

PROGRAM

Annual Meeting of the
Society for Leukocyte Biology
“Inflammation in Innate and Adaptive Immune Mechanisms”

◆
October 28 – 30, 2012
Hilton Grand Wailea Resort
Maui, Hawaii

Organizers: Tom Hamilton and Xiaoxia Li

The number in the far left of the column indicates the associated abstract number.

Saturday, October 27th

7:00 am-1:00 pm SLB Council Meeting

LOCATION: Maile 3

By invitation only.

8:00 am-2:00 pm Satellite Symposium

Alcohol and Immunology: Receptors and Signal Transduction

LOCATION: Plumeria

Chair: Elizabeth J. Kovacs

Hosted by the Alcohol and Immunology Research Interest Group (AIRIG)

7:30 am Continental Breakfast

8:00 am Welcome- Elizabeth J. Kovacs,
Loyola University Chicago

8:15 am Alcohol Modulation of Receptor Signaling: An Overview M. Katherine Jung, PhD, *National Institute on Alcohol Abuse and Alcoholism*

Session 1: Alcohol, Injury and Signaling

Chairs: Stephen B. Pruett and Robin Walker

1 8:45 am Alcohol and Drugs of Abuse Interaction with HIV/AIDS: Systems Biology Approach in the SIV-Infected Macaque Patricia Molina, *Louisiana State University Health Sciences Center*

2 9:15 am Chronic Alcohol Consumption Increases Mortality in Sepsis Benyam P. Yoseph, *Emory University School of Medicine*

3 9:30 am Inhibition of Myosin Light Chain Kinase Prevents Gut Inflammation and

Alterations in Tight Junction Proteins following Binge Ethanol Exposure and Burn Injury Anita Zahs, *Loyola University Chicago Health Sciences Division*

4 9:45 am Chronic Alcohol Effects on Oxidative Stress Markers in Rat Heart Robin Walker, *Howard University*

10:00 – 10:30 am **Coffee break**

Session 2: Alcohol Abuse and Inflammation
Chairs: Katherine A. Radek and Mark Asquith

5 10:30 am Cold Shock Protein and Alcohol-Induced Neurosuppression Ping Wang, *Feinstein Institute for Medical Research*

6 11:00 am Diminished Vaccine Responses and Cytokine Production are Associated with Increased Expression of Multiple microRNAs in a Non-human Primate Model of Alcohol Self-Administration Mark Asquith, *Oregon National Primate Research Center*

7 11:15 am Circulating micro-RNAs in Exosomes Indicate Hepatocyte Injury and Inflammation in Acute and Chronic Liver Disease Shashi Bala, *University of Massachusetts Medical School*

11:30 am Ethanol and Anti-inflammatory Signaling by Adiponectin Laura Nagy, *Cleveland Clinic*

12:00 – 1:00 pm **Lunch and Discussion Groups**

Session 3: Alcohol and Adaptive Immune Signaling

Chairs: Paul Drew and Juan Rendon

- 8 **1:00 pm Alcohol Modulates Airway Hyperresponsiveness and Inflammation in Allergic Asthma** Peter Oldenburg, *University of Nebraska Medical Center*
- 9 **1:30 pm Donor Chronic Alcohol Abuse Increases the Risk for Primary Graft Dysfunction in Lung Transplant Recipients** Erin Lowry, *Loyola University Medical Center*
- 10 **1:45 pm Differential Modulation of Chronic Alcohol Consumption on NKT Cells in Non-tumor Injected and Melanoma-Bearing Mice** Hui Zhang, *Washington State University*

2:00 pm Wrap-up

Elizabeth J. Kovacs and Mashkoor A. Choudhry

Sunday, October 28th

7:00-8:15 am Networking Breakfast

(Continental breakfast provided.)

LOCATION: Haleakala Gardens

6:30 am -5:00 pm Registration Desk Open

LOCATION: Haleakala Gardens

7:00 am-8:15 am Street Smarts of Science: A Survival Guide for Graduate Students (RSVP required)

LOCATION: Plumeria

Chair: Elizabeth J. Kovacs

Dr. Elizabeth J. Kovacs and senior faculty will impart their knowledge of how to survive in academia in a session designed around the needs of graduate students. Those currently enrolled in graduate school, medical school, and combined degree programs, may need help navigating the waters. There is no better place to do that than in Hawaii!!

Topics will include:

Conference "Etiquette"; Finding Mentors; Networking with Peers and Others; NIH 101; How to Stalk Faculty; Self "Marketing" and; "The Elevator Talk"

7:00 am-5:00 pm Speaker Ready Room

LOCATION: Maile 3

7:00-10:00 am Exhibit Set-up

LOCATION: Haleakala Gardens

8:15-8:30 am Welcome

LOCATION: Haleakala 4/5

8:30-10:00 am Plenary I: Innate Immune Recognition Mechanisms and Host Defense

LOCATION: Haleakala 4/5

Chair: David Mosser, *University of Maryland College Park*

8:30 am Cytosolic Surveillance: Sensing, Signaling and Regulatory Mechanisms

Kate Fitzgerald, *University of Massachusetts Medical School*

9:00 am Phagocytosis and Inflammatory Signaling: What's the Connection?

David Underhill, *Cedars-Sinai Medical Center/UCLA*

9:30 am Biochemical Characterization of DNA/RNA Sensors in the Innate Immune System

Yong-Jun Liu, *Baylor Research Institute*

10:00 am-5:00 pm Exhibits Open

LOCATION: Haleakala Gardens

10:00-10:30 am Coffee Break

LOCATION: Haleakala 1and Gardens

10:30 am-12:30 pm Concurrent Sessions

CS 1: Host-Pathogen Interactions

LOCATION: Haleakala 4/5

Chair: Luis Montaner, *The Wistar Institute*

10:30 am IL-23 in the Generation and Function of Th17 Memory

Mandy McGeachy, *University of Pittsburgh*

16 **11:00 am Identification of an E3 Ubiquitin Ligase Required for IRF3 K63-Ubiquitination and Activation**

Zhengfan Jiang, *College of Life Sciences, Peking University*

- 17 **11:20 am** Cytoskeletal Abnormalities, Neutrophil Dysfunction, Recurrent Infections and Impaired Healing Due to Mutations in WDR1, Encoding Actin-Interacting Protein 1
Douglas B. Kuhns, SAIC, Frederick National Laboratory for Cancer Research
- 18 **11:35 am** Differential Induction of Chemokines MIP-2 and KC Regulates Neutrophil Trafficking and Protects Mice from Bacterial Sepsis
Sanna M. Goyert, CUNY Medical School, Sophie Davis School of Biomedical Education
- 19 **11:50 am** SLB Travel Award Winner Interleukin-17 Is Protective against *saeR/S*-mediated *Staphylococcus aureus* Pathogenesis and Is Dependent on Interferon-Gamma Gene Activity
Robert Watkins, Montana State University
- 20 **12:05 pm** Negative Regulation of TLR Signaling by PLZF Modulation of NFkB
Bryan R.G. Williams, Monash Institute of Medical Research

CS 2: B Lymphocytes in Immune Regulation and Autoimmunity

LOCATION: Haleakala 2

Chair: Sulie Chang, Seton Hall University

- 10:30 am** Innate Immune Activation of Autoreactive B Cells
Ann Marshak-Rothstein, University of Massachusetts Medical School
- 21 **11:00 am** Unique Role of IRF-5 in the Innate Signaling Pathways and Regulation of the B Cell Response to Pathogens
Paula M. Pitha, Johns Hopkins University
- 22 **11:20 am** The Genetics of Anthrax Immunization
Kenneth M. Kaufman, Cincinnati Children's Hospital Medical Center
- 23 **11:35 am** IL-17A and IL-25 Confer on Normal Germinal Centre B Cells de Novo Migratory Competence to CXCL12 and CXCL13
Vito Pistoia, G. Gaslini Institute

- 24 **11:50 am** Human Herpesvirus 8 Infection Induces a Potent Cytokine and Chemokine Polyfunctional Response in Primary Memory B Lymphocytes
Emilee Knowlton, University of Pittsburgh Graduate School of Public Health
- 25 **12:05 pm** Mucosal Tolerance Therapeutic Stimulates Potent Regulatory B Cells for Protection in a BTLA-Dependent Fashion against Myelin Oligodendrocyte Glycoprotein (MOG)-Induced Experimental Autoimmune Encephalomyelitis (EAE)
David W. Pascual, Montana State University

12:30-1:30 pm Lunch on Your Own

1:30-3:00 pm SLB Presidential Nominees

LOCATION: Haleakala 4/5

Chairs: Jill Suttles and Ann Richmond

SLB Presidential Junior Faculty/Postdoc Nominee Talks

- 26 **1:30 pm** Siglecs in B Cell Tolerance
Matthew S. Macauley, The Scripps Research Institute
- 27 **1:45 pm** 'Slings' Enable Neutrophil Rolling during Inflammation
Prithu Sundd, La Jolla Institute for Allergy and Immunology
- 28 **2:00 pm** Origin of Tumor Elicited Inflammation: Pro-inflammatory Cytokines Promote Colorectal Tumorigenesis
Sergei Grivennikov, Fox Chase Cancer Center

SLB Presidential Student Nominee Talks

- 29 **2:15 pm** SAA, ApoE and LBP Modify Macrophage's Innate Immune Response Induced by the Malarial Hemozoin
Fikregabrail A. Kassa, McGill University
- 30 **2:30 pm** Topical Administration of G-CSF Promotes Resolution of *Staphylococcus aureus* Wound Infection in Aged Mice
Aleah L. Brubaker, Loyola University Chicago Health Sciences Division

- 31 **2:45 pm** Cell-Intrinsic Control of Macrophage Activation by CD39 and Implications for Treating Inflammatory Disease
Heather Cohen, *University of Maryland*

3:00-4:00 pm **Poster Session A / Coffee Break**

LOCATION: Haleakala Gardens
(Formal presentation of topical posters, snacks provided.)

4:00-5:00 pm **Senior Level Awards**

LOCATION: Haleakala 4/5
Chairs: Jill Suttles and Ann Richmond

- 32 **4:00 pm** *G. Jeanette Thorbecke Awardee*
SHIP Represses Auto-inflammation and Is Required for Intestinal Immune Homeostasis
Laura M. Sly, *University of British Columbia*

- 33 **4:15 pm** *Dolph O. Adams Awardee*
Transcriptomic Analysis of Manipulation of the NOD2 Signaling Pathway
Derek Abbott, *Case Western Reserve University*

4:45 pm *Women & Diversity Paper of the Year Awardee*
Crucial Role for the Nalp3 Inflammasome in the Immunostimulatory Properties of Aluminium Adjuvants
Stephanie Eisenbarth, *Yale University*

5:00-6:00 pm **Keynote Lecture**

Marie T. Bonazinga Awardee
Sponsored by Accurate Chemical
What Is Innate Immunity and What Is Interleukin-1?

LOCATION: Haleakala 4/5
Charles Dinarello, *University of Colorado Denver*
Chair: Jill Suttles

6:00-7:00 pm **Opening Reception**

LOCATION: Haleakala Gardens

7:00-8:30 am **Networking Breakfast**
(Continental breakfast provided.)
LOCATION: Haleakala Gardens

7:00 am-5:00 pm **Exhibits Open**
LOCATION: Haleakala Gardens

7:00 am-5:00 pm **Registration Desk Open**
LOCATION: Haleakala Gardens

7:00 am-5:00 pm **Speaker Ready Room**
LOCATION: Maile 3

7:00-8:30 am **How to Write Your First Grant Application** (RSVP required)

LOCATION: Plumeria
Chair: Julian G. Cambronero
This workshop is hosted by the *Professional Development Committee*, as part of the educational mission of the Society for Leukocyte Biology. This workshop is targeted to graduate students, postdoctoral fellows, and junior faculty, who are new to the grant writing process. A short presentation will be followed by small-group discussion tables to discuss grant writing strategies from multiple perspectives. Join senior researchers LeeAnn Allen, Louis Justement, Elizabeth J. Kovacs, Kenneth McLeish, and Daniel Remick and draw upon their knowledge during this interesting workshop.

8:30-10:00 am **Plenary II**
Inflammasomes
LOCATION: Haleakala 4/5
Chair: Laura Nagy, *Cleveland Clinic*

8:30 am **The NLR Family of Immune Sensors**
Jenny Ting, *University of North Carolina*

9:00 am **The Inflammasome: Role in Host Defense and Disease**
Gabriel Nunez, *University of Michigan*

9:30 am **The Inflammasome and Autoinflammation**
Hal Hoffman, *University of California, San Diego*

10:00-11:00 am **Poster Session B / Coffee Break**
LOCATION: Haleakala 1 and Gardens

Monday, October 29th

(Formal presentation of topical posters, snacks provided.)

11:00 am-1:00 pm Concurrent Sessions

CS 3: Cytokine Signaling and Inflammation I

LOCATION: Haleakala 4/5

Chair: Bryan Williams, *Monash Institute for Medical Research*

11:00 am The Role on ITAM Signaling Receptors in Macrophage Development and Function

Marco Colonna, *Washington University School of Medicine*

34 **11:25 am A New Branch of TLR3 Signaling**
Ganes C. Sen, *Cleveland Clinic Foundation*

35 **11:50 am Cytopenia and Immunosuppression Caused by NLRP1 Activation**

Ben A. Croker, *The Walter and Eliza Hall Institute of Medical Research*

36 **12:05 pm Peptidoglycan Degradation Products Activate the Inflammasome through a Novel Mechanism Using Glycolytic Enzymes**

Andrea J. Wolf, *Cedars-Sinai Medical Center*

37 **12:20 pm SLB Travel Award Winner The Contribution of the NLRP3 Inflammasome to Air Pollution Facilitated Allergic Sensitization and Airway Inflammation**

Jeremy A. Hirota, *University of British Columbia*

38 **12:35 pm Molecular Circuitry Responsible for the Opposing Paradigm of Endotoxin Priming and Tolerance**

Liwu Li, *Virginia Tech*

CS 4: Dendritic Cell and Macrophage Regulation

LOCATION: Haleakala 2

Chair: Alfred Ayala, *Rhode Island Hospital*

11:00 am Systems Vaccinology
Bali Pulendran, *Emory University*

39 **11:25 am The Discovery of a New Guanine Nucleotide Exchange Factor (GEF) in Leukocytes, That Happens to be a Phospholipase**

Julian Gomez Cambronero, *Wright State University School of Medicine*

40 **11:50 am SLB Travel Award Winner An IFN Gamma-IL15-IL32 Pathway in Human Macrophages Induces Vitamin D-Dependent Antimicrobial Program against Mycobacteria**

Dennis Montoya, *University of California, Los Angeles*

41 **12:05 pm Nlrp10 Regulates Dendritic Cell Function**

Stephanie C. Eisenbarth, *Yale School of Medicine*

42 **12:20 pm Geriatric Immunosenescence Differentially Affects T Lymphocyte and Antigen Presenting Cell Function**

Carol Miller-Graziano *University of Rochester Medical Center*

43 **12:35 pm SLB Travel Award Winner Dynamic T Cell-APC Interactions Sustain Chronic Inflammation in Atherosclerosis**

Ekaterina Koltsova, *La Jolla Institute for Allergy and Immunology*

1:00-2:00 pm Lunch on Your Own

12:30-2:00 pm JLB Editorial Board Lunch by invitation only.

LOCATION: Maile 2

2:00 -3:30 pm Plenary III: Myeloid Cell Populations in Cancer: The Link with Inflammation

LOCATION: Haleakala 4/5

Chair: Ann Richmond, *Vanderbilt University*

2:00 pm Regulation of Macrophage Functional Phenotype in the Tumor Microenvironment

Jill Suttles, *University of Louisville School of Medicine*

2:30 pm Regulation of Myeloid-Derived Suppressor Cells Expansion and Function in Cancer

Dimitry Gabrilovitch, *Moffitt Cancer Center*

3:00 pm Inflammation and Oxidative Stress Drive Immune Suppression in the Tumor Microenvironment

Suzanne Ostrand Rosenberg, *UMBC*

Sergei A. Nedospasov, *Lomonosov Moscow State University*

46 6:30 pm Cytokine Requirements for TH17 Cell Lineage Commitment Are Dictated by Priming Microenvironments

Pasare Chandrashekhar, *UT Southwestern Medical Center*

3:30- 4:00 pm Member Business Meeting and Presidential Award Announcements

LOCATION: Haleakala 4/5

4:00-5:00 pm Poster Session C / Coffee Break

LOCATION: Haleakala 1 and Gardens

(Formal presentation of topical posters, snacks provided.)

5:00-7:00 pm Concurrent Sessions

CS 5: Treg and Th17 Cells in Host Defense and Autoimmunity and $\gamma\delta$ T, NK, NKT Cells

LOCATION: Haleakala 4/5

Chair: Michael Lotze, *University of Pittsburgh Cancer Center*

5:00 pm IL-17 Family Cytokines in Inflammation and Cancer

Chen Dong, *UT MD Anderson Cancer Center*

5:25 pm The Original Innate Lymphocyte - Unique and Common Pathways Regulating NK Cell Responses

Christine Biron, *Brown University*

44 5:50 pm The Fifth Cardinal Sign: N(K) Cells Induce Autophagy, HMGB1 Release, Functio Laesa, and Promote Tumor Immunity

Michael T. Lotze, *University of Pittsburgh Cancer Institute*

45 6:15 pm Cellular Source and Molecular Form of TNF Defines Its Pathogenic and Protective Functions during Autoimmune Arthritis

CS 6: Cytokine Signaling and Inflammation II

LOCATION: Haleakala 2

Chair: Derek Abbott, *Case Western Reserve University*

47 5:00 pm Amphisome Formation and Autophagy Are Required for Virus-Induced Production of IFN-Alpha by Primary Human Plasmacytoid Dendritic Cells

Patricia Fitzgerald-Bocarsly, *UMDNJ- New Jersey Medical School*

48 5:25 pm Role of SRC and PI3K Signaling in Leukocyte "Entrainment" during Tumor Metastasis

Ann Richmond, *Vanderbilt University School of Medicine*

49 5:50 pm TREM-Like Transcript 2 (TLT2) Regulates Intrinsic and Extrinsic Processes That Promote Neutrophil Recruitment and Activation Contributing to Inflammation and Innate Host Defense

Louis B. Justement, *University of Alabama at Birmingham*

50 6:05 pm Crosstalk between Toll-Like Receptor and Cytokine Signaling in Promoting Gastric Tumorigenesis Independent of Inflammation

Brendan Jenkins, *Monash University*

51 6:20 pm SLB Travel Award Winner Programmed Death Ligand-1 Expression Attenuates Liver Sinusoidal Endothelial Cell Injury in Sepsis

Noelle A. Hutchins, *Brown University Warren Alpert School of Medicine*

52 6:35 pm AMPK Coordinates PI3K/Akt/mTOR and STAT3/SOCS3

Signaling in Macrophages in Response to IL-10

Yanfang Zhu, *University of Louisville*

9:00 am Innate Helper Type-2 Cells in Allergic Immune Responses

Richard Locksley, *Univ. of California, San Francisco*

9:30 am Regulation by Innate Lymphoid Cells in the Lung

Dale Umetsu, *Children's Hospital Boston*

7:00 -9:00 pm Social Mixer

(Chapel Lawn)

Tuesday, October 30th

7:00-8:30 am Networking Breakfast

LOCATION: Haleakala Gardens
(Continental breakfast provided.)

7:00 am-2:00 pm Exhibits Open

LOCATION: Haleakala Gardens

7:00 am -2:00 pm Registration Desk Open

LOCATION: Haleakala Gardens

7:00 am-2:30 pm Speaker Ready Room

LOCATION: Maile 3

7:00 am-8:30 am Women and Diversity

Workshop (RSVP required.)

LOCATION: Plumeria

Chair: Vijaya Iragavarapu

Keynote: Jenny Ting

Order Out of Chaos

This workshop features Jenny Ting as our keynote speaker and an open discussion with senior scientists on issues affecting women and minorities in science. Topics include women minority leadership, network/mentoring and "women don't ask" in regards to promotions and negotiations. This workshop is open to all individuals interested in discussing the obstacles affecting women and minorities throughout their career and hearing advice from senior scientists on managing those obstacles.

8:30 am-10:00 am Plenary IV: Epithelium: The Interplay between Innate and Th2 Immunity

LOCATION: Haleakala 4/5

Chair: Daniel Remick, *Boston University*

8:30 am IL-25 Signaling in Th2 Responses

Xiaoxia Li, *Cleveland Clinic*

10:00-11:00 am Poster Session D / Coffee Break

LOCATION: Haleakala 1 and Gardens
(Formal presentation of topical posters, snacks provided.)

11:00-1:00 pm Concurrent Sessions

CS 7: microRNA and Post-transcriptional Regulation in Inflammatory Response

LOCATION: Haleakala 4/5

Chair: Tom Hamilton, *Cleveland Clinic Foundation*

11:00 am The Role of tRNAs in Post-transcriptional Control

Paul Anderson, *Brigham and Women's Hospital*

53 11:25 am Pathological Dysregulation of the GAIT Translational Control System

Paul L. Fox, *Cleveland Clinic Foundation*

54 11:50 am Inhibition of iNOS by miR-146A Allows Tumor Cells to Escape Macrophage-Induced Death

Michal A. Rahat, *Carmel Medical Center and Technion*

55 12:05 pm Temporal and Spatial Expression of Mouse microRNAs 125-5p, 135a, 16, 214, 182, and 30c Following Genital *Chlamydia trachomatis* Infection

Bernard Arulanandam, *University of Texas at San Antonio*

56 12:20 pm Selective Regulation of Macrophage TLR Responses by Notch Signaling Components

Xiaoyu Hu, *Hospital for Special Surgery, Weill Cornell Medical College*

57 **12:35 am** The Functional Mechanisms of IL-17 Family Cytokines in Host Defense and Autoimmune Inflammation

Youcan Qian, *Shanghai Institute for Biological Sciences, Institute of Health Sciences*

CS 8: Neuroimmunology

LOCATION: Haleakala 2

Chair: Rachel Caspi, *National Institutes of Health*

11:00 am Sculpting Complement as a Therapeutic Strategy in Neurodegenerative Disorders Andrea Tenner, *University of California, Irvine*

58 **11:25 am** Reciprocal Interaction between NK Cells and DCs Regulates Th17 Immune Response by Controlling the Innate IFN- γ /IL-27 Axis

Rachel R. Caspi, *National Eye Institute, National Institutes of Health*

59 **11:50 am** Evidence for Ethanol-Induced Conformational Change of Toll-Like Receptor (TLR)-3 and an Ethanol Binding Site

Stephen B. Pruet, *Mississippi State University*

60 **12:05 pm** Peroxisome Proliferator-Activated Receptor Agonists Protect Neurons and Microglia from Ethanol in the Developing Cerebellum

Paul D. Drew, *University of Arkansas for Medical Sciences*

61 **12:20 pm** Epidermal Nicotinic Receptor Activation Prior to Skin Wound Infection Impairs Antimicrobial Peptide Responses and Leukocyte Recruitment to Increase Bacterial Survival

Katherine A. Radek, *Loyola University Chicago*

62 **12:35 pm** Chronic Alcohol-induced IL-1 β is Mediated by the NALP3/ASC Inflammasome Activation in a TLR4-Independent Manner in the Brain and Prevented by IL-1 Receptor Antagonist Treatment

Gyongyi Szabo, *University of Massachusetts Medical School*

1:00 pm-2:00 pm Lunch on Your Own

2:00-4:00 pm Plenary V: Metabolism in Immune Regulation

LOCATION: Haleakala 4/5

Chair: Charles McCall, *Wake Forest University*

2:00 pm Regulation of T Cell Differentiation and Function by MTOR Jonathan Powell, *Johns Hopkins School of Medicine*

63 **2:30 pm** Lymphocyte Metabolism in CD4 T Cell Subsets

Jeffrey Rathmell, *Duke University Medical Center*

3:00 pm Immune Regulation by Tryptophan Metabolism

Andrew Mellor, *Georgia Health Sciences University*