Program (Final)

2013 Molecular Basis of Infectious Diseases (MBID) Retreat
Friday, March 22, 2013
UTHealth (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/2013MBIDRetreat/](http://www.uth.tmc.edu/pathology/MBID/2013MBIDRetreat/)

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, UTHealth
Center for Infectious and Inflammatory Diseases, Texas A&M Institute of Biosciences and Technology ([http://ibt.tamhsc.edu/labs/ciid/](http://ibt.tamhsc.edu/labs/ciid/))

Co-Organizers:
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OVERVIEW

8:00-10:00  Registration and coffee – James T. Willerson (JTW) 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

10:00-11:00  Keynote Speaker: Alison O'Brien, Ph.D., Professor and Chair, Department of Microbiology and Immunobiology, Uniformed Services University of the Health Sciences, Bethesda, MD
"Shiga toxin: intestinal receptors, diet, and disease" - IMM Auditorium

11:00-12:00  Presentations by postdoctoral fellows and students

12:00-12:30  Platform presentation: Jai Rudra, Ph.D., Assistant Professor, Department of Pharmacology & Toxicology and Member, Sealey Center for Vaccine Development, UT Medical Branch, Galveston, TX
"Self-assembling peptides as novel vaccine adjuvants" – IMM Auditorium

12:30-2:30  Poster session and lunch

2:30-3:00  Platform presentation: John Schoggins, Ph.D., Assistant Professor, Department of Microbiology, Univ. of Texas Southwestern Medical Center, Dallas, TX
"Identification and characterization of antiviral interferon effectors across the viral phylogeny" - IMM Auditorium

3:00-3:30  Presentations by postdoctoral fellows and students

3:30-4:30  Keynote Speaker: Herbert L. DuPont, M.D., Professor and Director, Center UTHealth School of Public Health, Houston TX
"Where have we been and where are we going with enteric infectious diseases"- IMM Auditorium

4:30  Poster award presentations and adjournment

MBID Retreat 2013 Program (last updated March 21, 2013)
**SCHEDULE**

8:00-10:00  Registration and coffee – JTW Discovery Hall
(Note: No food or drinks are allowed in the IMM Auditorium)

9:00-9:45  Optional Workshop on Career Development in Microbiology/Infectious Diseases – IMM Auditorium

9:45-10:00  Break

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

  **Moderator:** Theresa M. Koehler, Ph.D., Professor and Interim Chair, Department of Microbiology and Molecular Genetics, UTHealth Medical School, Houston, TX

10:00-11:00  **Keynote Speaker:** Alison O’Brien, Ph.D., Professor and Chair, Department of Microbiology and Immunobiology, Uniformed Services University of the Health Sciences, Bethesda, MD

  “Shiga toxin: intestinal receptors, diet, and disease”

11:00-11:15  Slavena Vylkova, Ph.D., Postdoctoral Fellow, Department of Microbiology and Molecular Genetics, UTHealth Medical School, Houston, TX

  “Candida albicans Stp2p, a transcription factor regulating amino acid permeases, is required for virulence and alkalization of the phagosome”

11:15-11:30  George Tiller, Graduate Student, Department of Microbiology and Molecular Genetics, UTHealth Medical School, Houston, TX

  “Being reactive rather than proactive: Putative peroxidase F49E12.1 utilizes BLI-3 released ROS to combat infection”

11:30-11:45  Wenbo Zhang, Ph.D., Postdoctoral Fellow, Department of Microbiology and Immunology, University of Texas Health Science Center at San Antonio, San Antonio, TX

  “DNA supercoiling regulates the transcription of MG149, a virulence factor from Mycoplasma genitalium”

11:45-12:00  Michelle Swick, Ph.D., Postdoctoral Fellow, Department of Microbiology and Molecular Genetics, UTHealth Medical School, Houston, TX

  “Topological features of DNA affect binding specificity for AtxA, the virulence regulator of Bacillus anthracis”

12:00-12:30  **Platform presentation:** Jai Rudra, Ph.D., Assistant Professor, Department of Pharmacology & Toxicology and Member, Sealey Center for Vaccine Development, UT Medical Branch, Galveston, TX

  “Self-assembling peptides as novel vaccine adjuvants” – IMM Auditorium
12:30-2:30 Poster session and lunch – JTW Discovery Hall

(A key of abbreviations is provided on the last page.)

1. Melissa Cruz, Mike Lorenz, and Danielle Garsin. MMG, UTHealth. “CcpA and FsrB are required for E. faecalis inhibition of C. albicans”.


4. SS Finney, E Calzada, C Serna, MA Vasquez, OA Olaleyewa, and RA Maldonado. PS-COPHS, TSU. “Metap1 as a chemotherapeutic target for Leishmania major”.

5. Thushara Galbadage, Suat L. G. Cirillo, Tina L. Gumienny, and Jeffrey D. Cirillo. MMP, TAMHSC. “Caenorhabditis elegans as a model for study of Mycobacterium marinum infections”.

6. Jenny Laverde Gomez\(^1\), Eric Cascales\(^2\), Mayuhk Sarkar\(^1\), Minny Bhat\(^{1,}\) Peter J. Christie\(^{1,}\) \(^1\)MMG, UTHealth & \(^2\)Laboratoire d’Ingénierie des Systèmes Macromoléculaires, IBSM – CNRS, Marseille, France. “PrgK, a peptidoglycan hydrolase, is essential for the conjugative transfer of the pheromone responsive plasmid pCF10”


11. Bijay Khajanchi, Evelyn Odeh, Lihui Gao, Tao Lin, and Steven Norris. DPALM, UTHealth. “Roles of adenylate cyclase (CyA) and phosphoenolpyruvate-phosphotransferase systems in modulating virulence of Borrelia burgdorferi”.

12. Taslima Lina, Irina Pinchuk, Ellen Beswick, and Victor Reyes. MI, UTMB. “Role of Helicobacter pylori type IV secretion system in regulating B7-H1 (PD-L1) and B7-H2 (ICOSL) expression in gastric epithelial cells and its effect on TH17/TREG cell responses and bacterial preexistence”.

13. David C. Marciano, Ronalda Lua, Shivas R. Amin, Panagiotis Katsonis, Teng-Kuei Hsu, Christophe Herman, and Olivier Lichtarge. MHG, BCM. “Negative feedback in a genetic circuit confers evolutionary resilience”.


15. Bryan C. Nikolai, R. Brian York, Charles Foulks, David Lonard, and Bert W. O’Malley. Molec. & Cell Biology, BCM. “Pharmacological Targeting of Steroid Receptor Coactivator 3 (SRC-3) for Modulation of HIV Transcription”.

16. Christopher Nobles and Anthony Maresso. MVM, BCM. “A product of heme catabolism modulates bacterial function and survival”.

17. Joel Quiros, Andreas Lisewski, Anbu Adikesavan, Sam Regenbogen, Nagireddy Putluri, Arun Sreekumar, and Olivier Lichtarge. MHG, BCM. “Functional prediction and characterization of the malarial protein EXP-1”.


20. Tonya Shepherd, Harish Janagama, Selvakumar Subbian, and Jeffrey Cirillo. MMP, TAMHSC. “Identifying and characterizing a LuxR homologue in Mycobacterium tuberculosis”.

21. Michelle Swick and Theresa Koehler. MMG, UTHealth. “Topological features of DNA affect binding specificity for AtxA, the virulence regulator of Bacillus anthracis”.


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24. Slavena Vylkova and Michael Lorenz. MMG, UTHealth “*Candida albicans* Stp2p, a transcription factor regulating amino acid permeases, is required for virulence and alkalinization of the phagosome”.

25. Wenbo Zhang and Joel B. Baseman. MI, UTHSCSA. “DNA supercoiling regulates the transcription of MG_149, a virulence factor from *Mycoplasma genitalium*”.


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

**Moderator:** Michael C. Lorenz, Ph.D., Associate Professor, Department of Microbiology and Molecular Genetics, UTHealth Medical School, Houston, TX

2:30-3:00 **Platform presentation:** John Schoggins, Ph.D., Assistant Professor, Department of Microbiology, Univ. of Texas Southwestern Medical Center, Dallas, TX

“Identification and characterization of antiviral interferon effectors across the viral phylogeny”

3:00-3:15 David Marciano, Ph.D., Postdoctoral Fellow, Department of Molecular and Human Genetics, Baylor College of Medicine, Houston, TX

“Negative feedback in a genetic circuit confers evolutionary resilience”

3:15-3:30 Melissa Reardon-Robinson, Graduate Student, Department of Microbiology and Molecular Genetics, UTHealth Medical School, Houston, TX

“Oxidative folding of pilus proteins and virulence in *Corynebacterium diphtheriae*”

3:30-4:30 **Keynote Speaker:** Herbert L. DuPont, M.D., Professor and Director, Center UTHealth School of Public Health, Houston TX

“Where have we been and where are we going with enteric infectious diseases”

4:30 **Poster award presentations and adjournment**

**Abbreviations**

| BCM = Baylor College of Medicine | MVM = Dept. of Molecular Virology and Microbiology |
| CIID = Center for Infectious and Inflammatory Diseases | TAMHSC = Texas A&M Health Science Center |
| DPALM = Dept. of Pathology and Laboratory Medicine | TMHRI = The Methodist Hospital Research Institute |
| IBT = Institute of Biosciences and Technology | UTHSCSA = Univ. of Texas Health Science Center at Houston |
| IM = Internal Medicine | UTHSCSA = Univ. of Texas Health Science Center at San Antonio |
| IMM = Institute of Molecular Medicine | UTMB = Univ. of Texas Medical Branch (Galveston) |
| MMP = Dept. of Microbiology and Molecular Genetics | UH = Univ. of Houston |
| MMP = Dept. of Microbial and Molecular Pathogenesis | MGH = Molecular & Human Genetics |
| MI = Dept. of Microbiology and Immunology | |

Attendee list available on request: Laura.Nixon@uth.tmc.edu