



42nd Annual June 8 – 11, 2019 | Coronado, CA
CONFERENCE ON SHOCK



42nd ANNUAL CONFERENCE ON SHOCK
Loews Coronado Bay Resort • Coronado, CA • June 8 – 11, 2019

Conference Schedule as of April 23, 2019

SATURDAY, JUNE 8, 2019

7:00 AM – 11:00 AM **Council Meeting (*invitation only*)**
Elizabeth J. Kovacs, PhD, Shock Society President
University of Colorado Denver, Aurora, CO
Sovereign

8:00 AM – 6:00 PM **Speaker Ready Room**
Boardroom

10:00 AM – 6:30 PM **Registration**
Commodore Atrium

11:00 AM – 12:30 PM **Shock Editorial Board Meeting (*invitation only*)**
Constellation B

1:00 PM – 2:00 PM **William A. Altmeier Memorial Lecture**
Commodore ABCD

Critical Care Research in the Age of Electronic Medical Records

Gordon R. Bernard, MD, Executive Vice President for Research and Chief Research Officer,
Vanderbilt University Medical Center, Nashville, TN

2:00 PM – 3:15 PM **TRANSLATIONAL SYMPOSIUM**
Translational Update 2019
Moderators:
Tina Palmieri, MD, University of California, Davis, Sacramento, CA
Philip Efron, MD, University of Florida, Gainesville, FL
Commodore ABCD

The Challenges of Undertaking Basic Science Research in Under-Developed Countries

Jared Forrester, MD, Stanford University, Stanford, CA

Advancing Technologies in the Diagnosis of Sepsis

Elizabeth Fox, MD, Medical College of Georgia, Augusta, GA

Burns: From Bench to Bedside and Back Again

Tina Palmieri, MD, University of California, Davis, Sacramento, CA

Chronic Critical Illness as the New Sepsis Paradigm

Philip Efron, MD, University of Florida, Gainesville, FL

3:15 PM – 3:30 PM **Break**

3:30 PM – 5:00 PM **Pro-Con Debates: Ethics in Surgical Infections Research**
Commodore ABCD

DEBATE #1: Opt-In, Opt-Out

Pro: The SIS Should Pursue a Multicenter “Opt-Out” System for Automatic Subject Enrollment into Time Sensitive Trials of Surgical Infections.

Speaker: Addison May (3:30 PM – 3:38 PM)

Con: “Opt-Out” Research Programs Violate Patient Autonomy and Should Not Be Implemented.

Speaker: Greg Beilman (3:38 PM – 3:44 PM)

Discussion: 3:44 PM – 3:50 PM

DEBATE #2: Who Pays for It?

Pro: Patients Randomized to Surgery vs. Non-Operative Intervention Should Pay the Costs of Their Treatment Arm, Whichever It May Be.

Speaker: Fred Pieracci (3:50 PM – 3:58 PM)

Con: Patients Randomized to Surgery vs. Non-Operative Intervention Should Not Have to Pay the Costs of Their Treatment Arm, Whichever It May Be.

Speaker: Vanessa Ho (3:58 PM – 4:06 PM)

Discussion: 4:06 PM – 4:12 PM

DEBATE #3: Open Access Journals

Pro: We Should Embrace Open Access Journals as the Future of Scientific Publishing

Speaker: Donald Fry (4:12 PM – 4:20 PM)

Con: Open Access Journals Are Predatory and Dilute the Quality of Scientific Reporting

Speaker: Phil Barie (4:20 PM – 4:28 PM)

Discussion: 4:28 PM – 4:34 PM

DEBATE #4: Show Me the \$\$\$

Pro: The Majority of Funding Should Go to Basic Science Research

Speaker: Jared Huston (4:34 PM – 4:42 PM)

Con: The Majority of Funding Should Go to Clinical Research

Speaker: Jeff Shupp (4:42 PM – 4:50 PM)

Discussion: 4:50 PM – 4:56 PM

5:00 PM – 6:00 PM

PRESIDENTIAL ADDRESS

Marc Jeschke, MD, PhD, Sunnybrook Research Institute, Toronto, Canada

Commodore ABCD

6:00 PM – 7:00 PM

Combined Reception for Shock and SIS

Bay Terrace

7:00 PM – 9:00 PM

MENTORING AND DIVERSITY PROGRAM

Commodore ABCD

7:00 PM – 8:00 PM

What Is a Successful NIH Grant Application? Thoughts on How to Get from Here to There

Scott D. Somers, PhD, National Institute of General Medical Sciences, NIH, Bethesda, MD

8:00 PM – 9:00 PM

Mentoring in the #MeToo Movement

Diana Lautenberger, M.A.T., Director, Women in Medicine and Science, Association of American Medical Colleges (AAMC), Washington, DC

7:00 PM – 9:00 PM

SIS Awards Banquet

Commodore E

Ticket may be purchased if not registered for SIS

SUNDAY, JUNE 9, 2019

7:00 AM – 5:00 PM

Speaker Ready Room

Boardroom

7:00 AM – 7:30 PM

Registration

Commodore Foyer

7:00 AM – 9:00 AM **CONTINENTAL BREAKFAST & POSTER SESSION I (P1 – P89)**
Constellation AB & Avalon

9:00 AM – 11:00 AM **PLENARY SESSION I: Sepsis: Definitions, Models and Opportunities**
Co-Chairs: Clifford Deutschman, MD, Feinstein Institute, New Hyde Park, NY
Heather Evans, MD, Medical University of South Carolina, Charleston, SC
Commodore ABCD

9:00 AM – 9:20 AM **What Are the “Right” Endpoints in Animal Models of Sepsis?** (*Abstract 1*)
Clifford Deutschman, MD, Feinstein Institute, New Hyde Park, NY

9:20 AM – 9:40 AM **Sepsis Research at the National Institutes of Health** (*Abstract 2*)
Sarah Dunsmore, PhD, National Institute of General Medical Sciences, NIH, Bethesda, MD

9:40 AM – 10:00 AM **BARDA's Solving Sepsis Program** (*Abstract 3*)
Timothy Buchman, MD, PhD, U.S. Department of Health and Human Services, Washington, DC

10:00 AM – 10:20 AM **Clinical Trials: Better Design, More Meaningful Outcomes** (*Abstract 4*)
Catherine L. Hough, MD, University of Washington, Seattle, WA

10:20 AM – 10:40 AM **Refining Animal Models of Sepsis** (*Abstract 5*)
Marcin F. Osuchowski, DVM, PhD, Ludwig Boltzmann Institute, Vienna, Austria

10:40 AM – 11:00 AM **Panel Discussion**

11:00 AM – 11:30 AM **Refreshment Break**
Commodore Foyer

11:30 AM – 12:30 PM **KEYNOTE ADDRESS: Luke O'Neill, PhD**
Introduction: Laurie Kilpatrick, PhD, Lewis Katz School of Medicine at Temple University, Philadelphia, PA
Commodore ABCD

11:30 AM – 12:30 PM **Metabolic Reprogramming as a Key Driver of Inflammation and Innate Immunity**
Luke O'Neill, PhD, The University of Dublin, Trinity College Dublin, Dublin, Ireland

12:30 PM – 1:30 PM **Shock-SIS Roundtable Wrap-up (invitation only)**
Commodore E

12:30 PM – 1:30 PM **Boxed Lunch**
Commodore Foyer

12:30 PM – 1:30 PM **ORAL PRESENTATIONS BY AND FOR NEW INVESTIGATORS I**
Moderator: Carrie Sims, MD, PhD, The Trauma Center at Penn, Philadelphia, PA
Commodore ABCD

12:30 PM – 12:45 PM **A Year-Long Immune Profile of the Systemic Response in Acute Stroke Survivors**
(*Abstract P257*)
Amy Tsai, BA, Stanford University School of Medicine, Stanford, CA

12:45 PM – 1:00 PM **Dedifferentiation and Necrosis of Functional Pancreatic β Cells as Mechanism of Diabetes Mellitus Following Acute Pancreatitis** (*Abstract P178*)
Qiao Shi, PhD, SUNY Upstate Medical University, Syracuse, NY

1:00 PM – 1:15 PM **Loss of Efferent Arteriolar Resistance from AT-1R Modulation May Contribute to Acute Kidney Injury after Cecal Ligation and Puncture (CLP)** (*Abstract P202*)
Daniel Leisman, BS, Feinstein Institute for Medical Research, Manhasset, NY

1:15 PM – 1:30 PM	Anti-CD28 Antibody Improves Survival in “Memory Mice” with Sepsis via Il-10 Released by Regulatory T Cells (<i>Abstract P183</i>) Yini Sun, MD, Emory University, Atlanta, GA
1:30 PM – 2:45 PM	NEW INVESTIGATOR AWARD COMPETITION Moderator: Weng-Lang Yang, PhD, The Feinstein Institute for Medical Research, Manhasset, NY <u>Commodore ABCD</u>
1:30 PM – 1:45 PM	Reduction of PKA-mediated Lipolysis with Acipimox Improves Mitochondrial Coupling in Adipose Tissue Following Burn Injury (<i>Abstract 6</i>) Dalia Barayan, BS, Sunnybrook Research Institute, Toronto, Canada
1:45 PM – 2:00 PM	An Aging-related Single Nucleotide Polymorphism is Associated with Distinct Inflammatory Profiles in Aged Blunt Trauma Patients (<i>Abstract 7</i>) Ashley Lamparello, MD, University of Pittsburgh, Pittsburgh, PA
2:00 PM – 2:15 PM	Antithrombin III Contributes to the Protective Effects of Fresh Frozen Plasma Following Hemorrhagic Shock by Preventing Syndecan-1 Shedding and Endothelial Barrier Disruption (<i>Abstract 8</i>) Ernesto Lopez, MD, PhD, University of Texas Health Science Center at Houston, Houston, TX
2:15 PM – 2:30 PM	Herpes Virus Entry Mediator (HVEM) Signaling in Neonatal Sepsis (<i>Abstract 9</i>) Michelle Wakeley, MD, Warren Alpert Medical School of Brown University, Providence, RI
2:30 PM – 2:45 PM	Regulatory Roles of Human SP-B Variants on Genetic Susceptibility to Pneumonia-induced Sepsis (<i>Abstract 10</i>) Fengyong Yang, MD, SUNY Upstate Medical University, Syracuse, NY
2:45 PM – 3:50 PM	RESEARCH AWARD RECIPIENT PRESENTATIONS Moderator: Weng-Lang Yang, PhD, The Feinstein Institute for Medical Research, Manhasset, NY <u>Commodore ABCD</u>
2:45 PM – 3:05 PM	TLR7 Deficiency Attenuated Acute Lung Injury in Polymicrobial Sepsis (<i>Abstract 11</i>) Lin Zou, MD, PhD, University of Maryland School of Medicine, Baltimore, MD 2017 Faculty Research Award Recipient
3:05 PM – 3:20 PM	Thrombus Site-selective Delivery of Hydroxychloroquine Using Platelet-Targeted Nanovesicles (PTNs) to Attenuate Thrombus Growth in Deep Venous Thrombosis (DVT) (<i>Abstract 12</i>) Jurgis Alvikas, MD, University of Pittsburgh, Pittsburgh, PA 2018 Research Investigator Fellowship Recipient
3:20 PM – 3:35 PM	Transplantation of Bone Marrow-derived Mononuclear Cells Can Attenuate Acute Inflammation and Organ Dysfunction in Rat Heatstroke (<i>Abstract 13</i>) Yutaka Umemura, MD, Osaka University Graduate School of Medicine, Osaka, Japan 2018 Japan Shock Society Young Investigator Award Winner
3:35 PM – 3:50 PM	A Vortex-aided Microfluidic Device for a Size-based Cell Sorting (<i>Abstract 14</i>) Yuto Takagi, Degree, Mie University Graduate School of Medicine, Tsu-city, Japan 2018 Japan Shock Society Young Investigator Award Winner
3:50 PM – 4:10 PM	Refreshment Break <u>Commodore Foyer</u>
4:10 PM – 6:00 PM	PARALLEL SESSION I: Innovations in Burn Research Co-Chairs: Celeste Finnerty, PhD, University of Texas Medical Branch, Galveston, TX Tina Palmieri, MD, University of California, Davis, Sacramento, CA Steven E. Wolf, MD, University of Texas Medical Branch, Galveston, TX <u>Commodore ABCD</u>

- 4:10 PM – 4:30 PM** **Innovations in the Diagnosis and Management of AKI in Burns** (*Abstract 15*)
COL Kevin K. Chung, MD, Uniformed Services University of the Health Sciences, Bethesda, MD
- 4:30 PM – 4:50 PM** **Strategies for Prevention of Sepsis** (*Abstract 16*)
Steve E. Wolf, MD, University of Texas Medical Branch, Galveston, TX
- 4:50 PM – 5:10 PM** **What Is on the Horizon for Dermal and Epidermal Regeneration in Burn Patients** (*Abstract 17*)
Marc Jeschke, MD, PhD, Sunnybrook Research Institute, Toronto, Canada
- 5:10 PM – 5:30 PM** **Advances in Providing Patient-Centered Geriatric Burn Care** (*Abstract 18*)
Herbert Phelan, MD, University of Texas Southwestern Medical Center, Dallas, TX
- 5:30 PM – 5:45 PM** **Beta-Adrenergic Receptor Signaling Modulates Cardiac Mitochondrial Proteins** (*Abstract 19*)
Amina El Ayadi, PhD, University of Texas Medical Branch, Galveston, TX
- 5:45 PM – 6:00 PM** **Systemic IL-6 Trans-Signaling Contributes to Innate Immune Suppression after Burn Injury** (*Abstract 20*)
Devin M. Boe, BA, University of Colorado Denver, Aurora, CO

4:10 PM – 6:00 PM **PARALLEL SESSION II: Neutrophils in Inflammation: Two Sides of the Same Coin**
Co-Chairs: Jeyaseelan (Jey) Samithamby, PhD, DVM, Louisiana State University, Baton Rouge, LA
Barbara Sherry, PhD, The Feinstein Institute, New Hyde Park, NY
Commodore E

- 4:10 PM – 4:30 PM** **CXCL1 Regulates Neutrophil Homeostasis in Pneumonia-Derived Sepsis Caused by Gram-positive Bacteria** (*Abstract 21*)
Samithamby (Jey) Jeyaseelan, PhD, DVM, Louisiana State University, Baton Rouge, LA
- 4:30 PM – 4:50 PM** **Protein Kinase C-delta Regulation of Neutrophil-Endothelium Interaction under Shear Flow** (*Abstract 22*)
Mohammad Kiani, PhD, Temple University, Philadelphia, PA
- 4:50 PM – 5:10 PM** **In Situ Neutrophil Efferocytosis Shapes T Cell Immunity** (*Abstract 23*)
Minsoo Kim, PhD, University of Rochester, Rochester, NY
- 5:10 PM – 5:30 PM** **Purinergic and Metabolic Regulation of Neutrophil Function** (*Abstract 24*)
Wolfgang Junger, PhD, Harvard University, MA
- 5:30 PM – 5:45 PM** **Inducing Neutrophil-Specific Granulopoiesis Using CpG-ODN Conditioned Mesenchymal** (*Abstract 25*) **Stromal Cells in an Experimental Model of Neutropenic Sepsis** (*Abstract 24*)
Julie Ng, MD, Brigham and Women's Hospital, Boston, MA
- 5:45 PM – 6:00 PM** **The Role of CIRP on NET-Forming ICAM-1+ Neutrophils in Sepsis** (*Abstract 26*)
Monowar Aziz, PhD, Feinstein Institute, New Hyde Park, NY
- 6:30 PM – 7:30 PM** **Reception**
Commodore Foyer
- 7:30 PM – 10:00 PM** **Dinner**
New Investigator Awards and Travel Awards Ceremony
Commodore ABCD
Tickets will be collected

MONDAY, JUNE 10, 2019

- 6:00 AM – 7:00 AM** **36th Annual Presidential Fun Run**
Runners to meet in hotel lobby at 5:45 AM

7:00 AM – 9:00 AM **CONTINENTAL BREAKFAST & POSTER SESSION II (P90 – P183)**
Constellation AB & Avalon

7:00 AM – 1:00 PM **Registration**
Commodore Foyer

7:00 AM – 5:00 PM **Speaker Ready Room**
Boardroom

9:00 AM – 10:40 AM **PLENARY SESSION II: Incorporating Microbiome Sciences into Your Thinking, Practice and Research**
Co-Chairs: John Alverdy, MD, University of Chicago, Chicago, IL
Susannah E. Nicholson, MD, University of Texas Health Science Center at San Antonio, San Antonio, TX
Commodore ABCD

9:00 AM – 9:25 AM **Shifting Microbiomes during Injury Directly Influence the Host Immune Program, Sepsis-related Microbiology and Outcome: a Strain-level Analysis** (*Abstract 27*)
John Alverdy, MD, University of Chicago, Chicago, IL

9:25 AM – 9:50 AM **Shock and the Microbiome** (*Abstract 28*)
Susannah Nicholson, MD, University of Texas Health Science Center at San Antonio, San Antonio, TX

9:50 AM – 10:15 AM **Nutrition and the Microbiome** (*Abstract 29*)
Victoria Gershuni, MD, MSGM, University of Pennsylvania, Philadelphia, PA

10:15 AM – 10:40 AM **Inflamm-Aging and Dysbiosis of the Fecal Microbiome: Multi-Organ System Response after Burn Trauma** (*Abstract 30*)
Elizabeth J. Kovacs, PhD, University of Colorado Denver, Aurora, CO

10:40 AM – 11:00 AM **Refreshment Break**
Commodore Foyer

11:00 AM – 12:00 PM **MINI SYMPOSIUM I: Novel Therapeutic Targets**
Co-Chairs: Laurie Kilpatrick, PhD, Temple University School of Medicine, Philadelphia, PA
Ping Zhang, MD, PhD, Northeast Ohio Medical University, Rootstown, OH
Commodore ABCD

11:00 AM – 11:15 AM **Electroporation-Mediated Lung Gene Transfer of Human Feline Sarcoma Related (FER) Tyrosine-Kinase Mobilizes CD8+ Cells into Alveoli and Improves Survival in Murine Model of Gram-Negative Pneumonia** (*Abstract 31*)
Vladislav Dolgachev, PhD, University of Michigan, Ann Arbor, MI

11:15 AM – 11:30 AM **Topical Neck Cooling Without Systemic Hypothermia Attenuates Myocardial Ischemia-Reperfusion Injury** (*Abstract 32*)
Aimee Zhang, MD, University of Virginia, Charlottesville, VA

11:30 AM – 11:45 AM **Multivalent Adhesion Molecule (MAM7) Inhibits S. Aureus Infection in a Surgical Incision Rat Model** (*Abstract 33*)
Dang-Huy Do, BA, University of Texas Southwestern Medical Center, Dallas, TX

11:45 AM – 12:00 PM **Mechanisms Underlying Decreased Mortality with CTLA-4 Checkpoint Inhibition in a Model of Murine Sepsis with Premorbid Chronic Alcohol Exposure** (*Abstract 34*)
LT Cameron W. Paterson, MD, United States Navy and Emory University, Atlanta, GA

11:00 AM – 12:00 PM **MINI SYMPOSIUM II: Multisystem Trauma And Traumatic Brain Injury (TBI)**
Co-Chairs: Michaela A. West MD, PhD, North Memorial Health, Minnetonka, MN
Vanessa Nomellini, MD, PhD University of Cincinnati, Cincinnati, OH
Commodore E

11:00 AM – 11:15 AM **Nonlinear Dynamics Analysis of Swine Heart Rate Variability can detect Traumatic Brain Injury within 1 Hour of Injury** (*Abstract 35*)
Min Zhu, MD, PhD, University of Texas Medical Branch, Galveston, TX

11:15 AM – 11:30 AM **Trigeminal Nerve Stimulation Reduces Traumatic Hemorrhage in Murine Hemophilia A** (*Abstract 36*)
Jared Huston, MD, North Shore University Hospital, Northwell Health, Feinstein Institute for Medical Research, New Hyde Park, NY and Zucker School of Medicine at Hofstra/ Northwell, Hofstra University, Hempstead, NY

11:30 AM – 11:45 AM **Early Monocyte Depletion Improves Long-Term Learning, Memory, and Skill Acquisition in Mice after Traumatic Brain Injury** (*Abstract 37*)
Mecca Islam, MS, Northwestern University, Evanston, IL

11:45 AM – 12:00 PM **Antibiotic-Induced Gut Dysbiosis and the Systemic Inflammatory Response after Traumatic Brain Injury** (*Abstract 38*)
Akshita Kumar, MD, University of Texas Health Science Center at Houston, Houston, TX

12:00 PM – 12:45 PM **SHOCK BUSINESS MEETING**
Elizabeth J. Kovacs, PhD, Shock Society President
University of Colorado Denver, Aurora, CO
Commodore ABCD

12:45 PM **Free Afternoon & Evening**

TUESDAY, JUNE 11, 2019

7:00 AM – 1:00 PM **Speaker Ready Room**
Boardroom

7:00 AM – 3:30 PM **Registration**
Commodore Foyer

7:00 AM – 9:00 AM **CONTINENTAL BREAKFAST & POSTER SESSION III (P184– P277)**
Constellation AB & Avalon

9:00 AM – 11:10 AM **PARALLEL SESSION III: Trauma and Resuscitation**
Co-Chairs: Rosemary Kozar, MD, PhD, University of Maryland, Baltimore, MD
Anthony Pusateri, PhD, US Army Institute of Surgical Research, JBSA - Fort Sam Houston, San Antonio TX
Commodore ABCD

9:00 AM – 9:20 AM **Prehospital Tranexamic Acid Improves Survival After Traumatic Brain Injury in Patients with Intracranial Hemorrhage** (*Abstract 39*)
Martin Schreiber, MD, Oregon Health & Science University, Portland, OR

9:20 AM – 9:40 AM **Tranexamic Acid in Trauma: What Have We Learned?**
COL Andrew P. Cap, MD, PhD, US Army Institute of Surgical Research, Fort Sam Houston, TX

9:40 AM – 10:00 AM **Prehospital Plasma Resuscitation of Hemorrhagic Shock in an Urban Ground Ambulance Transport System Does Not Improve Survival: A Pragmatic, Randomized Trial** (*Abstract 40*)
Ernest E. Moore, MD, University of Colorado Denver, Denver, CO

- 10:00 AM – 10:20 AM** **The Prehospital Air Medical Plasma (PAMPer) Trial: Implications for Traumatic Injury** (*Abstract 41*)
Jason Sperry, MD, University of Pittsburgh, Pittsburgh, PA
- 10:20 AM – 10:40 AM** **Prehospital Plasma Transfusion Improves Survival in Trauma Patients with Longer Prehospital Transports** (*Abstract 42*)
Anthony Pusateri, PhD, US Army Institute of Surgical Research, JBSA - Fort Sam Houston, San Antonio, TX
- 10:40 AM – 10:55 AM** **Hemorrhage as Conditioning for Murine Myeloid Progenitor Engraftment** (*Abstract 43*)
Joshua T. Cohen, MD, Rhode Island Hospital, Providence, RI
- 10:55 AM – 11:10 AM** **In Hospital Treatment with Remote Ischemia Conditioning Alters Early Post-Traumatic Changes in Coagulation in Resuscitated Hemorrhagic Shock Patients** (*Abstract 44*)
Chung Ho Leung, BSc, University of Toronto, Toronto, Canada

9:00 AM – 11:05 AM **PARALLEL SESSION IV: Precision Medicine in Surgery, Trauma, and Critical Care**
Co-Chairs: Judith Hellman, MD, University of California, San Francisco, CA
Yoram Vodovotz, PhD, University of Pittsburgh, Pittsburgh, PA
Commodore E

- 9:00 AM – 9:20 AM** **Computational and Systems Biology of Trauma: Basic and Translational Insights** (*Abstract 45*)
Yoram Vodovotz, PhD, University of Pittsburgh, Pittsburgh, PA
- 9:20 AM – 9:40 AM** **Combining Clinical and Biological Variables to Reduce Heterogeneity in ARDS** (*Abstract 46*)
Michael Matthay, MD, University of California, San Francisco, CA
- 9:40 AM – 10:00 AM** **Use of Precision Medicine to Direct Glucocorticoid Sepsis Therapy** (*Abstract 47*)
Xiang-An Li, PhD, University of Kentucky, Lexington, KY
- 10:00 AM – 10:20 AM** **Shifting Gears - Biological Hallmarks of Surgical Recovery** (*Abstract 48*)
Martin Angst, MD, Stanford University, Stanford, CA
- 10:20 AM – 10:35 AM** **Sarcopenia Is Associated with Poor Long-Term Functional Status and Mortality Following Intra-Abdominal Sepsis** (*Abstract 49*)
Michael C. Cox, MD, University of Florida, Gainesville, FL
- 10:35 AM – 10:50 AM** **Early Prediction and Prevention of Enteritis and Secondary Bacterial Translocation After Major Operations** (*Abstract 50*)
Jian Zhang, PhD, First Affiliated Hospital of Zhejiang University, Hangzhou, China
- 10:50 AM – 11:05 AM** **Fluctuation of the Olfactomedin-4 positive Neutrophil Subset in Adult Blunt Trauma Patients** (*Abstract 51*)
Nick C. Levinsky, MD, University of Cincinnati College of Medicine, Cincinnati, OH
- 11:10 AM – 11:30 AM** **Refreshment Break**
Commodore Foyer

11:30 AM – 12:30 PM **MINI SYMPOSIUM III: Sepsis**
Co-Chairs: Mitchell J. Cohen, MD, University of Colorado Denver, Aurora, CO
Stephen W. Standage, MD, Cincinnati Children's Hospital Medical Center, Cincinnati, OH
Commodore ABCD

- 11:30 AM – 11:45 AM** **Novel Synthetic Toll-like Receptor 4 Agonists Enhance Resistance to Infection with Common Bacterial Pathogens** (*Abstract 52*)
Antonio Hernandez, MD, Vanderbilt University, Nashville, TN

11:45 AM – 12:00 PM Polymicrobial Sepsis Induces Aberrant Activation of Splenic Dendritic Cells in Neonatal Mice (Abstract 53)
Jaimar C. Rincon, PhD, University of Florida, Gainesville, FL

12:00 PM – 12:15 PM Endothelial Specific HSPA12B Prevents Upregulation of Adhesion Molecules in Sepsis (Abstract 54)
Min Fan, MD, East Tennessee State University, Johnson City, TN

12:15 PM – 12:30 PM Dysfunctional Dynamics within the Hippocampus in Long-Term Sepsis Surviving Mice Lead to Altered Spatial Coding (Abstract 55)
Joshua J. Strohl, BS, Feinstein Institute for Medical Research, New Hyde Park, NY

11:30 AM – 12:30 PM MINI SYMPOSIUM IV: Barrier Function
Co-Chairs: Lorraine Ware, MD Vanderbilt University, Nashville, TN
Mashkour A. Choudhry, PhD, Loyola University of Chicago, Maywood, IL
Commodore E

11:30 AM – 11:45 AM Genetic Deficiency of AMPK α 1 Worsens Gut and Endothelial Barrier Dysfunction after Mesenteric Ischemia and Reperfusion Injury in Mice (Abstract 56)
Hannah V. Lewis, MD, University of Cincinnati, Cincinnati, OH

11:45 AM – 12:00 PM The Ex Vivo Perfused Human Lung is Resistant to Alveolar Epithelial Injury from High-Dose S. Pneumoniae Bacteremia (Abstract 57)
James T. Ross, MD, University of California San Francisco, San Francisco, CA

12:00 PM – 12:15 PM Dysregulation of Intrinsic MicroRNAs Contribute to Human Vascular Leak in an Ex Vivo Model of Sepsis (Abstract 58)
Rebecca L. Watkin, BSc, Royal College of Surgeons in Ireland, Dublin, Ireland

12:15 PM – 12:30 PM Regenerative Peptide TP508 Attenuates Neuroinflammation, Induces Neurogenesis and Reverses Endothelial Dysfunction in Experimental Traumatic Brain Injury (Abstract 59)
Amit K. Srivastava, PhD, The University of Texas Health Science Center at Houston, Houston, TX

12:30 PM – 1:30 PM Lunch
Avalon

12:30 PM – 1:30 PM ORAL PRESENTATIONS BY AND FOR NEW INVESTIGATORS II
Moderators: Carrie Sims, MD, PhD, The Trauma Center at Penn, Philadelphia, PA
Commodore ABCD

12:30 PM – 12:45 PM Evaluation of Innate Immune Cell Reprogramming Using Cargo-less Nanoparticles to Ameliorate Severe Inflammation (Abstract P217)
Jackline Joy Lasola, ScM, University of Maryland School of Pharmacy, Baltimore, MD

12:45 PM – 1:00 PM A Modified Storage Solution Decreases Red Blood Cell Storage Lesion Formation and Inflammatory Response to Resuscitation Following Hemorrhagic Shock (Abstract P156)
Kasiemobi Pulliam, PhD, University of Cincinnati, Cincinnati, OH

1:00 PM – 1:15 PM Tyrosine Phosphorylation of Caspase-8 Induces Cell Activation through Toll-Like Receptor 4 Dependent Signaling in Septic Neutrophils (Abstract P122)
Sahil Gupta, HBSc, St. Michael's Hospital/ University of Toronto, Toronto, Canada

1:15 PM – 1:30 PM Inhibition of Trem-1 with a Cirp-Derived Peptide Protects Mice from Intestinal Ischemia/Reperfusion Injury (Abstract P241)
Naomi-Liza Denning, MD, Feinstein Institute for Medical Research at Northwell Health, New Hyde Park, NY

1:30 PM – 3:30 PM

PLENARY SESSION III – Top Submitted Abstracts

Co-Chairs: Elizabeth J. Kovacs, PhD, University of Colorado Denver, Aurora, CO
Marc Jeschke MD, PhD, Sunnybrook Research Institute, Toronto, Canada
Commodore ABCD

1:30 PM – 1:45 PM

Mitochondrial CX43 and GJA1-20K in Estrogen-Mediated Cardiac Protection Following Acute Ischemia/Reperfusion (Abstract 60)

Meijing Wang, MD, Indiana University School of Medicine, Indianapolis, IN

1:45 PM – 2:00 PM

Therapeutic Potential of Natural and Engineered Chemokine (C-X-C Motif Receptor 4 Agonists in a Combined Lung Ischemia-Reperfusion Injury and Hemorrhage Model of Acute Respiratory Distress Syndrome (Abstract 61)

Favin S. Babu, MD, Loyola University Chicago, Chicago, IL

2:00 PM – 2:15 PM

Human Neutrophil Transcriptomic Changes in Premature Infants Fail to Resolve Despite Reaching Term-Corrected Gestational Age (Abstract 62)

Russell B. Hawkins, MD, University of Florida, Gainesville, FL

2:15 PM – 2:30 PM

Trauma Induces Emergency Hematopoiesis through IL-1 mediated production of G-CSF (Abstract 63)

Isaiah R. Turnbull, MD, PhD, Washington University School of Medicine, St. Louis, MO

2:30 PM – 2:45 PM

Circulating Cell-Free Nuclear DNA is Associated with Fibrinolytic Shutdown After Injury (Abstract 64)

Matthew E. Kutcher, MD, University of Mississippi Medical Center, Jackson, MS

2:45 PM – 3:00 PM

Increased Expression of Adipose-Derived PAI-1 is Associated with Acute Kidney Injury in Murine Models and Septic Patients (Abstract 65)

Beverly K. Balasuriya, PhD, University of Kentucky, Lexington, KY

3:00 PM – 3:15 PM

Modulation of Oxidative and Nitrosative Stress Attenuates Microvascular Hyper-Permeability in Ovine Septic Shock (Abstract 66)

Satoshi Fukuda, MD, University of Texas Medical Branch, Galveston, TX

3:15 PM – 3:30 PM

T Cell Memory Enhances Pulmonary Innate Immune Responses and Inflammatory Cytokine Production Following Cecal Ligation and Puncture (CLP) (Abstract 67)

Mariana R. Brewer, MD, The Feinstein Institute for Medical Research, New Hyde Park, NY

3:30 PM – 3:45 PM

Refreshment Break

Commodore Foyer

3:45 PM – 5:35 PM

PARALLEL SESSION V: Precision Medicine for Susceptible Populations to Critical Illness: Tailoring Therapy and Treatment

Co-Chairs: Philip Efron, MD, University of Florida, Gainesville, FL
Jennifer Kaplan, MD, Cincinnati Children's Hospital Medical Center, Cincinnati, OH
Commodore ABCD

3:45 PM – 4:05 PM

Sepsis and Older Adults (Abstract 68)

Philip Efron, MD, University of Florida, Gainesville, FL

4:05 PM – 4:25 PM

The Effect of Obesity during Critical Illness: Helpful or Harmful? (Abstract 69)

Jennifer Kaplan, MD, Cincinnati Children's Hospital Medical Center, Cincinnati, OH

4:25 PM – 4:45 PM

Impact of Cancer on Immune Dysregulation during Sepsis (Abstract 70)

Mandy L. Ford, PhD, Emory University, Atlanta, GA

4:45 PM – 5:05 PM

Modifiable Determinants of Neonatal Sepsis-Induced Brain Injury (Abstract 71)

James Wynn, MD, University of Florida, Gainesville, FL

5:05 PM – 5:20 PM **Outcomes after Abdominal Surgery for Trauma in Obese Patient** (*Abstract 72*)
Elinore J. Kaufman, MD, University of Pennsylvania, Philadelphia, PA

5:20 PM – 5:35 PM **Bariatric Surgery Does Not Improve Innate Immune Dysfunction Obese Diabetic Mice**
(*Abstract 73*)
Lynn M. Frydrych, MD, University of Michigan, Ann Arbor, MI

3:45 PM – 5:35 PM **PARALLEL SESSION VI: Cell Signaling in Infection and Inflammation**
Co-Chairs: Melanie Scott, MD, PhD, University of Pittsburgh, Pittsburgh, PA
Ben Lu, MD, PhD, Central South University, Changsha, China
Commodore E

3:45 PM – 4:05 PM **A Critical Protein Kinase Controls Inflammation, Wound Repair, and Cancer at Sites of Inflammation** (*Abstract 74*)
Michael Yaffe, MD, PhD, Massachusetts Institute of Technology, Cambridge, MA

4:05 PM – 4:25 PM **The Endocannabinoid and Endovanilloid Systems in Innate Immunity and Sepsis** (*Abstract 75*)
Judith Hellman, MD, University of California, San Francisco, CA

4:25 PM – 4:45 PM **Inflammatory Caspases in Trauma/Hemorrhagic Shock** (*Abstract 76*)
Melanie Scott, MD, PhD, University of Pittsburgh, Pittsburgh, PA

4:45 PM – 5:05 PM **IRF3 Signaling in Stromal Cells Contributes to Sepsis Pathogenesis** (*Abstract 77*)
Wendy Walker, PhD, Texas Tech University Health Science Center, El Paso, TX

5:05 PM – 5:20 PM **Immunoresponsive Gene 1 and Itaconate: Key Mediators of TLR4 Agonist-Induced Protection Against Infection** (*Abstract 78*)
Naeem K. Patil, MD, PhD, Vanderbilt University, Nashville, TN

5:20 PM – 5:35 PM **Pyruvate Dehydrogenase Controls Anabolism and Catabolism in Monocytes: Implications for Mitochondrial Targeting During Sepsis** (*Abstract 79*)
Charles E. McCall, MD, Wake Forest University, Winston-Salem, NC

6:00 PM – 7:00 PM **Reception**
Commodore Foyer

7:00 PM – 9:00 PM **Dinner: Scientific Achievement and Distinguished Service Awards Ceremony**
Commodore ABCD
Tickets will be collected