Legacy Award Lecture (July 5th, 12-1pm ET)

Sepsis, Chocolate, and Mitochondria in Trouble, Charles McCall, Wake Forest School of Medicine
Join for this live presentation and Q&A session

Topical Sessions

The following sessions are live events where pre-recorded invited talks and select abstracts will be played. During the pre-recorded presentations, the audience may interact with the speakers via the Q&A tool and type questions and comments to which the speakers will reply. If time allows at the end of the session, a live Q&A and discussion will take place. An email reminder will be sent to registrants one hour before the live session with a link to join along with a “join now” button placed on the event page.

Immunity Across the Life Span (Tues., July 6th, 11am - 12:30pm ET) Moderated by Nick Lukacs
- Microglia, Microbes, and Neural Development, Staci Bilbo, Duke University
- Microbe-mediated Regulation of Host NAD Metabolism and its Implication in Aging and Cancer, Xiaoling Li, National Institute of Environmental Health Sciences

Selected Abstracts:
- Heightened Intestinal Permeability and Neuroinflammation in Scald-Burn Injured Aged Mice, Travis Walrath, University of Colorado Denver Anschutz Medical Campus
- Bacille Calmette-Guerin Provides Protection from Polymicrobial Sepsis in Neonatal Mice, Jaimar Rincon, University of Florida
- Diverse Homeostatic and Immunomodulatory Roles of Macrophages in Human Placenta, Suhas Sureshchandra, University of California Irvine (Spotlight Abstract Award)

Tissue Resident Macrophages (Thurs., July 8th, 11am - 12:30pm ET) Moderated by Michelle Visser
- Protective Role of Eosinophils in Hepatic Ischemia Reperfusion Injury, Cynthia Ju, McGovern Medical School, University of Texas
- Skin Resident Macrophage Actions in Health and Disease, Carlos Henrique Serezani, Vanderbilt University

Selected Abstracts:
- scRNA-Seq and Functional Profiling of Alveolar Macrophages with Alcohol Use, Sloan Lewis, University of California, Irvine (Presidential Student Finalist)
- Mechanosensation in Macrophages Protects the Lung from Infection-Associated Lung Injury, Rachel Scheraga, Cleveland Clinic
- Epigenetic Regulation of Monocytes: Synergistic Effects of IL-4 and TNF-alpha, Ruoxi Yuan, Hospital for Special Surgery (Spotlight Abstract Award)
Neuroinflammation (Tues., July 13th, 11am - 12:30pm ET) Moderated by Anne Pereira
- Alarmin-mediated Control of Brain Infection, Tajie Harris, University of Virginia
- The Microglia-lymphocyte Interface in Brain Development, Anna Molofsky, UCSF Weill Institute for Neurosciences
- Viral-mediated Dysregulation of Lipoprotein Metabolism in the Brain, Amanda Brown, Johns Hopkins

Intestinal Immunity (Thurs., July 15th, 11am - 12:30pm ET) Moderated by Domenico Mavilio
- Neutrophils Mold Tissue Metabolism During Active Mucosal Inflammation, Sean Colgan, University of Colorado
- Gut Epithelial Metabolism as a Key Driver of Microbiota Imbalance Associated with Non-communicable Disease, Mariana Byndloss, Vanderbilt University
- The Unexpected Role of Granzyme B in CD4+ T Cell Differentiation and its Impact in Intestinal Pathogenicity, Danyvid Olivares-Villagomez, Vanderbilt University

Selected Abstracts:
- Impact of Inflammatory Acidosis on Intestinal Mucosa, Ian Cartwright, University of Colorado Anschutz Medical Campus
- CD8+ T-Cells Mediate Colon Epithelial Cell Death in HIV Pathogenesis, Leah Froehle, The Ragon Institute of MGH, Harvard, and MIT

Cancer (Tues., July 20th, 11am - 12:30pm ET) Moderated by Vijaya Iragavarapu
- Myeloid-derived Suppressor Cells in Regulation of Tumor Progression, Dmitry Gabrilovich, AstraZeneca
- Neutrophils and Their Contribution to Cancer Metastasis, Leah Cook, University of Nebraska
- Tumor Virus-induced Metabolic Reprograming, Jae Jung, USC

Selected Abstracts:
- Transcriptomic Analysis of Monocytes of Colorectal Cancer Patients, Irina Larionova, Tomsk State University
- HLA-DR+ Monocytes Correlates with Response to Chemotherapy in Cancer Patients, Marina Patysheva, Cancer Research Institute, Tomsk National Research Medical Center, Russian Academy of Sciences

Context Dependent Immune Adaptation (Thurs., July 22nd, 11am - 12:30pm ET) Moderated by Vidula Vachharajani
- Immune Adaption in Sepsis Survivors: New Endotypes and New Approaches, Lyle Moldawer, Uni. of Florida
- B Cell Dynamics During Neurotropic Coronavirus Infection, Cornelia Bergmann, Cleveland Clinic Lerner College of Medicine
- Fueling the Revolution: Targeting Metabolism to Enhance Cancer Immunotherapy, Jonathan Powell, Johns Hopkins University

Selected Abstracts:
- Plasma Microvesicles Released from Burn Injury Modulate Immune Phenotype, Micah Willis, UNC-CH (Presidential Student Finalist)
- VISTA in Treg-mediated Tissue Protection and Survival in Murine Sepsis, Chyna Gray, Brown University/ Rhode Island Hospital
Immunometabolism I (Tues., July 27th, 11am - 12:30pm ET) Moderated by David Underhill
- Mitochondria Regulation of Immunity, Navdeep Chandel, Northwestern University
- Burying the Dead: Efferocytosis of Apoptotic Cells Reprograms Dendritic Cell Metabolism, Alexandra Medeiros, UNESP
- Metabolic Regulation of HIV-1 Replication and Reservoir Persistence, Harry Taylor, SUNY Upstate Medical University
Selected Abstracts:
  - Ethanol Exposure Impairs Phagocytosis and Glycolysis in Macrophages via SIRT2, Anugraha Gandhirajan, Lerner Research Institute (Abstract Merit Finalist)
  - Peripheral and Pulmonary Expression of Immunometabolic Genes After Burn-Inhalation Injury, Cressida Mahung, University of North Carolina (Presidential Junior Faculty/Postdoc Winner)

Immunometabolism II (Thurs., July 29th, 11am - 12:30pm ET) Moderated by Lee-Ann Allen
- Immunometabolic Regulation of Inflammation, Emily Goldberg, UCSF
- Krebs Cycle Reborn in Macrophages, Luke O’Neil, Trinity College Dublin
- Dolph O. Adams Awardee: A Critical Role for SLC37A2 in Macrophage Inflammation and Metabolic Homeostasis, Xuewei Zhu, Wake Forest School of Medicine
Selected Abstracts:
  - Inhibition of Pyruvate Dehydrogenase Kinases Promotes Macrophage NLRP3 Inflammasome Inactivation, Allison Meyers, Wake Forest School Of Medicine (Spotlight Abstract Award)
  - Macrophage Reprogramming Driven by TLR/MyD88 Activation Confers Infection Resistance, Allison Owen, Vanderbilt University Medical Center (Abstract Merit Finalist)

COVID 19: Adaptive Immunity (Tues., August 3rd, 11am - 12:30pm ET) Moderated by Luis Montaner
- Pathogenic Inflammation in COVID-19 Patients, Miriam Merad, Icahn School of Medicine at Mount Sinai
- Immunotherapy of COVID-19, Richard Hotchkiss, Washington University St. Louis
- Innate Immune Dysfunction in COVID-19, Catherine Blish, Stanford University
Selected Abstracts:
  - Antigen-presenting Cells in Severe Covid-19 Present Defects in Antiviral Immunity, Maha Ladjemi, INSERM (Spotlight Abstract Award)
  - ADAM17 Inhibition is Protective in a Mouse Model of Covid-19, Nathaniel Larkey, CINVESTAV (Presidential Student Finalist)

Western Lifestyle: Metaflammation (Thurs., August 5th, 11am - 12:30pm ET) Moderated by Cherie Butts
- Multifaceted Action of Macrophages in Diseases, Beiyan Zhou, UCONN Health
- Deconvoluting Macrophage Heterogeneity in the Pathogenesis of Non-alcoholic Steatohepatitis, Joel Schilling, Washington University School of Medicine
- Diet, Lipids, and Anti-Tumor Immunity, Lydia Lynch, Harvard
Video Abstract Sessions

The following sessions are each one hour sessions where pre-recorded, 5min video abstracts will be presented with concurrent Q&A. If time allows, there will also be additional open Q&A and discussion time at the end of each session.

Session I (Friday, September 17, 3-4pm ET)

Cancer

- Human Ovarian Cancer Ascites Impairs Anti-tumor NK Cell Effector Functions, **Antonio Hrvat**, University Hospital Essen, University of Duisburg-Essen (Abstract Merit Finalist)
- The Interplay Between Calcium Phosphate Nanoparticles and Ovarian Cancer Immunotherapy, **Antonio Hrvat**, University Hospital Essen, University of Duisburg-Essen
- Oral Neutrophils Mirror Systemic and Local Changes in Head-and-Neck Cancer, **Ekaterina Pylaeva**, University Hospital Essen
- cAMP Bursts Control T Cell Directionality by Actinmyosin Cytoskeleton Remodeling, **Morgane Simao**, Cochin Institute
- Manipulation of Plasma Cell Differentiation by Kaposi Sarcoma Herpesvirus Infection, **Jennifer Totonchy**, Chapman University

Context Dependent Immune Adaptation

- Adenosine Regulates Cytotoxic CD4 T Lymphocytes in *Trypanosoma cruzi* Infection, **Maria Aoki**, Universidad Nacional de Cordoba
- Sex Influences Production and Activation of Plasmablasts and Plasma Cells, **Peter Pioli**, Western Michigan University Homer Stryker M.D. School of Medicine
- Titanium Nanoparticles Enhance Production and Suppress GDF-15 Clearance in Macrophages, **Lina Silva Bermudez**, Medical Faculty Mannheim, Heidelberg University (Abstract Merit Finalist)
- Traction Force Microscopy of Human Neutrophils During Critical Illness, **Hadley Witt**, Brown University / Rhode Island Hospital (Spotlight Abstract Award)

Session II (Friday, September 24th, 3-4pm ET)

COVID 19: Adaptive and Innate Immunity

- COVID-19 Severity is Linked to CD27-IgD- B Cell Subsets Numbers, **Jose Maravillas-Montero**, Universidad Nacional Autónoma de México
- Role of CD14 in Macrophage Activation by SARS-CoV-2 Spike Protein, **Shalaka Metkar**, CUNY School of Medicine

Immunity Across the Life Span

- Heightened Ethanol-Induced Intestinal Dysfunction and Liver Inflammation in Aged Mice, **Rachel McMahan**, University of Colorado Anschutz Medical Campus
- Epithelial MHC-II Dictates Tissue-resident CD4+ Memory TRM Cell Activities, **Anukul Shenoy**, Boston University School of Medicine
• Neutrophil Immunosenesence Leaves Vaccinated Aged Hosts Susceptible to Pneumococcal Pneumonia, Shaunna Simmons, University of Buffalo

Immunometabolism
• Immunometabolism is Differentially Regulated by Staphylococcus aureus Biofilm and Hypoxia, Christopher Horn, University of Nebraska Medical Center (Spotlight Abstract Award)
• Sex-related Variations Targeting Purinergic Signaling Pathways in Platelets During Sepsis, Elisabetta Liverani, North Dakota State University
• Hyperglycemia Compromises Cell-protective Scavenging of Hemoglobin-haptoglobin Complexes via CD163, Laura Matuschik, Medical Faculty Mannheim, Heidelberg University
• Regulating PARP1 Mediated Dendritic Cell Function Attenuates RSV Infection Severity, Mohamed Mire, University of Michigan (Abstract Merit Finalist)
• Hematopoietic-SLC37A2 Deficiency Accelerates Atherosclerosis in LDLrKO Mice, Zhan Wang, Wake Forest Health Sciences (Abstract Merit Finalist)

Session III (Friday, October 1, 3-4pm ET)

Intestinal Immunity
• Liver Matrix-Bound-Nanovesicles (MBV) Alter with Alcohol and Differentially Influence Macrophages, Bashar Al Matour, UPMC
• Dexamethasone Reduces Crohn's Disease-like Ileitis in SHIP Deficient Mice, Matthew Luzentales-Simpson, University of British Columbia (Abstract Merit Finalist)
• CD47 Inhibits Aberrant Inflammation and Death of Ptpn6spin Mice, Lalita Mazgaeen, University of Iowa (Abstract Merit Finalist)
• Timing of Microbial Colonization Differentially Affects Colorectal Cancer, Daniel Zegarra Ruiz, MSKCC (Spotlight Abstract Award)

Tissue Resident Macrophages
• LOX-1 Regulates Alveolar Macrophages and Limits Pneumonia Induced Lung Injury, Filiz Korkmaz, Boston University School of Medicine

Miscellaneous
• Correlation Between Monocyte Subsets and Serum Cytokines Under Steady-state Conditions, Romin Adhikari, Morgan State University
• Extracellular Vesicles From A23187-treated Neutrophils Activate STING in Macrophages, Edwina Allen, Central Michigan University
• Outer Sheath Proteins of Oral Treponemes Inhibit Phosphoinositide Neutrophil Signaling, Natalie Anselmi, SUNY Buffalo (Abstract Merit Finalist)
• Withaferin A Inhibits Neutrophil Functions and Promotes Neutrophil Apoptosis, Rosemary Bayless, North Carolina State University
• Fate Mapping Myeloid-derived Suppressor Cells During Staphylococcus aureus Biofilm Infection, Blake Bertrand, University of Nebraska Medical Center (Spotlight Abstract Award)
Session IV (Friday, October 8, 3-4pm ET)

**Miscellaneous**

- Phosphatidylserine Receptor Enhancement of SARS-CoV-2 Entry: AXL, a Therapeutic Target, **Dana Bohan, University of Iowa** (Abstract Merit Finalist)
- Uncovering the Causes of Common Variable Immunodeficiency, **Lucia Borlle, Cornell University**
- Role of NLRP3 Inflammasome in Periodontitis : Friend or Foe?, **Bannidith Cheat, Université de Paris** (Abstract Merit Finalist)
- Mycobacterium Tuberculosis Establishes a Vicious Circle Interruptible for Host-directed Therapy, **Tobias Dallenga, Research Center Borstel**
- MicroRNA Family Increase Susceptibility to Leishmania Infection in Human Macrophages, **Juliane Fernandes, University of São Paulo**
- Inhibition of Na+/Ca2+ Exchanger Activates NADPH Oxidase and Induces NETosis, **Minoru Inoue, Kyoto University** (Abstract Merit Finalist)
- Phagocytosis of AlOOH Adjuvant Redirects the Trafficking of gd-Pertussis Toxin, **Javier Jaldin-Fincati, University of Toronto at Scarborough**
- TLR9 Knockout in Non-Hematopoietic Cells Protects Mice From Influenza/MRSA Super-infection, **Helen Rich, University of Michigan**
- Neutrophils Promote Protective Antibodies Against Bacterial Polysaccharide Independently of IFN-γ, **Essi Tchalla, University at Buffalo**
- Lysosome Fusion Maintains Phagosome Integrity During Fungal Infection, **Johannes Westman, The Hospital for Sick Children**