Thirty-Ninth Annual Meeting of the Neurobehavioral Teratology Society and the Fifteenth Biennial Meeting of the International Neurotoxicology Association
Held in Conjunction with the 55th Annual Meeting of the Teratology Society
Hôtel Bonaventure, Montréal, Quebec, Canada
June 27—July 1, 2015

2015 PATRICIA RODIER MID-CAREER AWARD
Gregg Stanwood, PhD (Nominated by Chip Vorhees)
Florida State University
Developmental causes and consequences of drug abuse

2015 NBTS RICHARD BUTCHER NEW INVESTIGATOR AWARD
Marissa Sobolewski, PhD (self-nominated)
University of Rochester
Enhanced reproductive, endocrine and behavioral deficits induced by maternal exposure to a mixture of low dose endocrine disrupting chemicals

NBTS CONFERENCE AWARDS
Emily Ross (Nominated by Gregg Stanwood)
Vanderbilt University
Developmental dopamine D2 receptor effects on interneuron development and behavior

Stephanie Spring (Nominated by Mary Gilbert)
United States Environmental Protection Agency
Thyroid hormone-dependent formation of a subcortical band heterotopia (SBH) in the neonatal brain is not exacerbated under conditions of low dietary iron

Saturday, June 27, 2015

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<tr>
<th>NBTS Program</th>
<th>INA Program</th>
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<tr>
<td>8:00 AM–12:00 Noon Teratology Society Education Course Session I Westmount (Separate registration required)</td>
<td>8:30 AM–10:10 AM Symposium 1: Neurotoxicants are in the air: Neurotoxicity of air pollution Verdun Chairpersons: Lucio G. Costa, University of Washington and Deborah Cory-Slechta, University of Rochester School of Medicine</td>
</tr>
<tr>
<td>8:30 AM–4:00 PM NBTS Registration Montreal Ballroom Foyer</td>
<td>8:30-8:55 Neurotoxicity of acute diesel exhaust exposure in adult mice (NTX1) Lucio G. Costa\textsuperscript{1,2}, Toby B. Cole\textsuperscript{1}, Jacki Coburn\textsuperscript{1}, Yu-Chin (Rachel) Chang\textsuperscript{1}, Khoi Dao\textsuperscript{1} and Pamela J. Roque\textsuperscript{1}, \textsuperscript{1}University of Washington, Seattle, WA, USA; \textsuperscript{2}University of Parma Medical School, Parma, Italy.</td>
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<td>8:55-9:20 Microglia as central nervous system sentinels and the detection of air pollution (NTX2) Michelle Block, Indiana University School of Medicine, Indianapolis, IN, USA.</td>
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<td>9:20-9:45 Prenatal air pollution exposure effects on autism spectrum disorder and neurodevelopment (NTX3) Heather E. Volk, Rob McConnell, Irv Hertz-Picciotto, Fred Lurmann, Tara Kerin, Amy Kalkbrenner, Nora Lee and Gayle Windham, University of California, Davis, CA, USA.</td>
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9:45-10:10 Developmental exposure to ultrafine particle air pollution produces features of the autism phenotype (NTX4)
Deborah A. Cory-Slechta, Joshua L. Allen and Gunter Oberdorster. *University of Rochester School of Medicine, Rochester, NY, USA.*

10:10 AM–10:30 AM Break

10:30 AM–12:30 PM Symposium 2: Neurotoxicity of small inhaled particles; From the cradle to the grave? Verdun
Chairpersons: Harm J. Heusinkveld, *Leibniz Research Institute for Environmental Medicine* and Arezoo Campbell, *Western University of Health Sciences*

10:30-11:00 Epidemiological studies on outdoor air pollution exposure and neuro-psychological effects: From cradle to grave (NTX5)
Tamara Schikowski, *IUF- Leibniz Research Institute for Environmental Medicine, Düsseldorf, Germany; Swiss Tropical and Public Health Institute and University of Basel, Switzerland.*

11:00-11:30 Inhaled ultrafine particles increase inflammatory markers in rodent brains and may contribute to neurodegeneration (NTX6)
Arezoo Campbell *Western University of Health Sciences, Pomona, CA, USA.*

11:30-12:00 Inhaled ultrafine particulate matter and neurodegeneration; On the biological plausibility of mechanisms (NTX7)
Harm J. Heusinkveld, *Leibniz Research Institute for Environmental Medicine, Düsseldorf, Germany; National Institute for Public Health and the Environment, Bilthoven, The Netherlands.*

12:00 PM–1:00 PM Lunch

1:00 PM–2:00 PM NBTS Public Affairs Committee Meeting

St. Pierre

1:30 PM–5:00 PM Teratology Society Education Course Session II
Westmount
(Separate registration required)

1:00 PM–3:30 PM Symposium 3: The aerotoxic syndrome: Tricresyl phosphate exposure assessment, neurotoxicity and alternative explanations Verdun
Chairpersons: Christoph van Thriel, *IfADo-Leibniz Research Center for Working Environment and Human Factors* and Remco H.S. Westerink, *Universiteit Utrecht*

1:00-1:30 The aerotoxic syndrome: Is there a new low-level neurotoxic syndrome in the air? (NTX8)
Marlene Pacharra, Stefan Kleinbeck, Vanessa Hausherr, Julia Sisnaiske and Christoph van Thriel, *IfADo-Leibniz Research Center for Working Environment and Human Factors, Dortmund, Germany*

1:30-2:00 Can ozone-initiated chemistry explain symptoms among air crewmembers? (NTX09)
Peder Wolkoff, *National Research Centre for the Working Environment, Copenhagen, Denmark.*
2:00-2:30 Towards a clinical diagnosis of the Aerotoxic Syndrome, possible methods and challenges (NTX10)
Evelien van Valen, Ineke Olsthoorn, Bas Sorgdrager and Teake Pal, Netherlands Center for Occupational Diseases, Coronel Institute of Occupational Health, Academic Medical Center Amsterdam, The Netherlands.

2:30-3:00 Neurotoxic hazard characterization and risk assessment of different TriCresyl Phosphate (TCP) isomers (NTX11)

3:00-3:30 Tri-ortho-cresylphosphate and TCP isomers – neurotoxic effects in addition to OPIDN? (NTX12)
Vanessa Hausherr¹, Julia Sisnaiske¹, Nicole Schöbel² and Christoph van Thriel¹, IfADo-Leibniz Research Center for Working Environment and Human Factors, Dortmund, Germany;² Department of Animal Physiology, Ruhr-University, Bochum, Germany.

3:00 PM–4:00 PM
NBTS Strategic Planning Committee Meeting
St. Pierre

3:30–3:50 Break

3:50–5:10 Platform Session 1 Verdun

3:50-4:10 In vitro neurochemical screening assays to predict adverse outcomes of a set of potentially neurotoxic chemicals in fish, birds, and mammals (NTX13)
Adeline Arini¹, Krittika Mittal¹, Jessica Pawley¹, Jessica Head², Brandon Armstrong², Cheryl Murphy² and Nil Basu¹,¹ Faculty of Agricultural and Environmental Sciences, McGill University, Montreal, QC, Canada, ²Department of Fisheries and Wildlife, Michigan State University, East Lansing, MI, USA.

4:10-4:30 Lead-induced disruption of brain barriers and its mechanisms (NTX14)
Jingyuan Chen, Fourth Military Medical University, Xi'an, China.

4:30-4:50 NMDA R/+VDR pharmacological phenotype as a novel therapeutic target in relieving motor-cognitive impairments in Parkinsonism (NTX15)
¹ Olalekan Michael Ogundele, ¹ Ednar Tarebi Nanakumo, ² Azeez Olakunle Ishola, ¹ Oluwafemi Michael Obende, ¹ Linus Anderson Enye, ² Wasiu Gbolahan Balogun, ² Emmanuel Cobham Ansa and ² Abdulbasit Amin, ¹ Afe Babalola University, Ekiti State Ado-Ekiti, Nigeria; ²University of Ilorin, Ilorin, Kwara State, Nigeria

4:50-5:10 Deficits in neural responses to manganese exposure in Huntington’s Disease models (NTX16)
AM Tidball¹, KK Kumar¹, MR Bryan¹, TJ Bichell¹, K Horning¹, MA Uhouse¹, CR Goodwin¹, J Bornhorst², T Schwerdtle², MD Neely¹, JA McClean¹, MA Aschner³ and AB Bowman¹,¹ Vanderbilt University Medical Center, Nashville, TN, USA, ²University of Potsdam, Germany and
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<tr>
<th>Time</th>
<th>Event</th>
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<tr>
<td>4:00 PM–6:30 PM</td>
<td>NBTS Council Meeting</td>
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<td>4:00 PM–6:30 PM</td>
<td>Soccer Game</td>
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<td>Sunday, June 28, 2015</td>
<td>NBTS AND INA PROGRAM</td>
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<tr>
<td>7:30 AM–6:00 PM</td>
<td>NBTS/INA Registration</td>
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<td>Montreal Ballroom Foyer</td>
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<td>8:00 AM–8:15 AM</td>
<td>Presidents' Welcome</td>
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<td>Outremont</td>
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<td>Lori L. Driscoll, Colorado College and Christoph van Thriel, IfADo - Leibniz Research Centre for Working Environment and Human Factors</td>
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<td>8:30 AM–10:40 AM</td>
<td>Symposium 4: Neurotoxicity of brominated flame retardants and the quest for safer alternatives</td>
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<td>Verdun</td>
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<td>Chairpersons: Paul Eubig, University of Illinois and Remco H.S. Westerink, Universiteit Utrecht</td>
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<tr>
<td>8:30 AM–8:48 AM</td>
<td>Introduction to Session on the Neurotoxicity of Brominated Flame Retardants and the Quest for Safer Alternatives (NTX17)</td>
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<td>Paul A. Eubig, University of Illinois, Urbana-Champaign, IL, USA</td>
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<td>8:48 AM–9:16 AM</td>
<td>Cognitive and motivational impacts of developmental PBDE exposure in rats (NTX18)</td>
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<td>Lori L. Driscoll, Colorado College, Colorado Springs, CO, USA</td>
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<td>9:16 AM–9:44 AM</td>
<td>Neurobehavioral function and low-level exposure to brominated flame retardants in adolescents: A cross-sectional study (NTX19)</td>
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<td>Michal Kicinski, Mineke Viaene, Elly Hond, Greet Schoeters, Adrian Covaci, Alin Dirtu, Vera Nelen, Liesbeth Bruckers, Kim Croes, Isabelle Sioen, Willy Baeyens, Nicolas Van Larebeke, Tim Nawrot, Hasselt University, Hasselt, Belgium, Sint Dimphna Hospital, Geel, Belgium, Flemish Institute for Technological Research, Environmental Risk and Health, Mol, Belgium, University of Antwerp, Antwerp, Belgium, Provincial Institute for Hygiene, Antwerp, Belgium, Brussels Free University, Brussels, Belgium, University Ghent, Ghent, Belgium, KU Leuven, Leuven, Belgium.</td>
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<td>9:44 AM–10:12 AM</td>
<td>Halogenated organophosphate flame retardants: Developmental neurotoxicity and possible mechanisms of action (NTX20)</td>
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<td>Laura Dishaw, Heather Stapleton. Duke University, Durham, NC, USA</td>
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<td>10:12 AM–10:40 AM</td>
<td>Neurotoxicity assessment of 15 brominated- and halogen-free flame retardants (NTX21)</td>
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<td>Hester S. Hendriks, Regina GDM van Kleeft, Milou ML Dingemans, Mareike Meijer, Mirthe Mulwijk, Martin van den Berg, Geert M Ramakers, Lucas A. Koolen, Pim E. Leonards, Henrik Viberg, Iwa Lee, Remco HS Westerink, Utrecht University, Utrecht, The Netherlands, University Medical Center, Utrecht, The Netherlands, VU University, Amsterdam, The Netherlands, Uppsala University, Uppsala, Sweden</td>
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<td>10:40 AM–11:00 AM</td>
<td>Break</td>
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NBTS Program

11:00 AM–12:00 Noon
Platform Session 2  Outremont

11:00-11:15 Prenatal cocaine, alcohol, and tobacco effects on adolescent attention/inhibition (NTX22)
   Lynn T. Singer, Sonia Minnes, Meeyoung O. Min, Barbara Lewis, Adelaide Lang, and Miaoping Wu, Case Western Reserve University, Cleveland, OH, USA.

11:15-11:30 Effects of prenatal cocaine exposure and externalizing behavior on adolescent substance use (15-17 years) (NTX23)
   Sonia Minnes, Meeyoung O. Min, Lynn T. Singer, Barbara Lewis, Adelaide Lang, and Miaoping Wu, Case Western Reserve University, Cleveland, OH, USA

11:30-11:45 Neonatal (+)-methamphetamine exposure impairs egocentric, allocentric, and working memory in rats (NTX24)
   Charles Vorhees, Sarah Jablonski, Arnold Gutierrez, Trisha Tee, Kathryn Suttling, and Michael Williams, Cincinnati Children’s Research Foundation & University of Cincinnati, OH, USA

11:45-12:00 Loss of dopamine D2 receptors increases parvalbumin-positive interneurons in the anterior cingulate cortex (NTX25)
   Devon Graham¹, Heather Dural², Jamie Garden², Evan Cohen², Franklin Echevarria², and Gregg Stanwood¹,
   ¹Florida State University, Tallahassee, FL, USA, ²Vanderbilt University, Nashville, TN, USA

INA Program

11:00 AM–12:00 Noon
Platform Session 3  Verdun

11:00-11:20 Use of non-mammalian animal models in neurotoxicology testing in the National Toxicology Program (NTX26)
   Mamta Behl¹, Jui-Hua Hsieh¹, Timothy J. Shafer², William R. Mundy², Julie Rice¹, Windy Boyd¹, Jonathan Freedman¹, E. Sidney Hunter III², Kimberly Jarema², Stephanie Padilla², Raymond Tice¹
   ¹National Institute of Environmental Health Sciences, Research Triangle Park, NC, USA, ²S. Environmental Protection Agency, Research Triangle Park, NC, USA.

11:20-11:40 The RAS/PI3K Pathway Involved in the Damage on Long-term Potentiation of Acute Aluminum Treatment (NTX27)
   Jing Song, Ying Liu, Hui Fang Zhang and Qiao NIU, Shanxi Medical University, Taiyuan, Shanxi, China.

11:40-12:00 Lysosomal dysfunction caused by the environmental neurotoxicant manganese increases exosome-mediated cell-to-cell transfer of α-synuclein by a prion-like mechanism (NTX28)
   Dilshan S. Harischandra, Vivek Lawana, Dharmin Rhokad, Huajun Jin, Vellareddy Anantharam, Arthi Kanthasamy and Anumantha Kanthasamy, Iowa State University, Ames, IA, USA

NBTS AND INA PROGRAM

12:00 Noon–1:00 PM  Lunch

1:00 PM–3:00 PM  Symposium 5: Complementary neurotoxicological insights from fish, flies, and worms  Verdun
   Chairpersons: Edward Levin, Duke University, Durham, NC, USA and Mamta Behl, National Institute for Environmental Sciences, Research Triangle Park, NC, USA

1:00 PM–1:25 PM  Can zebrafish be used to identify developmentally neurotoxic chemicals? (NTX29)
Stephanie Padilla, US-Environmental Protection Agency, Research Triangle Park, NC, USA.

1:25 PM–1:50 PM Persisting Impacts of organophosphate and neonicotinoid pesticides on neurobehavioral function in zebrafish (NTX30)
Edward Levin, Jordan Bailey, Anthony Oliveri and Emily Crosby. Duke University Medical Center, Durham, NC, USA.

1:50 PM–2:15 PM Detection and validation of molecular biomarkers for neurotoxicity in fish embryos (NTX31)
Martina Fenske, Elke Muth-Köhne, Vera Delov, Laura Sonnack, Sebastian Kampe and Christoph Schäfers. Fraunhofer Institute for Molecular Biology and Applied Ecology IME, Aachen and Schmallenberg, Germany.

2:15 PM–2:40 PM Neurogenetics of toluene in Drosophila (NTX32)
1P. Bushnell, 2T. Morozova, 1S. Hester, 1W. Ward, 1W. Oshiro, 3M. Lin, 1J. McKee, 1M. Higuchi, 1W. Boyes, 4R. Judson, 3K. Tatum-Gibbs, 2T.F.C. Mackay. 1National Health and Environmental Effects Research Laboratory, US-EPA, Research Triangle Park, NC, USA; 2North Carolina State University Raleigh, NC, USA; 3ORISE Fellowship Program; 4National Center for Computational Toxicology, US-EPA, Research Triangle Park, NC, USA.

2:40 PM–3:05 PM Molecular neurotoxicology insights from C. elegans (NTX33)
Michael Aschner, Albert Einstein College of Medicine, Bronx, NY, USA.

3:05 PM–3:20 PM Break

3:20 PM–4:20 PM INA 2015 Jacob Hooisma Lecture Verdu
The objective measurement of drug and environmental influences on brain function (NTX34)
Barbara Sahakian, University of Cambridge, Cambridge, United Kingdom.

NBTS Program

4:30 PM–5:30 PM Unveiling of name change and celebration of the Developmental Neurotoxicology Society Fontaine H

5:30 PM–6:00 PM 2015 Patricia Rodier Mid-Career Award in Research and Mentoring Westmount
Developmental causes and consequences of drug abuse (NTX35)
Gregg D. Stanwood, Florida State University, Tallahassee, FL, USA.

INA Program

4:30 PM–5:30 PM INA Business Meeting Verdu

6:00 PM–7:30 PM NBTS/INA/TS Welcome Reception, Silent Auction, and Exhibits Attended Fontaine B

6:00 PM–7:30 PM NBTS/INA/TS Welcome Reception, Silent Auction, and Exhibits Attended Fontaine B
Monday, June 29, 2015

**NBTS Program**

7:30 AM–5:00 PM
Registration  Montreal Ballroom Foyer

9:00 AM–12:00 Noon NBTS/TS Joint Symposium: Regulatory neurodevelopmental testing: New guiding principles for harmonization of data collection and analysis
Westmount
Chairpersons: Alan M. Hoberman, Charles River and Abby A. Li, Exponent, Inc.

9:00–9:10 Reexamining the Developmental Neurotoxicity Study and risk assessment (NTX36)

9:10–9:35 Evaluating data variability for neurobehavioral measure (NTX37)
Larry P. Sheets, Bayer CropScience, Durham, NC, USA.

9:35–9:55 New insights into analysis of highly variable data: Motor activity as a case study (NTX38)
Wayne Bowers, Health Canada and Carleton University, Ottawa, ON, Canada.

9:55–10:20 Hypothesis driven testing and statistical analysis: Auditory startle as a case study (NTX39)
Kathleen Raffaele¹, E Lau², T Vidmar³, A Li². ¹Office of Solid Waste and Emergency Response, US Environmental Protection Agency, Washington, DC, USA, ²Exponent, San Francisco, CA, USA, ³BioSTAT, Kalamazoo, MI, USA.

10:20–10:35 Break

10:35–11:00 Standardization of SOPs to evaluations: Impacts on regulatory decisions using learning and memory as case studies (NTX40)
Virginia C. Moser¹, A Hofstra². ¹Office of Research and Development, US

**INA Program**

7:30 AM–5:00 PM
Registration  Montreal Ballroom Foyer

8:30 AM–10:30 AM Symposium 6: Occupational and environmental toxicant-induced retinal/visual system deficits: From man to mice to fish
Verdun
Chairpersons: Donald A. Fox, University of Houston and Dora Fix Ventura, University of Sao Paulo

8:30-9:00 A retrospective of studies on toxic induced loss of color vision and contract sensitivity: What have we learned? (NTX42)
Donna Mergler, CINBIOSE, Université du Québec à Montréal, Canada.

9:00-9:30 Gestational lead exposure in humans and experimental animals: Novel functional and morphological phenotype and late-onset retinal degeneration (NTX43)
Donald A. Fox, University of Houston, Houston, TX, USA.

9:30-10:00 Impact of mercury vapor toxicity on vision and visual structures: Human and experimental studies (NTX44)
Dora Fix Ventura, University of Sao Paulo, SP, Brazil.

10:00-10:30 Mechanisms underlying ocular abnormalities in zebrafish embryos exposed to ethanol (NTX45)
D.L. Stenkamp, University of Idaho, Moscow, ID, USA.

10:30–10:45 Break

10:45 AM–12:05 PM
Platform Session 4  Verdun

10:45-11:05 The role of the age in mediating the efficacy of chelation therapy in lead poisoned young rats (NTX46)
Jian Xu, Shufang Li, Shuangyuan Sun, Chonghuai Yan, Xiaoming Shen, Xinhua Hospital, Shanghai Jiao Tong
11:00-11:25 Weight of evidence and benchmark dose analysis: Brain morphometry and startle data case study (NTX41)
Abby A. Li1, RH Garman2, W Kaufmann3, RN Auer1, B Bolon5. 1Exponent Health Sciences, San Francisco, CA, USA, 2Veterinary Pathology, Murrysville, PA, USA, 3Merck KGaA Global Pathology & Reproductive Toxicology, Darmstadt, Germany, 4Hôpital Saint Justine, Montreal, QC, Canada, 5The Ohio State University, Columbus, OH, USA.

11:25-11:45 Fenazaquin aggravates tau pathology in P301S transgenic mice (NTX48)
Mohamed M. Salama1, Thomas W. Rösler2, Seham Gad El Hak1 and Gunter U. Höglinger2,3. 1Mansoura University, Mansoura, Egypt; 2German Center for Neurodegenerative Diseases (DZNE), Munich, Germany; 3Technical University, Munich, Germany

11:45-12:05 Role of glutamatergic receptors and associated signaling in arsenic induced neurotoxicity and protective efficacy of curcumin in rat primary cultured hippocampal neurons. (NTX49)
Pranay Srivastava, Vivek Kumar, Rajendra Shukla, Yogesh Dhuriya, Richa Gupta, AB Pant, Vinay K Khanna, CSIR- Indian Institute of Toxicology Research, Marg, Lucknow, India.
1:30 PM–1:50 PM  
Do peripheral inflammatory responses link early chronic low-level lead exposure and later psychiatric disease? (NTX51)  
Christina Sobin1,2, Charlotte Vines1, John Basgen2, Mayra Gisel Flores Montoya1  
1University of Texas at El Paso, El Paso, TX, USA, 2Rockefeller University, New York, NY, USA, 3Charles Drew University, Los Angeles, CA, USA

1:50 PM–2:10 PM  
Neurotoxic effects on attention deficit and hyperactivity in rodent models (NTX52)  
Edward Levin, Brandon Hall and Marty Cauley, Duke University, Durham, NC, USA.

2:10 PM–2:30 PM  
Early Life Lead Exposure and Schizophrenia Neuropathology: Effects on Parvalbumin-Positive GABAergic Interneurons and Subcortical Dopaminergic Activity (NTX53)  
Tomás R Guilarte, Kirstie H Stansfield, Barbara D Soares, Jennifer L McGlothran and Xinhua Liu, Mailman School of Public Health, Columbia University, New York, NY, USA

2:30 PM–2:50 PM  
Break

2:50 PM–5:00 PM  
Symposium 8: Application of the Adverse Outcome Pathway (AOP) concept to neurotoxicology  
Chairpersons: Anna Price, Institute for Health and Consumer Protection, European Commission and Ellen Fritsche, Leibniz Research Institute for Environmental Medicine

2:50 PM–3:15 PM  
Developing and evaluating AOPs for research and regulatory application (NTX54)  
Bette Meek, McLaughlin Centre for Population Health Risk Assessment, University of Ottawa, Ottawa, ON, Canada.

3:15 PM–3:40 PM  
Binding of antagonist to NMDA receptors during brain development (synaptogenesis) induces impairment of learning and memory abilities (NTX55)  
Anna Price and Magdalini Sachana, Institute for Health and Consumer Protection, European Commission, JRC, Ispra, Italy.

3:40 PM–4:05 PM  
Binding of epigallocatechin gallate to the laminin-β-integrin binding site decreases neural progenitor cell adhesion and migration: Adverse Outcome Pathway framework supporting neurodevelopmental toxicity research and risk assessment (NTX56)  
Marta Barenys1, Kathrin Gassmann1, Christine Baksmeier1, Sabrina Heinz1, Martin Schmuck1, Sivaraj Sundaram1, Maria Teresa Colomina2, Heike Heuer1, Ellen Fritsche1, 1IUF - Leibniz Research Institute of Environmental Medicine, Germany; 2“Rovira i Virgili” University, Spain

4:05 PM–4:30 PM  
Adverse Outcome Pathway on: Binding of pyrethroids to voltage-gated sodium channels induces acute neurotoxicity (NTX57)  
Timothy J. Shafer, U.S. Environmental Protection Agency, USA.

4:30 PM–4:55 PM  
The developmental neurotoxicity of non-dioxin-like PCBs: Sensitization of ryanodine receptors interferes with neurodevelopmental processes that determine neuronal connectivity (NTX58)  
Pamela J. Lein, University of California-Davis, Davis, CA, USA.

5:30 PM–7:30 PM  
INA/NBTS/TS/OTIS Joint Poster Session  
Fontaine B
NTX59: The neurobehavioral toxicity of FireMaster 550® in zebrafish (Danio rerio): Chronic developmental and acute adolescent exposures
Jordan M. Bailey and Edward D. Levin. Duke University Medical Center, Durham, NC, USA.

NTX60: Solvents and Parkinson syndromes
Eric Benbrik¹, Vincent Bonneterre², Jacques Reis³ and Peter S Spencer⁴. ¹UFR de Médecine et de Pharmacie de Poitiers, France; ²Département de Médecine et Santé au travail Pôle Santé publique, CHU Grenoble, France; ³Chargé de cours Université de Strasbourg, France; ⁴Peter S. Spencer. School of Medicine, Oregon Health & Science University, Portland, Oregon, USA.

NTX61: Gestation-only trichloroethylene exposure induced differential brain region-specific neurotoxicity in male offspring
Sarah J. Blossom, Ming Li, Grant Chandler, Stepan Melnyk and William D. Wessinger, University of Arkansas for Medical Sciences, Little Rock, AR, USA.

NTX62: Combined exposure to impulse noise and styrene
Pierre Campo, Thomas Venet, Aurélie Thomas, Chantal Cour, and Frédéric Cosnier, Institut National de Recherche et de Sécurité, Vandœuvre Cedex, France.

NTX63: Alteration of juvenile rat emotional behavior and social play following preweanling exposure to inhibitors of FAAH

NTX64: Low-dose paraquat exposure inhibits cell proliferation and induced apoptosis in human neural progenitor cells
Xiuli Chang, Tingting Dou, Xinjin Wang and Zhijun Zhou, Fudan University, Shanghai, China.

NTX65: Neurodevelopmental effects of manganese and lead co-exposure: a case study of teeth as a novel exposure biomarker
Birgit Claus Henn¹, Brent A. Coull², Robert O. Wright³ and Manish Arora³, ¹Boston University School of Public Health, Boston, MA, USA; ²Harvard University School of Public Health, Cambridge, MA, USA; ³Icahn School of Medicine at Mount Sinai, New York, NY, USA.

NTX66: Increased GABA levels in manganese-exposed welders correlate with exposure, brain manganese, cognitive function, and motor function
David Edmondson¹,², Ruoyun Ma¹,², Chien-Lin Yeh¹,², Eric J. Ward¹, Sandy Snyder¹, S. Elizabeth Zauber³, Frank Rosenthal¹, and Ulrike Dyda². School of Health Sciences, Purdue University, West Lafayette, IN, USA; ²Radiology and Imaging Sciences, Indiana University School of Medicine, Indianapolis, IN, USA; ³Neurology, Indiana University School of Medicine, Indianapolis, IN, USA.

NTX67: Peripheral and central auditory dysfunction associated with solvent exposure in humans
Adrian Fuente. Université de Montréal, Montréal, Quebec, Canada.

NTX68: Low dose tobacco smoke extract exposure during development causes long-term behavioral dysfunction in rats
Brandon J. Hall, Marty Cauley, Abtin Kiany, Dennis A. Burke and Edward D. Levin, Duke University Medical Center, Durham, NC, USA.

NTX69: Effects of environmental exposure to manganese on the visuoperception and visual memory in Mexican children
D. Hernández-Bonilla¹, C. Escamilla-Nuñez¹, Donna Mergler³; A. Schillmann-Halbinger¹, S. Rodríguez-Dozal¹, S. Montes² and H. Riojas-Rodríguez¹, ¹National Institute of Public Health; ²National Institute of Neurologic and Neurosurgery Manuel Velasco Suarez; ³CINBIOSE, Université du Québec à Montréal, Canada.
NTX70: The effects of lead (Pb) and methylmercury (MeHg) on neurochemistry and behavior in chicken hatchlings
Theresa Johnston, Kimmo Mäenpää., and Nil Basu, McGill University, Montréal, Canada.

NTX71: The adverse effects of pesticides on the central auditory nervous system in tobacco growers
Adriana Bender Moreira de Lacerda¹, Denise Maria Vaz Romano França¹, Tony Leroux², and Adrian Fuente²,¹ Universidade Tuiuti do Paraná – UTP – Curitiba, Brazil;² Université de Montréal – UdeM – Montréal, Canada.

NTX72: Study of evoked otoacoustic emissions and suppression: Effect on workers exposed to pesticides and noise
Adriana Bender Moreira de Lacerda¹, Patricia Arruda de Souza Alcarás¹, Jair Mendes Marques¹, and Tony Leroux²,¹ Universidade Tuiuti do Paraná – UTP – Curitiba, Brazil;² University of Montreal – UdeM, Montreal, Canada.

NTX73: Assessment of the short-term neurobehavioral toxicity of a perinatal exposure to the HexaBromoCycloDoDecane (HBCDD) α-isomer in rats
Nicolas Maurice¹, Jean-Charles Oly¹, Ronan Cariou², Philippe Marchand², Gaud Dervilly-Pinel², Bruno Le Bizec², Angélique Travel³, Catherine Jondreville¹, and Henri Schroeder¹,¹ URAFPA, INRA UC340, Université de Lorraine, Vandoeuvre-lès-Nancy, France;² LUNAM Université, Oniris, USc INRA 1329, LABERCA, Nantes, France;³ ITAVI, Centre INRA de Tours, Nouzilly, France.

NTX74: Role of opioids in hemin-induced neurotoxicity
Hannah Mick and Shekher Mohan, Marshall University, Huntington, WV, USA.

NTX75: Characterizations of 3’ splice variants of Acetylcholinesterase (AchE) gene in rat: Implications for neurotoxicology studies
Bhaja K Padhi, Manjeet Singh and Guillaume Pelletier, Health Canada, Ottawa, ON, Canada.

NTX76: Tremor and movement disorders from carbon monoxide exposure - case report and review of the literature
Jonathan S. Rutchik, University of California, San Francisco, CA, USA; Environmental and Occupational Medicine Associates, Mill Valley, CA, USA.

NTX77: Maturation dependent susceptibility to the herbicide paraquat in 3d rat brain cell cultures
Jenny Sandström von Tobel and Florianne Monnet-Tschudi, University of Lausanne, Switzerland.

NTX78: Neuronal cell models and methods simulating nervous system function to screen for neurotoxic compounds
Julia Sisnaiske¹, Denise Schäfer¹, Vanessa Hausherr¹, Marcel Leist², Tzutzuy Ramirez-Hernandez³, Robert Landsiedel⁵, and Christoph van Thriel¹,¹ IFAO, Dortmund, Germany;² University of Konstanz, Konstanz, Germany;³ BASF, Ludwigshafen, Germany.

NTX79: DNTox-21c 3D brain models to predict DNT and study neurodegeneration

NTX80: Chronic solvent induced encephalopathy; Course and prognostic factors
Evelien van Valen¹, Ellie Wiekking¹, Moniek van Hout², Gert van der Laan¹, Gerard Hageman³, Frank van Dijk¹, and Mirjam Sprangers⁴,¹ Coronel Institute for Occupational Health, Academic Medical Center Amsterdam, the Netherlands;² Medical Psychology, Medical Spectrum Twente, the Netherlands;³ Neurology, Medical Spectrum Twente, The Netherlands;⁴ Medical Psychology, Academic Medical Center Amsterdam, The Netherlands.

NTX81: Performance validity in patients suspected of chronic solvent-induced encephalopathy
Evelien van Valen¹, Moniek van Hout², Ellie Wekking¹, Gert van der Laan¹, Gerard Hageman³, Frank van Dijk¹, Mirjam Sprangers⁴, and Ben Schmand⁵, ¹Coronel Institute for Occupational Health, Academic Medical Center Amsterdam, The Netherlands; ²Medical Psychology, Medical Spectrum Twente, The Netherlands; ³Neurology, Medical Spectrum Twente, The Netherlands; ⁴Medical Psychology, Academic Medical Center Amsterdam, The Netherlands; ⁵Neurology, Academic Medical Center Amsterdam, The Netherlands.

NTX82: Perinatal hypothyroidism and ultrasonic vocalization in rat pups
Hiromi Wada, Hokkaido University, Sapporo, Japan.

NTX83: The association of early exposure to phenols and neuro-behavior development in school-aged children
Jen Wang¹,², Mei-Huei Chen³, Wu-Shiun Hsieh⁴, and Pau-Chung Chen², ¹Department of Psychiatry, Taipei City Hospital Jen-Ai branch, Taipei, Taiwan; ²Institute of Occupational Medicine and Industrial Health, National Taiwan University College of Public Health, Taipei, Taiwan; ³Department of Pediatrics, National Taiwan University Hospital Yun-Lin Branch, Yunlin, Taiwan; ⁴Department of Pediatrics, National Taiwan University Hospital, Taipei, Taiwan.

NTX84: Solvents effects on the stapedial reflex
L. Wathier, T. Venet and P. Campo, INRS, Vandoeuvre-les-Nancy, France.

NTX85: Role of the PON1_{Q192R} polymorphism in the cognitive performance of agricultural workers exposed to organophosphate pesticides in the north of Chile (Coquimbo Region).
Liliana Zúñiga, Sebastián Corral and Floria Pancetti, Universidad Católica del Norte, Coquimbo, Chile; Department of Psychology, Faculty of Social Sciences, University of Chile, Santiago, Chile.

NTX86: Effect of dichlorvos in spatial learning and memory during the ontogeny of Sprague-Dawley rats
Fernando Gámiz and Floria Pancetti, Universidad Católica del Norte, Coquimbo, Chile.

NTX87: Assessing exposure to organophosphate pesticides, biomarkers and neuropsychological outcomes in rural populations of Chile
Muriel Ramírez-Santana, Liliana Zúñiga, Sebastián Corral, Rodrigo Sandoval and Floria Pancetti, Universidad Católica del Norte, Coquimbo, Chile.

NTX88: Delayed neurobehavioral effects caused by zebrafish embryonic exposure to low levels of PCB-126
L Glazer, N Aluru and M.E. Hahn, Woods Hole Oceanographic Institution and Woods Hole Center for Oceans and Human Health, 45 Water Street, Woods Hole, MA, 02543, USA.

NTX89: Screening for potential developmental neurotoxicity based on changes in the ontogeny of activity in rat cortical neural networks using multi well microelectrode arrays

NTX90: Screening the ToxCast Phase I and II libraries for acute neurotoxicity using cortical neurons grown on multi-well microelectrode array (mwMEA) plates
Jenna Strickland, Matt Martin, Keith Houck and Tim Shafer, Axion Biosystems, Atlanta, GA, USA; US-EPA, Research Triangle Park, NC, USA.

NTX91: Early-life exposure to organophosphate flame retardants alters behavior in adult zebrafish: a comparison with organophosphate pesticides
Anthony Oliveri and Edward D. Levin, Duke University School of Medicine, Durham, NC, USA.

NTX92: Neurobehavioral and physiological effects of manganese exposure in welders
Clara Quetscher¹,², Christoph van Thriel³, Thomas Brüning¹, Beate Pesch¹, and Christian Beste⁴,
NTX93: Domoic acid targets developing oligodendrocytes to potentially mediate toxicity in the nervous system
Jennifer Martinez Panlilio\textsuperscript{1,2}, Neelakanteswar Aluru\textsuperscript{2,3}, and Mark E. Hahn\textsuperscript{2,3}, \textsuperscript{1}MIT/WHOI Joint Graduate Program in Oceanography and Oceanographic Engineering, Woods Hole, MA, USA; \textsuperscript{2}Woods Hole Oceanographic Institution, Woods Hole, MA, USA; \textsuperscript{3}Woods Hole Center for Oceans and Human Health, Woods Hole, MA, USA.

NTX94: Role of lead-induced Src activation in regulation of occludin expression level and the permeability of brain barriers
Han Song, Gang Zheng, Xue-Feng Shen, Xin-Qin Liu, Wen-Jing Luo, and Jing-Yuan Chen, Fourth Military Medical University, Xi’an, China.

NTX95: Developmental dopamine D2 receptor effects on interneuron development and behavior
Emily Ross\textsuperscript{1}, Devon Graham\textsuperscript{2}, and Gregg Stanwood\textsuperscript{2}, \textsuperscript{1}Vanderbilt University, Chemical and Physical Biology Program, USA, \textsuperscript{2}Florida State University College of Medicine, Department of Biomedical Sciences, USA.

NTX96: Structural abnormalities and learning impairments induced by low level thyroid hormone insufficiency; A cross-fostering study
Mary Gilbert\textsuperscript{1}, Wendy Oshiro\textsuperscript{1}, Stephanie Spring\textsuperscript{1}, Michelle Hotchkiss\textsuperscript{1}, Joe Korte\textsuperscript{2}, Patricia Kosian\textsuperscript{2}, and Sigmund Degitz\textsuperscript{2}, \textsuperscript{1}US EPA, NHEERL, TAD, USA, \textsuperscript{2}US EPA, NHEERL, MED, USA.

NTX97: Thyroid hormone-dependent formation of a subcortical band heterotopia (SBH) in the neonatal Brain is not Exacerbated Under Conditions of Low Dietary Iron
Stephanie Spring\textsuperscript{1}, TW Bastian\textsuperscript{2}, Grant Anderson\textsuperscript{2}, and Mary Gilbert\textsuperscript{1}, \textsuperscript{1}US EPA, NHEERL, TAD, USA, \textsuperscript{2}University of Minnesota, USA.

NTX98: Impact of shift work on attention and female estrous cycling: Initial findings in a rat model
Rekha Balachandran\textsuperscript{1}, Audrey Robertson\textsuperscript{1}, Michael Leventhal\textsuperscript{1}, Stephane Beaudin\textsuperscript{2}, Megan Mahoney\textsuperscript{1}, and Paul Eubig\textsuperscript{1}, \textsuperscript{1}University of Illinois at Urbana-Champaign, USA, \textsuperscript{2}University of Santa Cruz, USA.

NTX99: Chronic MPTP treatment produces hyperactivity in male mice which is not alleviated by concurrent trehalose treatment
Sherry Ferguson, Delbert Law, and Sumit Sarkar
National Center for Toxicological Research/FDA, USA.

NTX100: Perinatal exposure to polychlorinated biphenyls alters cocaine behavioral sensitization and dopamine transporter (DAT) expression in the striatum and medial prefrontal cortex of Long-Evans rats
Mellessa Miller, Jenna Sprowles, Abby Meyer, Jason Voeller, Sean Matthews, and Helen Sable
University of Memphis, USA.

NTX101: A study of the object-in-place visual recognition paradigm for measuring memory Impairment in Young C57BL6J Mice with Early Chronic Low-level Lead Exposure.
Mayra Gisel Flores-Montoya\textsuperscript{1}, Juan Alvarez\textsuperscript{1}, and Christina Sobin\textsuperscript{1,2}, \textsuperscript{1}University of Texas, USA, \textsuperscript{2}The Rockefeller University, USA.
NTX102: Gestational exposure to diethylstilbestrol does not elicit alterations in anxiety- and depressive-like behaviors in C57Bl/6 mice
Jenna Sprowles, Mellessa Miller, Abby Meyer, and Helen Sable
University of Memphis, USA.

NTX103: The impact of enrichment on spatial memory in Long Evans rats exposed to ethanol
Shayla Percy and Laura Pickens
Thiel College, USA

NTX104: The effect of adolescent nicotine exposure on Morris water maze spatial learning and retention in the adult male Long-Evans rat: A pilot study
Michelle Blose and Laura Pickens
Thiel College, USA

NTX105: Effects of adolescent nicotine exposure on memory precision in middle-aged female rats
Jessica Sharp, Samantha M. Renaud, Megan E. Miller, Stephen B. Fountain and David C. Riccio
Kent State University, USA.

NTX106: Sex-specific differences in the persistence of cognitive impairments caused by adolescent nicotine exposure
Samantha M. Renaud¹, Megan E. Miller¹, Laura R.G. Pickens², and Stephen B. Fountain¹
¹Kent State University, USA, ²Thiel College, USA.

NTX107: Effects of acute nicotine on larval zebrafish exploratory behavior in a complex environment
Brandon Chen and Frank Scalzo
Bard College, USA.

NTX108: Does administration of thimerosal-containing vaccines to infant rhesus macaques result in an autism-like neuropathology?
Laura Hewitson¹,², Bharathi Gadad², Wenhao Li², Stephen Grady², Britni Curtis³, Vernon Yutuc³, Clayton Ferrier², Gene Sackett³,⁴, and Dwight German²
¹The Johnson Center for Child Health and Development, USA, ²University of Texas Southwestern, USA, ³Washington National Primate Research Center, USA, ⁴University of Washington, USA.

NTX109: Sleep disturbance as detected by actigraphy in juvenile monkeys receiving therapeutic doses of fluoxetine.
Mari Golub and Casey Hogrefe
University of California Davis, USA.

NTX110: Treatment with the antidepressant fluoxetine increases peer social interaction in juvenile rhesus monkeys.
Mari Golub, Alicia Bulleri, and Casey Hogrefe
University of California Davis, USA.

NTX111: Neurodevelopmental outcome following prenatal exposure to anti-depressant medications
Anna Rosofsky¹, Patricia Janulewicz¹,², Christina Chambers³,⁴, Junenette Peters¹, Kerri Bertrand³, Kelly Kao², Kenneth Jones³, and Jane Adams⁴
¹Department of Environmental Health, Boston University, USA, ²Department of Psychology, University of Massachusetts Boston, USA, ³Department of Pediatrics, University of California San Diego, USA, ⁴Department of Family and Preventive Medicine, University of California San Diego, USA.

NTX112: Prenatal exposure to acetaminophen and child neurodevelopment using a maternal self-report questionnaire
Kerri Bertrand, Patricia Janulewicz, Christina Chambers, Kelly Kao, Kenneth Lyons Jones, and Jane Adams

1University of California San Diego, USA, 2Boston University, USA, 3University of Massachusetts Boston, USA.

NTX113: Childhood and adolescent fish consumption and adult neuropsychological performance: An analysis from the Cape Cod Health Study
Lindsey Butler, Patricia Janulewicz, Jenny Carwile, Michael Winter, Roberta White, and Ann Aschengrau
Boston University School of Public Health, USA.

NTX114: Prenatal exposure lead and manganese and the intelligence of 7 year-old children.
Yu-Chun Chen, Mei-Huei Chen, Wu-Shiun Hsieh, and Pau-Chung Chen
1Institute of Occupational Medicine and Industrial Hygiene, National Taiwan University College of Public Health, Taiwan, 2Department of Pediatrics, National Taiwan University Hospital Yun-Lin Branch, Taiwan, 3Department of Pediatrics, National Taiwan University Hospital and National Taiwan University College of Medicine, Taiwan, 4National Taiwan University College of Medicine, Taiwan.

NTX115: Prenatal exposure to environmental tobacco smoke and attention deficit/hyperactivity symptoms in children at 7 years of age
Pei-Yu Rao, Wu-Shiun Hsieh, Mei-Huei Chen, and Pau-Chung Chen
1Institute of Occupational Medicine and Industrial Hygiene, National Taiwan University College of Public Health, Taiwan, 2Department of Pediatrics, National Taiwan University Hospital, Taiwan, 3Department of Pediatrics, National Taiwan University Hospital Yun-Lin Branch Secretariat, Taiwan, 4National Taiwan University College of Medicine, Taiwan.

NTX116: Effects of prenatal exposure to cigarette smoke on adiposity and metabolism: preliminary evidence of attenuated energy metabolism
Jameason Cameron, Kristi Adamo, Eric Doucet, Peter Fried, and Gary Goldfield
1Children's Hospital of Eastern Ontario, Canada, 2University of Ottawa, Canada, 3Carleton University, Canada.

NTX117: Effects of prenatal cocaine exposure on early sexual activity: Gender difference in externalizing behavior as a mediator
Meeyoung Min, Sonia Minnes, Miaoping Wu, and Lynn Singer
Case Western Reserve University, USA.

Tuesday, June 30, 2015

NBTS AND INA PROGRAM

8:00 AM–2:00 PM Registration Montreal Ballroom Foyer

9:00 AM–12:30 PM TS/NBTS/OTIS/INA Public Affairs Symposium: Microbiomes: An underappreciated organ for teratologists Westmount
Chairpersons: Lori L. Driscoll, Colorado College, USA and Carl L. Keen, University of California, Davis, USA

9:00 AM–9:05 AM Introduction
Lori L. Driscoll, Colorado College, Colorado Springs, CO, USA.

9:05 AM–9:45 AM Measuring the impact of diet and environment on infant metabolism and microbiome (NTX118)
Carolyn M. Slupsky, University of California-Davis, Davis, CA, USA.
Impact of intrapartum antibiotic prophylaxis and other perinatal interventions on the infant gut microbiome (NTX119)
Anita Kozyrskyj, University of Alberta, Alberta, ON, Canada.

Maternal stress and the neonate gut microbiome: Effects on early life programming and neurodevelopment (NTX120)
Eldin Jasarevic, University of Pennsylvania, Philadelphia, PA, USA.

NBTS Elsevier Distinguished Lecturer
Microbiota-gut-brain axis: From neurodevelopment to behavior (NTX121)
John F. Cryan and Ted Dinan University College Cork, Cork, Ireland.

Discussion: What does the future hold?

1:30 PM–3:35 PM Symposium 9: Nicotine and alternative tobacco products in adolescence  Outremont

Chairperson: Diana Dow-Edwards, SUNY Downstate Medical Center

Introduction
Diana Dow-Edwards, SUNY Downstate Medical Center, Brooklyn, NY, USA.

1:35-2:00 Neurobiological consequences of nicotine exposure during adolescence: Mechanisms of short and long-term effects (NTX122)
Laura O’Dell, University of Texas at El Paso, TX, USA.

2:00-2:25 Age and sex differences in starting nicotine self-administration in early, mid or late adolescence vs. adulthood: Cause and effect relationships determined in a rat model (NTX123)
Edward Levin, Duke University, Durham, NC, USA.

2:25-2:50 Understanding adolescent E-cigarette use behaviors: Implications for tobacco regulatory efforts (NTX124)
Suchitra Krishnan-Sarin, Grace Kong, Meghan Morean, Deepa Camenga, Dana Cavallo, Yale University, New Haven, CT, USA.

1:30 PM–3:35 PM Symposium 10: Complimentary Models Enhance the Understanding of Mechanisms Leading to Methylmercury-Induced Neurodevelopmental Effects  Verdun
Chairpersons: Sandra Ceccatelli and Michael Aschner

Identification of conserved developmental pathways targeted by methylmercury in Drosophila melanogaster (NTX126)
Matthew D. Rand¹, Sara Montgomery¹, Daria Vorojekina¹, Wen Huang², Trudy F.C. MacKay² and Robert R.H. Anholt², ¹University of Rochester School of Medicine and Dentistry, Rochester, NY; ²North Carolina State University, Raleigh, NC, USA.

The Role of skn-1 in methylmercury-induced latent dopaminergic neurodegeneration (NTX127)
Michael Aschner¹, Ebany Martinez-Finley², ¹Albert Einstein College of Medicine, Bronx, NY, USA; ²Vanderbilt University Medical Center, Nashville, TN, USA.

Avian species as alternate models to understand the neurodevelopmental effects of methylmercury (NTX128)

1:30-1:55 Identification of conserved developmental pathways targeted by methylmercury in Drosophila melanogaster (NTX126)
Matthew D. Rand¹, Sara Montgomery¹, Daria Vorojekina¹, Wen Huang², Trudy F.C. MacKay² and Robert R.H. Anholt², ¹University of Rochester School of Medicine and Dentistry, Rochester, NY; ²North Carolina State University, Raleigh, NC, USA.

1:55-2:20 The Role of skn-1 in methylmercury-induced latent dopaminergic neurodegeneration (NTX127)
Michael Aschner¹, Ebany Martinez-Finley², ¹Albert Einstein College of Medicine, Bronx, NY, USA; ²Vanderbilt University Medical Center, Nashville, TN, USA.

2:20-2:45 Avian species as alternate models to understand the neurodevelopmental effects of methylmercury (NTX128)
2:50–3:15 **The waterpipe: A new way of hooking youth on nicotine (NTX125)**  
Wasim Maziak, University of Memphis, Memphis, TN, USA.

2:45–3:10 **Neural stem cells provide new insights into the mechanisms of MeHg developmental neurotoxicity (NTX129)**  
Sandra Ceccatelli, Marilena Raciti, Natalia Onishchenko and Raj Bose, Karolinska Institutet Stockholm, Sweden.

3:10–3:35 **Developmental toxicity of methylmercury is associated with reduced antioxidant status and coflin phosphorylation (NTX130)**  
Beatriz Caballero, Nair Olguin, Aina Palou-Serra, Iolanda Vendrell, Francisco Campos, Marcelo Farina, Ferran Ballester, Eduard Rodriguez-Farré and Cristina Suñol, Institut d'Investigacions Biomèdiques de Barcelona, Spain; FISABIO-UJI-University of Valencia Joint Research Unit, CIBERESP, Valencia, Spain.

3:30–4:00 Break

4:00–4:30 **2015 Richard Butcher New Investigator Award**  
Outremont

Enhanced reproductive, endocrine and behavioral deficits induced by maternal exposure to a mixture of low dose endocrine disrupting chemicals (NTX131)  
Marissa Sobolewski, Joshua Allen, Katherine Conrad, Deborah Cory-Slechta, University of Rochester, Rochester, NY, USA.

4:30–5:30 **NBTS Business meeting and award presentations**  
Outremont

6:00–10:00 **INA/NBTS Social event: Dinner cruise** (Separate registration required)

6:00–10:00 **INA/NBTS Social event: Dinner cruise** (Separate registration required)

**Wednesday, July 1, 2015**

**NBTS AND INA PROGRAM**

8:15 AM–11:00 AM **Symposium 11 Verdun**
Epigenetic mechanisms as link between early life stress/toxicant exposure and later consequences for health and behavior-- sponsored by CAAT Europe  
Chairpersons: Jerrold S. Meyer, University of Massachusetts Amherst and Marcel Leist, Universität Konstanz
8:15 AM–8:40 AM  Epigenetic and neurobiological consequences of prenatal exposure to Bisphenol A (NTX132)
Frances Champagne, Columbia University, New York NY, USA.

8:40 AM–9:05 AM  Maternal smoking during pregnancy and offspring methylation: Preliminary data from a case-crossover design design (NTX133)
Valerie Knopik, Brown University, Providence, RI, USA.

9:05 AM–9:30 AM  Brain epigenetic and telomere alterations associated with early-life adversity (NTX134)
Tania L. Roth, University of Delaware, Newark, DE, USA.

9:30 AM–9:55 AM  Epigenetic effects of drugs on early human neural development (NTX135)
Marcel Leist, University of Konstanz, Konstanz, Germany.

9:55 AM–10:20 AM  DNA methylation mediating the impact of exposure on behavior (NTX136)
Moshe Szyf, McGill University Medical School, Montréal, QC, Canada.

10:20 AM–10:45 AM  Alzheimer's disease: Environmental risk factors and epigenetic mechanisms (NTX137)
William Renehan and Nasser Zawia, University of Rhode Island, Kingston, RI, USA.

10:45 AM–11:00 AM  Break

NBTS Program
11:00 AM–12:00 Noon  Platform Session 5  Outremont

11:00-11:15 Long-lasting cognitive deficits in rhesus monkeys after neonatal general anesthesia induced by isoflurane plus nitrous oxide (NTX138)
Merle Paule¹, Mi Li¹, Xuan Zhang¹, Shuliang Liu¹, Joseph Hanig², William Slikker¹, and Cheng Wang¹, ´National Center for Toxicological Research US FDA, USA, ²Center for Drug Evaluation and Research US FDA, USA.

11:15-11:30 Social behavior in non-human primate infants and juveniles following administration of thimerosal-containing vaccines (NTX139)
Laura Hewitson¹,³ Britni Curtis², Vernon Yutuc², Clayton Ferrier², Nate Marti⁴, and Gene Sackett²,³, `The Johnson Center for Child Health and Development, USA, ²Washington National Primate Research Center, USA, ³University of Texas Southwestern, USA, ⁴Abacist Analytics, LLC, USA, ⁵University of Washington, USA.

11:30-11:45 Sex-specific effects of prenatal

INA Program
11:00 AM–12:00 Noon  Platform Session 6  Verdun

11:00-11:20 Development of an in vitro coculture model of the chicken Hypothalamic-Pituitary-Gonadal-Liver (HPG-L) axis to study neuroendocrine disruption (NTX142)
Krittika Mittal, Theresa Johnston and Niladri Basu, McGill University, Montreal, QC, Canada.

11:20-11:40 Short- and long-term neurobehavioral toxicity of fluorene after a nose-only exposure during the lactating period (14 days) in F1 Wistar rats (NTX143)
Julie Peiffer¹, Marie-Joséphe Decret², Hervé Nunge², Guido Rychen¹, Frédéric Cosnier² and Henri Schroeder¹, `Université de Lorraine, Vandoeuvre-lès-Nancy, France, ²INRS, Vandoeuvre-lès-Nancy, France.

11:40-12:00 Nicotine - cadmium exposure alters working memory, motor function and increased anxiety in adolescent female mice (NTX144)
Philip Adeyemi Adeniyi¹, Babawale Peter Olatunji², Azeez Olakunle Ishola³,
exposure to VPA: Behavioral and anatomical evidence (NTX140)
Sonya K. Sobrian, Monee Mickens, Natondra Powell, and Eva Polston, Howard University College of Medicine, USA.

11:45-12:00 Behavioral effects in male and female mice following high-dose taurine consumption during adolescence (NTX141)
Christine Curran, Josephine Brown, Jamie Weimer, and Clare Ludwig, Northern Kentucky University, USA.

12:00-1:00 Lunch

12:00 Noon
NBTS 2015 Meeting Adjourned

Thank you for joining us! Have an excellent and productive year ahead.

See you in Antonio in 2016!

INA PROGRAM

1:00 PM–2:10 PM Symposium 12: David Ray student symposium Verdun
2:10 PM–2:30 PM Break
2:30 PM–5:00 PM Symposium 13: Manganese and the brain Verdun
Chairpersons: Donna Mergler and Rosemarie Bowler
2:30 PM–3:00 PM Brain GABA concentrations and their relation to exposure, movement and cognition in manganese exposure (NTX145)
Ulrike Dydk, Purdue University, Bloomington, IN; Indiana University School of Medicine, Indianapolis, IN, USA.
3:00 PM–3:30 PM Motor and verbal learning and naming slowing of active welders in relation to manganese exposure and MRI imaging results (NTX146)
Rosemarie M. Bowler, San Francisco State University, San Francisco, CA, USA.
3:30 PM–4:00 PM Manganese-induced parkinsonism does not involve degeneration of nigrostriatal dopaminergic neurons: Evidence from genetic mutations and environmental exposure in humans and non-human primates (NTX147)
Tomás R. Guilarte, Columbia University, New York, USA.
4:00 PM–4:30 PM Pre- and post-synaptic dopaminergic function in Mn-exposed humans (NTX148)
Brad A. Racette, Washington University, St. Louis, MO, USA; University of the Witwatersrand, Johannesburg, South Africa.
4:30 PM–5:00 PM Decreased brain volumes in manganese-exposed welders (NTX149)
5:00 PM

INA 2015 Meeting Adjourned

Thank you for joining us! We hope to see you in Florianópolis, Brazil for INA16 in 2017!