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

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](http://www.keystonesymposia.org/16A2).
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 Shepardson, 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
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
Proteotoxic Stress: Role in Accelerated Aging and Diabetes
Short Talk: Type I Interferons as Effectors of Genotoxic and
Serge Y. Fuchs, University of Pennsylvania, USA

Innate Antiviral Immunity
Activation and Inhibition Mechanisms in IFN-JAK-STAT Signaling and
Curt M. Horvath, University of Cambridge, UK

Host Responses and Innate Immunity to Bacteria
JAK STAT Cooperation with the NFkB Pathway in the Regulation of
Thomas A.F. Decker, University of Cambridge, UK

Maturation of Embryonic Erythroid Cells Downstream of EpoR
Short Talk: JAK-STAT Signaling Regulates the Survival and Terminal
Anthony R. Green, University of Pennsylvania, USA

Infection and Disease
* Alessandra Sacco, Sanford-Burnham-Prebys Medical Discovery Institute, USA

aSTAT3 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

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

Role of JAK-STAT Pathway Activation in MPN Pathogenesis and Therapeutic Response
Ross L. Levine, Memorial Sloan Kettering Cancer Center, USA

Addition of STAT3 Antisense Treatment in Preclinical Tumor Models
Rich Woessner, University of Texas MD Anderson Cancer Center, USA

Response to Checkpoint Inhibitor Antibodies is Enhanced by the Suppression of Id2

Dendritic Cell-Mediated Anti-Tumor Immunity is Restrained by STAT3

Loss of IL-6/Stat3 Signaling Drives Metastatic Prostate Cancer in Mice and Men
Jan Pencik, Memorial Sloan Kettering Cancer Center, USA

Suggest Targets for Interrupting STAT3 Mutations in the Linker Domain Affect Phospho STAT3 Function and Intramolecular Hydrophobic Interactions are Critical Mediators of STAT5 Dimerization
Claudia Mertens, Rockefeller University, USA

Role of JAK-STAT Pathway Activation in MPN Pathogenesis and Therapeutic Response
Ross L. Levine, Virginia Commonwealth University, USA

Inflammation

Topical Administration of JAK1-Selective Inhibitor Reduces Airway Inflammation
John S. McMurray, M.D. Anderson Cancer Center, USA

Targeting the SH2 Domain of STAT6: Potent Therapeutics for Asthma
John S. McMurray, M.D. Anderson Cancer Center, USA

Role of STAT5 Dimerization
Dirk Fahrenkamp, RWTH Aachen, Germany

Intramolecular Hydrophobic Interactions are Critical Mediators of STAT5 Dimerization
Etty (Tika) Benveniste, University of Alabama at Birmingham, USA

Loss of IL-6/Stat3 Signaling Drives Metastatic Prostate Cancer in Mice and Men
Dirk Fahrenkamp, RWTH Aachen, Germany

Inflammation

The Role of JAK/STAT Pathway in Parkinson's Disease
Etty (Tika) Benveniste, University of Alabama at Birmingham, 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

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 Restricted by STAT3 Suppression of Id2

Rich Woessner, Blueprint Medicines, 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

For the most up-to-date details, visit https://www.keystonesymposia.org.
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

*James E. Darnell*, Rockefeller University, USA

FRIDAY, JANUARY 15

Departure