Infectious diseases cause substantial morbidity and mortality in the developing world. The medicines available today are often inconvenient to use or result in side effects, and many are being lost to emerging drug resistance. There remains an urgent need to discover and develop the next generation of transformative medicines that are more efficacious, more highly targeted, and have a better safety profile. This will only be achieved through the application of state-of-the-art drug discovery tools, technologies and approaches. This conference will focus on diseases caused by parasitic organisms and bacteria, including malaria, neglected tropical diseases, diarrheal disease and tuberculosis. The goals of the conference are to improve understanding of the disease burden and challenges faced in developing new therapies, to highlight examples of progress towards new drug candidates, and to foster communication and collaboration among communities of researchers working in global health across the spectrum from research to the clinic. The symposium will be of interest to basic scientists as well as drug discovery and development experts seeking to gain a better understanding of the challenges and opportunities in global health.
Importance of Chemical Diversity in Seeking New Leads

Challenges: Innovation in Drug Discovery

Joint Keynote Session and Panel Discussion with Grand

Robust Target Validation – What Does it Mean?

New Therapeutics for Global Health

Jennifer Elizabeth Collins, University of Central Florida, USA
Short Talk: Novel Antiplasmodial Compounds from Fungi

Alternative Approaches to Drug Delivery – Opportunities and Challenges

*Anna Upton, TB Alliance, USA
Paul L. Feldman, Intarcia Therapeutics, USA
Application of the Intarcia MediCure Drug Delivery SystemTM for Long-Acting HIV Prevention for Global Health

Andrew Martin Bellinger, Lynda, USA
Development of Oral, Ultra Long-Lasting, Sustained Release Therapies in the Fight against Malaria and HIV

Arnab Chatterjee, Calibr, USA
Chemoprophylaxis for Prevention of Malaria Infection

Daniel Greenwood, Francis Crick Institute, UK
Short Talk: Subcellular Antibiotic Visualisation Reveals a Dynamic Drug Reservoir in Mycobacterium tuberculosis-Infected Macrophages

Poster Session 1

SaturDay, October 20

Improving Target and Phenotypic-Based Approaches

*Tanya Parish, Infectious Disease Research Institute, USA
Leann M. Tilley, University of Melbourne, Australia
The Proteasome as a Target for New Antimalarial Drugs

Kirsten Hanson, University of Texas at San Antonio, USA
Profiling Compounds against Liver Stage Malaria

Beatriz Baragana, University of Dundee, UK
Short Talk: Lysyl tRNA Synthetase as a Drug Target in Apicomplexan Parasites

Nyssa Drinkwater, Monash University, Australia
Short Talk: Rational Design of a Multi-Target Antimalarial Compound with in vivo Activity

Deborah T. Hung, Broad Institute of MIT & Harvard, USA
Multiplex Screening of an M. tuberculosis Hypomorph Library Simultaneously Identifies Lead and Target

Marc Gitzinger, BioVersys AG, Switzerland
A SMART Approach to Reversing Drug Resistance in TB and Deploying the Hidden Potential of Current TB Drugs

Bryan J. Berube, Infectious Disease Research Institute, USA
Short Talk: MenA Inhibitors Are Bactericidal against Mycobacterium tuberculosis Alone and in Combination with Electron-Transport Chain Inhibitors

Poster Session 2

Workshop: Opportunities for Repurposing to Discover New Candidates or Mature Starting Points

*Elnaz Menhaji-Klotz, Bill & Melinda Gates Medical Research Institute, USA
*Khismuzi E. Mdluli, Bill & Melinda Gates Medical Research Institute, USA
Oluyomi S. Adeyemi, Landmark University, Nigeria  
Drug Repurposing and Screening of Libraries of Chemical Compounds to Identify New Anti-Parasitic Agents

Samuel Arnold, University of Washington, USA  
A Second Chance for Your Favorite Protozoan Target: Repositioning Opportunities for Treatment of Cryptosporidiosis

Giancarlo Biagini, Liverpool School of Tropical Medicine, UK  
Antimalarial Pharmacology of Primaquine: Attempting to Solve a 70-Year-Old Puzzle

Elena Fernandez Alvaro, GlaxoSmithKline, Spain  
Repurposing Opportunities for the Treatment of MDR Bacterial Enteric Infections

Malkeet Kumar, University of Cape Town, South Africa  
Repositioning the Antihistamine Drug Astemizole as an Anti-Plasmodial Agent

Rob Leurs, Vrije Universiteit Amsterdam, Netherlands  
Parasite-Specific Cyclic Nucleotide Phosphodiesterase Inhibitors to Target Neglected Parasitic Diseases (PDE4NPD)

Rose C. Lopeman, Aston University, UK  
Faropenem and Clavulanate Exhibit Additive Effect against Mycobacterium abscessus in vitro

Translational Tools for Predicting Efficacy and Resistance  
*Robert S. Wallis, Aurum Institute, South Africa  
Pharmacodynamic Modeling of Anti-Cryptosporidium Drug Efficacy

Yingda L. Xie, NIAID, National Institutes of Health, USA  
Improving Phase 2a TB Drug Development Models through PET/CT Imaging (NexGen EBA)

Cristina Donini, Medicines for Malaria Venture, Switzerland  
Role of Volunteer Infection Studies in Prioritizing the Next Generation of Clinical Candidates in Malaria

Thomas Spangenberg, Merck, Switzerland  
Short Talk: Evaluation of the Pharmacokinetic-Pharmacodynamic Relationship of Praziquantel in the Schistosoma mansoni Mouse Model

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)

SUNDAY, OCTOBER 21

Departure