



**Joint Meeting
Neurotoxicity Society and
International Neurotoxicology Association
May 20-23, 2017, Florianopolis, Brazil
(Draft Program Jan 20, 2017)**

Program Highlights

- 1 Keynote Talk
- 10 Open Platform Talks
- 6 Student talks
- 16 Symposia with 87 speakers
 - Inflammation 8
 - Viruses 4
 - Antibiotics 3
 - Drugs of Abuse 7
 - Psychoactive Drugs 4
 - Neurodegeneration 3
 - Parkinson's Disease 12
 - Cell Death 4
 - Neurotoxicity Testing Approaches and Translation 11
 - Sensory Toxicity 4
 - Mitochondria 4
 - SUMO 3
 - Metabolic Disorders 5
 - Autism 5
 - Neurodevelopmental Disorders of Early Stress 5
 - Neurodevelopmental Disorders of Chemical Exposure 5
- Open Poster Session
- Breakfasts
- Lunches
- Dinners
- Coffee Breaks
- Awards
- Florianopolis Tour
- Society Business Meetings
- Soccer Game
- Dancing

May 20

16:00-18:00 Registration Opens

17:00-18:00: Illumina Workshop

18:30-19:00: Cash bar and refreshments

19:00-19:15: Opening remarks and welcome from the Presidents

19:15-20:15: Jacob Hooisma Keynote Speaker: Dr. Tim Greenamyre, University of Pittsburgh, PA, USA

20:15-22:00: Welcome Dinner

May 21

8:00-9:00: Seahorse Workshop

Room A

9:10-10:30: Neuroinflammation and microglia: from neurotoxicity to therapeutics

Chair: Patrícia F. Schuck Ph.D., Universidade do Extremo Sul Catarinense. Criciúma, Brasil

9:10-9:30: Microglia pathogenic phenotypes in neurodegenerative diseases

Luís Barbeito, Ph.D., Instituto Pasteur, Montevideo, Uruguay

9:30-9:50: Neuroinflammation: how can we visualize inflammation in the brain and identify contributions to injury or protection

G. Jean Harry, Ph.D., National Institute of Environmental Sciences, Research Triangle Park, NC, USA

9:50-10:10: The role of glutamate in neuroinflammation-induced neurodegeneration

Gary L. Wenk, Ph.D., The Ohio State University, Columbus, OH, USA

10:10-10:30: Role of neuroinflammation in the pathophysiology of phenylketonuria

Patrícia F. Schuck, Ph.D., Universidade do Extremo Sul Catarinense. Criciúma, Brasil

10:30-10:50 Break

10:50-12:10: Neuroinflammation in Disease and Drug Abuse

Chair: Marcio A. Torsoni, Ph.D., University of Campinas, Campinas, Brasil

10:50-11:10: Maternal obesity affects cholinergic anti-inflammatory pathway.

Marcio A. Torsoni, Ph.D., University of Campinas, Campinas, Brasil

11:10-11:30: Proinflammatory gene mediates methamphetamine-induced neurotoxicity

Kim Hyoungh-Chun, Ph.D., Kangwon National University, Kangwon, South Korea

11:30-11:50: A study on the inflammatory reaction in the L-DOPA-induced dyskinesia in a PD rat model.

Mariza Bortolanza, Ph.D., USP-Ribeirao Preto, Sao Paulo, Brasil

11:50-12:10: Tryptophan metabolism & neuroinflammation

Gilles J. Guillemin, Ph.D., Macquarie University NSW, Sydney, Australia

12:10-13:10: Lunch

13:10-14:30: NeuroInflammation and Viral Infection in the Process of Neuropathology

Chairs: Italo Mocchetti, Ph.D., Georgetown University, Washington, DC, USA

G. Jean Harry, Ph.D., National Institute of Environmental Health Sciences, RTP, USA

13:10-13:30: Chemokines and neurodegeneration
Marcus Kaul, Ph.D., University of California, San Diego, CA, USA

13:30-13:50: Neurotoxicity of viral proteins
Italo Mocchetti, Ph.D., Georgetown University, Washington, DC, USA

13:50-14:10: Retroviruses and neurodegeneration
Joseph Steiner Ph.D., National Institute of Neurological Disorders and Stroke, Bethesda, MD, USA

14:10-14:30: Mechanisms of Dengue and Zika neuro-compromise
Eliseo Eugenin, Ph.D., Department of Microbiology and Molecular Genetics, Public Health Research Institute, Rutgers, The State University of New Jersey, Newark, NJ, USA

14:30-14:50: Break

14:50-16:00: Neuroinflammation – influence of antibiotics

Chairs: Elaine Del-Bel, Ph.D., USP-Ribeirao Preto-Brasil, Sao Paulo, Brazil
Rita Raisman-Vozari, Ph.D., INSERM Paris, Paris, France

14:50-15:10: Role of doxycycline in neuroinflammation and protein aggregation
Rita Raisman-Vozari, Ph.D., INSERM Paris, Paris, France

15:10-15:30: A study on the protective role of doxycycline upon dopaminergic neuron of PD rat model
Elaine Del-Bel, Ph.D., USP-Ribeirao Preto-Brasil, Sao Paulo, Brazil

15:30-15:50: Effect of Rifampicine on alpha-synuclein induced neuroinflammation
Leonardo Cortez, Ph.D., University of Alberta, Calgary, Alberta, Canada

15:50 – 16:00: Roundtable Discussion
Moderator: Patrícia F. Schuck Ph.D., Universidade do Extremo Sul Catarinense. Criciúma, Brasil

16:00-17:00: Platform Session in Room A

16:00-16:20: Talk from the abstracts

16:20-16:40: Talk from the abstracts

16:40-17:00: Talk from the abstracts

Room B

9:10-10:30: Advances in the Neurotoxicology of Abused Drugs: 1

Chair: Yousef Tizabi, Ph.D., Howard University. Washington DC, USA

9:10-9:30: Behavioral and Neurobiological Effects of Low and High Alcohol Dose
Yousef Tizabi, Ph.D., Howard University. Washington, DC, USA

9:30-9:50: Role of nucleus accumbens dopamine system in cocaine addiction.
Katia Gysling, Ph.D., Pontificia Universidad Católica de Chile, Santiago, Chile

9:50-10:10: 3,4-methylenedioxyamphetamine abuse potential and neurodegenerative effects
Nicola Simola, Ph.D., University of Cagliari, Cagliari, Italy

10:10-10:30: Dopamine Degeneration and Functional Consequences of Methamphetamine Abuse: Acute and Chronic Effects
Rosario Moratalla, Ph.D., Instituto Cajal, Madrid, Spain

10:30-10:50: Break

10:50-12:10: Advances in the Neurotoxicology of Abused Drugs: 2

Chairs: Syed Ali, Ph.D., NCTR/FDA. Jefferson AZ, USA

Emmanuel Onaivi, Ph.D., William Paterson University. Wayne NJ, USA

10:50-11:10: New designer drugs, bath salts, ecstasy, and monoaminergic neurotoxicity

Syed Ali, Ph.D., National Center for Toxicological Research/Food and Drug Administration, Jefferson, AR, USA

11:10-11:30: Neurobiology of Compulsive Behaviors: Translational tools in addiction

Emmanuel Onaivi, Ph.D., William Paterson University, Wayne, NJ, USA

11:30-11:50: Epigenetic landscape and Neurobiological Bases of Addiction: Novel Therapeutic Approaches

Jean Lud Cadet, M.D., NIDA. Baltimore MD, USA

11:50-12:10: Drug Abuse Talk from the Abstracts

12:10-13:10: Lunch

13:10-14:30 Neurotoxicity of New Psychoactive Substances: From molecular target to clinical toxicology

Chairs: Laura Hondebrink, Ph.D., Dutch Poison Information Center, University Medical Center Utrecht. Utrecht, The Netherlands

Remco H.S. Westerink, Neurotoxicology Research Group, Institute for Risk Assessment Sciences, Utrecht University. Utrecht, The Netherlands

13:10-13:30: Introduction NPS: prevalence and effects on (human) neurotransmitter transporters (DAT, NET and SERT) as primary mode of action

Laura Hondebrink Ph.D., Utrecht University Medical Center, Utrecht, The Netherlands

13:30-13:50: Neurotoxicity screening for acute effects of NPS on neuronal activity using cortical neurons and human iPSC-derived neurons grown on microelectrode array (mwMEA) plates

Remco Westerink Ph.D., Utrecht University, Utrecht, The Netherlands

13:50-14:10: TBA

14:10-14:30: Overview of desired and unwanted (acute toxicity) effects following NPS exposure in humans.

David M Wood, MD, Guy's and St Thomas' NHS Foundation NHS Foundation Trust and King's College London, London, UK

14:30-14:50: Break

14:50-15:50: Interactions in Neurodegeneration

Chair: Marta C. Antonelli, Ph.D., Universidad de Buenos Aires. Buenos Aires, Argentina

14:50-15:10: p75^{NTR} regulates amyloidogenesis by interacting with both APP and BACE1

Xin-Fu Zhou Ph.D., University of South Australia, Sydney, Australia

15:10-15:30: FUSsion of physiological RNA granules and pathological aggregates

Vladimir Buchman Ph.D., Cardiff University, Cardiff, Wales

15:30-15:50: Metabotropic glutamate receptors and neurodegeneration

Ferdinando Nicoletti, M.D., University of Catania, Catania, Italy

16:00-17:00: Platform Session in Room B

Chair: TBA

16:00-16:20: Talk from the abstracts

16:20-16:40: Talk from the abstracts

16:40-17:00: Talk from the abstracts

17:30-19:30 Poster Session with light refreshments

20:00-22:00: Dinner at Santo Antonio de Losbona

May 22

Room A

8:30-10:30: Mechanisms for Neurodegeneration, Neuroprotection and Treatment in Parkinson's Disease: 1

Chair: Juan Segura-Aguilar, Ph.D., University of Chile. Santiago, Chile

8:30-8:50: Mechanisms of neuroprotection and immunomodulation of fitoestrogens: application for Parkinson disease in perspective

Silvia Costa, Federal University of Bahia, Bahia, Brasil

8:50-9:10: Dopamine D2 Receptor Supersensitization - effect on dopamine release and actions

Richard Kostrzewa, Ph.D., East Tennessee State University, Johnson City, TN, USA

9:10-9:30: Aminochrome as preclinical model for Parkinson's disease

Juan Segura-Aguilar, Ph.D., University of Chile. Santiago, Chile

9:30-9:50: The role of deep brain stimulation and epigenetics on changes in the expression of dopaminergic cells in the rat substantia nigra and ventral tegmental area

Harry W.M. Steinbusch, Ph.D., Maastricht University, Maastricht, The Netherlands

9:50-10:10: Superimposed control by ATP and adenosine of behavioral dysfunction in animal models of Parkinson's disease

Rodrigo A. Cunha, M.D., University of Coimbra. Coimbra, Portugal

10:10-10:30: Norepinephrine upregulates the expression of tyrosine hydroxylase and protection against 6-hydrodopamine toxicity in dopamine neurons

Meng-Yang Zhu, Ph.D., East Tennessee State University, Johnson City, TN, USA

10:30-10:50 Break

10:50-12:50: Mechanisms for Neurodegeneration, Neuroprotection and Treatment in Parkinson's Disease: 2

Chairs: Rui Daniel Prediger, Ph.D., Universidade Federal de Santa Catarina. Florianopolis, Brasil

Maria Trinidad Herrero, M.D., Ph.D., University of Murcia. Murcia, Spain

10:50-11:10: Neuroprotective role of full-length human cerebral dopamine neurotrophic factor (CDNF) against α -synuclein oligomers

Débora Foguel, Ph.D., Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brasil

11:10-11:30: The effects of physical exercise on neurotoxin-induced animal models of Parkinson's Disease

Aderbal Aguiar Ph.D., Universidade Federal de Santa Caterina, Santiago, Chile

11:30-11:50: Magnetic resonance imaging of neuromelanin in normal and Parkinsonian subjects: mechanisms and investigation of the procedure

Luigi Zecca, M.D., Ph.D., Istituto di Tecnologie Biomediche Consiglio Nazionale delle Ricerche, Milan, Italy

11:50-12:10: Cutting edge methods to study phasic dopamine release in animal models of Parkinson's disease
Claudio Da Cunha, M.D., Universidade Federal do Parana. Curitiba, Brasil

12:10-12:30: Physical activity improves the effects of antiinflammatory treatment in Parkinson's disease
María Trinidad Herrero, M.D., Ph.D., University of Murcia, Murcia, Spain

12:30-12:50: Agmatine and physical exercise in Parkinson's disease: new antidyskinetic and neuroprotective agents

Rui Daniel Prediger, Ph.D., Federal de Santa Catarina, Florianopolis, Brasil

12:50-14:00: Lunch

14:00-15:20 Regulated necrosis and associated non-apoptotic mechanisms in neurotoxicity

Chair: Michael A. Collins, Ph.D.

14:00-14:20: Binge alcohol and brain neuronal necrosis

Michael A. Collins, Ph.D., Loyola University Chicago, Stritch School of Medicine, Maywood IL, USA

14:20-14:40: Excitotoxic Programmed Necrosis in Acute Neuronal Injury

Denson G. Fujikawa, M.D., David Geffen School of Medicine, University of California, Los Angeles, CA, USA

14:40-15:00: Programmed Necrosis in Photoreceptors: Implications for AMD and other retinal degenerations
Demetrios G. Vavvas, M.D., Ph.D., Harvard Medical School, Boston MA, USA

15:00-15:20: Cellular senescence as an alternative programmed pathway in brain cells under stress: potential role in Parkinson's disease

Julie K. Andersen, Ph.D., Buck Research Institute for Age Research, Novato CA, USA

Room B

8:30-10:30 Developing an integrated testing strategy for developmental neurotoxicity (DNT) testing using in vitro data to screen and prioritize compounds with high throughput / high content methods: 1

Chairs: Tim Shafer, Ph.D., US-Environmental Protection Agency, Research Triangle Park, NC, USA

Mamta Behl, Ph.D., National Institute for Environmental health Sciences, Research Triangle Park, NC, USA

David Reif, Ph.D., North Carolina State University, Raleigh, NC, USA

8:30-8:50: Analytical/visual methods to distill useful information from high-throughput screening of chemicals
David Reif Ph.D., North Carolina State University, Raleigh, NC, USA

8:50-9:10: Ontogeny of parameters of synaptogenesis in rat neurons by high content imaging
Joshua Harrill Ph.D., US-EPA, Research Triangle Park, NC, USA

9:10-9:30: Screening for acute neurotoxicity using cortical neurons grown on multi-well microelectrode array (mwMEA) plates

Jenna Strickland, Ph.D., Michigan State University, East Lansing, MI, USA

9:30-9:50: Using developing cortical cultures on microelectrode arrays to identify and prioritize compounds based on changes in network formation

Tim Shafer, Ph.D., US-Environmental Protection Agency. Research Triangle Park, NC, USA

9:50-10:10: Towards in vitro DT/DNT testing: Assaying chemical susceptibility in early differentiating NT2 cells
Daniel F Gilbert, Ph.D., Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany

10:10-10:30: Applications of human induced pluripotent stem cell (3D) models for neurotoxicity testing
Anke Tukker, Ph.D., Utrecht University, Utrecht, The Netherlands

10:30-10:50 Break

10:50-12:50 Developing an integrated testing strategy for developmental neurotoxicity (DNT) testing using in vitro data to screen and prioritize compounds with high throughput / high content methods: 2

Chairs: Magdalini Sachana Ph.D., OECD. Paris, France

Anna Price, Ph.D., Institute for Health and Consumer Protection, European Commission JRC. Ispra, Italy

10:50-11:10: High content approaches to study developmental neurotoxicity in 3D cell models
Helena Hogberg, Ph.D., Center for Alternatives to Animal Testing, Baltimore MD, USA

11:10-11:30: Utilization of data from multiple in vitro and alternative assays to prioritize compounds for DNT testing.

Mamta Behl, Ph.D., National Institute for Environmental health Sciences, Research Triangle Park, NC, USA

11:30-11:50: Results of the EFSA systematic review and the OECD follow-up report on DNT in vitro methods: proposed DNT testing strategies

Ellen Fritsche, Ph.D., IUF – Leibniz Research Institute for Environmental Medicine, Düsseldorf, Germany

11:50-12:10: A path forward for developmental neurotoxicity testing based on the OECD/EFSA DNT workshop (October 2016)

Magdalini Sachana Ph.D., Organization for Economic Co-operation and Development, Paris, France

12:10-12:30: Creating a developmental neurotoxicity testing (DNT) roadmap for regulatory purposes

Anna Price, Ph.D., Institute for Health and Consumer Protection, European Commission JRC. Ispra, Italy

12:30-12:50: Discussion

Moderator: Ellen Fritsche, Ph.D., IUF – Leibniz Research Institute for Environmental Medicine, Düsseldorf, Germany

12:50-14:00: Lunch

14:00-15:20 Physiological assessment of sensory toxicity and the role in human risk assessment in the 21st century

Chairs: Jordi Llorens, Ph.D. and William K. Boyes, Ph.D.

14:00-14:20: Detecting and assessing vestibular function in laboratory rodents

Jordi Llorens, Ph.D., Universitat de Barcelona, Barcelona, Spain

14:20-14:40: Membrane fluidity does not explain how solvents act on the middle-ear reflex

Pierre Campo, Ph.D., Institut National de Recherche et de Sécurité, Vandoeuvre-les-Nancy, France

14:40-15:00: Visual impact of exposure to mercury

Dora F. Ventura, Ph.D., Universidade de Sao Paulo, Sao Paulo, Brasil

15:00-15:20: Evaluating visual system toxicity in relation to human risk assessments in the 21st century

William K. Boyes, Ph.D., US-Environmental Protection Agency, Research Triangle Park, USA

16:00-21:00: Florianópolis Tour and Dinner

May 23

Room A

8:30-10:10: Mitochondria-related metabolism leading to neurodegeneration and neuroprotection

Chair: Gustavo C. Ferreira, Ph.D.

8:30-8:50: Mechanisms of neurotoxicity at physiological O₂

Brian Polster, Ph.D., University of Maryland School of Medicine, Baltimore MD, USA

8:50-9:10: Astrocyte dysfunction in experimental models of glutaric acidemia type I

Silvia Olivera-Bravo, Ph.D, Instituto de Investigaciones Biológicas Clemente Estable, Montevideo, Uruguay

9:10-9:30: Carnosine and its potential efficacy with respect to reactive bicarbonyls

Alan Hipkiss, Ph.D., University of Birmingham, Birmingham, UK

9:30-9:50: Carnosine and related peptides: Therapeutic potential in age-related disorders

Gustavo Ferreira, Ph.D., Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brasil

9:50-10:10: Mitochondria talk from abstracts

10:10-10:30: Break

10:30-11:50: Neuroprotective and/or neurotoxic roles of SUMOylation in neurodegenerative diseases

Chairs: Jeremy Henley, Ph.D. and Dean Pountney, Ph.D.

10:30-10:50: SUMO wrestling at the synapse

Jeremy Henley, Ph.D., University of Bristol. Bristol, UK

10:50-11:10: SUMO, stress response and neurodegenerative diseases

Jin Xu, Ph.D., Chinese Academy of Sciences, Shanghai, China

11:10-11:30: SUMO and mitochondrial dysfunction

Helena Cimarosti, Ph.D., University of Santa Catarina, Florianopolis, Brasil

11:30-11:50: SUMOylation, aging and autophagy in neurodegeneration

Dean Pountney, Ph.D., Griffith University, Southport, Queensland, Australia

11:50-12:10: Talk from the Abstracts

12:10-13:30 Lunch and Business Meetings

13:30-14:50: Metabolic Derangements Predisposing to neurotoxicity and neurodegenerative disease

Chairs: Andreza Fabro de Bem, Ph.D., Federal University of Santa Catarina. Florianópolis, Brazil

Alexandra Latini, Ph.D., Federal University of Santa Catarina. Florianópolis, Brazil

Arne Schousboe, D.Sc, University of Copenhagen. Copenhagen, Denmark

13:30-13:50: Hypothalamic dysfunction in obesity

Lício Velloso, Ph.D., University of Campinas, Campinas, Brasil

13:50-14:10: Hypercholesterolemia as a risk factor for neurocognitive impairments

Andreza Fabro de Bem, Ph.D., Federal University of Santa Catarina, Florianópolis, Brasil

14:10-14:30: Chronic hyperglycemia promotes hippocampal REST epigenetic gene inactivation with cognitive impairment and neurotoxicity

Alexandra Latini, Ph.D., Federal University of Santa Catarina, Florianópolis, Brasil

14:30-14:50: Hepatic encephalopathy and hyperammonemia leads to altered brain energy metabolism, GABAergic neurotransmission and behavioral deficits in the animal model of bile duct-ligation

Renata Leke, Ph.D., University of Göteborg. Göteborg, Sweden

Room B

8:30-10:10: Advancing Mechanistic Understanding of Neurotoxic Contributors to Autism

Chair: Edward D. Levin, Ph.D.

8:30-8:50: What we do and don't know about environmental contributors to autism spectrum disorder

Irva Hertz-Piccolto, Ph.D., M.P.H., University of California, Davis, CA, USA

8:50-9:10: Developmental neurotoxicity of traffic-related air pollution

Lucio Guido Costa, Pharm.D., University of Washington, Seattle, WA, USA

9:10-9:30: The epidemiology of air pollution and autism

Marc Weisskopf, Ph.D., Sc.D., Harvard University School of Public Health, Cambridge, MA, USA

9:30-9:50: Environmental toxins and microglia-synapse interactions in autism

Staci Bilbo, Ph.D., Harvard University School of Medicine, Cambridge, MA, USA

9:50-10:10: Persisting impairment of neurobehavioral function in zebrafish caused by early developmental exposure to disrupting retinoic acid receptor and vitamin D signaling

Edward D. Levin, Ph.D., Duke University Medical Center, Durham, NC, USA

10:10-10:30 Break

10:30-12:30: Neurodevelopmental Effects of Early Stress

Chairs: Sandra Ceccatelli, Ph.D. and Michael Aschner, Ph.D.

10:30-10:50: Neurological disease co-morbidities in adult rats exposed to early life stress

Andrew Tasker, Ph.D., University of Prince Edward Island, Charlottetown, Canada

10:50-11:10: Developmental exposure to excess glucocorticoids alters neuronal differentiation and induces long-term behavioral changes

Sandra Ceccatelli, Ph.D., Karolinska Institutet, Stockholm, Sweden

11:10-11:30 : Glutamate metabolism impairment in a rat model of prenatal restraint stress

Marta C. Antonelli, Ph.D., Universidad de Buenos Aires, Buenos Aires, Argentina

11:30-11:50: Maternal behavior, glutamate and oxytocin balance in the perinatal stress rat model

Sara Morley-Fletcher, Ph.D., University of Lille, France; Sapienza University of Rome/I.R.C.C.S. Rome, Italy

11:50-12:10: Interruption of oxygen at delivery and permanent vulnerability to recurrent metabolic insults: in vitro and in vivo experiments

Mario Herrera-Marschitz, Ph.D., University of Chile, Santiago, Chile

12:10-13:30: Lunch and Business Meetings

13:30-15:10: Neurodevelopmental Effects of Chemical Exposure

Chair: Micaela Morelli Ph.D.

13:30-13:50: Effects of developmental alcohol exposure on neuronal plasticity and multisensory integration in the cortex

Alexandre Medina, University of Maryland Medical Center, Baltimore, MD, USA

13:50-14:10: Long lasting neurotoxic effects of MDMA administration during adolescence

Micaela Morelli Ph.D., University of Cagliari, Cagliari, Italy

14:10-14:30: Enduring neurotoxic effects of perinatal exposures to pro-oxidant xenobiotics: a focus on paraquat and methylmercury

Marcelo Farina Ph.D., Universidade Federal de Santa Catarina, Florianópolis, Brasil

14:30-14:50: Sex- and structure-specific differences in antioxidant responses to methylmercury during early development

Michael Aschner, Ph.D., Albert Einstein College of Medicine, Bronx, NY, USA

14:50-15:10: Talk from Abstracts

15:10-15:30: Break

15:30-16:50: Joint Student Symposium

15:30-15:45: Student Talk 1

15:45-16:00: Student Talk 2

16:00-16:15: Student Talk 3

16:15-16:30: Student Talk 4

16:30-16:45: Student Talk 5

16:45-17:00: Student Talk 6

17:30-19:00: Soccer Game

19:30-24:00: Awards Dinner and Reception