Thirty-second Annual Meeting of the Neurobehavioral Teratology Society
Held in Conjunction with the 48th Annual Meeting of the Teratology Society and the 21st Annual Meeting of the Organization of Teratology Information Specialists

Hyatt Regency Hotel
Monterey, CA
June 28–July 2, 2008

NBTS 2008 DR. RICHARD BUTCHER NEW INVESTIGATOR AWARD

DAVID S. SHARLIN (nominated by M.E. Gilbert)
NIDDK, National Institutes of Health, Washington DC
The Balance Between Oligodendrocyte and Astrocyte Production in Major White Matter Tracts is Linearly Related to Serum Total Thyroxine.

MERCK and Co., Inc. CONFERENCE AWARD

DEVON GRAHAM (nominated by Michael Williams)
Cincinnati Children’s Research Foundation, Cincinnati, Ohio
Differential Neurochemical Consequences of an Escalating Dose-Binge Regimen Followed by Single-Day Multiple-Dose Methamphetamine Challenges.

SOT NEUROTOXICOLOGY SPECIALTY SECTION CONFERENCE AWARD

JEANNETTE STANKOWSKI (nominated by Gregg Stanwood)
Vanderbilt University Medical Center, Nashville, TN
Selective Vulnerability of Dopaminergic Systems to Manganese: Relevance to Occupational Exposure.

FINE SCIENTIFIC TOOLS CONFERENCE AWARD

JILLIAN GEE (nominated by Ginger Moser)
Neurotoxicology Division, US EPA, RTP, NC and North Carolina State University, Raleigh, NC
Acute Developmental Exposure to Polybrominated Diphenyl Ether 47 (PBDE 47) Alters Dopamine Concentration within the Brain of Male Mice.

NBTS CONFERENCE AWARD

Sherin Boctor (nominated by Sherry Ferguson)
Department of Interdisciplinary Biomedical Sciences, U Arkansas and NCTR/FDA, Little Rock, Arkansas
Neonatal NMDA Receptor Antagonist Treatment Has No Effects on Prepulse Inhibition (PPI) in Postnatal Day (PND) 25 Sprague-Dawley Rats.

NBTS 2008 PROGRAM

Saturday, June 28, 2008

7:00 a.m.–5:00 p.m.  Teratology Society Continuing Education Course – Regency Ballroom
“Functional Development of the CNS: Positive and Negative Factors” (Separate Registration through TS Required)

1:00 p.m.–6:00 p.m.  NBTS Registration and Committee Meetings – Regency Rooms Foyer

2:00 p.m.–3:00 p.m.  NBTS Public Affairs Committee Meeting – Cypress 1

doi:10.1016/j.ntt.2008.03.059
Sunday, June 29, 2008

8:00–5:00 p.m. NBTS Registration – Regency 4 Foyer

8:45–8:50 a.m. Welcome and Official Opening of 2008 NBTS meeting.

8:45–11:00 a.m. NBTS Symposium 1 – Regency Rooms 4–6

Prenatal Behavior and Transition to Postnatal Life Chair – Mark Stanton, Mary Gilbert

8:45–8:55 a.m. NBTS1. Prenatal behavior and transition to postnatal life. Mark Stanton. Psychology Department, University of Delaware, USA

8:55–9:30 a.m. NBTS2. The externalized rodent fetus: A model system for the study of prenatal behavioral development. Scott Robinson, University of Iowa, USA

9:30–10:05 a.m. NBTS3. Behavioral functioning of the fetus after prenatal toxin exposure and neural insult. Gale Kleven, Wake Forest University, USA

10:05–10:40 a.m. NBTS4. Birth and postnatal life: insights derived from neural imaging and behavioral studies of perinatal rats. April Ronca, Wake Forest University, USA

10:40–11:00 a.m. Break

11:00–11:45 a.m. Special Lecture – Regency Rooms 4–6

NBTS5. Thyroid disruption and brain development: Does serum T4 tell the story? Robert Zoeller1, Ruby Bansal1, Daniel Tighe1, David Sharlin1, Mary Gilbert1, Jeffrey Fisher3, Benjamin Blount4,1University of Massachusetts, 2U.S. EPA, 3University of Georgia, 4Center for Disease Control and Prevention, USA

11:45–12:15 p.m. Dr. Richard Butcher New Investigator Award Recipient

NBTS6. The balance between oligodendrocyte and astrocyte production in major white matter tracts is linearly related to serum total thyroxine. David Sharlin1,2, Daniel Tighe1, Mary Gilbert3, R. Thomas Zoeller2, 1NIDDK, National Institutes of Health, Washington, DC, 2University of Massachusetts, 3Neurotoxicology Division, U.S. EPA, USA

12:45–5:00 p.m. Carmel Valley Wine Tasting Tour – Assemble in Lobby 12:30

Monday, June 30, 2008

8:00 a.m.–5:00 p.m. NBTS Registration – Regency Room 4–6 Foyer

8:30–11:30 a.m. Symposium 2 – Regency Ballroom

Environmental Exposures to Pesticides: Impact on Neurodevelopment Chair – Susan Schantz, Mary Gilbert

8:30–8:40 a.m. NBTS7. An overview of the centers for children’s environmental health and disease prevention: research, translation and outreach. Susan Schantz, University of Illinois, United States

8:40–9:20 a.m. NBTS8. Neurodevelopmental effects of prenatal exposure to chlorpyrifos in an urban cohort. Virginia Rauh, Robin Whyatt, Robin Garfinkel, Columbia University, Mailman School of Public Health, United States

9:20–10:00 a.m. NBTS9. Organophosphate exposure and neurodevelopment in a Mexican American farmworker population: The CHAMACOS Study. Brenda Eskenazi1, Amy Marks1, Kim Harley1, Asa Bradman1, Caroline Johnson2, Dana Barr3, 1University of California Berkeley, 2Private Practice, United States, 3CDC, United States

10:00–10:20 a.m. Break (joint with Teratology) – Regency Ballroom Foyer

10:20–11:00 a.m. NBTS10. In utero exposure to pesticides and child neurodevelopment in a New York City cohort. Mary Wolff, Stephanie Engel, Mount Sinai School of Medicine, USA

11:00–11:40 a.m. NBTS11. Pesticide exposure in children: evidence for a take home pathway. Elaine Faustman1,2,1University of Washington, United States, 2Center for Child Environmental Health Risks Research, USA

11:40–1:30 p.m. LUNCH
1:30–2:30 p.m. Elsevier Distinguished Lecturer – Regency Room 4–6
NBTS12. Interpreting epidemiologic studies of neurotoxicity: conceptual and analytic issues. David Bellinger1,2,3,1Children's Hospital Boston, United States,2Harvard Medical School, United States,3Harvard School of Public Health, United States

2:30–5:30 p.m. Symposium 3 – Regency Room 4–6
Environmental Exposures to Metals: Impact on Neurodevelopment
Chair – Susan Schantz, Mary Gilbert

2:30–3:10 p.m. NBTS13. Biomarkers of genetic susceptibility to metal neurotoxicity. Robert Wright, Harvard School of Public Health, USA
3:10–3:50 p.m. NBTS14. Effects of early lead exposure on neuroanatomical and social functional outcomes in young adults. Kim Dietrich, University of Cincinnati College of Medicine, USA

3:50–4:10 p.m. Break – Regency Room 4–6 Foyer

4:10–4:50 p.m. NBTS15. The impact of lead and other exposures on early school performance. Dohyeong Kim, Jerome Reiter, Andy Hull, Marie Lynn Miranda, Duke University, USA
4:50–5:30 p.m. NBTS16. Role of metal exposures in autism. Irva Hertz-Picciotto, Peter Green, Lora Delwiche, Isaac Pessah, Robin Hansen, University of California, USA

5:30–7:30 p.m. NBTS/TS/OTIS Poster Session I and Exhibits – Monterey Ballroom (Posters set-up 11:45 a.m., attended 5:30–7:30 p.m.)

NBTS17. Thyroid disruption and brain development: What is it that we don’t know? Robert Zoeller1, Ruby Bansal1, Stefanie Giera1, Theresa Ortiz1, Daniel Tighe1,2, David Sharlin1,3, Mary Gilbert4,1Harvard University, 2NIDDK, NIH, 3US EPA, 4U.S. EPA, USA

NBTS18. A genomic analysis of subclinical hypothyroidism in hippocampus and neocortex of the developing brain. Mary Gilbert1, Joel Parker2, Joyce Royland1,1US EPA, 2Constella Group, USA

NBTS19. Developmental exposure to perchlorate alters synaptic transmission in hippocampus of the adult rat. ME Gilbert1, Li Sui2,1US Environmental Protection Agency, 2National Research Council, USA

NBTS20. Behavioral lateralization and prenatal exposure to antiepileptic drugs: evidence for increased non-right hand preference. Kelly Marie McVearry1, Gholam Motamedi1, Kimford Meador2,1Georgetown University Department of Neurology, 2University of Florida McKnight Brain Institute, USA

NBTS21. Fetal terbutaline exposure and child neurobehavioral outcome: a preliminary evaluation. Jane Adams1, Stephanie Lagaert2, Patricia Janulewicz1, Kelly Kao2, Christina Chambers2, Kenneth Jones2,1University of MA Boston, 2UCSD School of Medicine, USA

NBTS22. Cognitive development and low-level lead exposure in poly-drug exposed children. Meeyoung Min1, Lynn Singer1, Sonia Minnes1, H. Lester Kirchner2, Suchitra Nelson1,1Case Western Reserve University, 2Geisinger Center for Health Research, USA

NBTS23. Neurobehavioral outcomes of infants exposed prenatally to MDMA. Lynn T. Singer1, Julia Goodwin2, Derek Moore2, Meeyoung O. Min1, Andy C. Parrott3, John Turner2, Sarah E. Fulton1,1Case Western Reserve University, USA, 2University of East London, United Kingdom, 3Swansea University, United Kingdom

NBTS24. Female mini-pig performance of Temporal Response Differentiation (TRD), Incremental Repeated Acquisition (IRA), and Progressive Ratio (PR) operant tasks. Sherry Ferguson1, Neera Gopee2, Merle Paule1, Paul Howard2,1Division of Neurotoxicology/National Center for Toxicological Research/FDA, 2Division of Biochemical Toxicology/National Center for Toxicological Research/FDA, USA

NBTS25. Object preferences as environmental enrichment measures in the female mini-pig. Melody Smith1, Neera Gopee2, Paul Howard2, Sherry Ferguson1,1Division of Neurotoxicology, National Center for Toxicological Research/FDA, 2Division of Biochemical Toxicology, National Center for Toxicological Research/FDA, USA

7:30–9:30 p.m. Student Career Event – Cypress Room 1–3
Sponsored by MARTA/MTA

Tuesday, July 1, 2008

8:00–5:00 p.m. NBTS Registration – Regency Foyer
8:30–11:30 a.m. Symposium 4 – Regency Rooms 4–6
Environmental Exposures to Pesticides and Metals: Animal Models
Chair – Deborah Rice
8:30–8:40 a.m. NBTS26. Correspondence between experimental and epidemiological findings: How good is it? Deborah Rice, Maine Center for Disease Control and Prevention, USA

8:40–9:20 a.m. NBTS27. Developmental pesticide exposure: a new risk factor for ADHD? Jason Richardson, Robert Wood Johnson Medical School, USA

8:30–8:40 a.m. NBTS26. Correspondence between experimental and epidemiological findings: How good is it? Deborah Rice, Maine Center for Disease Control and Prevention, USA

8:40–9:20 a.m. NBTS27. Developmental pesticide exposure: a new risk factor for ADHD? Jason Richardson, Robert Wood Johnson Medical School, USA

9:20–10:00 a.m. NBTS28. Long-term cognitive effects of low-level developmental organophosphate pesticide exposure: divergent effects of chlorpyrifos, diazinon and parathion. Edward Levin, Olga Timofeeva, Frederic Seidler, Theodore Slotkin, Duke University, USA

10:00–10:20 a.m. Break – Regency Room Foyer

10:20–11:00 a.m. NBTS29. The efficacy of succimer chelation in an animal model of pediatric lead exposure. Barbara Strupp1, Diane Stangle1, Myla Strawderman1, Stephane Beaudin1, Donald Smith2, 'Cornell University, United States; 2University of California at Santa Cruz, USA

11:00–11:40 a.m. NBTS30. Effects of in utero and lactational manganese exposure on behavioural and neurochemical outcomes in rats. Timothy Maher, Siripan Phattanarudee, Massachusetts College of Pharmacy and Health Sciences, USA

11:45–1:30 p.m. NBTS/TS/OTIS Poster Session II and Exhibits – Monterey Ballroom (Posters set-up 9:00 a.m., attended 11:45–1:30 p.m.)

NBTS31. Conversion of Developmental Neurotoxicity (DNT) information into a structure-searchable relational database. Karen Acuff1, Bill Broening1, Kevin Crofton2, Andrew Fix1, Elizabeth Julien3, Jay Nash1, Ann Richard2, Sarah Tozer1, Chihae Yang4, 1Procter & Gamble Company, United States; 2EPA, ORD; 3ILSI Research Foundation; 4Leadscope, Inc., USA

NBTS32. Neurobehavioral consequences of developmental PCB95 exposure in mice. Mari Golub, Isaac Pessah, Robert Berman, University of California Davis, USA

NBTS33. The effects of gestational and lactational exposure to chromium picolinate or picolinic acid on neurological development of CD-1 mice. Melissa Bailey1, Megan Townsend1, Peter Jernigan1, John Sturdivant1, Jane Rasco1, John Vincent1, Ronald Hood2, 1University of Arkansas for Medical Sciences, 2Division of Neurotoxicology, National Center for Toxicological Research/FDA, USA

NBTS34. Neonatal NMDA receptor antagonist treatment has no effects on prepulse inhibition (PPI) in postnatal day (PND) 25 Sprague–Dawley rats. Sherin Boctor1,2, Natalya Sadovova1, Cheng Wang1,2, Sherry Ferguson1, 1Department of Interdisciplinary Biomedical Sciences, University of Arkansas for Medical Sciences; 2Division of Neurotoxicology, National Center for Toxicological Research/FDA, USA

NBTS35. The maturation of the inborn reflexes in C3H/SnY and 101/HY mice during early postnatal ontogenesis after maternal gamma-irradiation before pregnancy. Irina Lip1, F Magkoeva1, T Beskova1, Inga Poletaeva2, A Malashenko2, 1Research Center for Medical Genetics of Russian Academy of Medical Sciences, 2Department of Biomedical Technologies of RAMS, Russian Federation

NBTS36. Acoustic startle behavior is moderately altered by lifetime acrylamide (ACR) treatment in rats. Merle Paule, Melody Smith, Joan Garey, Sherry Ferguson, US FDA's National Center for Toxicological Research, USA

NBTS37. The effect of lifelong acrylamide exposure on auditory discrimination task performance in Fischer 344 rats. Joan Garey, Merle Paule, Division of Neurotoxicology, National Center for Toxicological Research/FDA, USA

NBTS38. The effects of oral administration of methylphenidate on activity, emotion and attention in juvenile rats. Ning Zhu, Diana Dow–Edwards, SUNY Downstate Medical Center, USA

NBTS39. The interaction of age, sex, peer influence, and ethanol impacts measures of anxiety in mice. Brian Kelley, John Doyon, Julia Sirpoli, Curtis Bradley, Buddy Swick, Kathryn Taylor, Mackenzie Grimes, Ashley Reid, Bridgewater College, USA

NBTS40. Comparison of training procedures for self-administration of cocaine in female rats. Cindy Roegge, Amanda Evans, Melissa Beck, Philip Atteson, Don Stump, Mark Nemec, Joseph Holson, WIL Research Laboratories, LLC, USA

1:30–3:15 p.m. Platform 1 Joint Session NBTS/TS – Regency Room 4

CNS and Prenatal Exposures: Teratological and Neurodevelopmental Outcomes
Chair – Charles Vorhees, Jane Adams

1:30–1:45 p.m. NBTS41. Incidence of major malformations in infants following antidepressant exposure in pregnancy: results of a large cohort study. Adrienne Einarson, Jacquelyn Choi, Gideon Koren, Hospital for Sick Children, Canada
1:45–2:00 p.m. NBTS42. Antiepileptic drugs as cognitive teratogens: a prospective study of creativity in children exposed to valproate, carbamazepine, and lamotrigine monotherapy, Kelly Marie McVeary1, Kimford Meador2,1Georgetown University Department of Neurology, 2University of Florida McKnight Brain Institute, USA

2:00–2:15 p.m. NBTS43. Intrauterine growth during different time windows in relation to mental development at 13 months postpartum. OS von Ehrenstein, RT Mikolajczyk, J Zhang, National Institute Child Health and Human Development, NIH, USA

2:15–2:30 p.m. NBTS44. Low-level prenatal exposure to tobacco smoke and newborn neurobehavior. Kimberly Yolton1, Jane Khoury1, Yingying Xu1, Bruce Lanphear1, Paul Succop2, Barry Lester3, 1Cincinnati Children’s Hospital Medical Center, 2University of Cincinnati, 3Brown University, USA

2:30–2:45 p.m. NBTS45. Binge ethanol exposure over postnatal days 4–9 and 7–9 produces deficits in trace and long-delay eyeblink conditioning in the rat. Naten Murawski, Michael Burman, Kevin Brown, Mark Stanton, University of Delaware, USA

2:45–3:00 p.m. NBTS46. Prenatal Exposure to Cocaine Alters Neurobehavioral Developmental Milestones in Rats. S.S. Handu1,2, H. Datta2, A. Sankaranarayanan2, H. James1, K.A.J. Khaja1, R.P. Sequeira1, 1Arabian Gulf University, Bahrain, 2Institute of Medical Education and Research, India

3:00–3:15 p.m. NBTS47. Intravenous cocaine administration throughout pregnancy in the rat: preliminary results. Diana Dow-Edwards, Ning Zhao, Anna Jozwicka, State Univ: New York, United States

3:15–3:30 p.m. Break (Joint with Teratology) Regency Rooms 4–6 Foyer

3:30–5:30 p.m. NBTS Business Meeting – Regency Room 4–6

Wednesday, July 2, 2008

8:30–10:45 a.m. NBTS Platform Session 2 – Regency Rooms 4–6
Dopamine Signaling: Drugs of Abuse and Environmental Contaminants
Chair: Gregg Stanwood

8:30–8:45 a.m. NBTS48. Biochemical consequences of altered dopamine D1 receptor signaling in the brain. Joshua Parlaman, Gregg Stanwood, Vanderbilt University, USA

8:45–9:00 a.m. NBTS49. Differential neurochemical consequences of an escalating dose-binge regimen followed by single-day multiple-dose methamphetamine challenges. Devon Graham1, Pierre Noailles2, Jean Cadet2, 1Cincinnati Children’s Research Foundation, 2DHHS/NIH/NIDA/IRP, USA

9:00–9:15 a.m. NBTS50. Prenatal cocaine differentially alters dopamine D1 and D2 receptor expression in aging rats. Sonya Sobrian, Jharna Das, Jewel Wright, Nailah Adams, Elizabeth Fryer, Howard University College of Medicine, USA

9:15–9:30 a.m. NBTS51. Acute developmental exposure to polybrominated diphenyl ether 47 (PBDE 47) alters dopamine concentration within the brain of male mice. Jillian Gee1,2, Virginia Moser1, Kathy McDaniel1, David Herr3, 1Neurotoxicology Division, US EPA, 2North Carolina State University, USA

9:30–9:45 a.m. Break Regency Foyer

9:45–10:00 a.m. NBTS52. Low-dose postnatal DE-71 exposure affects learning but not attention in rats. Lori Driscoll, Colorado College, USA

10:00–10:15 a.m. NBTS53. Selective vulnerability of dopaminergic systems to manganese: relevance to occupational exposure. Jeannette Stankowski, Duncan Leitch, Michael Aschner, BethAnn McLaughlin, Gregg D. Stanwood, Vanderbilt University Medical Center, USA

10:15–10:30 a.m. NBTS54. Developmental manganese exposures produce neurobehavioral deficits associated with altered dopamine receptor/transporter expression. Cynthia Kern, Donald Smith, University of California, Santa Cruz, USA

10:30–10:45 a.m. NBTS55. Developing a child-specific reference dose for manganese for use in school site risk assessment. David Chan, Office of Environmental Health Hazard Assessment, USA

10:45 a.m. NBTS 2008 Meeting Adjourned