

**New Frontiers in Measurement:
Phenotypes, Endophenotypes, and Envirotypes for
Genetic and Behavioral Studies of Nicotine Dependence**

Wednesday, February 24, 2010
Hilton Baltimore Hotel, Baltimore, MD

8:00 a.m. Registration and Networking

8:30 a.m. Welcome and Opening Remarks

8:40 a.m. Challenges and Lessons in Collaboration and Data Harmonization
Laura Bierut, MD, *Washington University*

9:15 a.m. Phenotypes and Endophenotypes: Foundations for Genetic Studies of Nicotine Use and Dependence

Phenotypes and Endophenotypes: An overview of NCI Monograph 20
Gary E. Swan, PhD, *SRI International*

Assessing the Nicotine Dependence Phenotype
Timothy B. Baker, PhD, *University of Wisconsin*

Cognitive Function: An Endophenotype for Genetic Studies in Chronic Smokers
Caryn Lerman, PhD, *University of Pennsylvania*

10:15 a.m. Break

10:30 a.m. Phenotypes and Endophenotypes, continued

Developmental Trajectories of Smoking as a Promising Phenotype in Tobacco Research
Kristina M. Jackson, PhD, *Brown University*

Smoking Reinforcement and Reward as Potential Endophenotypes
Kenneth A. Perkins, PhD, *University of Pittsburgh*

The Analysis of Genes, Biomarkers, and Treatments in Smoking Cessation
David V. Conti, PhD, *University of Southern California*

11:30 a.m. Phenotypes and Endophenotypes Panel Discussion

11:50 a.m. Lunch

Lunch Presentation: Data Visualization: Moving Data from Ivory Towers to the Masses
Bradford W. Hesse, PhD, *National Cancer Institute*

**1:00 p.m. Future Measurement Technology: Genes, Environment and Health Initiative (GEI)
Biological and Physiological Measurement**

Gene Expression Biomarker of Airway Response to Tobacco Exposure
Avrum Spira, MD, MSc, *Boston University*

Exposure and Response Biomarkers of Cigarette Smoke
Ian A. Blair, PhD, *University of Pennsylvania*

Point of Care Measurement of Salivary Biomarkers of Stress and Addiction
Vivek Shetty, DDS, Dr Med Dent, *University of California Los Angeles*

AutoSense: A Wearable Wireless Sensor Suite to Quantify Psychosocial Stress and Addictive Substances in the Field

Santosh Kumar, PhD, *The University of Memphis*

1:50 p.m. Break

2:10 p.m. Future Measurement Technology: GEI, PROMIS, and PhenX Objective Measurement, Self Report, and Consensus Measures

Time to smoke

Mark Rea, PhD, *Rensselaer Polytechnic Institute*

Defining ETS Passive Exposure Levels from Personal-Level Filter Collections Using Non-Destructive Absorption Spectroscopy

Charles E. Rodes, PhD, *RTI International*

Real-time detection of physical activity using mobile phones

Stephen S. Intille, PhD, *Massachusetts Institute of Technology*

The Use of GPS-linked EMA and Neighborhood Indicators of Stress

Gregory D. Kirk, MD, PhD, MPH, *Johns Hopkins University*

Patient-Reported Outcomes Measurement Information System (PROMIS)

William Riley, PhD, *National Heart, Lung and Blood Institute*

The PhenX Toolkit – Get the Most from your Measures

Erin Ramos, PhD, *National Human Genome Research Institute*

3:15 p.m. Hands-on Demonstration of Tools Presented in the Afternoon Sessions

4:45 p.m. Closing Remarks

Gary E. Swan, PhD, *SRI International*