

PROGRAM
Annual Meeting of The
Society for Leukocyte Biology &
The International Endotoxin and Innate Immunity Society
“The Three Rs of Immunity: Recognition, Response and Resolution”

◆
October 7-9, 2010
Fairmont Vancouver
Vancouver, BC, Canada

Organizers: William M. Nauseef, Neil Reiner (SLB) & Alan Cross, Steven Opal (IEIIS)

(Note: First number denotes abstract number where applicable)

Thursday, October 7th

8:00 am - 6:00 pm **Registration**

(VIR Alcove)

8:00 - 11:00 am **Aging and Immunity Satellite Symposium**

Session Chairs: *Elizabeth Kovacs and Rebecca Fuldner*

(Pacific)

8:00 am **The Influence of Nutrition and Body Composition on Inflammatory Markers in Elderly Persons**

Luigi Ferrucci, NIA, MD

8:30 am **Maternal Determination of the T cell Epigenome**

Raymond Yung, University of Michigan, MI

9:00 am **Nutritional Interventions to Reduce Age-Associated Macrophage and Adipocyte Inflammation**

Simin Meydani, Tufts University, MA

1 **9:30 am** **IL-6 Mediates Elevation of Acute-phase Proteins but does not Affect Adipose Tissue Inflammation in Obesity Induced by High-fat Feeding in Mice**

Maria Pini, University of Illinois at Chicago, Chicago, IL

2 **9:45 am** **Immunosenescent Macrophages Cannot Control Streptococcus Pneumoniae Colonization, Resulting in Invasive Pneumococcal Disease**

Dawn Bowdish, McMaster University, Hamilton, ON

3 **10:00 am** **The Role of ICAM-3 in the Removal of Apoptotic Cells**

Andrew Devitt, Aston University, Birmingham, UK

4 **10:15 am** **Impaired Bacterial Clearance in Cutaneous Wounds from Aged Mice is Associated with Decreased Neutrophil Accumulation**

Aleah L. Brubaker, Loyola University Medical Center, Maywood, IL

12:00-7:30 pm Exhibits

(BC Foyer)

12:00-2:00 pm Plenary I

From Bench to Bedside

(Pacific)

Session Chair: *Alan Cross*

5 12:00 pm Innate and Adaptive Immune Responses in the Pathogenesis of Septic Shock

Steven Opal, Brown University, Providence, RI

12:25 pm A Genomics Approach to the Identification of Novel Mediators in a Clinical Setting

Joe Garcia, University of Illinois College of Medicine, IL

6 12:50 pm The Innate and Adaptive Immune Response to Shock/Trauma

Stephen F. Lowry, UMDNJ-Robert Wood Johnson Medical School, New Brunswick, NJ

1:15 pm Bench Science and Therapies for Severe Sepsis: What Went Wrong

Robert Munford, NIAID, NIH, MD

1:40 pm New Approaches to Immunomodulation in *P. Falciparum* Malaria

Douglas Golenbock, UMASS Medical School, MA

2:05 - 2:30 pm Coffee Break

(BC Foyer)

2:30 - 4:45 pm SLB and IEIIS Student Awards

(Pacific)

Session Chair: *William M. Nauseef and Alan Cross*

2:30 pm Introductions

SLB Junior Faculty/ Postdocs Presidential Award Finalist

8 2:45 pm Triggering CLEC5A on Immature Myeloid Cells Results in eNOS-dependent Lethal Shock

Rick W. Cheung, Merck Research Laboratories, Palo Alto, CA

9 3:00 pm Leishmania Exosomes Modulate the Properties of Human Monocytes and Dendritic Cells to Confer Immunosuppressive Phenotypes

Judith Silverman, University of British Columbia, Vancouver, BC

90 3:15 pm MMP-9 Mediated Neutrophil Migration – Broad Spectrum Immune Based Therapeutic Target In Respiratory Tularemia

Anju Singh, Albany Medical College, Albany, NY

SLB Student Presidential Award Finalist

7 3:30 pm An Innate Immune-enhancing Whole Cell Therapeutic for the Treatment of *Acinetobacter Baumannii* Pneumonia

M Indriati. Hood, Vanderbilt University School of Medicine, Nashville, TN

43 **3:45 pm** **Filopodia-localized NADPH Oxidase 4 in Regulating Metabolic Stress-induced Hyper-responsiveness of Monocyte Chemotaxis and Macrophage Recruitment**
Chi Fung Lee, University of Texas, San Antonio, TX

241 **4:00 pm** **Tobacco-Induced Alterations To Porphyromonas Gingivalis Fimbriae Promote Host Colonization**
Juhi Bagaitkar, University of Louisville, KY

IEIIS Young Investigator Award Finalists

11 **4:15 pm** **Role of Lipid A Modification in H. Pylori-host Interactions**
Thomas Wilson Cullen, University of Texas at Austin, TX

12 **4:30 pm** **Temperature Regulated N-Acyltransferases (LpxD) Contribute to Lipid A Structural Heterogeneity and Pathogenesis in Francisella Tularensis Subspecies Novicida.**
Yanyan Li, University of Maryland, Baltimore, Baltimore, MD

4:45 - 5:45 pm **Joint Senior Level Awards**

(Pacific)

Session Chairs: William M. Nauseef and Alan Cross

13 **4:45 pm** **SLB – Marie T. Bonazinga Award**
Promoting Resolution of Inflammation: A Novel Genus of Pro-Resolving Chemical Mediators
Charles N. Serhan, BWH and Harvard Medical School, Boston, MA
Sponsored by [Accurate Chemical and Scientific](#)

14 **5:15 pm** **SLB – Dolph Adams Award**
Administration of TAT-Hsp27 Protein Exacerbates Immune Complex-mediated Lung Injury in Rats by Promoting Neutrophil Survival
Madhavi J. Rane, University of Louisville, KY

LB1 **5:30 pm** **SLB - GJ Thorbecke Award**
Detection of Intracellular Bacterial Pathogens by Inflammasome NLRs
Denise Monack, Stanford University School of Medicine, CA

5:45 pm **IEIIS - Nowotny Award**
To Be Announced Onsite

6:00 pm **IEIIS - Bang Award**
To Be Announced Onsite

6:30 - 7:30 pm **Opening Reception**
(BC Foyer)

This event will mark the opening of the conference, held from 6:30 - 7:30 PM at the Fairmont Hotel Vancouver in the British Columbia Foyer. Light fare and wine will be hosted at this event. Please come and join your fellow attendees to celebrate the official opening of the program.

7:30 - 8:30 pm **Plenary II**

Keynote Lecture

(Pacific)

Session Chair: *William Nauseef*

Lessons in Innate Immunity from Patients with Rare Clinical Disorders

Steven Holland, NIH, NIAID, MD

9:00 - 11:00 pm Student Mixer

(*The Uber Lounge at Steamworks Brewing Co.*)

Friday, October 8th

7:30 am-8:30 am Meet the NIH Program Officer

Richard Sawyer and Matthew Fenton, NIAID, NIH, MD

(*Waddington*)

8:00 am-5:00pm Registration

(*VIR Alcove*)

8:00 am-5:30 pm Exhibits

(*BC Foyer*)

8:30 am-9:00 am SLB Member Business Meeting

Session Chair: *Elizabeth Kovacs*

(*Waddington*)

Presentation of Outgoing SLB Councilor Awards and Announcement of Presidential Award Winners

8:30 am-9:00 am IEIIS Member Business Meeting

Session Chair: *Alan Cross*

(*Vancouver Island*)

Presentation of Outgoing IEIIS Councilor Awards and Announcement of Young Investigator Award Winners

9:00-11:00 am Plenary III

Recognition

(Pacific)

Session Co-Chairs: *Mary Dinauer and Martha Cathcart*

9:00 am Pattern Recognition of Endotoxins

Jerrold Weiss, University of Iowa, IA

9:30 am Endogenous Ligands Versus Microbially-Derived Ligands: DAMPs and PAMPs

Timothy Billiar, University of Pittsburgh, PA

10:00 am Scavenger and Mannose Receptors, Dectin-1 (C-Type Lectins)

Siamon Gordon, University of Oxford, UK

15 **10:30 am** NALPs and Innate Immune Recognition of Infectious Agents

Jenny Ting, University of North Carolina at Chapel Hill, NC

11:00 am – 1:00 pm Poster Session I Lunch

(BC Ballroom)

Please join us for lunch while you browse the first set of poster presentations. Aging and Immunity posters and all odd numbered boards are presented today (B1, B3, B5...)

1:00-3:00 pm **Concurrent Sessions**

Concurrent 1: Purinergic Receptors and Immunity

(Pacific)

Session Chair: *Ofer Levy*

1:00 pm **The Distinct Adenosine System of Human Newborns Polarizes Neonatal Innate Immune Responses**

Ofer Levy, Children's Hospital Boston, MA

1:30 pm **Role of CD39 in Colitis/Inflammatory Bowel Disease**

Simon Robson, Harvard Medical School, MA

2:00 pm **Adenosine Receptors in Wound Healing**

Bruce Cronstein, NYU Lagone Medical Center, NY

16 **2:30 pm** **Resolvin E1 Regulates Activation of Human Platelets in Response to ADP**

*Gabrielle Fredman**, Brigham and Women's Hospital, Boston, MA; Boston Univ Dental Sch, Boston, MA; HIM, Boston, MA

17 **2:45 pm** **Pro-inflammatory Neuropeptides that Signal via Neurokinin-1 Receptor Promote Potent type-1 Biased Immunity**

Adriana T. Larregina, University of Pittsburgh, Pittsburgh, PA; NIH, Bethesda, MD

Concurrent 2: Soluble Pattern Recognition Receptors

(Waddington)

Session Chair: *Jens Jensenius*

1:00 pm **Ficolins and Host Defense**

Jens Jensenius, Aarhus University, Denmark

1:30 pm **SP-D, a Collagenous Pattern Recognition Molecule: Structure, Biology and Clinical Implications**

Jo Rae Wright, Duke University Medical Center, NC

2:00 pm **Mannose Binding Lectin: Genetics, Deficiency, and Disease**

Nigel Klein, UCL Institute of Child Health, UK

18 **2:30 pm** **Regulation of the Immunological Activity of Lipopolysaccharide by Surfactant Protein A**

Susanne Keese, Research Center Borstel, Hamburg, Germany

19 **2:45 pm** **CD93 Deficiency Increases Susceptibility to Peritonitis**

*Mallary C. Greenlee-Wacker**, University of Notre Dame, Notre Dame, IN

Concurrent 3: Regulatory Myeloid Cells

(Vancouver Island)

Session Chair: *Dmitry Gabilovich*

1:00 pm Regulation of Myeloid-Derived Suppressor Cells, Expansion, and Function

Dmitry Gabrilovich, Moffitt Cancer Center, FL

1:30 pm Myeloid-Derived Suppressor Cells in Sepsis

Lyle Moldawer, University of Florida, FL

2:00 pm Myeloid-Derived Suppressor Cells in Influenza Infection

Vincenzo Cerundolo, University of Oxford, UK

20 2:30 pm Micro-RNAs Expressed by Subsets of Myeloid-derived Suppressor Cells

Zack Howard, NIH/NCI/CCR, Frederick, MD

21 2:45 pm Resolvin D1 Specific Binding with Neutrophils and Monocytes and Identification of Pro-resolving Receptors

Sriram Krishnamoorthy, Brigham and Women's Hospital/Harvard Medical , Boston, MA

3:00-3:30 pm Networking Coffee Break

(BC Foyer)

3:30-5:30 pm Concurrent Sessions

Concurrent 4: Role of Exosomes in Immunity

(Pacific)

Session Chair: *Clotilde Thery*

3:30 pm Insights into the Molecular Mechanisms of Exosome Secretion

Clotilde Thery, Institut National de la Santé et de la Recherche Médicale, France

4:00 pm Exosome Secretion During Dendritic Cell - T Cell Interactions

Marca Wauben, Utrecht University, The Netherlands

4:30 pm Interaction between Dendritic Cells and Exosomes during Allorecognition in Transplantation

Adrian Morelli, University of Pittsburgh, PA

22 5:00 pm Partially Oxidized Phospholipids of Microvesicles Represent an Endogenous Danger Signal Activating TLR4

Roman Jerala, National Institute of chemistry, Ljubljana, University Medical Centre Ljubljana, Ljubljana

23 5:15 pm Microvesicles are a Common Means of Macrophage Activation by Pathogens and Tumor

*Peter A. Keyel**, University of Pittsburgh, Pittsburgh, PA

Concurrent 5: Leukocytic Phagolysosomes

(Waddington)

Session Chair: *Guoshun Wang*

24 3:30 pm Chloride Transport into the Neutrophil Phagosome

Guoshun Wang, LSU Health Sciences Center, New Orleans, LA

25 4:00 pm Active Probing is Required for the Efficient Capture of Phagocytic Targets by Macrophages

Sergio Grinstein, The Hospital for Sick Children, Toronto, Canada

4:30 pm **Faulty Phagolysosome Maturation in the Pathogenesis of Tuberculosis**

David Russell, Cornell University College of Veterinary Medicine, NY

5:00 pm **Organization of the NADPH Oxidase on the Phagosomal Membrane: Critical Role of p40phox**

Mary Dinauer, Indiana University, IN

Concurrent 6: TH17 Axis and Dendritic Cells

(Vancouver Island)

Session Chair: *Laura Sly*

3:30 pm **Studying Intestinal Mononuclear Phagocytes in Tissue and Microflora Context**

Steffen Jung, The Weizmann Institute of Science, Israel

4:00 pm **Role of IL-17A in Inflammatory Immune Responses and Host Defense Against Pathogens**

Yoichiro Iwakura, University of Tokyo, Japan

4:30 pm **Interactions between Gastrointestinal Bacteria and the TH17-Mediated Inflammatory Response**

Kiyoshi Takeda, Osaka University, Japan

26 **5:00 pm** **TL1A Drives Innate and Adaptive Immune Responses during the Development of Murine Colitis**

Kathrin Michelsen, Cedars-Sinai Medical Center, Los Angeles, ; Biogen Idec, Inc, Cambridge

27 **5:15 pm** **The Mucosal Phenotype and Function of Dendritic Cells is Regulated by PPAR γ**

*Halide Tuna**, University of Kentucky, Lexington, KY

6:45-9:15 pm **Conference Banquet:
Harbor Cruise**

This is a ticketed event. You must purchase advanced tickets in order to board the shuttle buses which will begin boarding at 6:15 PM at the Fairmont and shuttle participants to the Harbor Cruise Dock for a cruise departure of **7:15 PM**. Return shuttles provided after the event at 9:15 PM.

Saturday, October 9th

7:30 am-8:30 am **Meet the Speaker Breakfast – RSVP event**

(Cortes)

Join some our invited speakers for a mentoring breakfast. *Note: This is not an open event, you must have a confirmed RSVP to attend and space is limited*

Steve Holland, NIH, NIAID; *Charlie Serhan*, Harvard University; *Michele Swanson*, University of Michigan; and *Stefanie Vogel*, University of Maryland Medical Center

8:00 am-5:00pm **Registration**

(VIR Alcove)

8:00 am-4:30 pm **Exhibits**

(BC Foyer)

8:30-10:00 am **Plenary IV**

Response

(Pacific)

Session Chair: *Neil Reiner*

8:30 am **The Epigenetic Control of Innate Immune Responses**

Charles McCall, Wake Forest University, NC

9:00 am **Function and Regulation of Human T Regulatory and Th17 Cells**

Megan Levings, University of British Columbia, BC

9:30 am **The Role of Fever and Heat Shock in Shaping the Innate Immune Response**

Jeff Hasday, University of Maryland Medical Center, MD

10:00 – 10:30 am **Networking Coffee Break**

(BC Foyer)

10:30 am - 12:00 pm **Plenary V**

Resolution

(Pacific)

Session Chair: *Stefanie Vogel*

10:30 am **Autophagy as a Component of the Innate Immune System**

Michelle Swanson, University of Michigan, MI

11:00 am **MicroRNAs in the Control of Innate Immunity**

Edward Abraham, University of Alabama at Birmingham, AL

11:30 am **T-Regulatory Cells, Immune Privilege and Autoimmunity**

Rachel Caspi, NIH/NEI, MD

12:00 – 2:00 pm **Poster Session II Lunch**

(BC Ballroom)

Please join us for lunch while you browse the second set of poster presentations. Even numbered boards are presented today (B2, B4, B6...)

2:00-4:00 pm **Concurrent Sessions**

Concurrent 7: Role of Non-Conventional, Non-Myeloid Cells in Bridging Innate and Adaptive Immunity

(Pacific)

Session Chair: *Tim Sellati*

2:00 pm **Localized Regulation of Innate Immunity in Respiratory Tularemia**

Tim Sellati, Albany Medical College, Albany, NY

2:20 pm **Human iNKT Cells**

Jenny Gumperz, University of Wisconsin, WI

28 **2:50 pm** **Gamma/delta T cells, Monocytes and Neutrophils: The Innate Threesome**

Matthias Eberl, Cardiff University School of Medicine, Cardiff, Wales

3:10 pm **The Role of NK Cells in Early Viral Infection**

Christine Biron, Brown University, RI

29 3:30 pm Hypoxia Increases Membranal and Secreted HLA-DR in Endothelial Cells, Rendering them T Cell Activators

Michal A. Rahat, Carmel Medical Center & Technion, Haifa

30 3:45 pm Mechanisms of Neutrophil Priming

Silvia M. Uriarte, University of Louisville, Louisville, KY

Concurrent 8: Regulation of LPS Signaling

(Waddington)

Session Chair: *Kensuke Miyake*

31 2:00 pm A Mechanism by which the Fine Structure of LPS Modulates Host Response

Kensuke Miyake, University of Tokyo, Inst. Med. Sci., Tokyo, Japan

2:30 pm Novel Signaling Interactions between Proteinase-activated Receptor 2 (PAR2) and Toll-like Receptors (TLRs)

in vitro and in vivo

Stefanie Vogel, University of Maryland Medical Center, MD

3:00 pm Immune Cell Responses to Endotoxin and Other Microbial Elements

Shizuo Akira, Osaka University, Japan

32 3:30 pm Inhibition of NFkB p65 by Suppressor of Cytokine Signaling 1 (SOCS1) within the Cell Nucleus

Alexander H. Dalpke, University Heidelberg, Heidelberg

33 3:45 pm ADAM17 Regulates Neutrophil Recruitment during Acute Lung Inflammation

Bruce Walcheck, University of Minnesota, St. Paul/Minneapolis

Concurrent 9: The Inflammasome System

(Vancouver Island)

Session Chair: *Fayyaz Sutterwala*

2:00 pm The Inflammasome: Sensor of Infectious and Sterile Threats

Fayyaz Sutterwala, University of Iowa, IA

2:15 pm Nod1/Nod2 in Innate Immune Responses

Dana Philpott, University of Toronto, Canada

2:45 pm The Interactions of the Inflammasome and Signalsome in Viral Pathogenesis

Thierry Calandra, Centre Hospitalier Universitaire Vaudois, Switzerland

34 3:15 pm Autophagy Suppresses IL-1b Secretion by Targeting pro-IL-1b for Degradation

James Harris, Trinity College Dublin, Dublin

35 3:30 pm NLRP12 Participates in the Host Resistance to *Yersinia Pestis* Producing a *Y. Pseudotuberculosis*-like LPS

Egil Lien, UMass Medical School, Worcester, MA

36 3:45 pm Mutations in the NALP3 Inflammasome are Associated with Delayed Apoptosis in Human Neutrophils

Olle Stendahl, Linköping University, Linköping

4:00-4:30 pm **Networking Coffee Break**

(BC Foyer)

4:30-6:30 pm **Concurrent Sessions**

Concurrent 10: Host-Microbe Interactions

(Pacific)

Session Chair: *Kathy Triantafilou*

4:30 pm **Virus Infections and the TLRs**

Robert Finberg, UMass Medical School, MA

5:00 pm **The TLRs and PRRs in the Recognition of Fungal Pathogens**

Stuart Levitz, UMass Memorial Medical Center, MA

5:30 pm **Paradoxical Role of Retinoic Acid on Protective Immunity**

Yasmine Belkaid, NIH, NIAID, MD

37 **6:00 pm** **Dimerization of TIR Domains Underlies the Immunosuppression Caused by *Brucella* TcpB and its Principle can be Used for the Design of Potent TLR Signaling Pathway Inhibitors**

*Ota Fekonja**, National Institute of Chemistry, Ljubljana, Slovenia

38 **6:15 pm** **A Gene Locus in *Francisella Tularensis* Essential for Capsule and LPS O-antigen Biosynthesis, Macrophage Viability and Virulence**

Lee-Ann H. Allen, University of Iowa, Iowa City, IA

Concurrent 11: LPS Structure and Function

(Waddington)

Session Co-Chairs: *Koichi Fukase* and *Russell Bishop*

39 **4:30 pm** **Modulation on Innate Immune Response with Various Lipid A/LPS Partial Structures; Chemical Synthesis and Elucidation of Molecular Basis**

Yukari Fujimoto, Osaka University, Toyonaka

5:00 pm **Endotoxin Acylation by a Membrane-Intrinsic Enzyme**

Russell Bishop, McMaster University, Ontario, Canada

5:30 pm **Molecular Remodeling of Endotoxin in Pathogenic Bacteria**

Stephen Trent, University of Texas at Austin, TX

40 **6:00 pm** **Structural and Functional Characterization of the Hypostimulatory Lipopolysaccharide of *Granulibacter Bethesdaensis*: An Emerging Pathogen in Chronic Granulomatous Disease (CGD)**

Kol A. Zarembler, NIH / NIAID, Bethesda, MD

41 **6:15 pm** **Repair of the *Yersinia Pestis* Palmitoyl Transferase Gene, pagP Results in the Addition of two Palmitate Moieties and Restores a Robust Lipopolysaccharide Proinflammatory Response**

Robert K. Ernst, University of Maryland - Baltimore, Baltimore, MD

Concurrent 12: The Phylogeny of Innate Immunity

(Vancouver Island)

Session Chair: *Sanna Goyert*

4:30 pm **Metchnikoff and Other Historical Milestones in the Understanding of Immunology**

Jean-Marc Cavaillon, Institut Pasteur, France

42 **5:00 pm** **Evolutionary Insights into the Innate Immune Response from the Purple Sea Urchin**

Jonathan Rast, Sunnybrook Health Sciences Centre, Canada

5:30 pm **Receptor Dependent Recognition of Bacterial Products**

Richard Ulevitch, Scripps Research Institute, CA

6:00 pm **The Evolution of the IL-1 Family Through the Ages**

Charles Dinarello, University of Colorado, CO