Thirty-third Annual Meeting of the Neurobehavioral Teratology Society
Held in Conjunction with the 49th Annual Meeting of the Teratology Society and the 22nd Annual Meeting of the Organization of Teratology Information Specialists

Wyndham Rio Mar Beach Resort
Rio Grande, Puerto Rico
June 28th–July 1, 2009

2009 RICHARD BUTCHER NEW INVESTIGATOR AWARD

Sherin Boctor (nominated by Dr. Sherry Ferguson)
Department of Interdisciplinary Biomedical Sciences, University of Arkansas for Medical Sciences, Little Rock, Arkansas
Neonatal PCP is More Potent than Ketamine at Modifying Preweaning Behaviors of Sprague-Dawley Rats

NBTS CONFERENCE AWARDS

Patricia Janulewicz (nominated by Dr. Jane Adams)
University of Massachusetts, Boston, Massachusetts
Attention and Working memory in Children Exposed Prenatally to Anticonvulsant Monotherapy

Amanda A. Braun (nominated by Dr. Charles Vorhees)
Cincinnati Children's Research Foundation, Division of Neurology,
Functional alterations in the 5HT1A receptor following neonatal +/−3,4-methylenedioxyamphetamine (MDMA) exposure in rats

SOT NEUROTOXICOLOGY SPECIALTY SECTION CONFERENCE AWARD

Damiyon Sledge (nominated by Dr. Ed Levin)
Duke University Medical Center, Durham, North Carolina
A Zebrafish Model of the Persisting Neurobehavioral Impairment Caused by Developmental Chlorpyrifos

NBTS 2009 Program

Saturday, June 27, 2009

7:30 a.m.–8:00 a.m. Teratology Society Education Course: Coffee and Continental Breakfast
8:00 a.m.–12:00 p.m. Teratology Society Education Course
Session I: Epigenetic Mechanisms
(Separate registration through TS required)
1:00 p.m.–5:00 p.m. NBTS Registration – Rio Mar 7–8 Foyer
1:00 p.m.–2:00 p.m. NBTS Public Affairs Committee – Canary Room
1:45 p.m.–5:30 p.m. Teratology Society Education Course
Session II: Adult Disease Outcomes of Developmental Programming
(Separate registration through T.S. required)
2:00 p.m.–3:00 p.m. NBTS Publications Committee Meeting – Canary Room
3:00 p.m.–6:00 p.m. NBTS Council Meeting – Pelican Room

Sunday, June 28, 2009

8:00 a.m.–5:00 p.m. NBTS Registration – Rio Mar 7–8 Foyer
1:00 p.m.–1:10 p.m. President's Welcome and Official Opening of 2009 NBTS Meeting – Rio Mar 7–8
Neurotoxicology and Teratology Symposium
Behavioral Toxicology in the 21st Century: Challenges and Opportunities for Behavioral Scientists

Monday, June 29, 2009

8:00 a.m.–5:00 p.m. NBTS Registration – Rio Mar 7–8 Foyer
8:00 a.m.–8:30 a.m. Coffee, Tea and Continental Breakfast – Rio Mar 7–8 Foyer
8:30 a.m.–9:30 a.m. Elsevier Distinguished Lectureship – Rio Mar 7–8

Domestic Issues in Maternal and Child Health: Minority-Based Disparities

Speaker: Jane Adams, University of Massachusetts Boston, Boston, MA, USA (NBTS3)

9:30 a.m.–12:00 p.m. NBTS Symposium 2 – Rio Mar 7–8
Marine Biotoxins: A New Frontier in Developmental Neurotoxicology

Chairperson: Ed Levin, Duke University Medical Center, Durham, NC, USA

9:30 a.m.–9:45 a.m. Introduction to Session, Ed Levin, Duke University Medical Center, Durham, NC, USA

9:45 a.m.–10:15 a.m. NBTS9. Oceans and Human Health: Lessons Learned and Challenges Ahead, Elaine Faustman, Philip Bushnell, U.S. Environmental Protection Agency, Research Triangle Park, NC, USA

10:15 a.m.–10:45 a.m. NBTS10. Progressive Neurological Dysfunction Produced by Low-Doses of Domoic Acid During Neonatal Development in Rats, Robert Tasker, University of Prince Edward Island, Charlottetown, Prince Edward Island, Canada

10:45 a.m.–11:00 a.m. Coffee and Tea Break – Rio Mar 7–8 Foyer

11:00 a.m.–11:30 a.m. NBTS11. Role of Domoic Acid and DDT in an Emerging Epilepsy Disorder of California Sea Lions, John Ramsdell, Marine Biotoxins Program, National Oceanic and Atmospheric Administration, Charleston, SC, USA

11:30 a.m.–12:00 p.m. NBTS12. Domoic Acid Neurotoxicity in American Indians: Baseline Characteristics of the CoAstal Cohort, Sparkle Roberts, Vera Trainer, Carol Boushey, Thomas Burbacher, Kimberly Grant, Kate Tracy, Glen Morris, Department of Neurology, Epidemiology and Preventive Medicine, University of Maryland, Baltimore, MD, USA, National Marine Fisheries Science Center, Northwest Fisheries Science Center, National Oceanic and Atmospheric Agency, Seattle, WA, USA, for Environmental and Occupational Health Sciences, University of Washington, Seattle, WA, USA, for Environmental and Occupational Health Sciences, University of Washington, Seattle, WA, USA

12:00 p.m.–1:10 p.m. Lunch on your own

12:00 p.m.–1:15 p.m. NBTS Symposium 3 (Jointly Sponsored by NBTS and TS) – Rio Mar 7–8
Developmental Toxicity of Environmental Exposures: From Effects on Behavior to Genes

Chairpersons: Stan Barone Jr., U.S. Environmental Protection Agency, Washington, D.C., USA and Carmen Umpierre, University of Puerto Rico, Caguas, Puerto Rico

1:15 p.m.–1:30 p.m. NBTS13. Overview of Environmental Vulnerability to Chemical Exposures, Stan Barone Jr., U.S. Environmental Protection Agency, Washington, DC, USA

1:30 p.m.–1:45 p.m. NBTS14. Quantitative Analysis of Early Childhood Floor Behavior and Inhalation Exposure to Toxins, Marta Hernandez, Kathleen Black, ‘Environmental and Occupational Health Sciences Institute, Rutgers University, Piscataway, NJ, USA, Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey, Piscataway, NJ, USA

1:45 p.m.–2:00 p.m. NBTS15. Prenatal Exposure to Environmental Contaminants is Related to Sub-Clinical Behavioral Impairment in Inuit Children in Arctic Quebec, P. Plusquellec, M. Muckle, E. Dewailly, Public Health Research Unit, CHUQ Research Center (CHUL), Quebec City, QC, Canada, School of Psychology, Laval University, Quebec City, QC, Canada, Department of Social and Preventive Medicine, Laval University, Quebec City, QC, Canada

2:00 p.m.–2:15 p.m. NBTS16. Differential Neurobehavioral Responses in PCB-treated Mice Having Different Ahr and Cyp1a2 Alleles, Christine Curran, Krishna Patel, Michael Williams, Charles Vorhees, Daniel Nebert, Northern Kentucky University, Highland Heights, KY, USA, University of Cincinnati, College of Medicine, Cincinnati, OH, USA, Children’s Research Foundation, Cincinnati, OH, USA

2:15 p.m.–2:30 p.m. NBTS17. AhR-Mediated Gene Expression in the Developing Mouse Telencephalon, J.M. Gohlke, P. Stockton, S. Sieber, J. Foley, C.J. Portier, Environmental Systems Biology Group, Laboratory of Molecular Toxicology, National Institute of Environmental Health Sciences, National Institute of Environmental Health Sciences, Research Triangle Park, NC, USA

2:30 p.m.–2:45 p.m. NBTS18. Exposure to Pyrethroid Insecticides Alters Expression of Genes Important for Dopaergic Neuronal Development, Amy Demicco, Jason Richardson, Keith Cooper, Lori White, Rutgers University, New Brunswick, NJ, USA, University of Medicine and Dentistry of New Jersey, Piscataway, NJ, USA

2:45 p.m.–3:00 p.m. NBTS19. Profiling Developmental Toxicity of 387 Environmental Chemicals Using EPA’s Toxicity Reference Database (ToxRefDB), T.B. Knudsen, M.T. Martin, R.J. Kavlock, R.S. Judson, D.J. Dix, A.V. Singh, NCTR, U.S. Environmental Protection Agency, Research Triangle Park, NC, USA, Lockheed Martin, Research Triangle Park, NC, USA

3:00 p.m.–3:15 p.m. NBTS20. Scientific Consensus Statement on Environmental Agents Associated with Neurodevelopmental Disorders, Steven Gilbert, Elise Miller, Institute of Neurotoxicology and Neurological Disorders, Seattle, WA, USA, Collaborative on Health and the Environment, Freeland, WA, USA

3:15 p.m.–3:35 p.m. Coffee and Refreshments – Rio Mar 7–8 Foyer

3:35 p.m.–5:15 p.m. NBTS Symposium 4 – Rio Mar 7–8
Developmental Vulnerability to Environmental Chemical Exposures: Evidence From Analysis of Behavior to Genes: Part 2

Chairperson: Mary Gilbert, U.S. Environmental Protection Agency, Research Triangle Park, NC, USA

3:35 p.m.–3:50 p.m. SOT Neurotoxicology Specialty Section Conference Award Winner

NBTS21. A Zebrafish Model of the Persisting Neurobehavorial Impairment Caused by Developmental Chlorpyrifos Exposure, Damiony Sledge, Jerry Yen, Terrell Morton, Laura Dishaw, Kathleen Shuler, Susan Donerly, Elwood Linney, Edward Levin, Duke University Medical Center, Durham, NC, USA

3:50 p.m.–4:05 p.m. NBTS22. Down-Regulation of DNA Methytransferase Expression is Associated with Increased Dopaergic Gene Expression Following Developmental...
Tuesday, June 30, 2009

8:00 a.m.–5:00 p.m.
NBTS Registration – Rio Mar 7-8 Foyer

7:45 a.m.–8:15 a.m.
Coffee, Tea and Continental Breakfast – Rio Mar 1–5

8:30 a.m.–9:30 a.m.
Joint NBTS/TS/OTIS State of the Art Lecture – Rio Mar 6

Environment and Child Health
Chairperson: Elaine Faustman, University of Washington, Seattle, WA, USA
Speaker: Lizbeth Lopez Carrillo, Nacional Instituto de Public Health, Mexico (NBTS34)

9:30 a.m.–12:15 p.m.
Symposium 5 (Jointly Sponsored by TS, NBTS, and OTIS) – Rio Mar 6

Global Issues in Maternal and Child Health
Chairpersons: Gary Kimmel and Carole Kimmel, Private Consultants, NC, USA

9:30 a.m.–9:35 a.m.
Introduction

9:35 a.m.–10:10 a.m.
NBTS35. HIV and Perinatal Transmission, Olga Timoneleva, Liwei Yang, Frederic Seidler, Theodore Slotkin, Edward Levin1, Duke University Medical Center, Durham, NC, USA

10:10 a.m.–10:45 a.m.
NBTS36. Development of a Robotic Surrogate for Measurement of Young Children’s Exposure to Environmental Toxins, Stuart Shalat1,2, Adam Stambler3, Marta Hernandez2, Kathleen Black2, Environmental and Occupational Health Sciences Institute, Rutgers University, Piscataway, NJ, USA, 3Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey, Piscataway, NJ, USA

10:45 a.m.–11:00 a.m.
Coffee and Tea Break – Rio Mar 6 Foyer

11:00 a.m.–11:35 a.m.
NBTS37. Maternal and Child Nutrition: Long Term Impacts on Disease in Low and Middle Income Countries, Linda Adair, The University of North Carolina at Chapel Hill, Chapel Hill, NC, USA

11:35 a.m.–12:10 a.m.
NBTS38. Treating Severe Malaria With Pre-Referral Artesunate Saves Lives and Prevents CNS Damage, Melba Gomes, M.A, Faiz, Jo Gyapong, M. Development, Rockville, MD, USA, 2Eunice Kennedy Shriver Center on Human Development and Disability, University of Washington, Seattle, WA, USA, 3Environmental and Occupational Health Sciences Institute, Rutgers University, Piscataway, NJ, USA

12:10 a.m.–12:15 p.m.
Conclusions

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

1:15 p.m.–4:15 p.m.
NBTS Symposium 6 – Rio Mar 7-8

Drugs of Abuse and the Developing Nervous System
Chairperson: Sonya Sobrian, Howard University College of Medicine, Washington, DC, USA

1:15 p.m.–1:30 p.m.
NBTS39. Do Rodents Have An IQ? A Historical Overview, R. Robert Holson, Dept. of Psychology, New Mexico Tech, Socorro, NM, USA

1:30 p.m.–1:45 p.m.
NBTS40. Search for the Critical Period in Rats Neonatally Treated With 3,4-(-)-Methylenedioxyamphetamine (MDMA): Effects On Behavior, Charles Voorhees, Matthew Skrlon, Devon Graham, Tori Scharer, Curtis Grace, Amanda Braun, Michael Williams, Cincinnati Children's Research Foundation, Cincinnati, OH, USA

1:45 p.m.–2:00 p.m.
NBTS41. Prenatal Cocaine and/or Nicotine Differentially Alter the Acquisition of Active Avoidance as a Function of the Age of the Offspring, Sonya Sobrian1, Katherine Ressman1, Lara Mar1, R. Robert Holson2, Martha Gay1, Howard University College of Medicine, Washington, DC, USA, 2Dept. of Psychology, New Mexico Tech, Socorro, NM, USA

2:00 p.m.–2:15 p.m.
2009 Richard Butcher New Investigator Award Recipient

NBTS42. Neonatal PCB Is More Potent than Ketamine at Modifying Preweaning Behaviors of Sprague–Dawley Rats, Sherin Boctor1, Cheng Wang1,2, Sherry Ferguson1,2, Department of Interdisciplinary Biomedical Sciences, University of Arkansas for Medical Sciences, Little Rock, AR, USA, 2Division of Neurotoxicology, National Center for Toxicological Research/FDA, Jefferson, AR, USA

2:15 p.m.–2:30 p.m.
NBTS43. Prenatal THC and Effects on Executive Function in the Rat, Diana Dow-Edwards, Ning Zhao, April Jackson, Maiko Iijima, Stacy Stephenson, Lauren Hart, SUNY Downstate, Brooklyn, NY, USA

2:30 p.m.–2:45 p.m.
Coffee and Refreshments – Rio Mar 7–8 Foyer

2:45 p.m.–3:00 p.m.
NBTS44. Effects of Prenatal Cocaine Exposure on Adolescent Development, Gale Richardson1, Lidush Goldschmidt1, Nancy Day1, University of Pittsburgh School of Medicine, Pittsburgh, PA, USA, 2University of Pittsburgh Medical Center, Pittsburgh, PA, USA

3:00 p.m.–3:15 p.m.
NBTS45. The Effects of Chronic Methylenedinitrate on the Performance of Rhesus Monkeys in the NCTR Operant Test Battery, Tucker Patterson1, Mi Li1, Suzanne Morris2, Jesse Rodriguez3, William Slukken4, Jr., Donald Most4, Mercedes Pau2, Division of Neurotoxicology, National Center for Toxicological Research/U.S. FDA, Jefferson, AR, USA, 2Division of Genetic & Reproductive Toxicology, National Center for Toxicological Research/U.S. FDA, Jefferson, AR, USA, 3Office of the Director, National Center for Toxicological Research/U.S. FDA, Jefferson, AR, USA, 4National Center for Child Health & Human Development, Rockville, MD, USA

3:15 p.m.–3:30 p.m.
NBTS46. Effects of Moderate Prenatal Alcohol Exposure on Measures of Volume, Asymmetry, and Shape in the Caudate Nucleus in Young Adults, Jennifer Willford1, Richard Day2, Aziznstein Howard1, Bethany Ground1, Ryan Krou3, Neil Cyphert1, Matthew Zeglen3, Nancy Day1, University of Pittsburgh, School of
Medicine, Pittsburgh, PA, USA, 2University of Pittsburgh, Graduate School of Public Health, Pittsburgh, PA, USA, 3University of Pittsburgh Medical Center, Pittsburgh, PA, USA

3:30 p.m.–3:45 p.m. NBTS47. Do the Neuroprotective Effects of Adolescent MDMA Pretreatment on a Subsequent MDMA Binge Generalize to Methamphetamine?, Christina Henderson, Jerrold Meyer, University of Massachusetts – Amherst, Amherst, MA, USA

3:45 p.m.–4:00 p.m. NBTS48. Using Litter as the Unit of Analysis: Where Do We Stand?, R. Robert Holson, New Mexico Tech, Socorro, NM, USA

4:00 p.m.–4:15 p.m. NBTS Conference Award Recipient

4:15 p.m.–4:30 p.m. BREAK

4:30 p.m.–5:30 p.m. Annual NBTS Business Meeting – Rio Mar 7–8

5:30 p.m.–7:30 p.m. NBTS/TS Joint Poster Session II and Exhibits – Rio Mar 1–5 (Posters set up at 11:45 a.m., attended 5:30 – 7:30 p.m.)

8:00–10:00 p.m. NBTS Casino Night – Charitable Event

Wednesday, July 1, 2009

7:30 a.m.–8:00 a.m. Coffee, Tea and Continental Breakfast – Rio Mar 7–8 Foyer

8:00 a.m.–9:00 a.m. Joint NBTS/TS State of the Art Lecture – Rio Mar 6

Monkey Models for Studies of Maternal and Child Health: When and Why?
Chairperson: Kimberly Grant, University of Washington, Seattle, WA, USA
Speaker: Deborah Rice, Maine Center for Disease Control and Prevention, Augusta, ME, USA (NBTS55)

9:00 a.m.–12:00 p.m. Symposium 7 – Rio Mar 7–8

Primate Models of Children’s Health and Developmental Disabilities
Chairperson: Thomas Burbacher, University of Washington, Seattle, WA, USA

9:00 a.m.–9:15 a.m. Introduction

9:15 a.m.–9:50 a.m. NBTS56. Nutrition and Brain Development: Role of Nonhuman Primate Models, Mari Golub, California National Primate Research Center, Davis, California, USA

10:25 a.m.–10:40 a.m. Coffee and Tea Break – Rio Mar 7–8 Foyer

10:40 a.m.–11:15 a.m. NBTS57. Alteration in Nonhuman Primate Brain Function as a Consequence of Developmental Exposure to Drugs of Abuse, Merle Paule, National Center for Toxicological Research/FDA, Jefferson, AR, USA

11:15 a.m.–11:50 a.m. NBTS58. Twins, Chimeras and Stem Cells: Nonhuman Primate Models for Neurobehavioral Research, Eric Hayes, Jennifer Potter, Eliza Curnow, Thomas Burbacher, Washington National Primate Research Center, University of Washington, Seattle, WA, USA

12:00 p.m. NBTS 2009 Formally Adjourned