

## Staphylococcal Diseases

### Gordon Research Conference

#### Staphylococcal Biology, Pathogenesis, Infections and Treatment

##### Dates

August 6-11, 2017

##### Location

Waterville Valley  
Waterville Valley, NH

##### Organizers

Chairs:

**Eric P. Skaar & Tammy L. Kielian**

Vice Chairs:

**Andreas Peschel & Ross Fitzgerald**

#### Application Deadline

Applications for this meeting must be submitted by **July 9, 2017**. Please apply early, as some meetings become oversubscribed (full) before this deadline. If the meeting is oversubscribed, it will be stated here. *Note:* Applications for oversubscribed meetings will only be considered by the Conference Chair if more seats become available due to cancellations.

#### Meeting Description

The 2017 Staphylococcal Diseases Gordon Research Conference (GRC) and its associated Gordon Research Seminar (GRS) will be held at Waterville Valley, New Hampshire, USA with the GRS being held on August 5-6 and the GRC immediately following on August 6-11, 2017. This will be the 3rd meeting of the GRS, the specific purpose of which is to promote the development of the next generation of staphylococcal investigators and the active participation of these trainees and their integration into the broader research community. The overall goal of the GRC and its associated GRS is to bring the world's leading scientists and the most promising young investigators and trainees together in a collegial and supportive environment. The specific goals are to: 1) provide a forum for the presentation of unpublished, cutting-edge research and both formal and informal discussions of the manner in which these results advance the field, 2) include investigators focusing on diverse staphylococcal species and the impact of these species on the overall problem of staphylococcal infection in both humans and animals, 3) include investigators focusing on all aspects of staphylococcal disease and provide these investigators with a forum to expand the boundaries of their own work, and 4) ensure development and integration of young investigators into the broader research community in a meaningful and interactive way. The collegial atmosphere will include organized discussion sessions as well as opportunities for informal gatherings in the afternoons and evenings, thus providing an ideal setting for scientists from different disciplines to exchange ideas and foster cross-disciplinary collaborations both among themselves and the next generation of staphylococcal investigators. Thus, the GRC will provide a unique and fundamentally important opportunity to bring together the world's leading staphylococcal investigators in a format designed for the free exchange of research results and ideas covering all aspects of staphylococcal biology and its relationship to disease and, together with the GRS, it will do so in a manner specifically designed to promote the development of promising young investigators in the field and their integration into the larger research community. In the short term, this will significantly enhance the ability of investigators around the world to address critical problems in staphylococcal disease, while in the long term it will ensure the continued success of their efforts and those of the next generation of investigators.

#### Related Meeting



This GRC will be held in conjunction with the "**Staphylococcal Diseases**" 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.

## Contributors



## Meeting Program

### Sunday

- 2:00 pm - 9:00 pm Arrival and Check-in
- 6:00 pm Dinner
- 7:30 pm - 7:40 pm Welcome / Introductory Comments by GRC Site Staff
- 7:40 pm - 9:30 pm **Unique Approaches for Combating Staphylococcal Infections**
- Discussion Leader: **Anthony Lynch** (Janssen Research & Development, LLC, USA)
- 7:40 pm - 7:45 pm Introduction by Discussion Leader
- 7:45 pm - 8:10 pm **Wouter Hazenbos** (Genentech, Inc., USA)  
"Therapeutic Targeting of *Staphylococcus aureus* by an Antibody-Antibiotic Conjugate"
- 8:10 pm - 8:20 pm Discussion
- 8:20 pm - 8:45 pm **Suzanne Walker** (Harvard Medical School, USA)  
"Teichoic Acids as Targets"
- 8:45 pm - 8:55 pm Discussion
- 8:55 pm - 9:20 pm **Bret Sellman** (MedImmune, LLC, USA)  
"Monoclonal Antibody-Mediated Toxin Neutralization Promotes a Protective Immune Response"
- 9:20 pm - 9:30 pm Discussion

### Monday

- 7:30 am - 8:30 am Breakfast
- 9:00 am - 12:30 pm **Metabolism: Fueling the Way**
- Discussion Leader: **Paul Fey** (University of Nebraska Medical Center, USA)
- 9:00 am - 9:05 am Introduction by Discussion Leader
- 9:05 am - 9:30 am **Vinai Thomas** (University of Nebraska Medical Center, USA)  
"Metabolic Control of Regulated Cell Death in *Staphylococcus aureus*"
- 9:30 am - 9:40 am Discussion
- 9:40 am - 10:05 am **Anthony Richardson** (University of Pittsburgh, USA)  
"Glucose Import and Nitric Oxide Resistance in *Staphylococcus aureus*"
- 10:05 am - 10:15 am Discussion
- 10:15 am - 10:40 am Coffee Break

- 10:40 am - 11:05 am **Kelly Rice** (University of Florida, USA)  
"Contributions of Bacterial Nitric Oxide Synthase to *Staphylococcus aureus* Metabolism"
- 11:05 am - 11:15 am Discussion
- 11:15 am - 11:40 am **Neal Hammer** (Michigan State University, USA)  
"IspA Supports Small Colony Development by Alleviating Oxidative Stress"
- 11:40 am - 11:50 am Discussion
- 11:50 am - 12:05 pm Short Talk Selected from Poster Abstracts
- 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 Lunch
- 1:30 pm - 4:00 pm Free Time
- 3:00 pm - 4:00 pm Power Hour

*The GRC Power Hour is an optional informal gathering open to all meeting participants. It is designed to help address the challenges women face in science and support the professional growth of women in our communities by providing an open forum for discussion and mentoring.*

Organizer: **Jean Lee** (Harvard Medical School, USA)

- 4:00 pm - 6:00 pm Poster Session

- 6:00 pm Dinner

- 7:30 pm - 9:30 pm **Staphylococcal Virulence Determinants**

Discussion Leader: **Jean Lee** (Harvard Medical School, USA)

- 7:30 pm - 7:35 pm Introduction by Discussion Leader

- 7:35 pm - 8:00 pm **James O'Gara** (NUI Galway, Ireland)  
"Redeploying  $\beta$ -Lactam Antibiotics as a Novel Anti-Virulence and Anti-Persister Strategy for the Treatment of MRSA Infections"

- 8:00 pm - 8:10 pm Discussion

- 8:10 pm - 8:35 pm **Ruth Massey** (University of Bath, United Kingdom)  
"What Can Genome Sequencing Tell Us About Staphylococcal Pathogenicity"

- 8:35 pm - 8:45 pm Discussion

- 8:45 pm - 9:10 pm **Jose Penades** (University of Glasgow, United Kingdom)  
"The Right Move"

- 9:10 pm - 9:20 pm Discussion

- 9:20 pm - 9:30 pm General Discussion

## Tuesday

- 7:30 am - 8:30 am Breakfast

- 9:00 am - 12:30 pm **Host vs. Staphylococci: The Battle Continues**

Discussion Leader: **Juliane Bubeck Wardenburg** (University of Chicago, USA)

- 9:00 am - 9:05 am Introduction by Discussion Leader

- 9:05 am - 9:30 am **Jim Cassat** (Vanderbilt University Medical Center, USA)  
"Hypoxic Responses at the Staphylococcal-Host Interface"

- 9:30 am - 9:40 am Discussion
- 9:40 am - 10:05 am **Olaf Schneewind** (University of Chicago, USA)  
"Staphylococcus aureus Manipulation of B Cell Responses During Infection"
- 10:05 am - 10:15 am Discussion
- 10:15 am - 10:40 am Coffee Break
- 10:40 am - 11:05 am **Mary O'Riordan** (University of Michigan Medical School, USA)  
"A Mitochondrial Sirtuin Protects Phagocytes from Oxidative Destruction During MRSA Infection"
- 11:05 am - 11:15 am Discussion
- 11:15 am - 11:40 am **Anna Norrby-Teglund** (Karolinska Institute, Sweden)  
"Severe *S. aureus* Infections of Human Lung and Skin: Determinants of Tissue Pathology"
- 11:40 am - 11:50 am Discussion
- 11:50 am - 12:05 pm Short Talk Selected from Poster Abstracts
- 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 Lunch
- 1:30 pm - 4:00 pm Free Time
- 4:00 pm - 6:00 pm Poster Session
- 6:00 pm Dinner
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- 7:30 pm - 9:30 pm **Staphylococcal Interactions with Other Bacterial Species**
- Discussion Leader: **George O'Toole** (Geisel School of Medicine, Dartmouth College, USA)
- 7:30 pm - 7:35 pm Introduction by Discussion Leader
- 7:35 pm - 8:00 pm **Marvin Whiteley** (University of Texas at Austin, USA)  
"Co-Infecting Microbes Impact the *S. aureus* Essential Genome"
- 8:00 pm - 8:10 pm Discussion
- 8:10 pm - 8:35 pm **Kimberly Kline** (Nanyang Technological University, Singapore)  
"*Enterococcus faecalis*-*Staphylococcus aureus* Interactions During Wound Infection"
- 8:35 pm - 8:45 pm Discussion
- 8:45 pm - 9:10 pm **Amanda Olgesbie-Sherrouse** (University of Maryland School of Medicine, USA)  
"Impacts of Iron on Interactions Between *Staphylococcus aureus* and *Pseudomonas aeruginosa*"
- 9:10 pm - 9:20 pm Discussion
- 9:20 pm - 9:30 pm General Discussion
- Wednesday**
- 7:30 am - 8:30 am Breakfast
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- 9:00 am - 12:30 pm **Immune Evasive Strategies of Staphylococci**
- Discussion Leader: **Rachel McLoughlin** (Trinity College, Dublin, Ireland)
- 9:00 am - 9:05 am Introduction by Discussion Leader
- 9:05 am - 9:30 am **George Liu** (Cedars-Sinai Medical Center, USA)  
"Host Immune Response to *S. aureus* Peptidoglycan"

- 9:30 am - 9:40 am Discussion
- 9:40 am - 10:05 am **Francis Alonzo** (Loyola University Chicago, USA)  
"Intersections of Metabolism and Host Immunity: A *Staphylococcus aureus* Metabolic Cofactor that Suppresses Inflammation"
- 10:05 am - 10:15 am Discussion
- 10:15 am - 10:40 am Coffee Break
- 10:40 am - 11:05 am **Suzan Rooijackers** (University Medical Center Utrecht, The Netherlands)  
"Molecular Interactions Between *S. aureus* and the Human Immune System"
- 11:05 am - 11:15 am Discussion
- 11:15 am - 11:40 am **Joaquin Madrenas** (University of Western Ontario, Canada)  
"Disease Tolerance to *S. aureus* Infection"
- 11:40 am - 11:50 am Discussion
- 11:50 am - 12:05 pm Short Talk Selected from Poster Abstracts
- 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 Lunch
- 1:30 pm - 4:00 pm Free Time
- 4:00 pm - 6:00 pm Poster Session
- 6:00 pm Dinner
- 7:00 pm - 7:30 pm Business Meeting  
*Nominations for the Next Vice Chair; Fill in Conference Evaluation Forms; Discuss Future Site and Scheduling Preferences; Election of the Next Vice Chair*
- 7:30 pm - 9:30 pm **Regulation**  
Discussion Leader: **Thomas KehI-Fie** (University of Illinois at Urbana-Champaign, USA)
- 7:30 pm - 7:35 pm Introduction by Discussion Leader
- 7:35 pm - 8:00 pm **Kim Lewis** (Northeastern University, USA)  
"Persists in *S. aureus*"
- 8:00 pm - 8:10 pm Discussion
- 8:10 pm - 8:35 pm **Alexander Horswill** (University of Iowa, USA)  
"Regulation of Clumping and Virulence in *Staphylococcus aureus*"
- 8:35 pm - 8:45 pm Discussion
- 8:45 pm - 9:10 pm **Angelika Grundling** (Imperial College London, United Kingdom)  
"Regulation of Cyclic-di-AMP Synthesis in *Staphylococcus aureus* – What Makes, Breaks and Triggers Its Production"
- 9:10 pm - 9:20 pm Discussion
- 9:20 pm - 9:30 pm General Discussion

## Thursday

- 7:30 am - 8:30 am Breakfast
- 9:00 am - 12:30 pm **Staphylococcal Infections and Clinical Considerations**  
Discussion Leader: **Jessica Snowden** (University of Nebraska Medical Center, USA)

- 9:00 am - 9:05 am Introduction by Discussion Leader
- 9:05 am - 9:30 am **Paul Kubes** (University of Calgary, Canada)  
"Imaging the Interplay Between *S. aureus* and Innate Immunity"
- 9:30 am - 9:40 am Discussion
- 9:40 am - 10:05 am **Bo Shopsin** (New York University School of Medicine, USA)  
"Adaptation of *S. aureus* to the Host and Hospital Environment"
- 10:05 am - 10:15 am Discussion
- 10:15 am - 10:40 am Coffee Break
- 10:40 am - 11:05 am **Keisuke (Chris) Nagao** (National Institutes of Health, USA)  
"Mechanisms of Immunity Against *Staphylococcus aureus* in the Skin"
- 11:05 am - 11:15 am Discussion
- 11:15 am - 11:40 am **Paul Dunman** (University of Rochester, USA)  
"Targeting the GIANTS - Gram-Positive Indispensable Accessories of Bacterial Nucleic Acid Metabolism and Translational Systems"
- 11:40 am - 11:50 am Discussion
- 11:50 am - 12:05 pm Short Talk Selected from Poster Abstracts
- 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 Lunch
- 1:30 pm - 4:00 pm Free Time
- 4:00 pm - 5:30 pm Poster Session
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- 5:30 pm - 7:30 pm **Late-Breaking Topics**
- Discussion Leaders: **Andreas Peschel** (University of Tübingen, Germany) and **Ross Fitzgerald** (University of Edinburgh, United Kingdom)
- 5:30 pm - 5:40 pm Short Talk Selected from Poster Abstracts
- 5:40 pm - 5:45 pm Discussion
- 5:45 pm - 5:55 pm Short Talk Selected from Poster Abstracts
- 5:55 pm - 6:00 pm Discussion
- 6:00 pm - 6:10 pm Short Talk Selected from Poster Abstracts
- 6:10 pm - 6:15 pm Discussion
- 6:15 pm - 6:25 pm Short Talk Selected from Poster Abstracts
- 6:25 pm - 6:30 pm Discussion
- 6:30 pm - 6:40 pm Short Talk Selected from Poster Abstracts
- 6:40 pm - 6:45 pm Discussion
- 6:45 pm - 6:55 pm Short Talk Selected from Poster Abstracts
- 6:55 pm - 7:00 pm Discussion
- 7:00 pm - 7:10 pm Short Talk Selected from Poster Abstracts
- 7:10 pm - 7:15 pm Discussion
- 7:15 pm - 7:25 pm Short Talk Selected from Poster Abstracts

7:25 pm - 7:30 pm Discussion

8:00 pm Dinner

Friday

7:30 am - 8:30 am Breakfast

9:00 am Departure