



Computational Modeling and Systems Biology of Drug Abuse
January 15, 2008, 8:45 a.m. – 5:00 p.m.

Neuroscience Center – 6001 Executive Boulevard, Rockville, Maryland
Conference Room A1/A2

Tentative Agenda

- Morning Session:** **Macro- and Mid-Scale Models in Addiction Behavior, Epidemiology, and Economics**
- 8:45 – 9:00 a.m.** **Registration**
- 9:00 – 9:15 a.m.** **Welcome**
Nora D. Volkow, M.D.
Director, National Institute on Drug Abuse (NIDA)
- 9:15 – 9:45 a.m.** **Opening Remarks and Comprehensive Modeling of Addictive Processes**
Georgiy Bobashev, Ph.D.
RTI International, Research Triangle Park
- 9:45 – 10:15 a.m.** **Illicit Drug Markets as Complex Adaptive Systems**
Lee Hoffer, Ph.D.
Washington University, St. Louis
- 10:15 – 10:30 a.m.** **Break**
- 10:30 – 11:00 a.m.** **Benefits and Costs of Methadone Treatment: Results From a Lifetime Simulation Model**
Laura Dunlap, Ph.D.
RTI International, Rockville
- 11:00 – 11:30 a.m.** **Social Processes of Addiction: Computational and Mathematical Models**
Paul Gruenewald, Ph.D.
Pacific Institute for Research and Evaluation
- 11:30 – 11:45 a.m.** **Break**
- 11:45 – 12:15 p.m.** **Control Theory of Addiction Processes**
David Newlin, Ph.D.
RTI International, Baltimore

12:15 – 1:15 p.m. *Lunch (on your own)*

Afternoon Session: Micro-Scale Models in Addiction Behavior

1:15 – 1:45 p.m. **Addiction as Vulnerabilities in the Decision-Making Machine**
David Redish, Ph.D.
University of Minnesota

1:45 – 2:15 p.m. **Neurodynamics of Nicotine Addiction: From Receptors to Behavior**
Boris Gutkin, Ph.D.
École Normale Supérieure, Paris

2:15 – 2:30 p.m. **Break**

2:30 – 3:00 p.m. **Drug Self-Administration Thresholds**
Vladimir L. Tsibulsky, Ph.D.
University of Cincinnati College of Medicine

3:00 – 3:30 p.m. **A Quantitative Approach to Antagonist Effects on Drug Self-Administration**
Andrew B. Norman, Ph.D.
University of Cincinnati College of Medicine

3:30 – 3:45 p.m. **Break**

3:45 – 4:15 p.m. **Does Addiction Require Protein Synthesis?**
Michael Kuhar, Ph.D., M.D.
Yerkes National Primate Research Center, Emory University

4:15 – 5:00 p.m. **Discussion**
Tandy Herren, Ph.D.
DNAPrint Pharmaceuticals

Colleen Hanlon, Ph.D.
Wake Forest University

James Anthony, Ph.D., M.Sc.
Michigan State University

5:00 p.m. **Adjournment**