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.

Plenary Session Topics:
• New Therapeutics for Global Health
• Robust Target Validation – What Does it Mean?
• Importance of Chemical Diversity in Seeking New Leads
• Workshop 1: Novel Clinical Trial Design
• Alternative Approaches to Drug Delivery – Opportunities and Challenges
• Improving Target and Phenotypic-Based Approaches
• Workshop 2: Opportunities for Repurposing to Discover New Candidates or Mature Starting Points
• Translational Tools for Predicting Efficacy and Resistance

Visit www.keystonesymposia.org/18S3 for more details.
Importance of Chemical Diversity in Seeking New Leads

FRIDAY, OCTOBER 19

Challenges: Innovation in Drug Discovery
Joint Keynote Session and Panel Discussion with Grand

Robust Target Validation – What Does it Mean?

* Tanya Parish, Infectious Disease Research Institute, USA
Elizabeth A. Winzeler, University of California, San Diego, USA
Multidisciplinary Approaches to the Discovery of Chemoprotective Drugs and Targets for Malaria
Dirk Schnappinger, Weill Cornell Medical College, USA
Combining Chemical Probes and Genetic Knockdowns to Validate Drug Targets in Mycobacterium tuberculosis
Boris Striepen, University of Pennsylvania, USA
Using Molecular Genetics to Understand and Combat Cryptosporidium
Andrew Fraser, University of Toronto, Canada
Short Talk: Dissecting the Pathway for Rhodoquinone Biosynthesis in C. elegans: It all Starts at the Beginning

Joint Keynote Session and Panel Discussion with Grand Challenges: Innovation in Drug Discovery

FRIDAY, OCTOBER 19

Importance of Chemical Diversity in Seeking New Leads

* Courtney Cortez Aldrich, University of Minnesota, USA
Xiapeng Bai, GlaxoSmithKline, USA
Experience with DNA-Encoded Libraries in Search for New Leads against TB
E. Paige Stout, Sirenas, USA
Sirenas Biochemometrics Platform: Transforming the Search for New Medicines
Judy A. Sakanari, University of California, San Francisco, USA
Identifying Anti-Filarial Candidates using a Multifaceted Screening Funnel
Charles E. Mowbray, Drugs for Neglected Diseases Initiative, Switzerland
A New Era of Orally Active Treatments for Leishmaniasis Patients

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 Medici Drug Delivery System™ for Long-Acting HIV Prevention for Global Health
Andrew Martin Bellinger, Lyndra, 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 2

Workshop: Opportunities for Repurposing to Discover New Candidates or Mature Starting Points
* Elnaz Menhaji-Klotz, Bill & Melinda Gates Medical Research Institute, USA
* Khisimuzi 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 (PDE4NP)

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