



**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**

**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**