DREXEL UNIVERSITY
Institute for
Molecular Medicine
& Infectious Disease
College of Medicine

2016 International Symposium on
Molecular Medicine & Infectious Disease

September 13-15, 2016
245 N. 15th Street
Philadelphia, PA

Cancer and Pathogen Genomics, Prevention, Treatment and Cures

Meeting Agenda

**DAY 1: CANCER BIOLOGY**

Presentations today will focus on topics and research related to cancer biology and neoplastic disease. The highlight of the day will be a lecture by the recipient of the 2016 Drexel Prize in Cancer Biology.

8:00 a.m. *Registration and Continental Breakfast (Geary Lobby)*

8:50 a.m. *Symposium Introduction (Lecture Hall A)*

**Brian Wigdahl, PhD**
Professor and Chair, Department of Microbiology and Immunology
Director, Institute for Molecular Medicine and Infectious Disease
Drexel University College of Medicine, Philadelphia, PA

**Kenny Simansky, PhD**
Vice Dean for Research
Professor, Department of Pharmacology & Physiology
Drexel University College of Medicine, Philadelphia, PA

**Elisabeth Van Bockstaele, PhD**
Dean, Graduate School of Biomedical Sciences and Professional Studies
Professor, Department of Pharmacology & Physiology
Drexel University College of Medicine, Philadelphia, PA

**Olimpia Meucci, MD, PhD**
Deputy Director, Clinical & Translational Research Institute (CTRI)
Professor and Chair, Department of Pharmacology & Physiology
Drexel University College of Medicine, Philadelphia, PA
8:55 a.m.  *Introduction – Day 1 (Lecture Hall A)*

**Garth Ehrlich, PhD**  
Professor, Department of Microbiology & Immunology  
Professor, Department of Otolaryngology – Head and Neck Surgery  
Drexel University College of Medicine, Philadelphia, PA

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**SESSION 1: Genetics and Genomics (Lecture Hall A)**

Co-Chairs: **Karen Bussard, PhD**, and **Emanuela Dylgjeri**, PhD Candidate

9:00 a.m. **Myles Brown, MD**  
Professor, Medicine, Harvard Medical School; Physician, Oncology, Brigham and Women’s Hospital; Professor of Medicine, Medical Oncology, Dana-Farber Cancer Institute, Boston, MA  
*Hacking the hormone dependent cancer code*

9:50 a.m. **Karen Knudsen, PhD**  
Director, Sidney Kimmel Cancer Center; Hilary Koprowski Professor and Chair, Department of Cancer Biology; Professor of Urology, Radiation Oncology and Medical Oncology; Kimmel Cancer Center of Thomas Jefferson University, Philadelphia, PA  
*Targeting DNA repair-hormone crosstalk in advanced prostate cancer*

10:25 a.m. **Tim N. Beck, PhD, MD/PhD Candidate**  
Fox Chase Cancer Center, Drexel University College of Medicine, Philadelphia, PA  
*Anti-Müllerian hormone in lung cancer*

10:45 a.m. **Andrew Aplin, PhD**  
Professor, Department of Cancer Biology, Kimmel Cancer Center of Thomas Jefferson University, Philadelphia, PA  
*Reporting on resistance to targeted therapies in melanoma*

11:25 a.m.  *Introduction to the Drexel Prizes (Geary B)*

**Brian Wigdahl, PhD**  
Professor and Chair, Department of Microbiology and Immunology  
Director, Institute for Molecular Medicine and Infectious Disease  
Drexel University College of Medicine, Philadelphia, PA

**Daniel Schidlow, MD**  
Walter H. and Leonore Annenberg Dean and Senior Vice President of Medical Affairs  
Drexel University College of Medicine, Philadelphia, PA
11:30 a.m.  **Special Lecture: Drexel Prize in Cancer Biology (Geary B)**

Alan Ashworth, PhD, FRS
President, UCSF Helen Diller Family Comprehensive Cancer Center; Senior Vice President for Cancer Services, UCSF Health; Professor of Medicine, Division of Hematology/Oncology, Department of Medicine, University of California, San Francisco, San Francisco, CA

*Synthetic lethal approaches to cancer therapy*

Introduction: **Karen Knudsen, PhD**, and **Jennifer McCann**, PhD Candidate

12:30 p.m.  **Lunch & Poster Session A: Cancer Biology - Genetics, Genomics and Metabolism (NCB 18)**

Posters will be presented on the 18th floor of the New College Building. Box lunches will be provided for all meeting attendees.

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**SESSION 2: Cancer and Metabolism (Geary B)**

Co-Chairs: **Todd Strochlic, PhD, VMD**, and **Bill Donegan**, PhD Candidate

2:00 p.m.  **Alessandro Fatatis, MD, PhD**
Professor, Department of Pharmacology & Physiology, Drexel University College of Medicine, Philadelphia, PA

*Targeting CX3CR1 to impair metastatic progression*

2:50 p.m.  **Ubaldo Martinez Outschoorn, MD**
Assistant Professor, Department of Medical Oncology, Thomas Jefferson University, Philadelphia, PA

*Tumor ecosystems: A metabolic rethink of the host and non-infectious pathogen*

3:20 p.m.  **Break (Geary Lobby)**

3:40 p.m.  **Amanda Taylor Oran**, PhD Candidate
Genetics, Genomics and Cancer Biology Program, Sidney Kimmel Medical College, Thomas Jefferson University, Philadelphia, PA

*Multi-focal control of mitochondrial gene expression by oncogenic MYC provides potential therapeutic targets in cancer*

4:05 p.m.  **Christine Eischen, PhD**
Professor, Department of Cancer Biology, Sidney Kimmel Cancer Center of Thomas Jefferson University, Philadelphia, PA

*Utilizing genomics to reveal cancer cell vulnerabilities*

4:40 p.m.  **Valerie Sodi**, PhD Candidate
Molecular and Cell Biology and Genetics Program, Graduate School of Biomedical Sciences and Professional Studies, Drexel University College of Medicine, Philadelphia, PA

*O-GlcNAc transferase regulates breast cancer lipid metabolism via SREBP-1*
DAY 2: HIV DISEASE AND NEUROAIDS

Presentations today will focus on topics and research related to HIV disease and neuroAIDS. The highlights of the day will be lectures by the recipients of the 2016 Drexel Prize in Translational Medicine, the 2016 Drexel Prize in Immunology and Drexel's Hilary Koprowski Prize in Neurovirology.

8:00 a.m.  Registration and Continental Breakfast (Geary Lobby)
8:50 a.m.  Introduction – Day 2 (Geary A)

Brian Wigdahl, PhD
Professor and Chair, Department of Microbiology & Immunology
Director, Institute for Molecular Medicine and Infectious Disease
Drexel University College of Medicine, Philadelphia, PA

SESSION 3: HIV Replication, Latency and Therapeutics (Geary A)
Co-Chairs: Olimpia Meucci, MD, PhD and Monique Maubert, PhD Candidate

9:00 a.m.  Special Lecture: Drexel Prize in Translational Medicine (Geary A)
Jonathan Karn, PhD
Reinberger Professor of Molecular Biology; Chairman, Molecular Biology and Microbiology; Director, Case Center for AIDS Research, Case Western Reserve University, Cleveland, OH

The molecular basis for a future HIV cure: The ins and outs of HIV latency
Introduction: Brian Wigdahl, PhD and Neil Sullivan, PhD Candidate

9:55 a.m.  Irwin Chaiken, PhD
Professor, Department of Biochemistry & Molecular Biology, Drexel University College of Medicine, Philadelphia, PA

Hijacking the hijacker to kill HIV

10:35 a.m.  Marina Tuyishime, PhD Candidate
Department of Biochemistry & Molecular Biology, Drexel University College of Medicine, Philadelphia, PA

The mechanism of HIV-1 entry inhibition by a novel fusion inhibitor, SC12

11:00 a.m.  Tricia Burdo, PhD
Associate Professor, Department of Neuroscience, Lewis Katz School of Medicine, Temple University, Philadelphia, PA

Monocyte activation and cardiometabolic risk in HIV-infected individuals

11:40 a.m.  Special Lecture: Drexel Prize in Immunology (Geary A)
Satya Dandekar, PhD
Professor and Chair, Department of Medical Microbiology and Immunology, School of Medicine, University of California, Davis, Davis, CA

HIV infection and mucosal immunity: Siege and defense
Introduction: Michele Kutzler, PhD, and Ebony Gary, PhD Candidate
12:30 p.m.  **Lunch & Poster Session B: HIV Disease and NeuroAIDS: Prevention, Treatment and Cures (NCB 18)**

Posters will be presented on the 18th floor of the New College Building. Box lunches will be provided for all meeting attendees.

**SESSION 4: Molecular Mechanisms of HIV Neuropathogenesis** (Geary B)

Co-Chairs: **Pooja Jain, PhD**, and **Rashida Ginwala, PhD Candidate**

2:00 p.m.  **Eliseo Eugenin, PhD**

Associate Professor, Department of Microbiology, Biochemistry and Molecular Genetics, Public Health Research Institute at the International Center for Public Health, New Jersey Medical School - Rutgers, The State University of New Jersey, Newark, NJ

*Novel cellular communication systems in HIV induced neuroinflammation*

2:30 p.m.  **Peter Gaskill, PhD**

Assistant Professor, Department of Pharmacology & Physiology, Drexel University College of Medicine, Philadelphia, PA

*The impact of dopamine on HIV entry*

**City-Wide NeuroAIDS Discussion Group** (Geary B)

These neuroAIDS-focused sessions are co-sponsored by the Institute for Molecular Medicine & Infectious Disease (IMMID) at Drexel University and the Comprehensive NeuroAIDS Center (CNAC) at Temple University.

3:00 p.m.  **Introduction – NeuroAIDS (Geary B)**

**Kamel Khalili, PhD**

Director, Comprehensive NeuroAIDS Center (CNAC), Lewis Katz School of Medicine, Temple University, Philadelphia, PA

**SESSION 5: NeuroAIDS A** (Geary B)

Co-Chairs: **Michael Nonnemacher, PhD**, and **Dianne Langford, PhD**

3:05 p.m.  **Special Lecture: Drexel's Hilary Koprowski Prize in Neurovirology** (Geary B)

**Harris Gelbard, MD, PhD**

Professor, Department of Neurology; Director, Center for Neural Development and Disease; Professor of Neurology, Pediatrics, Microbiology & Immunology and Neuroscience, University of Rochester, Rochester, NY

*Selectively non-selective inhibition of innate immunity: Treatment for end organ diseases of infectious and non-infectious etiologies*

Introduction: **Olimpia Meucci, MD, PhD**, and **Lindsay Festa, PhD Candidate**
3:45 p.m.  **Won-Bin Young, PhD**  
Assistant Professor, Department of Radiology, University of Pittsburgh School of Medicine, Pittsburgh, PA  
*Visualization of HIV infection and resistance to Truvada as PrEP*

4:05 p.m.  **Ashley Azar, PhD Candidate**  
Department of Pathology, School of Biomedical Engineering, Science & Health, Drexel University, Philadelphia, PA  
*Mitochondrial haplogroup influences motor function in long term HIV-1 infected individuals*

4:25 p.m.  *Break (Geary Lobby)*

**SESSION 6: NeuroAIDS B (Geary B)**  
Co-Chairs: **Fred Krebs, PhD**, and **Kelly Jordan-Sciutto, PhD**

4:45 p.m.  **Masoud Shekarabi, PhD**  
Postdoctoral Fellow, Department of Neuroscience, Lewis Katz School of Medicine, Temple University, Philadelphia, PA  
*CRISPR/Cas9 mediated activation of astrocytic glutamate transporter, EAAT2, in the context of neuroAIDS*

5:05 p.m.  **Cagla Akay Espinoza, PhD**  
Lecturer, Department of Pathology, University of Pennsylvania School of Dental Medicine, Philadelphia, PA  
*Role of ATF6b in HIV-Associated Neurocognitive Disorders*
DAY 3: BACTERIAL PATHOGENESIS AND DISEASES CAUSED BY EUKARYOTIC PATHOGENS

Presentations today will focus on topics and research related to bacterial pathogenesis and diseases caused by eukaryotic pathogens. The highlight of the day will be a lecture by the recipient of the 2016 Drexel Prize in Infectious Disease.

8:00 a.m.  Registration and Continental Breakfast (Geary Lobby)
8:50 a.m.  Introduction- Day 3 (Geary B)

Joshua Mell, PhD
Assistant Professor, Department of Microbiology & Immunology
Drexel University College of Medicine, Philadelphia, PA

SESSION 7: New Approaches to Understanding and Undermining Bacterial Pathogenesis (Geary B)

Co-Chairs: Benjamin Janto, PhD, and Kayla Socarras, Research Associate

9:00 a.m.  Corey Nislow, PhD
Associate Professor, University of British Columbia Pharmaceutical Sciences, Vancouver, BC, Canada
Pathogen genomics: combining lessons of the past with the tools of today

9:50 a.m.  Joshua Mell, PhD
Assistant Professor, Department of Microbiology & Immunology, Drexel University College of Medicine, Philadelphia, PA
Genome-scale consequences of natural competence

10:25 a.m.  Stephen Woloszynek, MD/PhD Candidate
Electrical and Computer Engineering, College of Engineering, Drexel University, Philadelphia, PA
Identifying microbial subcommunities associated with host metadata via a topic modelling framework

10:45 a.m.  Dustin Brisson, PhD
Associate Professor of Biology; Director, Evolution and Ecology of Disease Systems Laboratory, University of Pennsylvania, Philadelphia, PA
The impact of strain specific immunity on human Lyme disease incidence

11:30 a.m.  Special Lecture: Drexel Prize in Infectious Disease (Geary B)

Rita Colwell, PhD
Distinguished University Professor, Department of Cell Biology and Molecular Genetics, University of Maryland, College Park, MD
Next generation sequencing, climate and cholera
Introduction: Joshua Mell, PhD, and Kevin Raible, PhD Candidate

Go to www.drexel.edu/medicine/immid for more information
12:30 p.m. **Lunch & Poster Session C: Pathogen Biology and Control of Persistent Infections (NCB 18)**

Posters will be presented on the 18th floor of the New College Building. Box lunches will be provided for all meeting attendees.

**SESSION 8: Molecular Approaches to Understanding Malaria Parasites (Geary B)**

Co-Chairs: Sandhya Kortagere, PhD, and Elizabeth Parzych, PhD Candidate

2:00 p.m. **Sean Prigge, PhD**

Associate Professor, Department of Molecular Microbiology and Immunology, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD

*Essential functions of the apicoplast: What does it do in malaria parasites?*

2:35 p.m. **Hangjun Ke, PhD**

Postdoctoral Fellow, Center for Molecular Parasitology, Department of Microbiology and Immunology, Drexel University College of Medicine, Philadelphia, PA

*Caged Garcinia xanthones: A novel chemical scaffold with potent antimalarial activity*

3:00 p.m. **Bill Bergman, PhD**

Professor, Center for Molecular Parasitology, Department of Microbiology & Immunology, Drexel University College of Medicine, Philadelphia, PA

*Using BioID (proximity biotinylation) to characterize subcellular structures and organelles of the malaria parasite*

3:30 p.m. **Break (Geary Lobby)**

3:50 p.m. **Johanna Daily, MD, MS**

Associate Professor, Department of Medicine, Albert Einstein College of Medicine, Bronx, NY

*A potentially protective role for the Nrf2 pathway against parasite sequestration in cerebral malaria*

4:25 p.m. **Suyash Bhatnagar, PhD Candidate**

Center for Molecular Parasitology, Department of Microbiology & Immunology, Drexel University College of Medicine, Philadelphia, PA

*Exploring the effect of Na+ influx into P. falciparum*

4:50 p.m. **Photini Sinnis, MD**

Department of Molecular Microbiology and Immunology, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD

*What happens after an infected mosquito injects sporozoites into a host*