Participants will receive a broad, practical perspective on assay development so that they can (1) improve research projects involving high-throughput screening/lead discovery and know where to find further information; (2) identify reagents, methods and instrumentation that are well suited to robust assays; and (3) develop robust assays and counter-assays for new targets. Additionally, participants will have the opportunity to seek practical advice about individual research challenges.

Tuesday, April 5, 2016 — 8:30 a.m. – 5:30 p.m. ET

8:30 – 8:50 a.m.  Robust or Go Bust: An Introduction to the Assay Guidance Manual
Nathan P. Coussens, Ph.D., NCATS, NIH

9:00 – 9:50 a.m.  Treating Cells as Reagents to Design Reproducible Screening Assays
Terry Riss, Ph.D., Promega Corporation

10:00 – 10:50 a.m. Use of 3D InSight™ Human Liver Microtissues as a Tool for Prediction of Drug-Induced Liver Injury
Ivy Mead, M.Sc., InSphero Inc.

11:00 – 11:50 a.m. Identifying and Mitigating Assay Artifacts Arising from Chemical Library Screening
James Inglese, Ph.D., NCATS, NIH

12:00 – 1:00 p.m. Lunch

1:00 – 1:50 p.m.  Basic Assay Statistics, Data Analysis and Rules of Thumb
Thomas D.Y. Chung, Ph.D., Mayo Clinic

2:00 – 2:50 p.m. Reproducibility and Differentiability of Compound Potency Results from Screening Assays in Drug Discovery
V. Devanarayan, Ph.D., AbbVie Inc.

3:00 – 3:50 p.m.  Assay Operations: Keeping Your Assays Robust and Reproducible
Jeffrey R. Weidner, Ph.D., AbbVie Inc.

4:00 – 5:30 p.m. Special Topics Sessions
A. Cell-Based Assays
B. Assay Artifacts and Statistics
Wednesday, April 6, 2016 — 9:00 a.m. – 4:00 p.m. ET

9:00 – 9:50 a.m.  Application of Quantitative High-Throughput Screening for In Vitro Toxicological Testing
Menghang Xia, Ph.D., NCATS, NIH

10:00 – 10:50 a.m.  In Vitro Assessment of ADME Properties of Lead Compounds
Xin Xu, Ph.D., NCATS, NIH

11:00 a.m. – 12:30 p.m.  Establishing Robust Biochemical and Cellular Assays
Lisa Minor, Ph.D., In Vitro Strategies, LLC

12:30 – 1:30 p.m.  Lunch

1:30 – 2:30 p.m.  Special Topics Sessions
A. Biochemical Assays
B. Absorption, Distribution, Metabolism and Excretion (ADME) Assessment and Toxicity Assays

2:45 – 4:00 p.m.  Special Topics Sessions
A. Special Topics on Data Evaluations (Design of Experiments for Assay Development, Multivariate Assay Correlations, Etc.)
B. Assay Operations and Automation