TGF-β is a key regulator of immune responses, inflammation and cancer. In addition to the well-established effects of TGF-β on CD4+ T cell differentiation and reprogramming, TGF-β also plays critical roles in other immune cells. TGF-β has also been implicated in the regulation of the interactions among immune cells, microbiota and epithelial cells. In addition to safeguarding immune homeostasis and suppressing chronic inflammation and autoimmunity, TGF-β is emerging as a potential checkpoint in anti-tumor immunity. Despite great progress in the field, key questions related to TGF-β functions in immune responses are still largely undetermined. Therefore, it is imperative to understand the cellular and molecular mechanisms by which TGF-β controls such diverse immune cells. Elucidation of these pathways would allow us to understand the pathogenesis of chronic inflammation, autoimmunity and cancer and aid development of therapeutic practices in experimental and ultimately clinical settings. This meeting will gather together experts in the fields of both TGF-β signaling and immunology to discuss new findings and update the pivotal role of TGF-β in immunity, inflammation and cancer, with the aim to lay out the critical and key questions and outline new directions.

Session Topics:
• TGF-β Superfamily: Basic Mechanisms of Signal Transduction
• TGF-β in Hematopoietic Stem Cells and Innate Immunity
• TGF-β in T Cells I & II
• TGF-β in Emerging Immune Cells
• TGF-β in Mucosal Immunity and in Immune Tolerance
• TGF-β in Inflammatory Diseases: Mechanisms and Immunotherapy
• TGF-β in Cancer: Signaling in Cancer Cells and Immunotherapy for Cancer

Scholarship Application & Discounted Abstract Deadline: September 15, 2016
Abstract Deadline: October 11, 2016
Discounted Registration Deadline: November 10, 2016
TGF-ß in Immunity, Inflammation and Cancer (A3)
January 9-13, 2017 • Sagebrush Inn & Suites • Taos, NM, USA

Scientific Organizers: Wanjun Chen, Joanne E. Konkel and Richard A. Flavell

Sponsored by BioLegend, Inc., EMD Serono Research and Development Institute, Inc. and Regeneron Pharmaceuticals, Inc.


MONDAY, JANUARY 9
Arrival and Registration

TUESDAY, JANUARY 10
Welcome and Keynote Address

*Wanjun Chen, NIDCR, National Institutes of Health, USA
Rik Derynck, University of California, San Francisco, USA
TGF-beta Responses and Control of TGF-beta Responsiveness

TGF-beta Superfamily: Basic Mechanisms of Signal Transduction

*Howard L. Weiner, Brigham and Women’s Hospital, Harvard Medical School, USA
Joan Massagué, Memorial Sloan Kettering Cancer Center, USA
Contextual Determinants of TGF-beta Signaling in Normal and Oncogenic Stem Cells
Stefan Karlsson, Lund University, Sweden
TGF-beta Signaling in Hematopoietic Stem Cells
Peter ten Dijke, Leiden University Medical Center, Netherlands
TGF-beta Receptor Signal Transduction in Breast Cancer
Aristidis Moustakas, Uppsala University, Sweden
Short Talk: Epigenetic Control and Micro-RNA Processing Connect TGFBeta to EMT and Tumor Cell Stemness
Ying E. Zhang, NCI, National Institutes of Health, USA
Short Talk: Direct Regulation of Alternative Splicing by SMAD3 is Essential to the Tumor-Promoting Role of TGF-beta

Workshop 1: TGF-ß in Fate Decisions and Cellular Functions

*Akihiko Yoshimura, Keio University, Japan
Aamina Dahmani, University of Montreal, Maisonneuve-Rosemont Hospital Research Center, Canada
Transforming Growth Factor-beta Programs Central-Memory Differentiation In Ex-Vivo Stimulated Human T Cells By Modulating Id3 Expression
Matthew Riese, Medical College of Wisconsin, USA
PECAM-1, a TGF-beta Receptor Binding Protein, Contributes to CD8+ T Cell Exhaustion
Fernando Souza-Fonseca-Guimaraes, University of Queensland, Australia
TGF-beta Inhibits NK Cell Activation and Cytotoxicity through Repression of the mTOR Pathway
Hongbo Hu, Sichuan University, China
Non-Canonical NF-kappaB: The Regulating Mechanism and Application in Cancer Immunology
Lopa Mishra, George Washington University, USA
An Integrated Approach Towards Dissecting the Dichotomy of the TGF-beta Pathway in Liver Inflammation and Cancer: Insights from a Human Stem Cell Syndrome, TCGA Analyses, and Mouse Models
Claire Gustafson, Stanford University, USA
Age-Related Changes in MicroRNA Expression Alter TGF-beta Signaling in Naïve CD8 T Cells during Human Immune Aging

Lily Huang, Regeneron Pharmaceutical, USA
Inhibition of Activin A Stops the Regrowth of Surgically Resected Heterotropic Bone in a Mouse Model of Fibrodysplasia Ossificans Progressiva and Indicates a New Potential Path to Therapy

TGF-ß in Hematopoietic Stem Cells and Innate Immunity

Ursula Grohmann, University of Perugia, Italy
TGF-beta1 and BMP Signaling in Langerhans Cells
*Richard A. Flavell, HHMI/Yale University School of Medicine, USA
TGF-beta Controls Th17 Plasticity and Maintains Intestinal Homeostasis
Sylvain Perruche, Etablissement Français du Sang BFC, France
Short Talk: The Resolutive Factors Issued from Apoptotic Cell Clearance Allow the Termination of Ongoing Inflammation

Poster Session 1

WEDNESDAY, JANUARY 11

TGF-ß in T Cells I

*John J. O’Shea, NIAMS, National Institutes of Health, USA
Vijay K. Kuchroo, Brigham and Women’s Hospital, Harvard Medical School, USA
TGF-beta Induces Dominant Regulators that Promote Unidirectional Development of Foxp3+ Treg
Timothy A. Springer, Immune Disease Institute, Harvard University, USA
A Microglia Context Molecule for TGF-beta Required for Maintenance of Nervous System Function
Wanjun Chen, NIDCR, National Institutes of Health, USA
TGF-beta Regulates Tregs and Bregs
Akihiko Yoshimura, Keio University, Japan
Induction of Stable TGF-ß-Mediated Regulatory T Cells by Epigenetic Modifications
Yisong Wan, University of North Carolina at Chapel Hill, USA
Short Talk: TGF-beta Signaling in Controlling Diverse T Cell Functions

TGF-ß in T Cells II

*Vijay K. Kuchroo, Brigham and Women’s Hospital, Harvard Medical School, USA
John J. O’Shea, NIAMS, National Institutes of Health, USA
TGF-ß and MicroRNA in T Cell Plasticity
Sophie Lucas, de Duve Institute, Belgium
GARP-Dependent Activation of TGF-beta1 Mediates Immunosuppression by Human and Mouse Tregs
Chen Dong, Tsinghua University, China
Smad2 and Smad4 in T Cells
Zhai Li, Medical University of South Carolina, USA
Short Talk: Cancer Promotion and Immune Tolerance Via A Novel gp96-GARP-TGF-beta Switch: Mechanisms and Opportunities

* Session Chair † Invited but not yet accepted Program current as of March 12, 2020. Program subject to change. Meal formats are based on meeting venue. For the most up-to-date details, visit https://www.keystonesymposia.org.
**Poster Session 2**

**THURSDAY, JANUARY 12**

**TGF-β in Emerging Immune Cells**

*Lucienne Chatenoud*, INSERM U1151, Hôpital Necker-Enfants Malades, France  
Shannon J. Turley, Genentech, Inc., USA

*Regulation of Tumor Immunity by Stromal Cells*

Yasmina Laouar, University of Michigan, USA  
*Yasmina Laouar, University of Michigan, USA*

*Joanne E. Konkel*, University of Manchester, UK  
*TGF-beta in Innate Cells Matters*

Julien C. Marie, INSERM/Cancer Research Center of Lyon, France  
*Julien C. Marie, INSERM/Cancer Research Center of Lyon, France*

*Yuanming Xu*, Pfizer, USA  
*Yuanming Xu, Pfizer, USA*

**Regulation of Tumor Immunity by Stromal Cells**

Joanne E. Konkel, University of Manchester, UK  
*TGF-beta in Regulatory T Cell Function*

Julien C. Marie, INSERM/Cancer Research Center of Lyon, France  
*Julien C. Marie, INSERM/Cancer Research Center of Lyon, France*

*Yuanming Xu*, Pfizer, USA  
*Yuanming Xu, Pfizer, USA*

**TGF-β in Innate Cells Matters**

Joanne E. Konkel, University of Manchester, UK  
*TGF-beta in Regulatory T Cell Function*

Julien C. Marie, INSERM/Cancer Research Center of Lyon, France  
*Julien C. Marie, INSERM/Cancer Research Center of Lyon, France*

*Yuanming Xu*, Pfizer, USA  
*Yuanming Xu, Pfizer, USA*

**Workshop 2: TGF-β in Inflammatory Diseases and Cancer**

*Joanne E. Konkel*, University of Manchester, UK  
*Lingyun Sun*, Nanjing University Medical School, China  
*Gabriela Dveksler*, Uniformed Services University of the Health Sciences, USA

*Proteins Secreted from the Human Placenta Activate Latent TGF-beta and Demonstrate Therapeutic Potential*

Piotr Jachimczak, RealTVac, Germany  
*A Novel Strategy to Treat Advanced, Late-Stage Tumors with Real-Time Tumor Vaccination - RealTVac®*

James Gulley, NCI, National Institutes of Health, USA  
*Phase I Trial of M7824 (MSB0011359C), a Bifunctional Fusion Protein Targeting PD-L1 and TGF-beta, in Advanced Solid Tumors*

David F. Vincent, CRUK - Beatson Institute for Cancer Research, UK  
*Genetic Mouse Models of Bowel Cancer Reveal the Role of TGF-beta Signaling in Intestinal Stem Cell Homeostasis and Cancer*

Shaopeng Yuan, Rockefeller University, USA  
*TGF-beta Responsive Tumor Stem Cell Development and Drug Resistance in Squamous Cell Carcinoma*

**TGF-β in Cancer: Signaling in Cancer Cells and Immunotherapy for Cancer**

*Peter ten Dijke*, Leiden University Medical Center, Netherlands  
*Lalage M. Wakefield*, NCI, National Institutes of Health, USA  
*Anti-TGF-beta Antibody Therapy: Lessons from Pre-Clinical Cancer Models*

Karim A. Benhadji, Eli Lilly and Company, USA  
*Clinical Development of TGF-b Receptor Inhibitors in Cancer*

**Meeting Wrap-Up: Outcomes and Future Directions (Organizers)**

**SATURDAY, JANUARY 14**

Departure

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* Session Chair † Invited but not yet accepted  
* Program current as of **March 12, 2020**. Program subject to change. Meal formats are based on meeting venue. For the most up-to-date details, visit [https://www.keystonesymposia.org](https://www.keystonesymposia.org).