



Join Keystone Symposia
for the 2016 conference on:

Stromal Cells in Immunity

February 7–11, 2016

Keystone Resort | Keystone, Colorado | USA

Scientific Organizers:

Shannon J. Turley, Burkhard Ludewig and Melody A. Swartz

*Joint with the conference on **Fibrosis: From Basic Mechanisms to Targeted Therapies (Q3)***

Within lymphoid organs, non-hematopoietic stromal cells organize and interact with leukocytes in immunologically important ways. In addition to organizing T and B cell segregation and expressing lymphocyte survival factors, stromal cells support the migration of and interactions between antigen-presenting cells and naïve T and B cells during the initiation of immune responses and influence the outcome between tolerance and immunity. Our understanding of stromal cell populations and their contributions to innate and adaptive immunity as well as immunological diseases, cancer and vaccination has grown exponentially over the past few years. This emerging field has gained enormous momentum due to highly sophisticated and in-depth efforts to dissect the fundamental biology and clinical importance of this cellular compartment. These critical advances as well as work that is on the cusp of being published or in the pipeline are the focus of this meeting.

Session Topics:

- Stromal Cells in Inflammatory Disease (Joint)
- Stromal Cell Function in the Initiation of Adaptive Immunity
- Stromal Cells in Lymphoid Development
- Stromal Cell-Immune Cell Interactions in Non-Lymphoid Tissues
- Stromal Cells in Tumor-Promoting Inflammation and Anti-Tumor Immunity
- Stromal Cell Function in Chronic Inflammation
- Stromal Cells in Immune Regulation, Tolerance and Autoimmunity
- Therapeutic Application and Modulation of Stromal Cell Function



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: Oct 8, 2015

Abstract Deadline: Nov 10, 2015

Discounted Registration Deadline: Dec 8, 2015

For additional details, visit www.keystonesymposia.org/16Q4.

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KEYSTONE SYMPOSIA

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Stromal Cells in Immunity (Q4)

Scientific Organizers: Shannon J. Turley, Burkhard Ludewig and Melody A. Swartz

Sponsored by Genentech, Inc.

Fibrosis: From Basic Mechanisms to Targeted Therapies (Q3)

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SUNDAY, FEBRUARY 7

Arrival and Registration

MONDAY, FEBRUARY 8

Welcome and Keynote Session (Joint)

***Robert Lafyatis**, University of Pittsburgh Medical Center, USA

***Shannon J. Turley**, Genentech, Inc., USA

Ronald N. Germain, NIAID, National Institutes of Health, USA
Imaging the Immune Cell–Stromal Interface in Lymphoid Tissues and Beyond

Fiona M. Watt, King's College London School of Medicine, UK
Contribution of Different Fibroblast Lineages to Skin Fibrosis

Stromal Cells in Inflammatory Disease (Joint)

***Burkhard Ludewig**, Kantonsspital St. Gallen, Switzerland
Fibroblastic Reticular Cells: Phenotype Follows Function

Timothy W. Schacker, University of Minnesota, USA
Lymphoid Tissue Fibrosis in HIV Infection

***Robert Lafyatis**, University of Pittsburgh Medical Center, USA
Dermal Fibroblast Heterogeneity and Fibrosis in Systemic Sclerosis

Mo Ebrahimkhani, Arizona State University, USA
Short Talk: Engineering Human Organoids with Multiple Subsets of Stromal Cells

Jeffrey L. Browning, Boston University School of Medicine, USA
Short Talk: Fibroblasts in the Skin of Systemic Sclerosis Patients Share Characteristics with FRC in Lymphoid Organs

Workshop 1 (Q4)

***Jeffrey L. Browning**, Boston University School of Medicine, USA

***Shannon J. Turley**, Genentech, Inc., USA

Florent Carrette, Sanford Burnham Prebys Medical Discovery Institute, USA
CD44 is a New Immune Checkpoint that Promotes T Cell Exhaustion and Chronic Viral Infection through Expression on Fibroblastic Reticular Cells

Alice E. Denton, Babraham Institute, UK
Lymph Node Stromal Cells Derive from a Distinct Embryonic FAP+ Progenitor

Juan Dubrot, Broad Institute, USA
MHCII-mediated Antigen-presentation by Lymph Node Stromal Cells in Peripheral Tolerance

Henrike Fleige, Hannover Medical School, Germany
The Role of Stromal Cells in Pathogen-induced BALB

Amanda Lund, Oregon Health & Science University, USA
Lymphatic Vessels are Required for Efficient Viral Clearance and Adaptive Immune Induction Following Epicutaneous Vaccinia Infection

Anna-Carin Andersson Lundell, Göteborg University, Sweden
Type I and II Interferons Induce BAFF Production from Human Decidual Stromal Cells

Helen M. McGettrick, University of Birmingham, UK
Identification of a Transitional Fibroblast Functional Phenotype in Early Rheumatoid Arthritis

Sarajo Mohanta, Ludwig-Maximilians University Munich, Germany
Chameleons in the Arterial Wall: Vascular Smooth Muscle Cells Transdifferentiate into Lymphoid Tissue Organizer Cells and Control Atherosclerosis Immunity

Stromal Cell Function in the Initiation of Adaptive Immunity (Q4)

***Theresa T. Lu**, Hospital for Special Surgery/Weill Cornell Medicine, USA
Regulating Lymph Node Vascular-Stromal Growth and Survival in Immunity

Antal Rot, University of York, UK
Expression and Function of Atypical Chemokine Receptor 4 in Salivary Glands

***Michael C. Carroll**, Boston Children's Hospital, Harvard Medical School, USA
Lymph Node Fibroblast Reticular Cells in Regulation of Humoral Immunity

Mark C. Coles, University of York, UK
Short Talk: Role of microRNA Mediated Stromal Remodeling in Vaccine Efficacy

Sanjiv A. Luther, University of Lausanne, Switzerland
Short Talk: Identification of a New Fibroblast Subset Forming Plasma Cell Survival Niches in Activated Lymph Nodes

Metabolic Stress and Fibrogenesis (Q3)

***Mauricio Rojas**, University of Pittsburgh, USA

***Maria Trojanowska**, Boston University School of Medicine, USA

Timothy S. Blackwell, Vanderbilt University School of Medicine, USA
ER Stress in Lung Fibrosis

Ana L. Mora, University of Pittsburgh, USA
Fibrosis as a Disease of Aging and Mitochondrial Dysfunction

Philipp E. Scherer, University of Texas Southwestern Medical Center, USA
Fat Inflammation, Fibrosis and Remodeling

Kamran Atabai, University of California, San Francisco, USA
Short Talk: Functional Genomic Screen Identifies Novel Mediators of Collagen Uptake

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Poster Session 1

TUESDAY, FEBRUARY 9

Stromal Cells in Lymphoid Development (Q4)

Andrea Brendolan, Ospedale San Raffaele srl, Italy
Transcriptional Control of Retinoic Acid Metabolism in Stromal Progenitors is Required to Ensure Spleen Development

Marc Bajénoff, Centre d'Immunologie Marseille-Luminy, France
Dynamics of Lymphoid Stromal Cells

Yang-Xin Fu, UT Southwestern Medical Center, USA
Targeting Tumor Stromal Microenvironment to Reprogram Tumor Immunity

***Jorge H. Caamano**, College of Medicine - Univ. of Birmingham, UK
Development and function of Fat-Associated Lymphoid Clusters

Susan R. Schwab, New York University School of Medicine, USA
Short Talk: A Map of Sphingosine 1-Phosphate Distribution in the Spleen

Extracellular Matrix Composition and Stiffness in Regulation of Cell Phenotype (Q3)

***Dean Sheppard**, University of California, San Francisco, USA

***Daniel Tschumperlin**, Mayo Clinic, USA

Dennis E. Discher, University of Pennsylvania, USA
Fractal Heterogeneity of Model Scars Modulates Stiff-Niche Stem-Cell Responses via Nuclear Exit of a Mechanorepressor

Peter Bitterman, University of Minnesota, USA
IPF Extracellular Matrix Activates a Profibrotic Feedback Loop by Deregulating MicroRNA-29 at a Post-Processing Step

Andrew M. Tager, Massachusetts General Hospital, USA
Mitochondrial Priming by Matrix Stiffness Sensitizes Myofibroblasts to BH3 Mimetic-induced Apoptosis in Scleroderma Fibrosis

Victoria Smith, Gilead Sciences, USA
Allosteric Targeting of LOXL2

Brendon M. Baker, Boston University, USA
Short Talk: Cell-Mediated Fiber Recruitment Drives Extracellular Matrix Mechanosensing in Engineered Fibrillar Microenvironments

Tanya Kalin, Cincinnati Children's Hospital Medical Center, USA
Short Talk: FoxF1 Inhibits Pulmonary Fibrosis by Preventing Differentiation of Normal Lung Fibroblasts into Myofibroblasts

Workshop: Assessing and Treating Human Fibrosis (Q3)

***Benjamin D. Humphreys**, Washington University, USA

***David A. Schwartz**, University of Colorado Denver, USA

Philip A. Waghorn, Martinos Biomedical Imaging Center, USA
Non-Invasive Imaging of Fibrogenesis using Magnetic Resonance Imaging (MRI)

Daryle DePianto, Genentech, USA

An in vitro Co-Culture System Recapitulating Epithelial-Mesenchymal Communication as a Tool for Investigating Mechanisms of IPF Pathogenesis

Alan C. Mullen, Harvard Medical School, USA
Long Noncoding RNAs Expressed in Human Hepatic Stellate Cells form Networks with Extracellular Matrix Proteins

Tatsuya Tsukui, University of California, San Francisco, USA
Intratracheal Cell Transfer Demonstrates the Profibrotic Potential of Resident Fibroblasts in Pulmonary Fibrosis

Shuyu Ren, Biogen, USA
Multiple Domains of CTGF Amplify Pericyte Activation to Become Pathological Matrix Producing Cells

Claude Chapman LeSaux, Unity Biotechnology, USA
Janus Kinase-1 Inhibitor Prevents Senescence in Mouse Lung Bleomycin Model Leading to Reduce Fibrosis

Resat Cinar, NIAAA, National Institutes of Health, USA
Improved Antifibrotic Efficacy and Safety of Hybrid Inhibitors of Peripheral CB1 Receptors and iNOS

Gerlinde Wernig, Institute for Regenerative Medicine and Stem Cell Research, USA
c-JUN is a Critical Mediator of Multi-Organ Fibrosis

Stromal Cell-Immune Cell Interactions in Non-Lymphoid Tissues (Q4)

***Gwendalyn J. Randolph**, Washington University, USA
Collecting Vessel Permeability and Fibrosis: Regulation by CCR7 and IRF4-Dependent Dendritic Cells

Scott N. Mueller, University of Melbourne, Australia
Dynamic Responses of Lymphoid Stromal Cells to Infection

***Andrea Cerutti**, Mount Sinai School of Medicine, USA
Role of Stromal Cells in Innate-Like Antibody Responses

Joana Campos, University of Birmingham, UK
Short Talk: ICOS-ICOSL Interaction Regulates Lymphotoxin-alpha Expression and Maturation of Lymphoid-like Stromal Cells during Inflammation

Adaptive Immunity, TH2 and IL-13 Fibrosis (Q3)

***Lucie Peduto**, Institut Pasteur, France

Cory M. Hogaboam, Cedars-Sinai Medical Center, USA
Features of Immune Deregulation in IPF

***Thomas A. Wynn**, Pfizer, USA

Padraic Fallon, Trinity College Dublin, Ireland
Innate Lymphoid Cells and Fibrosis

Joseph R. Arron, Genentech, Inc., USA
Targeting IL13 in Idiopathic Pulmonary Fibrosis

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Richard Lee Gieseck III, NIAID, National Institutes of Health, USA
Short Talk: IL-13 Drives Distinct Cellular Pathways Directing Biliary Proliferation, Steatosis, and Fibrosis

Poster Session 2

WEDNESDAY, FEBRUARY 10

Stromal Cells in Tumor-Promoting Inflammation and Anti-Tumor Immunity (Q4)

***Melody A. Swartz**, University of Chicago, USA
Immune Regulation by Tumor Lymphangiogenesis

Shannon J. Turley, Genentech, Inc., USA
Stromal Cell Coordination of Leukocyte Function and Spatiality

Karin Tarte, Université de Rennes 1 - U917 Inserm, France
Lymphoid Stromal Cells in B-Cell Lymphoma

***Thomas Blankenstein**, Max Delbrück Center for Molecular Medicine, Germany
Adoptive T Cell Therapy

Jenny Rudnick, University of California, San Francisco, USA
Short Talk: Autophagy Regulates the Tumor Promoting State of Mammary Fibroblasts

Jacqui Shields, University of Cambridge, UK
Short Talk: Tumor-Associated Stromal Cells Contribute to Immune Dysfunction Via Antigen-specific Deletion of CD8+ T Cells and Transcriptional Reprogramming

Perivascular Mesenchymal Cells and Vascular Niches: Versatile Cells in Health and Disease (Q3)

***Theresa T. Lu**, Hospital for Special Surgery/Weill Cornell Medicine, USA

***Jeremy S. Duffield**, Vertex Pharmaceuticals, USA

Lucie Peduto, Institut Pasteur, France
Perivascular Stromal Lineages in Fibrosis and Cancer

Benjamin D. Humphreys, Washington University, USA
Mesenchymal Stem Cells in Organ Fibrosis

Paul S. Frenette, Albert Einstein College of Medicine, USA
Mesenchymal Stromal Subsets and Vascular Niches in the Bone Marrow

Lorin Olson, Oklahoma Medical Research Foundation, USA
Short Talk: Adipose Tissue Fibrosis Driven by PDGFR α -Induced Cell Fate Switch in Fibro-Adipogenic Progenitor Cells

Irina Alexandra Leaf, Biogen, USA
Short Talk: Targeting MyD88-Dependent Signaling in Pericytes is Protective Against Tissue Injury and Fibrosis

Stromal Cell Function in Chronic Inflammation (Q4)

***Michael B. Brenner**, Harvard Medical School, USA
Targeting and Sub-setting Fibroblasts to Treat Tissue Degradation and Fibrosis

***Fiona M. Powrie**, University of Oxford, UK
Innate Lymphoid Cells, Fibrosis and Inflammatory Bowel Disease

Christopher D. Buckley, University of Birmingham, UK
The Role of Stromal Cells in Chronic Inflammation

César Nombela-Arrieta, University Hospital Zurich, Switzerland
Short Talk: Chronic Viral Infections Induce Major Disruption of Bone Marrow Stromal Microarchitecture and Function

Fibrotic Muscle Disease (Q3)

***Paolo G. V. Martini**, Moderna, USA

***Elisabeth Barton**, University of Florida, USA
Fibrosis in Muscular Dystrophy

Bruce M. Wentworth, BMW Research Consulting, USA
Phosphorodiamidate Morpholino Oligomers (PMOs) in Development for the Treatment of Duchenne Muscular Dystrophy (DMD)

Barbora Malecova, Sanford Burnham Prebys Medical Discovery Institute, USA
Short Talk: Single Cell Analysis Reveals Dynamic Transitions within Distinct Subpopulations of Fibro-Adipogenic Progenitors (FAPs) Implicated in Skeletal Muscle Regeneration or Fibrosis

Daniel Tschumperlin, Mayo Clinic, USA
Short Talk: RNAi Screening to Identify Genes Essential for Myofibroblast Activation

Poster Session 3

THURSDAY, FEBRUARY 11

Stromal Cells in Immune Regulation, Tolerance and Autoimmunity (Q4)

Henrique Veiga-Fernandes, Instituto de Medicina Molecular, Portugal
Environmental Sensing by Blood Cells

***Jennifer L. Gommerman**, University of Toronto, Canada
The Lymphotoxin Network and Stromal Cell Remodeling

Ross M. Kedl, University of Colorado Denver, USA
Antigen Archiving by Lymph Node Stroma: A Novel Function for the Lymphatic Endothelium

***Paul P. Tak**, GlaxoSmithKline, UK
Towards Therapeutic Targeting of the Epigenome in Rheumatoid Arthritis

Kaisa Auvinen, University of Turku, Finland
Short Talk: The Endothelial Protein PLVAP in Lymphatics Controls the Entry of Antigens into the Lymph Nodes

Ivan Maillard, University of Michigan, USA
Short Talk: Stromal Cell Niches in Secondary Lymphoid Organs Drive T Cell Alloimmunity through Delta-Like1/4-Mediated Notch Signals

Immunity in Fibrotic Diseases (Q3)

***Peter D. R. Higgins**, University of Michigan, USA

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Ariel E. Feldstein, University of California, San Diego, USA
Inflammasome in Liver Fibrosis

Florian Rieder, Cleveland Clinic, USA
Scarring in Inflammatory Bowel Disease

Jaap M. Van Laar, UMC Utrecht, Netherlands
Stem Cell Transplant, Blocking Fibrosis in Systemic Sclerosis by Resetting the Immune System

Rick Jack, Promedior, Inc., USA
PRM-151 (rhPTX-2) in Treating Fibrotic Diseases

Ivan G. Gomez, Biogen, USA
Short Talk: TNF Superfamily Receptor Fn14 Activates Myofibroblasts to Drive Progression of Fibrotic Disease of the Kidney

Boris Hinz, University of Toronto, Canada
Short Talk: Direct Adhesion of Macrophages Promotes Myofibroblast Differentiation by Establishing a Niche of Active TGF- β 1

Workshop 2 (Q4)

***Mark C. Coles**, University of York, UK

***Sanjiv A. Luther**, University of Lausanne, Switzerland

Chris G. Mueller, University of Strasbourg, France
Distinct and Overlapping Roles of RANKL and Lymphotoxin in the Regulation of CD169+ Lymph Node Macrophages

Rafael de Queiroz Prado, NIAID, National Institutes of Health, USA
Distinct Role for IL-4/IL-13 Activated Monocytes/Macrophages during Type 2 Cytokine-driven Pulmonary Fibrosis

Lauren B. Rodda, University of California, San Francisco, USA
Phenotypic and Morphological Properties of Germinal Center Dark Zone Cxcl12-expressing Reticular Cells

Katarzyna Sitnik, Danish Technical University, Veterinary Institute, Denmark
Context Dependent Development of Lymphoid Stroma from BP3-PDPN+PDGFR α +/ β +CD34+ Adult Vascular Adventitial Cells

Nathalie Steinthal, University of Birmingham, UK
Cd248 Plays an Important Role in Controlling the Differentiation of Mesenchymal Stem Cells to Adult Lymphoid Stromal Cells

Seddon Thomas, NIEHS, National Institutes of Health, USA
Dendritic and Epithelial Cell Crosstalk in the Lung Orchestrates Immune Responses to Inhaled Allergens

Carolyn A. Thomson, University of Glasgow, UK
Novel Insights into the Intestinal Stromal Cells Network, Revealed by Selective Expression of the Atypical Chemokine Receptor ACKR4

Alice Anna Tomei, Diabetes Research Institute, USA
CCL21 Expression in Beta Cells Induces Lymph Node Mimicry in the Pancreas and Prevents Autoimmune Diabetes

Therapeutic Application and Modulation of Stromal Cell Function (Q4)

***Dhaval Kumar D. Patel**, Inflazome, Switzerland
Stromal-Immune Cell Cross-Talk in Autoimmune Disease: Roles in Therapeutic Interventions

Biju Parekkadan, Rutgers University, USA
Stromal Cell Therapy

***Katarina Le Blanc**, Karolinska Institute, Sweden
Bringing Mesenchymal Stem Cells into the Clinic

Nisarg Shah, Harvard University, USA
Short Talk: Recapitulating the Bone Marrow Stroma to Drive Immune Reconstitution

Emerging Antifibrotic Therapies (Q3)

***Lori Morton**, Regeneron Pharmaceuticals, Inc., USA

Dean Sheppard, University of California, San Francisco, USA
Integrin-Mediated TGF β Activation

Luca Richeldi, University of Southampton, UK
Nintedanib

Jörg H.W. Distler, University of Erlangen-Nuremberg, Germany
Upstream and Downstream Targeting of TGF β Signaling in Fibrosis

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (Q4)

Melody A. Swartz, University of Chicago, USA

Burkhard Ludewig, Kantonsspital St. Gallen, Switzerland

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (Q3)

FRIDAY, FEBRUARY 12

Departure