Announcing the 2016 Keystone Symposia conference on:

Modern Phenotypic Drug Discovery: Defining the Path Forward

April 2–6, 2016
Big Sky Resort | Big Sky, Montana | USA

Scientific Organizers:
Jonathan A. Lee, Ellen L. Berg and Eugene C. Butcher

This meeting uniquely provides this interdisciplinary environment and is a particularly attractive venue given the increasing role of academia in drug discovery research. The conference will be a forum for the global Phenotypic Drug Discovery (PDD) research community in which scientists from diverse institutions and scientific disciplines can meet to share/discuss/debate topics related to advantages/disadvantages of PDD and how PDD can complement targeted approaches. Significantly, the conference will provide a much needed forum for the growing interest in PDD, and can conceivably become the cornerstone of the global scientific movement for the reintroduction of functional biology/physiology-driven pharmaceutical research.

Session Topics:
- Why Revisit PDD?
- PDD: Recent Clinical Successes
- Challenges to Modern PDD/Lessons Learned
- Workshop and Panel: PDD – Trends and Roadblocks
- New Biological Models
- Translational PDD: Physiologically Relevant Models
- Target/MOA Identification/Deconvolution
- Network Biology: New Technologies and Informatics
- Workshop and Panel: Identification of Molecular Targets and Biological "Mechanisms of Action": How Much is Enough?
- Biologically Relevant Chemical Diversity

CONFIRMED SPEAKERS
(as of May 18, 2015):
Andreas Bender
Ellen L. Berg
Andrea Califano
Anne E. Carpenter
Benjamin F. Cravatt III
Eugen Dhimolea
Lars G. J. Hammarström
Jeremy Jenkins
Salman Khetani
Susan Lindquist
Nick A. Meanwell
Mark Mercola
John Moffat
Bernard H. Munos
Garry P. Nolan
Rebecca M. Pruss
Michael S. Saporito
Monica Schenone
Peter G. Schultz
David C. Swinney
Jon Tinsley
Herbert Waldmann
Janet Woodcock

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: Dec 2, 2015
Abstract Deadline: Jan 5, 2016
Discounted Registration Deadline: Feb 2, 2016

For additional details, visit www.keystonesymposia.org/16D1.
**Panel 1: PDD Trends and Roadblocks**

*David C. Swinney, iRND3, Institute for Rare and Neglected Diseases, USA

*Ellen L. Berg, Eurofins DiscoverX, USA

*Jonathan A. Lee, PDD4Patients LLC, USA

*Bernard H. Munos, FasterCures, USA

*Fabien Vincent, Pfizer Inc., USA

*Neil O. Carragher, University of Edinburgh, Scotland

*Michael R. Jackson, SBP Medical Discovery Institute, USA

**New Biological Models**

*Eugene Dhimolea, Dana Farber Cancer Institute, Harvard Medical School, USA

*Engineering 3-D in vitro Tumor Models of Antineoplastic Drug Resistance

*Salman Khetani, University of Illinois at Chicago, USA

*Microengineered Human Liver Models for Drug Screening and Disease Modeling

*Sandy Hinckley, Sanford Burnham Prebys Medical Discovery Institute, USA

*Short Talk: Phenotypic Screening of Neuronal Networks using High-throughput Multielectrode Arrays

*Deborah Greene Nguyen, Organovo, USA

*Short Talk: Bioprinted Three-dimensional (3D) Human Tissues for Toxicology and Disease Modeling

*David Gerber, Galenea Corp., USA

*Short Talk: Targeting Synaptic Function for CNS Drug Discovery

**Poster Session 2**

**TUESDAY, APRIL 5**

**Translational PDD: Physiologically Relevant Models**

*Fabien Vincent, Pfizer Inc., USA

*Andrew Reaume, Melior Discovery, Inc., USA

*Case Studies and Overall Learnings from 10 Years of Phenotypic Screening with a Broad-Based Panel of In Vivo Models

*Mark Mercola, Stanford University, USA

*Functional and Chemical Genomics to Decipher Heart Failure Mechanisms

*Tom Large, Blue Oak Pharmaceuticals, USA

*Discovery of Novel Psychiatric Drugs using a Target-agnostic, Systems Neurobiology Strategy

*Jason Ptacek, Ionpath, Inc, USA

*Short Talk: Phenotypic Human Primary Cell Based Tumor Microenvironment Models for Evaluation of Drug Combinations for Immunology

*David A. Mann, Cellular Dynamics International Inc., USA

*Short Talk: Relevant Phenotypic Drug Discovery: Innate, Induced and Engineered Human iPSC Models

*Denise V. Barrault, University of Edinburgh, UK

*Short Talk

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*S Session Chair † Invited but not yet accepted  Program current as of January 15, 2020. Program subject to change. Meal formats are based on meeting venue. For the most up-to-date details, visit https://www.keystonesymposia.org.
NIH Common Fund Program
Aaron Pawlyk, Eunice Kennedy Shriver National Institute of Child Health and Human Development, USA
In Search of Phenotypes to Illuminate the Druggable Genome

Biologically Relevant Chemical Diversity
Paul Clemons, Broad Institute of Harvard and MIT, USA
Chemical Diversity Expressed through Small-Molecule Performance: Diverse Readouts, Phenotypes and Genetic Determinants
Herbert Waldmann, Max Planck Institute for Molecular Physiology, Germany
Natural Product Inspired Compound Collections: Evolutionary Principle, Chemical Synthesis, Phenotypic Screening and Target Identification
Nicole E. Bodycombe, Pfizer, USA
Compound Subsets in Phenotypic Screening
Andrea Galmozzi, The Scripps Research Institute, USA
Short Talk: Phenotypic Screening of Fully Functionalized Fragment-Based Chemical Probes Reveals PGRMC2 As A New Regulator of Adipocyte Physiology of Therapeutic Potential for Obesity-Linked Diabetes

Poster Session 3

WEDNESDAY, APRIL 6

Keynote Address
*John Moffat, Genentech, Inc., USA
Enrique Saez, The Scripps Research Institute, USA
Chemical Proteomic Strategies to Advance Phenotypic Screening

Target/ MOA Identification/ Deconvolution
*John Moffat, Genentech, Inc., USA
Monica Schenone, Pfizer Inc., USA
Target Identification and Mechanism of Action in Drug Discovery
Jeremy Jenkins, Novartis Institutes for BioMedical Research, USA
Systems Approaches to Elucidating Compound-Effect Pathways
Andreas Bender, University of Cambridge, UK
Towards Understanding Phenotypic Readouts - Utilizing Multiple Types of Chemical and Biological Data to Rationalize Compound Action
Vladimir Chupakhin, Janssen Pharmaceuticals, Belgium
Short Talk: The New Approaches for a Computational Target Deconvolution of the Phenotypic Hits
Susanne Swalley, Biogen, USA
Short Talk: Phenotypic Drug Discovery in SMA: Parallel Efforts in Preclinical Development and Target Identification

Panel 2: Identification of Molecular Targets and Biological "Mechanisms of Action": How Much is Enough?
*Eugene C. Butcher, Stanford University, USA
Susanne Swalley, Biogen, USA
Tom Large, Blue Oak Pharmaceuticals, USA
Marco Prunotto, F. Hoffmann-La Roche Ltd., Switzerland
Nicholas A. Meanwell, Bristol-Myers Squibb, USA

Rebecca M. Pruss, Windhover Biomed, France
Network Biology: New Technologies and Informatics
Andrea Califano, Columbia University, USA
Systematic Elucidation of Druggable Dependencies in Human Malignancies: A New Take on Precision Medicine
Sean Bendall, Stanford University, USA
Revealing Hidden Behavior One Cell at a Time
Anne E. Carpenter, Broad Institute of Harvard and MIT, USA
Increasing the Content of High-Content Phenotypic Assays: Targeting Diseases and Characterizing Compounds via Cell Painting and Image-Based Profiling
*Marco Prunotto, F. Hoffmann-La Roche Ltd., Switzerland
Short Talk: Application of Molecular Phenotype to Phenotypic Drug Discovery: Results of a PoC Study

THURSDAY, APRIL 7

Departure