

Program

2009 Molecular Basis of Infectious Diseases (MBID) Retreat

March 27, 2009

University of Texas Health Science Center at Houston

Brown Foundation Institute of Molecular Medicine (IMM)

1825 Pressler Street, Houston, TX 77030

Website: <http://www.uth.tmc.edu/pathology/MBID/2009MBIDRetreat/>

Sponsored by:

[The Molecular Basis of Infectious Diseases Training Program](http://www.uth.tmc.edu/pathology/MBID/) (<http://www.uth.tmc.edu/pathology/MBID/>)

Center of Emerging and Re-Emerging Infections, Univ. of Texas Health Science Center at Houston

[Center for Extracellular Matrix Biology](http://ibt.tamhsc.edu/labs/cemb/), Texas A&M Institute of Biosciences and Technology

(<http://ibt.tamhsc.edu/labs/cemb/>)

Co-Organizers:

Steven J. Norris, Ph.D., Professor and Vice Chair for Research, Depts. of Pathology & Laboratory Medicine and Microbiology & Molecular Genetics, Univ. of Texas Medical School at Houston. Steven.J.Norris@uth.tmc.edu; 713-500-5338

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Heidi B. Kaplan, Ph.D., Associate Professor, Dept. of Microbiology & Molecular Genetics, Univ. of Texas Medical School at Houston. Heidi.B.Kaplan@uth.tmc.edu; 713-500-5448

Overview

- 8:00-10** Registration and coffee – James T. Willerson, M.D., Discovery Hall
(Note: No food or drinks are allowed in the IMM Auditorium)
- 8:30-9:30** Optional Workshop on Career Development in Microbiology/Infectious Diseases – IMM Auditorium
- 9:30-10:00** Break
- 10-11** Keynote Speaker: Andrew Camilli, Ph.D., Professor, Tufts University, Boston, MA
“Transitions of *Vibrio cholerae* into and out of the host” – IMM Auditorium
- 11-12:30** Platform presentations – IMM Auditorium
- 12:30-2:30** Poster session and fajita lunch – James T. Willerson, M.D., Discovery Hall
- 2:30-3:30** Platform presentations – IMM Auditorium
- 3:30-4:30** Keynote Speaker: James Musser, M.D., Ph.D., Co-Director and Executive Vice President, The Methodist Research Institute
“Molecular Architecture of Pathogen-Host Interaction in Group A *Streptococcus*, the Flesh-Eater”
– IMM Auditorium
- 4:30-6** Poster award presentations and social hour – James T. Willerson, M.D., Discovery Hall

Schedule

8:00-10 Registration and coffee – James T. Willerson, M.D., Discovery Hall
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8:30-9:30 Optional Workshop on Career Development in Microbiology/ Infectious Diseases – IMM Auditorium

9:30-10:00 Break

10:00-12:30 Morning Session – IMM Auditorium

10:00-11:00 Keynote Speaker: [Andrew Camilli, Ph.D.](#), Professor, Tufts University, Boston, MA
“Transitions of *Vibrio cholerae* into and out of the host”

11:00-11:15 **Kristina A. Fox, B.S.**, Graduate Student, Dept. of Microbiology & Molecular Genetics, UT Medical School at Houston. “Multiple posttranscriptional regulatory mechanisms partner to control ethanolamine utilization in *Enterococcus faecalis*”

11:15-11:30 **Qiong Xue, B.S.**, Graduate Student, Center for Infectious and Inflammatory Diseases, Texas A&M Institute of Biosciences and Technology, Houston, TX. “Internalization mechanisms of *Bacillus anthracis* spores by epithelial cells”

11:30-11:45 **Jessica R. Galloway-Peña, B.A.**, Graduate Student, Div. of Infectious Diseases, Dept. of Internal Medicine, UT Medical School at Houston. “Analysis of clonality and antibiotic resistance among early and recent *Enterococcus faecium* clonal complex 17 in the United States”

11:45-12:00 **Slavena Vylkova, Ph.D.**, Postdoctoral Fellow, Dept. of Microbiology & Molecular Genetics, UT Medical School at Houston. “Regulation of extracellular pH by *Candida albicans*”

12:00-12:30 [Vanessa Sperandio, Ph.D.](#), Associate Professor of Microbiology, UT Southwestern Medical Center, Dallas, TX. “Inter-kingdom chemical signaling in bacterial pathogenesis”

12:30-2:30 Poster session and fajita lunch – JTW Discovery Hall

1. **Andrea S. Bordt, Eric L. Brown, M. Gabriela Bowden, Rebecca S. Bryson, Kristina G. Hulten, Andrea Forbes, and Sheldon L. Kaplan.** Texas A&M IBT, CIID. Pediatric antibody response to community-acquired *Staphylococcus aureus* infection is directed to Panton-Valentine leukocidin.
2. **Violeta Chavez, Akiko Mohri-Shiomi, and Danielle A. Garsin.** UTMSH, MMG. A dual oxidase generates a protective oxidative burst during infection in *Caenorhabditis elegans*.
3. **Tina Choudhury, Sreedhar R. Nallapareddy, Kavindra Singh, and Barbara E. Murray.** UTMSH, IM, Infectious Diseases. Inactivation of the stress related protein Gls24 has effect on stress sensitivity in *Enterococcus faecium*.
4. **Huajin Zhou, John R. Collette, and Michael Lorenz.** UTMSH, MMG. *Candida albicans* secretes an inhibitory activity of nitric oxide (NO) production by mouse macrophages.

5. **Jennifer L. Dale and Theresa M. Koehler.** UTMSH, MMG. A trans-acting repressor controls expression of the master virulence regulator *atxA* in *Bacillus anthracis*.
6. **Kristina A. Fox, Arati Ramesh, Jennifer E. Stearns, Agathe Bourgoigne, Angelica Reyes, Wade C. Winkler and Danielle A. Garsin.** UTMSH, MMG. Multiple posttranscriptional regulatory mechanisms partner to control ethanolamine utilization in *Enterococcus faecalis*.
7. **Jessica R. Galloway-Peña, Sreedhar R. Nallapareddy, Cesar A. Arias, and Barbara E. Murray.** UTMSH, IM, Infectious Diseases, MMG. Analysis of clonality and antibiotic resistance among early and recent *Enterococcus faecium* clonal complex 17 in the United States.
8. **Lisa Golebiewski, Hongbing Liu, Andrew P Rice.** BCM, MVM. Cellular protein interactions with PDZ-ligand binding motif in avian influenza nonstructural protein 1.
9. **Karen Gomez, A. Lane Blankenship, Catherine Ambrose, and Heidi B. Kaplan.** UTMSH, MMG. Identification of the causative bacteria in musculoskeletal infections using rapid and sensitive 16S rDNA detection.
10. **Stephanie Herb, Tiffany Williams, Lisa Hemphill, and Joseph F. Petrosino.** BCM, MVM. *Francisella* attenuation and vaccine development.
11. **Lori B. Horton, and Timothy G. Palzkill.** BCM, MVM. The role of Cysteine 221 in IMP-1 metallo- β -lactamase function.
12. **Jason F. Huntley, Christine Ingle, Gregory T. Robertson, and Michael V. Norgard.** UTSWMC, Microbiology. A role for antibody-mediated protection against the intracellular pathogen *Francisella tularensis*.
13. **Jennifer E. Kerr & Peter J. Christie.** UTMSH, MMG. Effects of Type IV secretion ATPases on accessibility of *Agrobacterium* VirB2 Pilin domains during T pilus Biogenesis.
14. **Katherine Y. King, Megan T. Baldrige, Nathan C. Boles, Margaret A. Goodell.** BCM, Pediatrics. Interferon-gamma is a critical regulator of the hematopoietic stem cell response to infection.
15. **Tao Lin, Lihui Gao, and Steven J. Norris.** UTMSH, Pathology. Identification of virulence determinants required for *Borrelia burgdorferi* infection in mice by signature-tagged mutagenesis.
16. **Jun Liu, Tao Lin, Douglas Botkin, Erin McCrum, Hanspeter Winkler and Steven Norris.** UTMSH, Pathology. Intact flagellar motor of *Borrelia burgdorferi* revealed by cryo-electron tomography: evidence for stator ring curvature and rotor/C ring assembly flexion.
17. **Brian McWilliams, Ian Burbulis, Orna Resnekov, George Weinstock, and Joseph F. Petrosino.** BCM, MVM. Identifying high-affinity antibody fragments for high-throughput *Francisella tularensis* diagnostics.
18. **Kathryn J. Pflughoeft, Julie Lovchik, C. Rick Lyons, Paul Sumby, and Theresa M. Koehler.** UTMSH, MMG. The *sin* regulatory locus and secreted proteases of *Bacillus anthracis*.
19. **Melissa A. Ramírez and Michael C. Lorenz.** UTMSH, MMG. Transcriptional control of carbon metabolism in *Candida albicans*.
20. **Zvezdana Sever-Chroneos, Brian V. Geisbrecht, Muzaffar Hussain, Mathias Hermann, and Zissis C. Chroneos.** UTHCT, Biochemistry. Surfactant protein A interacts with the adhesin Eap to mediate clearance and limit alveolar epithelial cell invasion of *Staphylococcus aureus* in vivo.

21. **Jouko Sillanpää, Sreedhar R. Nallapareddy, Xiang Qin, Kavindra V. Singh, Donna M. Muzny, Christie L. Kovar, Lynne V. Nazareth, Richard A. Gibbs, Mary J. Ferraro, James M. Steckelberg, George M. Weinstock and Barbara E. Murray.** UTMSH, IM, Infectious Diseases. Identification and characterization of genes encoding MSCRAMM family proteins in *Streptococcus gallolyticus* subsp. *gallolyticus* (*S. bovis* biotype I).
22. **Christopher R. Singh, Spandana Jagannath, Robert L. Hunter, Miriam Braunstein, Cynthia C. Hager, Douglas S Kernodle, and Chinnaswamy Jagannath.** UTMSH, Pathology. Reducing the activity of iron co-factored superoxide dismutase in BCG enhances the MHC-II dependent presentation of Antigen 85B by mouse dendritic cells.
23. **Jeanette Treviño, Nataly Perez, Esmeralda Ramirez-Pena, Zhuyun Liu, Edward A. Graviss, and Paul Sumbly.** MHRI, Mol. & Translational Human Infect. Diseases Research. FASX is a small regulatory RNA that controls group A *Streptococcus* virulence.
24. **Slavena Vylkova, Aaron J. Carman and Michael C. Lorenz.** UTMSH, MMG. Regulation of extracellular pH by *Candida albicans*.
25. **Beau Wager, Arnaud Baslé, and Anne H. Delcour.** UH, Biology and Biochemistry. Probing the effects of engineered disulfide bonds in the extracellular loops of the porin OmpF.
26. **Qiong Xue, Qing Liu, Ranga Vasan, Chunfang Gu and Yi Xu.** IBT, CIID. Internalization mechanisms of *Bacillus anthracis* spores by epithelial cells.

2:30-4:30 Afternoon Session – IMM Auditorium

- 2:30-3:00** [Stanley Watowich, Ph.D.](#), Associate Professor of Biochemistry & Molecular Biology, UT Medical Branch, Galveston, TX. “**New ideas and challenges for dengue antiviral drug discovery**”
- 3:00-3:15** **Jennifer E. Kerr, B.A.**, Graduate Student, Dept. of Microbiology & Molecular Genetics, UT Medical School at Houston. “**Effects of Type IV secretion ATPases on accessibility of *Agrobacterium* VirB2 pilin domains during T pilus biogenesis**”
- 3:15-3:30** **Jason F. Huntley, Ph.D.**, Postdoctoral Fellow, Dept. of Microbiology, UT Southwestern Medical Center, Dallas, TX. “**A role for antibody-mediated protection against the intracellular pathogen *Francisella tularensis***”
- 3:30-4:30** **Keynote Speaker: [James Musser, M.D., Ph.D.](#)**, Co-Director and Executive Vice President, The Methodist Research Institute “**Molecular Architecture of Pathogen-Host Interaction in Group A *Streptococcus*, the Flesh-Eater**” – IMM Auditorium
- 4:30-6:00** **Poster award presentations and social hour – James T. Willerson, M.D., Discovery Hall**

Abbreviations

BCM = Baylor College of Medicine
CEMB = Center for Extracellular Matrix Biology
IBT = Institute of Biosciences and Technology
IM = Internal Medicine
IMM = Institute of Molecular Medicine
MHRI = The Methodist Hospital Research Institute
MMG = Dept. of Microbiology and Molecular Genetics
MMP = Dept. of Microbial & Molecular Pathogenesis
MVM = Dept. of Molecular Virology & Microbiology
TAMHSC = Texas A&M Health Science Center
UTHSCH = Univ. of Texas Health Science Center at Houston
UTMSH = Univ. of Texas Medical School at Houston
UTMB = Univ. of Texas Medical Branch (Galveston)
UH = Univ. of Houston

Attendee list available on request: Christine.M.Haverkorn@uth.tmc.edu