



Join Keystone Symposia
for the 2016 conference on:

Cytokine JAK-STAT Signaling in Immunity and Disease

January 10–14, 2016

Sheraton Steamboat Resort | Steamboat Springs, Colorado | USA

Scientific Organizers:

Curt M. Horvath, John J. O'Shea and Stephanie S. Watowich

This meeting, coinciding with the 25th year of the discovery of JAK-STAT signaling, will couple invited speakers who have made significant contributions to allied disciplines with cytokine JAK-STAT veterans, with ample opportunities for short talks selected from submitted abstracts. As JAK-STAT pathways produce both common and unique phenotypes critical for a vast range of biological phenomena, the basic understanding of how these signal transduction cascades are regulated, function and integrate with additional cellular responses has been continuously refined by discoveries of general and pathway-specific mechanisms.

Session Topics:

- Receptor Activation and STAT Signaling
- Chromatin and Gene Regulation
- Immune Regulation
- Inflammation
- Stem Cells and Development
- Infection and Diseases
- Metabolic Disease and Cancer
- Cancer Microenvironment and Therapeutics
- Workshop 1: All Things Interferon
- Workshop 2: Therapeutic Targeting of JAK-STAT Pathways



Submitting an abstract is a great way of participating in the conference through poster presentation and possible selection for a short talk.

Scholarship & Discounted Abstract Deadline: Sep 21, 2015

Abstract Deadline: Oct 20, 2015

Discounted Registration Deadline: Nov 10, 2015

For additional details, visit www.keystonesymposia.org/16A2.

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SUNDAY, JANUARY 10

Arrival and Registration

MONDAY, JANUARY 11

Welcome and Keynote Address

*Curt M. Horvath, Northwestern University, USA

John J. O'Shea, NIAMS, National Institutes of Health, USA
Jaks and Stats in Immunity and Disease

Receptor Activation and STAT Signaling

*Stephanie S. Watowich, University of Texas MD Anderson Cancer Center, USA

*Sandra Pellegrini, Institut Pasteur, France

K. Christopher Garcia, Stanford University School of Medicine, USA
Tuning Cytokine Receptor Signaling

Andrew Brooks, University of Queensland Diamantina Institute, Australia

Mechanism of JAK2 Activation by the Growth Hormone Receptor

Jeff Babon, Walter and Eliza Hall Institute of Medical Research, Australia

Inhibition of JAK/STAT Signaling by the SOCS Family of Proteins

Ryan D. Ferrao, Genentech, USA

Short Talk: Structural and Biophysical Characterization of a JAK1 Binding Motif Shared by Class II Cytokine Receptors: Breaking the "Box1" Code

Tim R. Hercus, University of South Australia and SA Pathology, Australia

Short Talk: Function of the Beta Common Family of Cytokines

Workshop 1: All Things Interferon

*David E. Levy, New York University School of Medicine, USA

*Thomas A.F. Decker, Vienna Biocenter, University of Vienna, Austria

Nancy Au-Yeung, Northwestern University, USA
Chromatin Regulation of Type I Interferon-Stimulated Genes

Teresa D. Collins, University of Florida, USA
A Suppressor of Cytokine Signaling-1 Mimetic Peptide Ameliorates Lupus Pathology through Interferon-gamma Signaling Inhibition

Christine Delgado, University of Colorado Anschutz Medical Campus, USA

JAK1 and CK2 Mediate Immune Suppressive Effects of Type I Interferons and May be a Target for Host-Directed Therapy of Bacterial Infection

Nathalie M. Grandvaux, Université de Montréal, Canada
A Novel STAT2/IRF9-Dependent Pathway Mediates the Synergistic Action of IFNbeta+TNFalpha to Regulate Delayed Antiviral and Immunoregulatory Genes

Srinivasan Rengachari, EMBL-Grenoble, France
Structural Insights into ISGF3 Assembly

Kelly Shephardson, Montana State University, USA
Type I Interferons Regulate Host Susceptibility to Post-Influenza Bacterial Superinfection via STAT6

Prerak Trivedi, St. Vincent's Institute, Australia

Preclinical Characterization of JAK1/JAK2 Inhibitors for Treatment of Type 1 Diabetes

Joshua D. Milner, NIAID, National Institutes of Health, USA
Germline STAT Mutations Cause Abnormal Cross-Regulation in Disease Pathogenesis

Chromatin and Gene Regulation

*George R. Stark, Case Western Reserve University, USA

Sandra Pellegrini, Institut Pasteur, France
Fine Tuning of Type I Interferon Response in Humans and Mice

Uwe Vinkemeier, University of Nottingham Medical School, UK
STAT Protein Polymerization and its Role in Cytokine-Dependent Gene Transcription

Jennifer Grandis, University of California, San Francisco, USA
Targeting STAT3 Signaling in Head and Neck Cancer

Yue Xiong, University of North Carolina at Chapel Hill, USA
Short Talk: The Function and Mechanism of TET DNA Dioxygenases in JAK-STAT Signaling and Antiviral Infection

Poster Session 1

TUESDAY, JANUARY 12

Immune Regulation

*John J. O'Shea, NIAMS, National Institutes of Health, USA

*Lionel B. Ivashkiv, Hospital for Special Surgery, New York, USA

Stuart G. Tangye, Garvan Institute of Medical Research, Australia
Regulation of Lymphocyte Activation and Effector Functions

Susan M. Kaech, The Salk Institute, USA
Fattening Up T Cell Memory

Mark H. Kaplan, Indiana University School of Medicine, USA
Transcriptional Regulation of T Helper Cell Development

Joseph E. Craft, Yale University, USA
STAT Regulation of Follicular T Helper Cell Development and Differentiation

Tiphanie Vogel, Washington University in St. Louis, USA
Short Talk: Altered Phosphorylation Kinetics, Cellular Location and Transcriptional Activity of a STAT3 GOF Mutation in the DNA Binding Domain

Massimo G. Gadina, NIAMS, National Institutes of Health, USA
Short Talk: Tofacitinib Ameliorates Murine Lupus and its Associated Vascular Damage

Inflammation

*Mark H. Kaplan, Indiana University School of Medicine, USA

*Joseph E. Craft, Yale University, USA

Stephanie S. Watowich, University of Texas MD Anderson Cancer Center, USA

Innate Immune Regulation by STAT3

Lionel B. Ivashkiv, Hospital for Special Surgery, New York, USA
Regulation of Macrophage Activation by STAT Signaling and Epigenetic Mechanisms

Simon A. Jones, Cardiff University School of Medicine, UK
Interleukin-6 Responses in Inflammation and Immunity

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Chien-Kuo Lee, National Taiwan University, Taiwan
Short Talk: STAT1 Regulates Marginal Zone B Cell Differentiation in Response to Inflammation and Infection with Blood-Borne Streptococcus Pneumoniae

Poster Session 2

WEDNESDAY, JANUARY 13

Stem Cells and Development

***Serge Y. Fuchs**, University of Pennsylvania, USA
Alessandra Sacco, Sanford-Burnham-Prebys Medical Discovery Institute, USA
STAT3 Signaling Regulates Muscle Stem Cell Function
Christine J. Watson, University of Cambridge, UK
The Role of Stat3 in Cell Fate Switching in Mammary Gland
Sandra E. Nicholson, Walter and Eliza Hall Institute of Medical Research, Australia
SOCS Protein Regulation of NK Cell-Mediated Tumor Immunity
***Erika A. Bach**, New York University School of Medicine, USA
JAK-STAT Signaling in Drosophila Tumor Models
Anthony R. Green, University of Cambridge, UK
Short Talk: Cytokine-Mediated Differentiation Reflects Genome-Wide Loss of a uSTAT Transcriptional Program
Zachary C. Murphy, University of Rochester, USA
Short Talk: JAK-STAT Signaling Regulates the Survival and Terminal Maturation of Embryonic Erythroid Cells Downstream of EpoR

Infection and Disease

***Alessandra Sacco**, Sanford-Burnham-Prebys Medical Discovery Institute, USA
***Christine J. Watson**, University of Cambridge, UK
Thomas A.F. Decker, Vienna Biocenter, University of Vienna, Austria
JAK STAT Cooperation with the NFkB Pathway in the Regulation of Host Responses and Innate Immunity to Bacteria
Curt M. Horvath, Northwestern University, USA
Activation and Inhibition Mechanisms in IFN-JAK-STAT Signaling and Innate Antiviral Immunity
David E. Levy, New York University School of Medicine, USA
Mitochondrial STAT3 Supports Malignant Transformation through Metabolic Reprogramming
Serge Y. Fuchs, University of Pennsylvania, USA
Short Talk: Type 1 Interferons as Effectors of Genotoxic and Proteotoxic Stress: Role in Accelerated Aging and Diabetes

THURSDAY, JANUARY 14

Metabolic Disease and Cancer

***Uwe Vinkemeier**, University of Nottingham Medical School, UK
***Andrew Brooks**, University of Queensland Diamantina Institute, Australia
Ajay Chawla, University of California, San Francisco, USA
Innate Mechanisms of Thermogenesis
Ross L. Levine, Memorial Sloan Kettering Cancer Center, USA
Role of JAK-STAT Pathway Activation in MPN Pathogenesis and Therapeutic Response

Andrew Larner, Virginia Commonwealth University, USA
STAT3 Rapidly Exits and Re-Enters the Mitochondria in Cells Exposed to Oxidative Stress or Cytokines

Tony Tiganis, Monash University, Australia
PTPs and STATs in Obesity and Cancer

Jesse Balic, Hudson Institute of Medical Research, Australia
Short Talk: Requirement for STAT3 Serine 727 Phosphorylation in Gastric Tumorigenesis

Marcin T. Kortylewski, Beckman Research Institute, City of Hope, USA
Short Talk: Cell-Selective Oligonucleotide STAT3 Inhibitors for Cancer Immunotherapy

Workshop 2: Therapeutic Targeting of JAK-STAT Pathways

***Veronika Sexl**, University of Veterinary Medicine, Austria
***Ross L. Levine**, Memorial Sloan Kettering Cancer Center, USA
Etty (Tika) Benveniste, University of Alabama at Birmingham, USA
Role of the JAK/STAT Pathway in Parkinson's Disease
Dirk Fahrenkamp, RWTH Aachen, Germany
Intramolecular Hydrophobic Interactions are Critical Mediators of STAT5 Dimerization
John S. McMurray, M.D. Anderson Cancer Center, USA
Targeting the SH2 Domain of STAT6: Potent Therapeutics for Asthma
Claudia Mertens, Rockefeller University, USA
Mutations in the Linker Domain Affect Phospho STAT3 Function and Suggest Targets for Interrupting STAT3
Jan Pencik, LBI-CR & Medical University of Vienna, Austria
Loss of IL-6/Stat3 Signaling Drives Metastatic Prostate Cancer in Mice and Men
Tiiu Saarne, AstraZeneca R&D Gothenburg, Sweden
Topical Administration of JAK1-Selective Inhibitor Reduces Airway Inflammation
Haiyan S. Li, University of Texas MD Anderson Cancer Center, USA
Dendritic Cell-Mediated Anti-Tumor Immunity is Restrained by STAT3 Suppression of Id2
Rich Woessner, AstraZeneca Pharmaceuticals, USA
Response to Checkpoint Inhibitor Antibodies is Enhanced by the Addition of STAT3 Antisense Treatment in Preclinical Tumor Models

Cancer Microenvironment and Therapeutics

***Andrew Larner**, Virginia Commonwealth University, USA
***Sandra E. Nicholson**, Walter and Eliza Hall Institute of Medical Research, Australia
Veronika Sexl, University of Veterinary Medicine, Austria
JAK-STAT in NK Cells: For the Better or Worse in Tumour Surveillance?
George R. Stark, Case Western Reserve University, USA
Novel Paradigms for STAT-Mediated Gene Regulation
Giorgio G. Inghirami, Weill Cornell Medical College, USA
The Pathogenetic Role of JAK/STAT Signaling Pathway in T-Cell Lymphoma

Meeting Wrap-Up: Outcomes and Future Directions

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*James E. Darnell, Rockefeller University, USA

FRIDAY, JANUARY 15

Departure