT SITUATION

The aim of this session is to highlight some of the key issues in infectious disease drug discovery and development; starting with a perspective on the relative roles of Governments and Industry followed by an overview of the global, a discussion of the current challenges in ID drug discovery and ending with a focussed discussion on the status and future of treatments for leishmaniasis.

Chair: Professor Sir Mike Ferguson FRS		
Professor Sir Mike Ferguson FRS, University of Dundee	16.30-16.40	Welcome
Sir Patrick Vallance, FRS, Government Chief Scientific Adviser (GCSA) and Head of the Government Science and Engineering (GSE) profession	16.40-17.15	TBC
Professor Sir Nick White FRS, Mahidol University	17.15-17.50	The global situation
Professor Paul Herrling	17.50-18.25	The challenges and future directions of drug discovery for infectious diseases.
Professor Shyam Sundar, Banaras Hindu University	18.25-19.00	Current situation around visceral leishmaniasis and current and future treatment.

19.15: Welcome reception in the School of Life Sciences The Street and LifeSpace. Including an introduction to the LifeSpace Exhibition by Dr Sarah Cook (University of Glasgow) and Dr Jen Southern (University of Lancaster). Tours of the WCAIR will also be available.



MONDAY 13TH MAY

REGISTRATION will be open in the Dalhousie Building Foyer from 8.15am.

SESSION 2: CLINICAL DEVELOPMENT AND CONNECTIVITY TO THE PRECLINICAL SITUATION

The aim of this session is look at new ways of doing clinical trials. How can we accelerate clinical development of new compounds? How can we link the clinical situation to the preclinical situation?

Chair: Professor Sir Nick White FRS		
Dr Clif Barry, NIH National Institute of Allergy and Infectious Diseases	09.00-09.40	Clinical trials for TB. Use of imaging in clinical trials. How does what you see pre-clinically relate to what you see clinically.
Professor James McCarthy, Royal Brisbane and Woman's Hospital	09.40-10.20	Use of human challenge models in clinical development of compounds.
Dr Isabela Ribeiro, Drugs for Neglected Diseases <i>initiative</i>	10.20-11.00	Clinical trials for Chagas Disease. Understanding clinical PK/PD relationships. How can we do trials for Chagas disease better.
Coffee	11.00-11.30	Posters
Professor William Hope, University of Liverpool	11.30-12.10	Challenges in clinical trials for antibacterials.
Panel Discussion	12.10-12.30	
Lunch and Posters	12.30-14.00	Dalhousie Foyer

SESSION 3: COMBINATION THERAPY: CLINICAL AND PRECLINICAL SELECTION

The aim of this session is to explore how effective combinations are in the treatment of infectious diseases. What makes a good combination and how are these selected? How good are preclinical and animal models for selecting combinations?

Chair: Professor Paul Wyatt		
Dr Didier Leroy, Medicines for Malaria Venture	14.00-14.40	Preclinical and clinical selection of antimalarial combinations.
Dr Bree Aldridge, Tufts University	14.40-15.20	Selection of combinations for TB treatment.
Dr John Pottage, ViiV Healthcare	15.20-16.00	How do you select a combination treatment for HIV? What factors make a good combination?
Coffee/ Tea	16.00-16.30	Posters
Elena Moshynets, Institute of Molecular Biology and Genetics of NAS of Ukraine.	16.30-16.45	Azithromycin-colistin as a new combination therapy against carbapenem-resistant <i>Klebsiella pneumoniae</i> infection: anti-biofilm activity and treatment effectiveness.
Mariajo Lafuente, GSK, Tres Cantos	16.45-17.00	Translational preclinical platform for evaluation of antimalarial combination therapy.
Panel Discussion	17.00-17.30	
Suze + WCAIR trainee	17.30-17.45	Research in an African University

19.00: Social event with dinner at Discovery Point.



TUESDAY 14TH MAY

SESSION 4: PK/PD STUDIES AND ANIMAL MODELS

This session will focus on modern approaches to understanding PK/PD relationships and how this can help in developing compounds.

Chair: Professor Kevin Read		
Professor Wes van Voorhis, Center for Emerging and Re-emerging Infectious Diseases , University of Washington	09.00-09.35	Challenges in the discovery of new agents for cryptosporidiosis and understanding their PK/PD relationships.
Dr Nathalie Gobeau, Medicines for Malaria Venture	09.35-10.10	PK/PD modelling in malaria.
Dr Thomas Spangenberg, Merck	10.10-10.45	PK/PD Studies with Schistosomiasis.
Coffee	10.45-11.10	Posters
Dr Manjunatha Ujjini, Novartis Institute for Tropical Diseases	11.10-11.45	The Role of Gastrointestinal Exposure for Treating Cryptosporidium Infection and its implications for clinical development
Caitlin Taylor, University of Cape Town	11.45-12.00	A Novel Method for Screening Drug Permeation in Mycobacteria.
Panel Discussion	12.00-12.30	
Lunch and Posters	12.30-14.00	Dalhousie Foyer

SESSION 5: DRUG DISCOVERY PATHWAYS

How do we develop the drug discovery pathway. Choosing the critical pathway. How do we make sure our assays are relevant to the clinical situation?

Chair: Professor Valerie Mizrahi		
Dr Manu de Rycker, Wellcome Centre for Anti-Infectives Research	14.00-14.40	Development of screening cascades for kinetoplastid parasites.
Professor Jennifer Keiser, Swiss Tropical and Public Health Institute	14.40-15.20	Cellular and animal models for helminth infections. Approaches being used to discover new start points.
Professor Valerie Mizrahi, Institute of Infectious Disease and Molecular Medicine, UCT	15.20-16.00	The screening cascade for TB. How biology and chemistry are integrated to select compounds going forwards.
Coffee/ Tea	16.00-16.30	Posters
Lynne Silver, Consultant	16.30-17.10	What makes a good antibacterial drug target and what makes a good antibacterial molecule?
Panel Discussion	17.10-17.40	

[19.15: Social event with buffet dinner at V&A Dundee.](#)



WEDNESDAY 15TH MAY

SESSION 6: NEW START POINTS AND TARGETS

The aims of this session are how to identify new drug targets are found and how can we be smarter and faster in how we do early phase drug discovery.

Chairs: Dr Tim Miles and Professor Ian Gilbert		
Dr Susan Wyllie, Wellcome Centre for Anti-Infectives Research	09.00-09.35	Target deconvolution of phenotypic hits as a way of identifying drug targets.
Professor Jacquin Niles , Massachusetts Institute of Technology	09.35-10.10	A chemical-genetics strategy for target-based drug discovery in malaria.
Dr Jennifer Herrmann, HelmHoltz Institute	10.10-10.45	Discovery and Development of Antibiotics from (Myxo)bacterial Secondary Metabolites.
Coffee	10.45-11.15	Posters
Dr Srinivasa Rao, Novartis Institute for Tropical Diseases	11.15-11.35	Discovery of rapid sterilizing inhibitor with single dose cure potential for the treatment of Human African Trypanosomiasis.
Professor Frederick S. Buckner, University of Washington	11.35-11.55	Target-based screening vs. phenotypic screening for antiparasitic drug discovery: a tale of two strategies.
Richard K. Amewu, University of Ghana	11.55-12.15	Synthesis of novel antimalarial and antitubercular isonicotinohydrazides.
Panel Discussion	12.15-12.45	
Lunch	12.45-13.30	Posters
Dr Paul Leeson, Consultant	13.30-14.10	How do you choose the right compounds to make? What properties do you need in a new drug? What are the learnings for infectious disease drug discovery.
Dr John Overington, Medicines Discovery Catapult	14.10-14.50	Use of AI in drug discovery.
Wrap Up	14.50-15.00	
	15.00	End of conference