



Join Keystone Symposia
for the 2016 conference on:

Metabolism, Transcription & Disease

January 10–14, 2016

Snowbird Resort | Snowbird, Utah | USA

Scientific Organizers:

Peter Verrijzer, Katherine A. Jones and Paolo Sassone-Corsi

Joint with the conference on Nuclear Receptors: Full Throttle

There is increasing evidence that misregulation of metabolic flux and gene transcription plays a major role in human diseases, including obesity, diabetes and cancer. The aim of this meeting is to explore how metabolic state influences gene expression programs and, conversely, how intermediary metabolism is controlled by the transcription machinery and chromatin-modulating enzymes. Particular emphasis will be on the connection between gene transcription and metabolism in homeostatic and diseased state. The aim of this meeting is to bring together scientists working on basic aspects of transcription control, epigenetics, metabolic disease and cancer. The meeting will serve as a discussion platform to explore the rapidly growing interphase between transcription regulation, metabolic reprogramming and human disease.

Session Topics:

- The Transcription Machinery and Human Disease (Joint)
- Epigenetics and Chromatin as a Metabolic Sensor
- Signaling to Chromatin and Human Disease
- Gene Control by Metabolic Enzymes
- Metabolism and Tumor Suppression
- Rapid and Integrated Signaling (Extra-Nuclear) Actions of NRs
- Circadian and Metabolic Cycles (Joint)
- Obesity, Diabetes and Misregulation of Gene Expression
- Transcriptional Control of Cell Growth



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 23, 2015

Abstract Deadline: Oct 22, 2015

Discounted Registration Deadline: Nov 12, 2015

For additional details, visit www.keystonesymposia.org/16J2.

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KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

Metabolism, Transcription and Disease (J2)

Scientific Organizers: Peter Verrijzer, Katherine A. Jones and Paolo Sassone-Corsi

Supported by the Directors' Fund

Nuclear Receptors: Full Throttle (J1)

Scientific Organizers: Carol A. Lange, Jennifer K. Richer and Karen E. Knudsen

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SUNDAY, JANUARY 10

Arrival and Registration

MONDAY, JANUARY 11

Welcome and Keynote Address (Joint)

***Carol A. Lange**, University of Minnesota, USA

***Peter Verrijzer**, Erasmus University Medical Center, Netherlands

Robert T. Tjian, HHMI/University of California, Berkeley, USA
Probing Transcription Regulation by Single Molecule Imaging

Transcription and Human Disease (Joint)

Danny F. Reinberg, HHMI/New York University, USA
Epigenetic Regulation by Polycomb Complexes

Susanne Mandrup, University of Southern Denmark, Denmark
Reorganization of the 3D Chromatin Structure during Adipocyte Differentiation

Mitchell A. Lazar, Perelman School of Medicine, University of Pennsylvania, USA
Nuclear Receptors and the Transcriptional Regulation of Circadian Rhythms and Metabolism

Asifa Akhtar, Max Planck Institute of Immunobiology and Epigenetics, Germany
Epigenetic Regulation by MOF Containing Complexes

Workshop 1: NR Interactions with DNA and the Transcriptional Machinery (J1)

***Carolyn L. Smith**, Baylor College of Medicine, USA

Sofie Johanna Desmet, Ghent University/VIB, Belgium
Cofactor Profiling Following Selective Modulation of the Glucocorticoid Receptor

Jay Gertz, University of Utah, USA
Functional Dissection of Estrogen Receptor Alpha Bound Enhancers at their Endogenous Loci

Ville Paakinaho, National Institutes of Health, USA
Single-Molecule Analysis of Glucocorticoid Receptor and Cofactor Action in Living Cells

Jing Yang, Baylor College of Medicine, USA
The Histone Demethylase PHF8, a Novel Interacting Partner of the SMRT Coregulator, Promotes Estrogen Receptor-alpha Transcriptional Activity

Dinny Graham, Westmead Institute for Medical Research, University of Sydney, Australia
Differential Effects of Cell Type and Nuclear Environment on Progesterone Receptor Isoform Function

Coralie Poulard, University of Southern California, USA
Crosstalk between Automethylation and Phosphorylation Tightly Regulates G9a Coactivator Function with Steroid Hormone Receptors

Bart Kolendowski, University of Western Ontario, Canada
The Role of Thymine DNA Glycosylase (TDG) in Estrogen Receptor Signalling and Enhancer RNA Regulation in Breast Cancer

Sean W. Fanning, University of Chicago, USA
Bazedoxifene Potently Inhibits Y537S and D538G ESR1 Somatic Mutants by Disrupting the Constitutively Active AF-2 Conformational State

Epigenetics and Chromatin as a Metabolic Sensor (J2)

***Asifa Akhtar**, Max Planck Institute of Immunobiology and Epigenetics, Germany

Hans-Martin Herz, St. Jude Children's Research Hospital, USA
Short Talk: The Histone H3 Lysine 4 to Methionine (H3K4M) Mutant as a Tool to Study Enhancer-Mediated Processes

Katrin F. Chua, Stanford University Medical Center, USA
Chromatin Regulation and Genome Maintenance by Mammalian Sirtuins

Tokameh Mahmoudi, Erasmus Universiteit Rotterdam, Netherlands
Signaling to Chromatin and Viral Latency

Melanie M. Ott, University of California, San Francisco, USA
Metabolic Reprogramming of T Cells by SIRT1

Co-Regulators (J1)

***Karen E. Knudsen**, Thomas Jefferson University, Kimmel Cancer Center, USA

Myles Brown, Dana-Farber Cancer Institute, USA
Hacking the Steroid Receptor Cistrome

Qianben Wang, Ohio State University, USA
Precise and Dynamic Definition of Nuclear Receptor Collaborator and Coregulator Cistromes

Carol A. Lange, University of Minnesota, USA
Stress-Responsive Gene Regulation by GR/HIF/PELP1 Complexes in Triple-Negative Breast Cancer

Timothy E. Reddy, Duke University, USA
Short Talk: Massively Parallel Reporter Assays Reveal Glucocorticoid Receptor Interaction Modules that Direct Gene Expression Responses to Corticosteroids

Poster Session 1

TUESDAY, JANUARY 12

Signaling to Chromatin and Human Disease (J2)

Gerald R. Crabtree, Stanford University, USA
ATP-Dependent Chromatin Remodeling: Insights from New Methods and the Genomics of Human Disease

Irina M. Bochkis, University of Virginia, USA
Short Talk: Reorganization of Lamina-Associated Domains in Aged Liver Alters Binding of Pioneer Factor Foxa2

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***Jerry L. Workman**, Stowers Institute for Medical Research, USA
Serine and SAM Responsive Complex SESAME Regulates Histone Modification Crosstalk by Sensing Cellular Metabolism

W. Lee Kraus, University of Texas Southwestern Medical Center, USA
Nuclear NAD⁺ Signaling through DNA-dependent PARPs and the Control of Gene Expression

Juan Du, Beckman Research Institute of City of Hope, USA
Short Talk: Chromatin Variation Driven by Transposable Elements Is a Key Contributor to Liver Metabolism in Mice

Ali Shilatifard, Northwestern University, USA
Enhancer Malfunction in Cancer

From Chromatin to Clinic (J1)

***Scott M. Dehm**, University of Minnesota, USA

Karen E. Knudsen, Thomas Jefferson University, Kimmel Cancer Center, USA
Nuclear Receptor-DNA Repair Crosstalk: Bench to Bedside

John A. Katzenellenbogen, University of Illinois at Urbana-Champaign, USA
Novel Ligands for Estrogen Receptor and Androgen Receptor Targeted Therapies

Susan K. Logan, New York University School of Medicine, USA
Transcription Repression in Prostate Cancer

Amy Peterson, BeiGene, USA
Advances in the Use of Selective Androgen Receptor Modulators as Cancer Therapies

Yiru Chen Zhao, University of Illinois at Urbana-Champaign, USA
Short Talk: Prevention of Obesity Related Breast Cancer Using Pathway Preferential Estrogens

Lisa Greene, University of Colorado Anschutz Medical Campus, USA
Short Talk: Suppression of CD8 T-cells by Tryptophan Catabolism in Triple-Negative Breast Cancer

Metabolism and Gene Control (J2)

***Melanie M. Ott**, University of California, San Francisco, USA

Jesper Q. Svejstrup, Francis Crick Institute, UK
Transcription-Associated Genome Instability

Frances M. Sladek, University of California, Riverside, USA
Short Talk: Soybean Oil Induces Obesity via Linoleic Acid, Oxylipins and Nuclear Receptor HNF4alpha

Katherine A. Jones, The Salk Institute, USA
Metabolic Role for CTD Kinases

Joaquín M. Espinosa, University of Colorado Boulder, USA
Mechanisms of Transcriptional Control by HIF1 and its Cofactors in Response to Hypoxia

Advances in Structures, Ligands and Energetics (J1)

***Myles Brown**, Dana-Farber Cancer Institute, USA

Nima Sharifi, Cleveland Clinic, USA
Feeding the Ligand Addiction in Advanced Cancers

Kendall W. Nettles, The Scripps Research Institute, USA
Predicting Phenotypic Outcomes for Estrogen Receptor Ligands

David L. Bain, University of Colorado Anschutz Medical Campus, USA
Nuclear Receptor Functional Energetics and Transcriptional Regulation

Kerry Kornfeld, Washington University Medical School, USA
Short Talk: The Nuclear Receptor HIZR-1 Mediates Zinc Homeostasis by Functioning as a Zinc Sensor and Transcription Response Effector

Poster Session 2

WEDNESDAY, JANUARY 13

Metabolism and Tumor Suppression (J2)

***Jane Mellor**, University of Oxford, UK

Jennifer Jones McCann, Thomas Jefferson University, USA
Short Talk: Novel Action of p53 Gain-of-Function Mutations in Prostate Cancer Progression

Amanda G. Fisher, Imperial College London, UK
Non-Invasive Imaging of Epigenetic Changes in the Developing Embryo

Adrian P. Bracken, Trinity College Dublin, Ireland
The PRC2 Complex in Cellular Proliferation and Cancer

Selma Masri, University of California, Irvine, USA
Short Talk: Lung Adenocarcinoma Distally Rewires Hepatic Circadian Homeostasis

Craig B. Thompson, Memorial Sloan Kettering Cancer Center, USA
Metabolic Regulation of Epigenetics

Rapid and Integrated Signaling (Extra-Nuclear) Actions of NRs (J1)

***Kenneth S. Korach**, NIEHS, National Institutes of Health, USA

Ellis R. Levin, University of California, Irvine, USA
Membrane and Nuclear-Only ERalpha Mice Inform Phenotypes and Metabolic Functions Resulting from Estrogen Action

Cheryl L. Walker, Baylor College of Medicine, USA
Environmental Estrogens Activate Nongenomic ER Signaling to Developmentally Reprogram the Epigenome

Stephen R. Hammes, University of Rochester Medical Center, USA
Crosstalk between Estrogen and mTOR Signaling in Lymphangiogliomyomatosis (LAM)

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Zeynep Madak-Erdogan, University of Illinois at Urbana-Champaign, USA

Systems Biology of Gene and Metabolic Regulation by Estrogen Receptors and Kinases in Breast Cancer and Metabolic Disease

Rebecca B. Riggins, Georgetown University, USA

Short Talk: The Extra-Nuclear Life of ERRbeta2: Cytoskeletal and Mitotic Functions of an Orphan Nuclear Receptor Splice Variant

Andrea R. Patterson, Ohio State University, USA

Short Talk: The Role of Stromal Estrogen Receptor in Mammary Gland Reprogramming Following in Utero BPA Exposure

Circadian and Metabolic Cycles (Joint)

***Mitchell A. Lazar**, Perelman School of Medicine, University of Pennsylvania, USA

Ronald M. Evans, HHMI/The Salk Institute, USA

Nuclear Receptors—Physiology's Architect: A 30 Year Perspective

Paolo Sassone-Corsi, University of California, Irvine, USA

Metabolic and Epigenetic Language of the Circadian Clock

Jane Mellor, University of Oxford, UK

Transcriptional Regulation of the Metabolic Cycle

Ronald M. Evans, HHMI/The Salk Institute, USA

Nuclear Receptors and the Circadian Clock

Poster Session 3

THURSDAY, JANUARY 14

Keynote Address (J2)

***Paolo Sassone-Corsi**, University of California, Irvine, USA

Bruce M. Spiegelman, Harvard Medical School, USA

Transcriptional Control of Brown and Beige Fat: Basic Biology and Potential Therapeutic Pathways

Obesity, Diabetes and Misregulation of Gene Expression (J2)

***Paolo Sassone-Corsi**, University of California, Irvine, USA

Amandine Chaix, The Salk Institute for Biological Studies, USA

Short Talk: Time-Restricted Feeding is a Preventative and Therapeutic Intervention Against Diverse Nutritional Challenges

Carl S. Thummel, University of Utah School of Medicine, USA

Regulation of Mitochondrial Transcription and Carbohydrate Homeostasis by the HNF4 Nuclear Receptor

Shingo Kajimura, University of California, San Francisco, USA

Molecular Basis of Beige Adipocyte Maintenance and Energy Expenditure

Anders M. Näär, Harvard Medical School, USA

Transcriptional and MicroRNA Circuits in Metabolic Disorder

Nuclear Receptors in Cancer, Gender Benders and Other Advances (J1)

***Jonna Frasor**, University of Illinois, Chicago, USA

Christine Louise Clarke, Westmead Millennium Institute, Australia
Progesterone Action in Normal Breast and Breast Cancer

Gail S. Prins, University of Illinois, USA

Estrogenic Regulation of Prostate Stem and Progenitor Cells: Differential Actions through ERalpha and ERbeta

Jennifer K. Richer, University of Colorado Anschutz Medical Campus, USA

Subtype-Specific AR Action in Breast Cancer

John A. Cidlowski, NIEHS, National Institutes of Health, USA

Stress Hormone Signaling and Heart Disease: The Good, the Bad, and the Deadly

Diana M. Cittelly, University of Colorado Anschutz Medical Campus, USA

Short Talk: Ovarian and Brain Estrogens Promote Brain Metastases of Triple-Negative Breast Cancer

Christopher M. McNair, Thomas Jefferson University, USA

Short Talk: RB Loss Re-Programs E2F1 and AR Cistromes in Prostate Cancer

Workshop 2: Signal Transduction and NR Actions (J1)

***Carol A. Lange**, University of Minnesota, USA

Christy Hagan, University of Kansas Medical Center, USA

Progesterone Receptor Promotes Inflammatory Gene Programs in Breast Cancer

Lynsey M. Fetting, University of Colorado, USA

Progesterone Receptor-Retinoic Acid Receptor Crosstalk in Regulating a Breast Cancer Stem Cell Population

Michael A. Gordon, University of Colorado Anschutz Medical Campus, USA

Targeting Multiple Pathways in Breast Cancer: Androgen Receptor, HER2, and mTOR

Daniel E. Frigo, University of Houston, USA

Regulation of AMPK by Androgen Receptor Signaling and its Role in Prostate Cancer Metabolism

Zhenqi Zhou, University of California, Los Angeles, USA

ERalpha Deficiency-Induced Mitochondrial Dysfunction and Skeletal Muscle Insulin Resistance is Mediated by Imbalanced Fission-Fusion Dynamics in Females

Hari Singhal, University of Chicago, USA

Progesterone Receptor Agonists, Antagonists and Isoforms Differentially Reprogram Estrogen Signaling in Breast Cancer

Nancy R. Gough, National Breast Cancer Coalition, USA
Presentation on Science Writing

Transcriptional Control of Cell Growth (J2)

***Katherine A. Jones**, The Salk Institute, USA

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James T. Kadonaga, University of California, San Diego, USA
Operating Systems, Apps, and Novel Chromatin Structures for the Regulation of Our Genes

Claudio Villanueva, University of Utah School of Medicine, USA
Short Talk: TLE3 is a Gatekeeper of the Beige Transcriptional Program

Don Ayer, University of Utah, USA
c-Myc and MondoA Couple Nutrient Utilization and Availability in Tumorigenesis

Peter Verrijzer, Erasmus University Medical Center, Netherlands
Transcription Control by Nucleotide Biosynthetic Enzymes

NRs as Modulators of Immune Cell Function (J1)

***Jennifer K. Richer**, University of Colorado Anschutz Medical Campus, USA

Inez Rogatsky, Weill Medical College of Cornell University, USA
Transcriptional Cofactor NCoA2/GRIP1 in Macrophage Polarization and Metabolic Control

Christopher K. Glass, University of California, San Diego, USA
Influence of Tissue Environment on Macrophage Identity and Function

Closing Keynote Address (J1)

Joe Thornton, University of Chicago, USA
Nuclear Receptor Evolution: How NR Structures and Functions Came to Be

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (J1)

FRIDAY, JANUARY 15

Departure