



Thirty-Eighth Annual Meeting of the Neurobehavioral Teratology Society
Held in conjunction with the 54th Annual Meeting of the Teratology Society
Hyatt Regency Bellevue, Bellevue, Washington
June 28–July 2, 2014

2014 RICHARD BUTCHER NEW INVESTIGATOR AWARD

Landhing Moran, PhD (Nominated by Charlie Mactutus)
 University of South Carolina

Time and Time Again: Temporal Processing Demands Implicate Perceptual and Gating Deficits in the HIV-1 Transgenic Rat

NBTS CONFERENCE AWARDS

Robyn Amos-Kroohs (Nominated by Michael Williams)
 Cincinnati Children's Hospital

Modeling Complex Environments in Rats: Neurobehavioral Phenotype of Manganese Overexposure, Iron Deficiency, and Developmental Stress Interactions

Samantha Renaud (Nominated by Stephen Fountain)
 Kent State University

Brief Massed Training Reveals Epigenetic Effects of Adolescent Nicotine Exposure on Female Rat Serial Pattern Learning

NBTS 2014 PROGRAM
Saturday, June 28, 2014

8:00 AM–12:00 Noon	Teratology Society Education Course Session I –Grand Ballroom A <i>(separate registration required)</i> Frontiers in Developmental Biology	
12:30 Noon–4:00 PM	NBTS Registration	Grand Ballroom Foyer
1:00 PM–2:00 PM	NBTS Public Affairs Committee Meeting	Evergreen Ballroom H
1:30 PM–5:00 PM	Teratology Society Education Course Session II –Grand Ballroom A <i>(separate registration required)</i> Mechanisms of Abnormal Embryonic Development	
2:00 PM–3:00 PM	NBTS Publications Committee Meeting	Evergreen Ballroom H
3:00 PM–4:00 PM	NBTS Strategic Planning Committee Meeting	Evergreen Ballroom H
4:00 PM–6:30 PM	NBTS Council Meeting	Evergreen Ballroom H

Sunday, June 29, 2014

7:30 AM–6:00 PM	Registration	Grand Ballroom Foyer
8:00 AM–8:10 AM	NBTS President's Welcome Thomas M. Burbacher, <i>University of Washington, Seattle, WA</i>	Grand Ballroom I

8:15 AM–9:00 AM	Josef Warkany Lecture (Joint with TS) NBTS 01: Teratology v2.0: Building a Path Forward <u>Thomas B. Knudsen</u> , <i>National Center for Computational Toxicology, US EPA, Research Triangle Park, NC</i>	Grand Ballroom A
9:10 AM–12:00 Noon	Behavioral Toxicology Symposium Adolescent Exposures: Human Studies and Animal Models Chairperson: <u>Susan Schantz</u> , <i>University of Illinois, Urbana-Champaign, IL</i>	Grand Ballroom I
9:10 AM–9:20 AM	Introduction <u>Susan Schantz</u> , <i>University of Illinois, Urbana-Champaign, IL</i>	
9:20 PM–9:55 AM	NBTS 02: Amphetamine Exposure during Adolescent Development Induces Long Lasting Changes in Cognition That Are Associated with Prefrontal Cortex Dysfunction <u>Joshua Gulley</u> , <i>University of Illinois, Urbana-Champaign, Champaign, IL</i>	
9:55 AM–10:30 AM	NBTS 03: Neurobiological and Neuropsychological Consequences of Substance Abuse in Adolescents <u>Marisa Silveri</u> , <i>Department of Psychiatry, Harvard Medical School, Boston, MA and McLean Hospital Imaging Center, Belmont, MA</i>	
10:30 AM–10:50 AM	Break	
10:50 AM–11:25 AM	NBTS 04: Adolescent Bisphenol-A Exposure Increases Anxiety, Impairs Spatial Memory, and Leads to Enduring Decreases in Dendritic Spine Density in Rats <u>Rachel Bowman</u> , <i>Sacred Heart University, Fairfield, CT</i>	
11:25 AM–12:00 Noon	NBTS 05: The Impact of Adolescent Exposure to Bisphenol A (BPA) and Phthalates on Neurobehavior: A Pilot Epidemiologic Study <u>Susan Korrick</u> ^{1,2} , <u>Changzhong Chen</u> ¹ , <u>Susan Schantz</u> ³ , <u>Atonia Calafat</u> ⁴ , ¹ <i>Channing Division of Network Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston MA</i> , ² <i>Harvard School of Public Health, Harvard University, Boston, MA</i> , ³ <i>University of Illinois, Urbana, IL</i> , ⁴ <i>National Center for Environmental Health, Centers for Disease Control and Prevention, Atlanta, GA</i>	
12:00 Noon–2:30 PM	Lunch on Your Own	
2:30 PM–5:30 PM	NBTS/TS Joint Symposium The National Children's Study Chairpersons: <u>Elaine M. Faustman</u> , <i>University of Washington, Seattle, WA</i> and <u>Richard K. Miller</u> , <i>University of Rochester, Rochester, NY</i>	Grand Ballroom I
2:30 PM–2:55 PM	NBTS 06: An Integrated Framework for Linking Exposure and Phenotypic Data in the National Children's Study <u>Steven Hirschfeld</u> , <i>National Children's Study, Bethesda, MD</i>	
2:55 PM–3:20 PM	NBTS 07: Streamlining the Diagnosis of Autism Spectrum Disorder for the National Children's Study <u>Wendy L. Stone</u> , <i>Department of Psychology, University of Washington, Seattle, WA</i>	
3:20 PM–3:45 PM	NBTS 08: Results of Whole-Genome Analysis from National Children's Study (NCS) <u>Elaine M. Faustman</u> , <i>Department of Environmental and Occupational Health Sciences, School of Public Health, University of Washington, Seattle, WA</i>	
3:45 PM–4:00 PM	Break	
4:00 PM–4:25 PM	NBTS 09: Novel Insights on the Molecular Targets of Environmental Exposures during Pregnancy Using Placental Multi'omics Data Integration in the National Children's Study (NCS) <u>Kjersti M. Aagaard-Tillery</u> , <i>Baylor College of Medicine, Houston, TX</i>	
4:25 PM–4:50 PM	NBTS 10: Environmental Exposures during Pregnancy: US National Children's Study Formative Research Investigation <u>Richard K. Miller</u> , <i>National Children's Study Placenta Consortium, Bethesda, MD and University of Rochester, Rochester, NY</i>	
4:50 PM–5:15 PM	NBTS 11: Integration of Biological Cortisol Concentrations and Stress Questionnaires As Markers of Maternal Stress <u>Marissa N. Smith</u> , <i>Department of Environmental and Occupational Health Sciences, University of Washington, Seattle, WA</i>	

5:15 PM–5:30 PM	Discussion	
6:30 PM–8:30 PM	NBTS/TS Welcome Reception Silent Auction and Exhibits Attended	Evergreen Ballroom
<u>Monday, June 30, 2014</u>		
7:30 AM–5:00 PM	Registration	Grand Ballroom Foyer
8:00 AM–9:00 AM	Special Lecture (Joint with TS) NBTS 12: Systems Medicine and Proactive P4 Medicine: A Revolution in Healthcare Chairperson: Elaine Z. Francis, <i>Sandcastle Toxicology Associates, Ventnor City, NJ</i> Lecturer: <u>Leroy Hood</u> , <i>Institute for Systems Biology, Seattle, WA</i>	Grand Ballroom E
9:10 AM–12:00 Noon	EPA Symposium: Unmasking Silent Neurotoxicity following Developmental Exposure to Environmental Toxicants Chairpersons: Andrew Kraft and Sue Makris, <i>US Environmental Protection Agency, ORD, NCEA, Washington, DC</i>	Grand Ballroom I
9:10 AM–9:15 AM	Introduction: The Difficulties Posed by Silent Neurotoxicity for Risk Assessment Andrew Kraft, <i>US Environmental Protection Agency, ORD, NCEA, Washington, DC</i>	
9:15 AM–9:45 AM	NBTS 13: Unmasking Silent Neurotoxicity following Developmental Exposure to Methylmercury <u>Michael Aschner</u> , <i>Department of Molecular Pharmacology, Albert Einstein College of Medicine, Bronx, NY</i>	
9:45 AM–10:15 AM	NBTS 14: Prenatal Stress Unmasks Neurotoxic Consequences of Developmental Exposures to Lead and to Methylmercury <u>Deborah A. Cory-Slechta</u> , <i>University of Rochester Medical Center, Rochester, NY</i>	
10:15 AM–10:30 AM	Break	
10:30 AM–11:00 AM	NBTS 15: Neuroimmune Interactions in Early Development and the Biological Embedding of Health Disparities <u>Staci Bilbo</u> , <i>Departments of Psychology & Neuroscience and Neurobiology, Duke University, Durham, NC</i>	
11:00 AM–11:30 AM	NBTS 16: Neurological Deficits following Developmental Exposure to Halogenated Compounds W. Michael Caudle, <i>Department of Environmental Health, Center for Neurodegenerative Disease, Rollins School of Public Health, Emory University, Atlanta, GA</i>	
11:30 AM–12:00 Noon	Panel Discussion and Closing Remarks	
12:00 Noon–1:30 PM	Lunch on Your Own	
1:30 PM–2:30 PM	Elsevier Distinguished Lecturer (Joint with TS) NBTS 17: Epigenetic Mechanisms in Intellectual Developmental Disabilities Chairpersons: Thomas M. Burbacher, <i>University of Washington, Seattle, WA</i> and Robert M. Greene, <i>Birth Defects Center, University of Louisville, Louisville, KY</i> Lecturer: J. David Sweatt, <i>The University of Alabama, Birmingham School of Medicine, Director of McKnight Brain Institute, Birmingham, AL</i>	Grand Ballroom E
2:30 PM–5:30 PM	NBTS/TS Joint Symposium Epigenetics Chairpersons: Thomas M. Burbacher, <i>University of Washington, Seattle, WA</i> and Robert M. Greene, <i>Birth Defects Center; University of Louisville, Louisville, KY</i>	Grand Ballroom E
2:30 PM–2:45 PM	Introduction: <u>Robert M. Greene</u> , <i>Birth Defects Center, University of Louisville, Louisville, KY</i>	
2:45 PM–3:30 PM	NBTS 18: Environmentally-Induced Epigenetic Transgenerational Inheritance of Disease: Ancestral Ghosts in Your Genome <u>Michael K. Skinner</u> , <i>Washington State University, Pullman, WA</i>	
3:30 PM–3:45 PM	Break	
3:45 PM–4:30 PM	NBTS 19: Chromatin Remodeling, miRNAs, and Determination of Neurogenic Cell Fate <u>Andrew S. Yoo</u> , <i>Washington University School of Medicine, St Louis, MO</i>	

4:30 PM–5:15 PM	NBTS 20: Mechanisms of MicroRNA Function in Fetal Neural Stem Cells: Implications for Ethanol Teratology <u>Rajesh C. Miranda</u> , <i>Texas A&M Health Science Center, Round Rock, TX</i>	
5:15 PM–5:30 PM	Discussion and Closing Remarks	
5:30 PM–7:30 PM	NBTS/TS Joint Poster Session	Evergreen Ballroom

NBTS P01: No Adverse Neurobehavioral Effects following Prenatal Influenza Vaccine Exposure: A Pilot Study

Patricia Janulewicz¹, Rose Kang², Jie Yan², Kelly Kao², Christina Chambers², Ken Jones³, Jane Adams³. ¹*Boston University, Boston, MA*, ²*University of California, San Diego, San Diego, CA*, ³*University of Massachusetts, Boston, Boston, MA*

NBTS P02: Influence of Pediatric Vaccines on Social Behavior in the Rhesus Monkey

Britni Curtis¹, Kelly Morrisroe¹, Vernon Yutuc¹, Clayton Ferrier¹, Gene P. Sackett¹, Laura Hewitson². ¹*Washington National Primate Research Center, University of Washington, Seattle WA*, ²*The Johnson Center for Child Health and Development, Austin, TX*

NBTS P03: Neonatal Reflexes in Infant Macaques (*Macaca mulatta*) Exposed to Low-Dose Thimerosal via Vaccination

Caylee Holden¹, Nitasha Sharma¹, Caroline Kenney¹, Britni Curtis¹, Noelle Liberato¹, Megan Rulian¹, Clayton Ferrier¹, C.N. Marti², Gene P. Sackett^{1,3}, Laura Hewitson^{4,5}. ¹*Infant Primate Research Laboratory, WaNPRC, University of Washington, Seattle WA*, ²*Abacist Analytics, LLC, Austin, TX*, ³*University of Washington, Seattle, WA*, ⁴*The Johnson Center for Child Health and Development*, ⁵*University of Texas Southwestern, Dallas, TX*

NBTS P04: Comparative Study of Thimerosal in Vaccines with Methylmercury in a Nonhuman Primate Model

Thomas M. Burbacher^{1,2,3}, Lynn B. Charleston⁴, Jay Charleston⁴. ¹*Department of Environmental and Occupational Health Sciences, School of Public Health, University of Washington, Seattle WA*, ²*Center on Human Development and Disability, University of Washington, Seattle WA*, ³*Washington National Primate Research Center, University of Washington, Seattle WA*, ⁴*Stereotome NW, Inc., Seattle, WA*

NBTS P05: Maternal Influence and Developmental Trends in Nonhuman Primate Hair Cortisol Levels

Kimberly S. Grant^{1,2,3}, Julie Worlein³, Caroline Kenney³, Jerry Meyer⁴, Melinda Novak⁴, Kendra Rosenberg⁴, Thomas M. Burbacher^{1,2,3}. ¹*Department of Environmental and Occupational Health Sciences, University of Washington, Seattle, WA*, ²*Center on Human Development and Disability, University of Washington, Seattle, WA*, ³*Washington National Primate Research Center, University of Washington, Seattle, WA*, ⁴*Department of Psychology, University of Massachusetts, Amherst, MA*

NBTS P06: The HPA Axis and the Interaction of Nonchemical Stressors with Neurodevelopmental Toxicants

Deborah Segal, *US Environmental Protection Agency, Washington, DC*

NBTS P07: Use of Dried Blood Spots and Mass Spectrometry for Biomonitoring Organophosphorus Exposures

Judit Marsillach^{1,2}, Edward J. Hsieh², Rebecca J. Richter^{1,2}, Michael J. MacCoss², Andrew N. Hoofnagle³, Clement E. Furlong^{1,2}. ¹*University of Washington, Department of Medicine (Div. Medical Genetics), Seattle, WA*, ²*University of Washington, Department of Genome Sciences, Seattle, WA*, ³*University of Washington, Department of Laboratory Medicine, Seattle, WA*

NBTS P08: The Mouse Behavior Laboratory: A New Core Facility of the Center on Human Development and Disability (CHDD) at the University of Washington

Toby Cole^{1,2}, Thomas M. Burbacher^{1,2}, Sean Murphy^{1,3}. ¹*Center on Human Development and Disability (CHDD) and Eunice Kennedy Shriver Intellectual and Developmental Disabilities Research Center (IDDRC)*, ²*Department of Environmental and Occupational Health Sciences, University of Washington, Seattle, WA*, ³*Department of Neurological Surgery, University of Washington, Seattle, WA*

NBTS P09: Behavioral Characterization of Cyp1 Knockout Mice

Molly Kromme, Amy Ashworth, Helen Garber, Breann Hays, Smitha Infante, Anna Lang, Melinda Stegman, Kelsey Taylor, Christine Curran. *Northern Kentucky University, Highland Heights, KY*

NBTS P10: Recovery Following Exposure to Three Volatile Anesthetics Occurs Differently As Measured by Performance in the Y-Maze Memory Paradigm in Male Mice

Kaitlyn Maier, Max Kelz. *University of Pennsylvania, Philadelphia, PA*

NBTS P11: Behavioral and Neuropathological Effects Associated with Subcutaneous Exposure to Sarin in Juvenile Rats

Linnzi Wright¹, Andrew Bourne¹, Amanda Furman¹, Michael Stone¹, Franco Rossetti², Lucille Lumley¹. ¹*US Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD*, ²*Walter Reed Army Institute of Research, Silver Spring, MD*

NBTS P12: Effects of Permethrin on the Acoustic Startle Response in Adult Male Sprague-Dawley Rats

Charles Vorhees¹, Thomas Osimitz², Larry Sheets³, Daniel Minnema⁴, Matt Brooks⁵, Derek Gammon⁶, Michael Williams¹. ¹*Cincinnati Children's Research Foundation, Cincinnati, OH*, ²*Science Strategies, Charlottesville, NC*, ³*Bayer CropScience, Research Triangle Park, NC*, ⁴*Syngenta Crop Protection, Research Triangle Park, NC*, ⁵*Ag-Chem Consulting LLC, Clifton VA*, ⁶*FMC Corporation, Philadelphia, PA*

NBTS P13: Chlorpyrifos Disrupts Social Behavior in Adult Zebrafish
Jordan Bailey, Anthony Oliveri, Ed Levin. *Duke University, Durham, NC*

NBTS P14: Dopamine D1 and D2 Receptor Actions Are Key for Embryonic Neurodevelopment: Selective D1 and D2 Antagonist Exposure of Zebrafish Embryos Disrupts Later Swimming Behavior of Larvae
Anthony Oliveri, Jordan Bailey, Ed Levin. *Duke University, Durham, NC*

NBTS P15: Developmental Hypothyroidism Reduces the Expression of Activity-Dependent Plasticity Genes in Dentate Gyrus of the Adult following Long-Term Potentiation
Mary Gilbert¹, Karla Sanchez-Huerta², Carmen Wood¹. ¹*US Environmental Protection Agency, Research Triangle Park, NC*, ²*Escuela Nacional de Ciencias Biológicas, IPN, Mexico*

NBTS P16: Conference Award Recipient

Brief Massed Training Reveals Epigenetic Effects of Adolescent Nicotine Exposure on Female Rat Serial Pattern Learning
Samantha Renaud, Megan Miller, Betsy Stirbens, Stephen Fountain. *Kent State University, Kent, OH*

NBTS P17: Epiprecaution: Ethical Implications of Epigenetics in Decision Making
Steven G. Gilbert. *Institute of Neurotoxicology and Neurological Disorders, Seattle, WA*

NBTS P18: Executive Function in Prenatally Cocaine Exposed Adolescents
Meeyoung Min, Sonia Minnes, Adelaide Lang, Lynn T Singer. *Case Western Reserve University, Cleveland, OH*

NBTS P19: Sucrose Preference and Progressive Ratio Performance in Rats Exposed Postnatally to the Polybrominated Diphenyl Ether Commercial Mixture DE-71
Lori Driscoll, Ellen Beckett. *Colorado College, Colorado Springs, CO*

NBTS P20: Neurobehavioral Consequences of Gestational Exposure to a Low Dose of Tobacco Smoke Extract in Rats
Brandon Hall, Marty Cauley, Dennis Burke, Ed Levin. *Duke University Medical Center, Durham, NC*

NBTS P21: Neurobehavioral and Thyroid Evaluations of Rats Developmentally Exposed to Tris(1,3-dichloro-2-propyl)phosphate (TDCPP)
Ginger Moser, Katherine L. McDaniel, Pamela M. Phillips, Joan M. Hedge. *US Environmental Protection Agency, Research Triangle Park, NC*

Tuesday, July 1, 2014

8:00 AM–4:30 PM	Registration	Grand Ballroom Foyer
8:30 AM–9:00 AM	Special Lecture (Joint with TS) NBTS 21: Fetal Alcohol Syndrome <u>Kenneth Lyons Jones</u> , <i>University of California, San Diego and MotherToBaby, San Diego, CA</i>	Grand Ballroom E
9:10 AM–9:30 AM	NBTS Richard Butcher New Investigator Award NBTS 22: Time and Time Again: Temporal Processing Demands Implicate Perceptual and Gating Deficits in the HIV-1 Transgenic Rat <u>Landhing Moran</u> , Rosemarie Booze, Charlie Mactutus, <i>University of South Carolina, Columbia, SC</i>	Grand Ballroom I
9:30 AM–12:00 Noon	NBTS Platform Session 1 Chairperson: Lynn T. Singer, <i>Case Western Reserve University, Cleveland, OH</i>	Grand Ballroom I
9:30 AM–9:50 AM	NBTS 23: Learning and Cognition in Infant Macaques (<i>Macaca mulatta</i>) Exposed to Low-Dose Thimerosal via Vaccination <u>Laura Hewitson</u> ^{1,2} , Britni Curtis ³ , Noelle Liberato ³ , Megan Rulian ³ , Clayton Ferrier ³ , C.N. Marti ⁴ , Dorothy Mandell ⁵ , Gene P. Sackett ^{3,6} . ¹ <i>Johnson Center for Child Health and Development, Austin, TX</i> , ² <i>University of Texas Southwestern, Dallas, TX</i> ³ <i>Infant Primate Research Laboratory, WaNPRC, University of Washington, Seattle WA</i> , ⁴ <i>Abacist Analytics, LLC, Austin, TX</i> , ⁵ <i>Independent Consultant, University of Amsterdam, Amsterdam, The Netherlands</i> , ⁶ <i>University of Washington, Seattle, WA</i>	
9:50 AM–10:10 AM	NBTS 24: Prenatal Cocaine, Polydrug Effects on Cognition in Adolescence <u>Lynn T. Singer</u> , Sonia Minnes, Meeyoung Min, Barbara Lewis, Elizabeth Short. <i>Case Western Reserve University, Cleveland, OH</i>	
10:10 AM–10:30 AM	NBTS 25: Executive Function in Adolescents with Prenatal Exposure to Cocaine <u>Sonia Minnes</u> , Meeyoung Min, Miaoping Wu, Adelaide Lang, Elizabeth Short, Lynn T. Singer. <i>Case Western Reserve University, Cleveland, OH</i>	
10:30 AM–10:45 AM	Break	

10:45 AM–11:05 AM	NBTS 26: Evaluating Neural Progenitor Cell Proliferation Following Sevoflurane Exposure in Developing Rat Brain Using PET Imaging of [18F] fluoro-L-thymidine Merle Paule ¹ , Shuliang Liu ¹ , Xuan Zhang ¹ , Glenn Newport ¹ , Scott Alpana ² , Marc Berridge ² , William Slikker ¹ , Chen Wang ¹ , ¹ National Center for Toxicological Research, Jefferson, AR, ² 3-D Imaging, LLC, Little Rock, AR
11:05 AM–11:25 AM	NBTS27: Developmental Methylphenidate (MPH) Treatment Has Greater Effects on Certain Adult Female Behaviors of Male and Female Sprague-Dawley Rats Sherry Ferguson, Charles Law. National Center for Toxicological Research, US Food and Drug Administration, Jefferson, AR
11:25 AM–11:45 AM	NBTS 28: Fatty Acid Ethyl Esters in Meconium Are Associated with Poorer Cognitive Development during Preadolescence and Adolescence Meeyoung Min ¹ , Lynn T. Singer ¹ , Sonia Minnes ¹ , Miaoping Wu ¹ , Cynthia F. Bearer ² . ¹ Case Western Reserve University, Cleveland, OH, ² University of Maryland Medical School, Baltimore, MD
11:45 AM–12:05 PM	NBTS 29: Cerebral Cortical Deletion of Gαq (Gnaq) Alters Behavior Heather Durai, Mathew Buendia, Mary Akel, Michelle Chapman, Gregg Stanwood, Vanderbilt University, Nashville, TN
12:05 PM–1:30 PM	Lunch on Your Own (Neurotoxicology and Teratology Editorial Board Luncheon—Board Members Only)
1:30 PM–4:15 PM	NBTS Symposium 1: Grand Ballroom I Genetic Modifications of Neurobehavioral Responses to Environmental Toxicant Exposure Chairpersons: Thomas M. Burbacher, University of Washington, Seattle, WA and Mari Golub, University of California, Davis, Davis, CA
1:30 PM–2:00 PM	NBTS 30: Effects of Paraoxonase-1 (PON1) Status on Pre- and Postnatal Exposures to Chlorpyrifos Oxon and Diazoxon Clement E. Furlong ^{1,2} , Wan-Fen Li ¹ , Toby B. Cole ^{1,2,3} , Richard P. Beyer ³ , Theo K. Bammler ³ , Sarah S. Park ^{1,2} , Federico M. Farin ³ , Lucio G. Costa ³ . ¹ Department of Medicine (Division of Medical Genetics), University of Washington, Seattle, WA, ² Department of Genome Sciences, University of Washington, Seattle, WA, ³ Department of Environmental and Occupational Health Sciences, University of Washington, Seattle, WA
2:00 PM–2:30 PM	NBTS 31: “Personalized” Developmental Neurotoxicity: The Role of Polymorphisms in Genes Basic to Brain Function Mari Golub. Department of Environmental Toxicology, University of California, Davis, Davis, CA
2:30 PM–3:00 PM	NBTS 32: Genetic Variations That Increase the Risk of Low-Level Environmental Lead Exposure Christina Sobin, University of Texas, El Paso, TX
3:00 PM–3:15 PM	Break
3:15 PM–3:45 PM	NBTS 33: Genetic Susceptibility to Mercury Neurotoxicity in Children James S. Woods ¹ , Nicholas J. Heyer ² , Joan E. Russo ³ , Michael D. Martin ⁴ , Federico M. Farin ¹ . ¹ Department of Environmental and Occupational Health Sciences, University of Washington, Seattle, WA, ² Battelle Centers for Public Health Research and Evaluation, Seattle, WA, ³ Department of Psychiatry and Behavioral Sciences, University of Washington, Seattle, WA, ⁴ Department of Oral Medicine, University of Washington, Seattle, WA
3:45 PM–4:15 PM	NBTS 34: Protective Effects of the Alcohol Dehydrogenase-ADH1B*3 Allele on Cognitive and Behavioral Problems in Infants, Children, and Adolescents Exposed to Alcohol during Pregnancy Sandra W. Jacobson ^{1,2} , Neil Dodge ¹ , Joe L. Jacobson ^{1,2} . ¹ Wayne State University, Detroit, MI, ² University of Cape Town, Cape Town, South Africa
4:30 PM–5:30 PM	NBTS Business Meeting and Award Presentations Grand Ballroom I
6:00 PM–8:00 PM	NBTS Social Event—An Evening of Fun and Festivity
Wednesday, July 2, 2014	
8:00 AM–10:00 AM	Registration Grand Ballroom Foyer

8:30 AM–8:50 AM	NBTS 35: Conference Award Recipient Modeling Complex Environments in Rats: Neurobehavioral Phenotype of Manganese Overexposure, Iron Deficiency, and Developmental Stress Interactions <u>Robyn Amos-Kroohs</u> ¹ , Laurie Davenport ² , Colin Bloor ¹ , Charles Voorhees ¹ , Michael Williams ¹ . ¹ Cincinnati Children's Hospital, Cincinnati, OH, ² Department of Environmental Health, University of Cincinnati, Cincinnati, OH	Grand Ballroom I
8:50 AM–11:45 AM	NBTS Platform Session 2 Chairperson: Merle Paule, National Center for Toxicological Research, Jefferson, AR	Grand Ballroom I
8:50 AM–9:10 AM	NBTS 36: Are “Silent Effects” Really Silent? Shifting Methodological Practices and Conceptual Assumptions to Improve Detection of Early Subtle Neurobehavioral Effects of Contaminant Exposure <u>Christina Sobin</u> , University of Texas, El Paso, TX	
9:10 AM–9:30 AM	NBTS 37: Skilled Motor Function in a Neonatal Manganese Exposure Model: Detection of Limb Reaching and Walking Disturbances and Their Reversal by Methylphenidate Treatment in Adult Rats <u>Stephane Beaudin</u> , Jean Sabile, Darren Tsang, Sean Nissam, Donald Smith. University of California, Santa Cruz, Santa Cruz, CA	
9:30 AM–9:50 AM	NBTS 38: Behavioral Pharmacology of Cocaine and Amphetamine in Rats Perinatally Exposed to Polychlorinated Biphenyls (PCBs) <u>Helen Sable</u> ¹ , Mellessa Miller ¹ , Jenna Nelms ¹ , Abby Meyer ¹ , Emily Poon ² , Paul Eubig ² , Susan Schantz ² . ¹ University of Memphis, Memphis, TN, ² University of Illinois, Department of Comparative Biosciences, Urbana, IL	
9:50 AM–10:05 AM	Break	
10:05 AM–10:25 AM	NBTS 39: Motor Deficits in PCB-Treated Mice Using Two Different Treatment Regimens <u>Christine Curran</u> , Amy Ashworth, Helen Garber, Breann Hays, Smitha Infante, Molly Kromme, Anna Lang, Melinda Stegman, Kelsey Taylor. Northern Kentucky University, Highland Heights, KY	
10:25 AM–10:45 AM	NBTS 40: Sex-Selective Interaction of Prenatal Nicotine with Neonatal Chlorpyrifos on Novel Object Recognition in Rats Marty Cauley, Dennis Burke, Brandon Hall, Frederic Seidler, Theodore Slotkin, <u>Ed Levin</u> . Duke University, Durham, NC	
10:45AM–11:05 AM	NBTS 41: Repeated Deltamethrin Exposure Causes Cognitive Deficits in Mice: Role of ER Stress and Impaired Neurogenesis <u>Muhammad Hossain</u> ^{1,2} , Emmanuel Diccio-Bloom ¹ , Jason Richardson ^{1,2} . ¹ Rutgers University, Robert Wood Johnson Medical School, Piscataway, NJ, ² Environmental and Occupational Health Sciences Institute, Piscataway, NJ	
11:05 AM–11:25 AM	NBTS 42: ToxiFly: Can Fruit Flies Be Used to Identify Toxicity Pathways for Airborne Chemicals? <u>Phillip Bushnell</u> ¹ , Katoria Tatum-Gibbs ² , John McKee ¹ , Paul Evansky ¹ , Mark Higuchi ¹ , Mimi Lin ² , Wendy Oshiro ¹ , Richard Judson ¹ , Susan Hester ¹ , David Reif ⁴ , Tatiana Morozova ⁵ , Trudy Mackay ⁵ , William Boyes ¹ . ¹ US EPA, Research Triangle Park, NC, ² Oak Ridge Institute for Science Education, Oak Ridge, TN, ³ North Carolina State University, Raleigh, NC	
11:30 AM–11:45 AM	Discussion and Questions	
11:45 AM	2014 Annual Meeting Adjourned	

***Thank you for coming and have an excellent and productive year ahead.
See you in Montreal in 2015!***