

Agenda—Day 1

- 7:00 a.m. Registration, Poster Setup**
- 8:00 a.m. Welcoming Remarks**
Christopher P. Austin, National Center for Advancing Translational Sciences (NCATS), NIH
- 8:05 a.m. HEAL Initiative Overview**
Francis Collins, NIH
- 8:20 a.m. Advancing Interventions to Prevent and Treat Opioid Addiction Through the HEAL Initiatives**
Nora Volkow, National Institute on Drug Abuse (NIDA), NIH
- 8:50 a.m. Unique Opportunities in HEAL to Advance Non-Addictive Pain Treatment**
Walter Koroshetz, National Institute of Neurological Disorders and Stroke (NINDS), NIH
- 9:10 a.m. We Need Robust and Rigorous Methodologies: The NCATS Assay Guidance Manual**
Christopher P. Austin, NCATS, NIH
- 9:30 a.m. Keynotes: High-Level Overview of Novel Targets and Pathways in Pain and Addiction**
Kurt Rasmussen, NIDA (Chair)
- A Multipronged Approach to Capturing Novel Pain Targets
—Clifford Woolf, Boston Children’s Hospital
- Gene Transcription and Epigenetic Regulation Provide a New Template for Drug Discovery Efforts for Opiate Addiction
—Eric Nestler, Mount Sinai
- 10:30 a.m. Break**
- 10:45 a.m. Session 1: Current Targets with Lessons Learned from Clinical Successes and Failures/Next-Generation Targets**
Amy Newman, NIDA (Chair)
- Targeting the Primary Afferent Nociceptor for Analgesia: Insights from Natural Products
—David Julius, University of California, San Francisco
- Challenges and Opportunities for the Development of Nav1.7 Inhibitors
—Bryan Moyer, Amgen
- Translational Assays: Supporting a Small Molecule Nav1.7 Inhibitor Drug Discovery Program
—Andrea Houghton, Merck, Inc.
- 12:15 p.m. Lunch**

1:15 p.m. Session 1 (continued)

Complexity of Biased Agonism and the Implications for Opioid Analgesics

—Laura Bohn, Scripps Research Institute

Targeting G-Protein and Epigenetic Modulators for the Treatment of Chronic Pain

—Venetia Zachariou, Mount Sinai

Intersection Between Pain and Addiction - Implications for Kappa Opioid Receptors

—Catherine Cahill, University of California, Los Angeles

Developing New Opioid Addiction Therapeutics Based on Habenular Modulation

—Paul Kenny, Mount Sinai

3:15 PM Break

3:30 p.m. Session 2: Biomarkers to Enable Clinical Trials

Mary Ann Pellemounter, NINDS (Chair)

Opioids and the Brain: Lessons from Brain Imaging

—David Borsook, Boston Children’s Hospital

Digital Biomarker Development in Pain and Migraine Trials

—Robert Conley, Eli Lilly & Company

Genomic Biomarker Development in Opiate Addiction

—Pierre-Eric Lutz, Centre National de la Recherche Scientifique

5:15 p.m. Summary of Day 1

Kurt Rasmussen, NIDA

5:30 p.m. Adjourn

Agenda—Day 2

7:30 a.m. Registration

8:15 a.m. Today's Program

Kurt Rasmussen, NIDA

8:30 a.m. Keynote: Opioid Addiction: The Gain in the Brain Is in the Pain

George Koob, National Institute on Alcohol Abuse and Alcoholism

9:00 a.m. Session 3: Assays to Improve Predictive Therapeutic Efficacy and Abuse/Addiction Liability

Jane Acri, NIDA (Chair)

What's Wrong with Animal Models of Pain?

—Jeff Mogil, McGill University

Iterating Between Neurobiology and Clinical Trials to Identify Relevant Behavioral Phenotypes for Clinical Translation and Target Discovery

—Peter Kalivas, Medical University of South Carolina

Sleep-Related Endpoints in Preclinical Studies of Pain and Opioid Withdrawal

—Bill Carlezon, Harvard University

Scaling Up: Zebrafish Assays of Pain and Addiction

—Randall T. Peterson, University of Utah

11:00 a.m. Break

11:15 a.m. Session 4: New Technologies/Methods to Screen/Rationally Design Therapeutics Targeting Pain and Addiction Related Proteins and Pathways

Rita Valentino, NIDA (Chair)

Molecular Simulation for the Design of Finely Tuned Drugs

—Ron Dror, Stanford University

Endosomal Platforms for the Signaling Train to Pain

—Nigel Bunnett, Columbia University

Optogenetic Assays of Sensory Neuron Function to Accelerate Discovery of Pain Therapeutics

—Kit Werley, Q-State Biosciences, Inc.

12:45 p.m. Lunch

1:45 p.m. Session 4 (continued)

Resolving Brain Reward Circuits for Addiction

—Garret Stuber, University of Washington

Modern Approaches for Dissecting Neuromodulatory Circuits in Behavior

—Michael Bruchas, University of Washington

Opioids and the Brain Connectome: At the Crossroads of Mechanistic and Biomarker Research

—Brigitte Kieffer, McGill University

3:15 p.m. Break

3:25 p.m. Session 5: NIH Capacities

Joni L. Rutter, NCATS (Chair)

1. Developing Drugs and Testing Platforms for Pain, Addiction and Overdose in Collaboration with NCATS
Anton Simeonov, NCATS
2. NINDS Initiatives in HEAL and Translation
Rebecca Roof, NINDS
3. Biosignatures to Predict Chronic Pain
Linda L. Porter, NINDS
4. NIDA Initiatives to Promote Novel Treatments for Opioid Use Disorder and Overdose
Kurt Rasmussen, NIDA
5. Illuminating the Druggable Genome Program
Karlie Sharma, NCATS

5:00 p.m. Summary and Next Steps

Christopher P. Austin, NCATS

5:30 p.m. Adjourn