November 6, 2014—11:00 a.m., Huyck Auditorium
Dr. Jonathan Harton, Host
Adrian Ting, Ph.D.
Associate Professor in Clinical Immunology, Department of Medicine, Mount Sinai Hospital
"TLR4 Induces a TRIF/CASPASE-8-dependent Cleavage of CYLD to Protect Macrophages Against TNF-mediated Auto-necroptosis"

December 5, 2014—11:00 a.m., Huyck Auditorium
Dr. Dennis Metzger, Host
Christopher P. Verschoor, Ph.D.
Postdoctoral Fellow, McMaster Immunology Research Center Department of Pathology and Molecular Medicine, McMaster University
"Pneumococcal Infection in the Elderly: at the Crossroads of Aging, Inflammation, and the Upper Respiratory Tract"

December 11, 2014—11:00 a.m., Huyck Auditorium
Dr. Carlos de Noronha, Host
Vinett KewalRamani, Ph.D.
Head, Model Development Section, HIV Drug Resistance Program Center for Cancer Research, National Cancer Institute
"HIV-1 Co-factor CPSF6: A Hitchhiker’s Ride to the Nucleus"

December 18, 2014—11:00 a.m., Huyck Auditorium
Dr. Dennis Metzger, Host
Jorge Vidal-Granuel, Ph.D.
Assistant Professor, Hubert Department of Global Health, Division of Infectious Diseases Rollins School of Public Health, Emory University
"TBA"

Dr. MacNamara Featured in Albany Med Today
Katherine C. MacNamara, Assistant Professor, is attempting to understand more about the role of stem cell function in the body’s defense against a variety of infectious diseases. Her goal is to answer the question: What makes a great immune response against an infection, and how can we harness that to develop new treatments?

Specifically, she is studying the function of stem cells that reside in the bone marrow, known as hematopoietic stem cells (HSCs). HSCs maintain blood production, including cells of the immune system, throughout life.

Dr. MacNamara and her team are examining the changes that occur in the hematopoietic system in a mouse model of ehrlichiosis, an emerging tick-borne illness that causes disease symptoms in mice and humans including anemia and thrombocytopenia (low blood platelet count). She has found an important role for interferon gamma, a molecule that is produced during infections, in modulating HSC function. Mice deficient in interferon gamma are not able to control this infection. She states that the possibility of manipulating interferon gamma during an acute infection has tremendous potential for the development of new therapies for infectious diseases.

The Center for Immunology and Microbial Disease held its Annual Research Retreat at Pat’s Barn, located in the Rensselaer Technology Park in Troy, NY, August 5, 2014. The Retreat is planned and organized by a select group of CIMD students.

The format of this year’s retreat included more presentations, emphasis on student research posters, and prize raffles. We also had a chance to welcome staff who joined CIMD since last year’s retreat, as well as meet the graduate students joining our Program. They are: Jonathan Cho, Angelica Costello, Seemaben Patel, and Jesse Rabinowitz.

Following lunch, everyone enjoyed indoor and outdoor games including volleyball, lawn toss, Frisbee, backgammon, chess, cards, and the annual CIMD group picture.
Recent Grant Submissions

- Dorina Avram, Ph.D., Bcl11b in Immune Regulation (5 years), NIH, $1,975,000
- Dorian Avram, Ph.D., Mechanism of MALT1 Regulation by HECTD3 Ubiquitin Ligase (5 years), NIH, $553,000
- Guangchun Bai, Ph.D., Pneumococcal c-di-AMP Signaling (5 years), NIH, $1,975,000 (resubmission)
- Guangchun Bai, Ph.D., Cyclic di-AMP in TB Pathogenesis (2 years), NIH, $434,500 (resubmission)
- Mario Canki, Ph.D., Rational Design of Novel HIV-CD-4 Entry Inhibitors Without Loss of CD4 Function, (2 years), NIH, $442,130
- James R. Drake, Ph.D., In Vivo Analysis of BCR-Mediated Antibody Presentation, (2 years), NIH, $158,000 (resubmission)
- James R. Drake, Ph.D., Immune Function in Low Vaccine Responder Children (5 years), NIH, $80,327. (In collaboration with Dr. Michael Pichichero, University of Rochester)
- James R. Drake, Ph.D. and Jonathan A. Barton, Ph.D., Functional Impact of Disease-Associated HLA Class II Membrane Proximal Polymorphisms. (5 years), NIH/NIAID, $3,144,136
- Yoichi Furuya, Ph.D., Identifying Protective Immune Mechanisms Against Viral-Bacterial Co-Infections, (2 years) American Lung Association, $87,925
- Edmund J. Gosselin, Ph.D., Adjuvant Elimination via a Dual-Targeted Multifunction Mucosal Vaccine Platform, (5 years), NIH, $1,601,520
- Edmund J. Gosselin, Ph.D., An Adjuvant-Independent Dual-Targeted (Multi Function) Mucosal Vaccine Platform (2 years), NIH, $416,346 (Resubmission)
- Jonathan A. Barton, Ph.D., Role of Myeloid Cells in Francisella tularensis Pathogenesis and Immunity, (2 years), NIH, $434,500
- Jonathan A. Barton, Ph.D., Genetic Biomarkers of Inflammation in the Pathophysiology of Rheumatoid Arthritis, (2 years), NIH/NIAMS, $421,345
- Jonathan A. Barton, Ph.D., Molecular Regulation of Influenza Activation During Flu Infection, (2 years), NIH, $24,048
- Kate C. MacNamera, Ph.D., Regulation of Myelopoiesis in Confections, (5 years), Burroughs Wellcome Trust, $500,000
- Dennis W. Metzger, Ph.D., Viral-Bacterial Co-Infections in the Elderly, (5 years), NIH, $1,975,000
- William O’Connor, Jr., Ph.D., Cytokine Control of Intestinal Homeostasis, (5 years), NIH, $2,041,500

Grant Awards

- Lei Jin, Ph.D., received a one-year, $329,900 grant National Institutes of Health/National Institute of Allergy and Infectious Diseases in support of his research entitled, “Mechanisms of STING-mediated Mucosal Vaccine Adjuvant of Cyclic di-GMP.”
- Edmund J. Gosselin, Ph.D., received a two-year, $150,000 grant from the National Institutes of Health/National Institute of Allergy and Infectious Diseases in support of his research entitled, “An Adjuvant-independent Dual-targeted (Multi-function) Mucosal Vaccine Platform.”
- Dennis W. Metzger, Ph.D., received a five-year, $50,000 grant from the National Institutes of Health in support of the Annual Upstate New York Immunology Conference.

Conferences, Meetings, and Study Sections

Dennis W. Metzger, Ph.D., was invited to give a presentation entitled, “Death from Influenza—Secondary Bacterial Infections are a Major Culprit,” at the 3rd Annual Influenza Research and Development Conference in Boston, MA, July 9-11, 2014.

Kouacou V. Konan, Ph.D., was invited to give a presentation entitled, “Modulation of Hepatitis C Virus Genome Replication by the Glycosphingolipid Biogenic Machinery,” at the 14th International Congress of Bacteriology and Applied Microbiology in Montreal, Canada, July 27-August 1, 2014.

Dennis W. Metzger, Ph.D., was invited to give a symposium seminar entitled, “Development of an Adjuvant-Free Mucosal Vaccine Platform,” at the 17th Annual Upstate New York Immunology Conference in Bolton Landing, NY, October 19-22, 2014.

Edmund J. Gosselin, Ph.D., was asked to serve on the National Institutes of Health Immunology and Host Defense Study Section in Alexandria, VA, October 22-24, 2014.

Edmund J. Gosselin, Ph.D., was asked to serve on the National Institutes of Health Vaccines Against Microbial Diseases Study Section in Washington, DC, October 30, 2014.

Peer-reviewed Publications


Bitsaktsis C, Pham G, and Gosselin EJ. 2014. Targeting inactivated TLR7/8 to elicit both T cells and antibodies (A2A), New Drug Discovery, in press.


Pham GH, Igeias BV, and Gosselin EJ. 2014. Fc receptor-targeting of immunogen as a strategy for enhanced antigen loading, vaccination, and protection using intranasally administered antigen-pulsed dendritic cells. Vaccine, in press.


