



**Tuberculosis Drug Discovery and Development**  
*Gordon Research Conference*

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## **Shortening the Duration of Tuberculosis Chemotherapy**

**July 7 - 12, 2019**

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### **Chairs**

Helena I. Boshoff and Mary C. Jackson

### **Vice Chair**

Anna M. Upton

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### **Rey Don Jaime Grand Hotel**

Avinguda de l'Hotel

Castelldefels, ES

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### **Application Information**

This meeting is currently oversubscribed (full). You may still submit an application. However, it will only be considered by the conference chair if more seats become available due to cancellations.

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### **Conference Description**



The 2019 Conference on Tuberculosis Drug Discovery and Development will feature presentations on breaking science in preclinical and clinical TB drug discovery and development. The talks will serve as primers for in-depth discussions on the unique challenges posed by TB relative to other infectious diseases, and topics will include how drug and target properties relate to efficacy in different models, and how these features might inform clinical trials to realize the goal of treatment shortening. Each session will be designed to address the challenges specific to the topic, and will range from early stage drug discovery to lessons learned in clinical trials.

We invite researchers interested in all aspects of drug discovery and development and welcome participants from academia, industry, government and non-governmental organizations. In particular, we invite trainees and scientists from TB-endemic countries to apply, as their contribution to the struggle against TB is especially important. All participants are asked to submit abstracts of their work for presentation as posters, and some abstracts will be chosen for oral presentations. The conference provides the opportunity to interact with colleagues in an informal and intimate atmosphere and is designed to promote extensive discussion. In the past, the meeting has been oversubscribed – please apply early!

## Related Meeting



This GRC will be held in conjunction with the "Tuberculosis Drug Discovery and Development (GRS)" Gordon Research Seminar (GRS). Those interested in attending both meetings must submit an application for the GRS in addition to an application for the GRC. Refer to the [associated GRS program page](#) for more information.

## Conference Program

### Sunday

4:00 pm - 8:00 pm

Arrival and Check-in

6:00 pm - 7:00 pm

Dinner



7:30 pm - 7:40 pm	Introductory Comments by GRC Site Staff / Welcome from the GRC Chair
7:40 pm - 9:30 pm	<b>Keynote Session:</b> <b>Perspectives on TB Drug Development</b> Discussion Leader: <b>Valerie Mizrahi</b> (Institute of Infectious Disease and Molecular Medicine, University of Cape Town, South Africa)
7:40 pm - 7:50 pm	Introduction by Discussion Leader
7:50 pm - 8:05 pm	<b>Enrique Delgado</b> (Spain) "Surviving XDR: Human Impact of Drug Resistance"
8:05 pm - 8:15 pm	Discussion
8:15 pm - 8:55 pm	<b>Elizabeth Winzeler</b> (University of California, San Diego, USA) "The Search for Next Generation Antimalarials for Elimination"
8:55 pm - 9:10 pm	Discussion
9:10 pm - 9:30 pm	General Discussion
<b>Monday</b>	
7:30 am - 8:30 am	Breakfast



9:00 am - 12:30 pm	<b>Optimizing Drugs for Activity Against the Pathogen</b> Discussion Leader: <b>Kelly Chibale</b> (University of Cape Town, South Africa)
9:00 am - 9:05 am	Introduction by Discussion Leader
9:05 am - 9:30 am	<b>Christina Stallings</b> (Washington University School of Medicine, USA) "Disarming Mycobacterium tuberculosis antibiotic tolerance and resistance"
9:30 am - 9:40 am	Discussion
9:40 am - 10:05 am	<b>Markus Seeger</b> (University of Zurich, Switzerland) "The role of MFS transporter Rv1410 in drug efflux and influx"
10:05 am - 10:15 am	Discussion
10:15 am - 10:40 am	Coffee Break
10:40 am - 11:05 am	<b>Elizabeth Fullam</b> (University of Warwick, United Kingdom) "Sugar Uptake and Metabolism in <i>Mycobacterium tuberculosis</i> : From Structure/Function to Potential Drug Targets"
11:05 am - 11:15 am	Discussion





11:15 am - 11:40 am	<b>Kyu Rhee</b> (Weill Cornell Medicine, USA) "Rationalizing Rational Drug Development: an Intrabacterial Perspective on Compound SAR"
11:40 am - 11:50 am	Discussion
11:50 am - 12:05 pm	<b>Shuyi Ma</b> (Seattle Children's Research Institute, USA) "Network stress tests reveal novel drug potentiators in Mycobacterium tuberculosis"
12:05 pm - 12:10 pm	Discussion
12:10 pm - 12:25 pm	Short Talk Selected from Poster Abstracts
12:25 pm - 12:30 pm	Discussion
12:30 pm - 1:30 pm	Lunch
1:30 pm - 4:30 pm	Free Time



3:00 pm - 4:00 pm	<p><b>The GRC Power Hour™</b></p> <p><i>The GRC Power Hour™ is designed to address challenges women face in science and issues of diversity and inclusion. The program supports the professional growth of all members of our communities by providing an open forum for discussion and mentoring.</i></p> <p>Organizer: <b>Valerie Mizrahi</b> (Institute of Infectious Disease and Molecular Medicine, University of Cape Town, South Africa)</p>
4:30 pm - 6:00 pm	<b>Poster Session</b>
6:00 pm - 8:00 pm	<p><b>Attributes of an Ideal TB Drug</b></p> <p>Discussion Leader: <b>Sabine Ehrt</b> (Weill Cornell Medicine, USA)</p>
6:00 pm - 6:05 pm	Introduction by Discussion Leader
6:05 pm - 6:30 pm	<p><b>Ben Forbes</b> (King's College London, United Kingdom)</p> <p>"Drug Delivery Strategies for Targeting Drugs to the Lungs"</p>
6:30 pm - 6:40 pm	Discussion



6:40 pm - 7:05 pm	<b>Douglas Kell</b> (University of Liverpool, United Kingdom) "No transporters means no transport: the absolute role of SLCs in the uptake and efficacy of pharmaceutical drugs"
7:05 pm - 7:15 pm	Discussion
7:15 pm - 7:40 pm	<b>Veronique Dartois</b> (Rutgers University, USA) "Caseum: the alpha and omega of TB"
7:40 pm - 7:50 pm	Discussion
7:50 pm - 8:00 pm	General Discussion
8:00 pm - 9:00 pm	Dinner
<b>Tuesday</b>	
7:30 am - 8:30 am	Breakfast
8:30 am	Group Photo
9:00 am - 12:30 pm	<b>Treatment Shortening Potential of Targets in Cell Wall Biosynthesis</b> Discussion Leader: <b>David Sherman</b> (Center for Global Infectious Disease Research / University of Washington, USA)
9:00 am - 9:05 am	Introduction by Discussion Leader



9:05 am - 9:30 am	<b>Hugo Gramajo</b> (Institute of Molecular and Cell Biology of Rosario (IBR-CONICET), Argentina) "Lipid metabolism as a reservoir for the identification of new antimycobacterial compounds"
9:30 am - 9:40 am	Discussion
9:40 am - 10:05 am	<b>H. Michael Petrassi</b> (The Scripps Research Institute, USA) "Inhibitors of the Mycobacterium Tuberculosis Cell Wall Biosynthesis to Replace Isoniazid in the Mtb Drug Regime"
10:05 am - 10:15 am	Discussion
10:15 am - 10:45 am	Coffee Break
10:45 am - 11:10 am	<b>Elana Van Brakel</b> (TASK Applied Science, South Africa) "Betalactams for TB: The Bridge to the Clinic"
11:10 am - 11:20 am	Discussion
11:20 am - 11:45 am	<b>Eric Nuermberger</b> (Johns Hopkins University, USA) "Inhibitors of Cell Wall Synthesis: Do They Have a Place in Novel TB Regimens?"





11:45 am - 11:55 am	Discussion
11:55 am - 12:10 pm	Short Talk Selected from Poster Abstracts
12:10 pm - 12:15 pm	Discussion
12:15 pm - 12:30 pm	General Discussion
12:30 pm - 1:30 pm	Lunch
1:30 pm - 4:30 pm	Free Time
4:30 pm - 6:00 pm	<b>Poster Session</b>
6:00 pm - 8:00 pm	<b>Treatment Shortening Potential of Targets in Transcription/Translation</b> Discussion Leader: <b>Bavesh Kana</b> (University of the Witwatersrand, South Africa)
6:00 pm - 6:05 pm	Introduction by Discussion Leader
6:05 pm - 6:30 pm	<b>Babak Javid</b> (Tsinghua University School of Medicine, China) "Predicting rifampicin tolerance in clinical isolates by genetic association"
6:30 pm - 6:40 pm	Discussion



6:40 pm - 7:05 pm	<b>George Garcia</b> (University of Michigan, USA) "Novel Approaches to Targeting M. tuberculosis RNA Polymerase"
7:05 pm - 7:15 pm	Discussion
7:15 pm - 7:30 pm	<b>Haihong Huang</b> (Institute of Materia Medica, Chinese Academy of Medical Sciences / Peking Union Medical College, China) "OTB-658, A Drug Candidate for DR-TB Treatment"
7:30 pm - 7:35 pm	Discussion
7:35 pm - 7:50 pm	<b>Brendan Crowley</b> (Merck Research Laboratories, USA) "Novel Oxazolidinone-Class Protein Synthesis Inhibitors with Improved Safety Profiles"
7:50 pm - 7:55 pm	Discussion
7:55 pm - 8:00 pm	General Discussion
8:00 pm - 9:00 pm	Dinner
<b>Wednesday</b>	
7:30 am - 8:30 am	Breakfast



9:00 am - 12:30 pm	<b>Treatment Shortening Potential of Non-Traditional Drug Targets</b> Discussion Leader: <b>Alain Baulard</b> (Institut Pasteur de Lille, France)
9:00 am - 9:05 am	Introduction by Discussion Leader
9:05 am - 9:30 am	<b>Luiz Pedro Carvalho</b> (The Francis Crick Institute, United Kingdom) "Allosteric de-regulation of metabolic pathways as a novel antibiotic strategy"
9:30 am - 9:40 am	Discussion
9:40 am - 10:05 am	<b>Kristin Burns-Huang</b> (Weill Cornell Medicine, USA) "M. tuberculosis Proteostasis Network: Role in Drug Resistance"
10:05 am - 10:15 am	Discussion
10:15 am - 10:45 am	Coffee Break
10:45 am - 11:10 am	<b>Lourdes Encinas</b> (GlaxoSmithKline, Spain) "The 'Trp' from Lead to pre-clinical Candidate"
11:10 am - 11:20 am	Discussion



11:20 am - 11:45 am	<b>Emily Parker</b> (Victoria University of Wellington, New Zealand) "Inhibition of the Biosynthetic Pathways for Essential Amino Acids"
11:45 am - 11:55 am	Discussion
11:55 am - 12:20 pm	<b>Digby Warner</b> (University of Cape Town, South Africa) "Targeting Mycobacterial DNA Replication"
12:20 pm - 12:30 pm	Discussion
12:30 pm - 1:30 pm	Lunch
1:30 pm - 4:30 pm	Free Time
4:30 pm - 6:00 pm	<b>Poster Session</b>
6:00 pm - 8:00 pm	<b>Enrichment of the Pipeline by Natural Products</b> Discussion Leader: <b>Cynthia Dowd</b> (George Washington University, USA)
6:00 pm - 6:05 pm	Introduction by Discussion Leader
6:05 pm - 6:30 pm	<b>Carole Bewley</b> (National Institutes of Health, USA) "Marine Natural Products: Structures, Mechanisms and Ecology"






6:30 pm - 6:40 pm	Discussion
6:40 pm - 7:05 pm	<b>Jennifer Herrmann</b> (Helmholtz Institute for Pharmaceutical Research Saarland, Germany) "Discovery and evaluation of antitubercular natural products from soil bacteria"
7:05 pm - 7:15 pm	Discussion
7:15 pm - 7:40 pm	<b>Gerry Wright</b> (McMaster University, Canada) "Natural Product and Synthetic Biology Routes to New Antimycobacterial Agents"
7:40 pm - 7:50 pm	Discussion
7:50 pm - 8:00 pm	General Discussion
8:00 pm - 9:00 pm	Dinner
<b>Thursday</b>	
7:30 am - 8:30 am	Breakfast
8:30 am - 9:00 am	<b>Business Meeting</b> <i>Nominations for the Next Vice            Chair; Fill in Conference            Evaluation Forms; Discuss Future            Site and Scheduling Preferences;            Election of the Next Vice Chair</i>



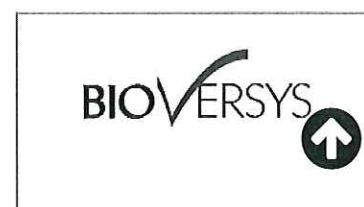
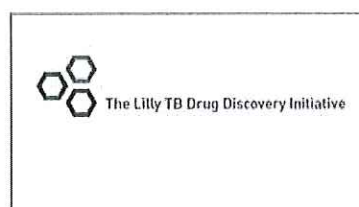
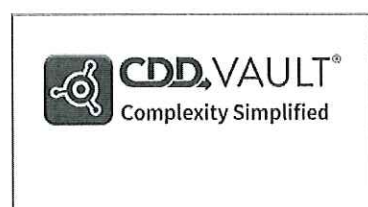
9:00 am - 12:30 pm	<b>Host-Dependent and Host-Directed Therapies</b> Discussion Leader: <b>JoAnne Flynn</b> (University of Pittsburgh School of Medicine, USA)
9:00 am - 9:05 am	Introduction by Discussion Leader
9:05 am - 9:30 am	<b>David Russell</b> (Cornell University, USA) "Host-dependent targets: Using complex host biology in our favor"
9:30 am - 9:40 am	Discussion
9:40 am - 10:05 am	<b>Chris Sassetti</b> (University of Massachusetts Medical School, USA) "Genetic determinants of therapeutic efficacy"
10:05 am - 10:15 am	Discussion
10:15 am - 10:45 am	Coffee Break
10:45 am - 11:10 am	<b>Robert Wallis</b> (Aurum Institute, South Africa) "Anti-inflammatory and anti-microbial host-directed TB therapies"
11:10 am - 11:20 am	Discussion



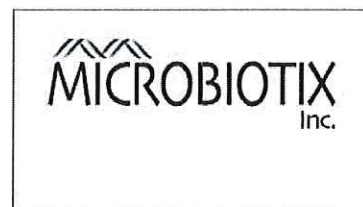
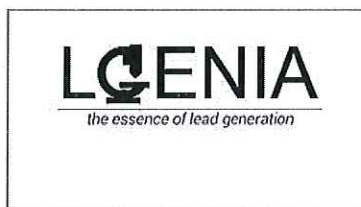
11:20 am - 11:45 am	<b>Deepak Kaushal</b> (Southwest National Primate Research Center, USA) "Preclinical Evaluation of Promising Host-Directed Therapies against TB"
11:45 am - 11:55 am	Discussion
11:55 am - 12:10 pm	Short Talk Selected from Poster Abstracts
12:10 pm - 12:15 pm	Discussion
12:15 pm - 12:30 pm	General Discussion
12:30 pm - 1:30 pm	Lunch
1:30 pm - 4:30 pm	Free Time
4:30 pm - 6:00 pm	<b>Poster Session</b>
6:00 pm - 8:00 pm	<b>Treatment Shortening and Clinical Trials Innovation</b> Discussion Leader: <b>Gilla Kaplan</b> (University of Cape Town, South Africa)
6:00 pm - 6:05 pm	Introduction by Discussion Leader
6:05 pm - 6:30 pm	<b>Clifton Barry</b> (National Institute of Allergy and Infectious Diseases, NIH, USA) "NexGen EBA – assessing sterilizing potential of new drugs and regimens" 

6:30 pm - 6:40 pm	Discussion
6:40 pm - 7:05 pm	<b>Nick Paton</b> (National University of Singapore, Singapore) "Novel Strategies and Outcome Measures in TB Clinical Trials"
7:05 pm - 7:15 pm	Discussion
7:15 pm - 7:30 pm	Short Talk Selected from Poster Abstracts
7:30 pm - 7:35 pm	Discussion
7:35 pm - 7:45 pm	General Discussion
7:45 pm - 8:00 pm	Closing Remarks
8:00 pm - 9:00 pm	Dinner
<b>Friday</b>	
7:30 am - 8:30 am	Breakfast
9:00 am	Departure

## Contributors







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ALERT – GRC ATTENDEES HAVE RECEIVED CALLS FROM INDIVIDUALS CLAIMING TO BE AFFILIATED WITH HOTELS IN THE AREA OF GRC CONFERENCE VENUES, INCLUDING BUT NOT LIMITED TO MT. SNOW, STONEHILL COLLEGE AND BATES COLLEGE. **THESE CALLERS ARE NOT AUTHORIZED BY GRC.** DETAILS ARE AVAILABLE BY

» [clicking here \(/resources/common/userfiles/file/Alerts/Alert\\_Housing\\_2019.pdf\)](#).



