



# 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 12<sup>TH</sup> 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 an overview of the global situation, 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
Professor Sir Nicholas White FRS, Mahidol University and University of Oxford	16.40- 17.15	Infectious Diseases: The global situation
Professor Paul Herrling	17.15- 17.50	The challenges and future directions of drug discovery for neglected diseases.
Professor Shyam Sundar, Banaras Hindu University	17.50- 18.25	Current situation around visceral leishmaniasis and current and future treatment.
Professor Sarah Cook, University of Glasgow	18.25- 18.45	LifeSpace: Science Art Research Gallery
Dr Jen Southern, Lancaster University		Introduction to 'Para-Site-Seeing: Departure Lounge'

19.00: Welcome reception in the School of Life Sciences The Street and LifeSpace and view of the WCAIR LifeSpace Exhibition 'Para-Site-Seeing: Departure lounge'. Tours of the WCAIR will also be available.



**MONDAY 13<sup>TH</sup> 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 Nicholas White FRS		
Professor Clifton E Barry, III, NIH National Institute of Allergy and Infectious Diseases	09.00-09.40	PET/CT imaging in the clinical evaluation of new antituberculosis agents
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 PKPD relationships
<b>Refreshments and Posters</b>	11.00-11.30	<b>Dalhousie foyer and gallery</b>
Professor William Hope, University of Liverpool	11.30-12.10	Challenges in clinical trials for antibacterials
Panel Discussion	12.10-12.30	
<b>Lunch and Posters</b>	<b>12.30-14.00</b>	<b>Dalhousie Foyer and gallery</b>

## 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	Optimisation of combination therapy for tuberculosis
Dr John Pottage, ViiV Healthcare	15.20-16.00	Selecting combination treatment for HIV-what factors make a good combination?
<b>Refreshments and Posters</b>	16.00-16.30	<b>Dalhousie foyer and gallery</b>
Olena 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
Dr Maria Jose Lafuente, GSK, Tres Cantos	16.45-17.00	Translational preclinical platform for evaluation of antimalarial combination therapy
Panel Discussion	17.00-17.30	
Suze Farrell, WCAIR Training manager Jean Baptiste Hounda Fokou, WCAIR trainee	17.30-17.45	WCAIR competency transfer: The Discovery of the capacity

19.00: Buffet dinner at Discovery Point with tours of RRS Discovery



**TUESDAY 14<sup>TH</sup> 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 Wesley 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	PKPD modelling for the development of antimalarial drugs
Dr Thomas Spangenberg, Merck	10.10-10.45	Innovative approaches in translational PK/PD
<b>Refreshments and Posters</b>	10.45-11.10	<b>Dalhousie foyer and gallery</b>
Dr Ujjini Manjunatha, Novartis Institute for Tropical Diseases	11.10-11.45	The Role of Gastrointestinal Exposure for Treating <i>Cryptosporidium</i> 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	
<b>Lunch and Posters</b>	<b>12.30-14.00</b>	<b>Dalhousie Foyer</b>

## 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	Drug Discovery for schistosomiasis
Professor Valerie Mizrahi, Institute of Infectious Disease and Molecular Medicine, University of Cape Town	15.20-16.00	The screening cascade for TB. Integration of biology and chemistry to select compounds for progression
<b>Refreshments and Posters</b>	16.00-16.30	<b>Dalhousie foyer and gallery</b>
Dr Lynn 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 dinner at V&A Dundee. Includes access to the current exhibition 'Videogames: Design/Play/Disrupt'.



WEDNESDAY 15<sup>TH</sup> MAY

## SESSION 6: NEW START POINTS AND TARGETS

The aims of this session are to consider how to identify new drug targets and how we can we smarter and faster in performing 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 for Pharmaceutical Research Saarland	10.10-10.45	Discovery and development of antibiotics from (Myxo)bacterial Secondary Metabolites.
<b>Refreshments and Posters</b>	10.45-11.15	<b>Dalhousie foyer and gallery</b>
Dr Srinivasa Rao, Novartis Institute for Tropical Diseases	11.15-11.35	Accelerating early drug discovery exemplified by Human African Trypanosomiasis.
Professor Frederick S. Buckner, University of Washington	11.35-11.55	Target-based screening versus phenotypic screening for antiparasitic drug discovery: a tale of two strategies.
Dr Richard K. Amewu, University of Ghana	11.55-12.15	Synthesis of novel antimalarial and antitubercular isonicotinohydrazides.
<b>Lunch</b>	<b>12.15-13.15</b>	<b>Posters</b>
Dr Paul Leeson, Consultant	13.15-13.50	Drug-like properties, ligand efficiency-guided optimisation, and their roles in anti-infective disease drug discovery.
Dr John Overington, Medicines Discovery Catapult	13.50-14.25	Data Science in the Discovery of Novel Anti-Infectives.
Panel Discussion	14.25-14.50	
Wrap Up	14.50-15.00	
End of conference	15.00	