

*INA-12 - 12th Biennial Meeting*  
*International Neurotoxicology Association*  
June 7-12, 2009  
**SCIENTIFIC PROGRAM**

## Sunday, June 7

4:00 - 4:15 PM

Welcome

4:15 - 5:15 PM

### **Hooisma Lecture**

Prof. Hermona Soreq, Dean, Faculty of Science, Hebrew University of Jerusalem  
**Gene-Environment Interactions in the Mammalian Cholinergic System: Implications to Health and Disease**

## Monday, June 8

9:00 AM - 12:00 PM

### **Symposium 1: Gene-Environment Interactions in Determining Resistance or Susceptibility to Neurodegeneration: What can be Learned from Mammals and Non-Mammals?**

*Chair:* Michael Aschner

Michael Aschner, PhD, Professor, Vanderbilt University Medical School  
**Shared Neurotoxicity Mechanisms in C. Elegans and Mammalian Models**

Edward D. Levin, PhD, Professor, Duke University  
**Developing Zebrafish Methods to Learn How Neurotoxic Events Impact Behavioral Function**

Moussa B.H. Youdim Ph.D, Professor Seoul Yonsei University, Hong Kong PolU and Hong Kong Universities, Professor Emeritus, Technion  
**Novel Therapeutic Approaches Constituting Multimodal Neuroprotective and Neurorestorative Drugs for Parkinson's and Alzheimer's Disease**

Cristina Suñol, PhD, Professor, Instituto de Investigaciones Biomédicas de Barcelona  
**Way Forward for Using In Vitro Neurotoxicity Models in Testing Strategy: Update on FP6 Integrated Project "ACUTETOX"**

James Olopade, DVM, Ph.D., Professor, University of Ibadan, Nigeria  
**Erythropoietin, Desferroxamine and Tiron are Protective against Vanadium Induced Demyelination and Oxidative Stress in the Rat Brain**

1:30 PM - 4:30 PM

### **Symposium 2: Gene-Chemical Interactions: Proliferation, Neurogenesis and Differentiation**

*Chair:* Donald Fox

Donald Fox, PhD, Professor, University of Houston  
**Gestational Lead Exposure (GLE) Increases the Number of Late-Born Murine Rod Photoreceptor and Bipolar Cells, but not Müller Glial Cells: Cellular and Molecular Mechanisms**

Lisa Opanashuk, PhD, Associate Professor, University of Rochester  
**Activation of the AH Receptor by Dioxin Impacts Proliferation and Differentiation of Neural Precursor Cells**

Alexander Zharkovsky, PhD, Professor, University of Tartu  
**Postnatal Lead Exposure Reduces Hippocampal Neurogenesis and Increases the Number of PSA-NCAM Expressing Cells in the Dentate Gyrus of Adult Rat Brain**

Bernard Weiss, PhD, Professor, University of Rochester  
**The Combination of Age, Gender, and Environmental Endocrine Disruptors Presents a Tangled Puzzle for the Process of Neurogenesis**

**4:30 PM - 4:45 PM**  
**Coffee Break**

**4:45 PM - 5:30 PM**  
**INA Members Business Meeting**

## **Tuesday, June 9, 2009**

**9:00 AM - 12:00 PM**

### **Symposium 3: Novel Signaling in the Expression of Neurotoxicity**

*Chairs:* Anumantha Kanthasamy, Stephen Bondy

Anumantha Kanthasamy, Iowa State University  
**Interaction of Alpha-Synuclein with Protein Kinase C Signaling in Experimental Models of Parkinson's Disease**

Tomás Guilarte, PhD, Professor, Johns Hopkins University  
**APLP1 Signaling, Alzheimer's Pathology and  $\alpha$ -Synuclein Aggregation in the Frontal Cortex of Manganese-Exposed Non-Human Primates**

Stephen Bondy, PhD, Professor, University of California, Irvine  
**Aluminum, Inflammation and Brain Aging**

Joseph Yanai, Ph.D, Professor, Hebrew University of Jerusalem  
**Mechanisms of Neurobehavioral Teratogenicity: Reversal with Neural Progenitors and Other Therapies**

**1:30 PM - 4:00 PM**

### **Symposium 4: Endocannabinoid Signaling in Neurotoxicity & Neuroprotection**

*Chair:* Carey Pope

R. Mechoulam, PhD, Professor, Hebrew University of Jerusalem  
**The Endocannabinoid System - An Overview**

Loren Parsons, PhD, Professor, The Scripps Research Institute  
**Differential Role of Endocannabinoid Signaling in Drug Abuse**

Carey Pope, PhD, Professor, Oklahoma State University  
**Endocannabinoid Signaling and Anticholinesterase Toxicity**

**4:00 PM - 4:15 PM**

**Coffee Break**

**4:15 PM - 5:30 PM**

**Symposium 5: Student Symposium**

*Chair:* William Boyes

Harm J. Heusinkveld, Utrecht University, The Netherlands

**Dual Effects of Lindane ( $\gamma$ -Hexachlorocyclohexane) on Calcium Homeostasis and Exocytosis in Rat PC12 Cells**

Thiruchelvam Kariharan, Harrison School of Pharmacy, Auburn University, USA

**Molecular Mechanisms of Cognitive Impairment in Prenatal Nicotine Exposure**

Sarah E. Latchney, University of Rochester School of Medicine, USA

**Dioxin Interferes with Neural Stem Cell Maturation: Uncovering Potential Roles for the Aryl Hydrocarbon Receptor during Neurogenesis**

Victor Briz, CSIC-IDIBAPS, CIBER, Spain

**Long-Term Exposure to Dieldrin Prevents Glutamate Toxicity by Reducing NMDAR and mGLUR5 Functionality in Primary Cultures of Cortical Neurons**

**7:30 PM - 9:30 PM**

**Poster Session** (Posters are listed at end of program)

**Thursday, June 11, 2009**

**9:00 AM - 12:00 PM**

**Symposium 6: Strategy For In Vitro Neurotoxicity and Developmental Neurotoxicity Testing (DNT): Contribution of International Integrated Research Projects**

*Chairs:* Anna Price, Petros Lenas

Thomas Hartung, CAAT, USA

**(Developmental) Neurotoxicity - A Test Case for the Toxicology in the 21st Century?**

Anna Price, PhD, EC JRC-ECVAM, Italy

**Gene Expression as a Marker to Detect Developmental Neurotoxicity Using Primary Neuronal Culture of Rat Cerebellar Granule Cells**

Leonora Buzanska, Medical Research Institute, Polish Academy of Sciences

**Human Neural Stem Cell Line as an Alternative Model for In Vitro Developmental Neurotoxicity Testing**

Petros Lenas, PhD, Professor, University of Madrid

**In Vitro Neural Tissue for Replacement of Transgenic Animals with Memory/Learning Deficiencies**

**1:30 PM - 4:30 PM**

**Symposium 7: Peaceful Use of Disastrous Neurotoxicants**

*Chairs:* Yoram Finkelstein, Uri Wormser

Yoram Finkelstein, MD, PhD, Professor, Shaare Zedek Medical Center

**Is the Neurotoxic Effect of Low-Level Long-Term Exposure to Organophosphates Permanent?**

Dejan Milatovic, PhD, Assistant Professor, Vanderbilt University Medical School

**Suppression of Oxidative Injury and Neurodegeneration in Cholinergic Neurotoxicity**

Ajay Rana, PhD, Professor, Stritch School of Medicine, Loyola University

**Mixed-Lineage Kinase 3 Signaling: Relevance to Neuroinflammatory Processes in Neurotoxic Cell Death**

Philip Lazarovici, PhD, Professor, Hebrew University of Jerusalem

**Snake Venom Angioneurins: Toxic or Therapeutic Growth Factors**

Uri Wormser, PhD, Associate Professor, Hebrew University of Jerusalem

**From Mustard Gas Antidote to Potential Oral Treatment of Neuroinflammation**

**4:30 PM - 4:45 PM**

**Coffee Break**

**4:45 PM - 6:45 PM**

**Symposium 8: Of Exposure and Susceptibility: How Important are Both?**

*Chairs:* Elihu D. Richter, Philippe Grandjean

James Krikun, PhD, Professor, Coalition for Public Health, Israel

**The Impacts of Industrial Pollution**

Elihu D. Richter, MD, Professor, Hebrew University - Hadassah School of Medicine

**Exposure and Susceptibility: Schizophrenia in a Young Man Following Prolonged High Exposures to Organic Solvents**

Philippe Grandjean, PhD, Professor, Environmental and Occupational Medicine, University of Odense and Harvard University

**Role of Pesticide Exposure in Pandemic of Developmental Neurotoxicity**

Clifford P. Weisel, Environmental and Occupational Health Sciences Institute, USA

**Effects on Cognitive Ability from Chronic Exposure to Solvent Based-Paint**

**8:00 - 10:00 PM**

**Poster Session (Posters are listed at end of program)**

**Friday, June 12, 2009**

**9:00 AM - 12:00 PM**

**Symposium 9: Gene-Environment Interactions in Parkinson's Disease**

*Chair:* Carlos Singer

Jeffery Vance, PhD, Professor, Director, Institute Human Genomics, University of Miami

**Genes, Environment and Susceptibility in Parkinson's Disease**

Donato Di Monte, PhD, Professor, Director of Basic Research, Parkinson's Institute and Clinical Center  
**Toxicant-Induced Alpha-Synuclein Modifications as a Model of Gene-Environment Interactions in Parkinson's Disease**

Syed Ali, PhD, Head, Neurochemistry Laboratory, FDA National Center for Toxicological Research  
**Selective Alterations in the Gene Expression, Transcription Factors and Mitochondrial Membrane Proteome in MPTP-Induced Model of Parkinson's Disease**

Walter Bradley, MD, Professor, University of Miami  
**Role of a Ubiquitous Neurotoxic Non-Protein Amino Acid, BMAA, and Cyanobacteria as an Environmental Cause of ALS, Alzheimer's Disease and Parkinson's Disease**

### **Closing Remarks**

Professor Yoram Finkelstein, Conference Chair

## **POSTERS**

Heather Ali, USA  
**Sodium Titanate Nanowires: Fabrication and Interaction with PC-12 Cells**

William K. Boyes, USA  
**Developmental Hypothyroidism Alters Visual Function of Adult Rats**

Philip J Bushnell, USA  
**Developing an Exposure-Dose-Response Model for Organic Solvents: Progress on Modeling *In Vivo* Dose-Effect Relationships**

Sergiu Calmanovici, Israel  
**Cholinergic and Glutamergic Relation in Organo-Phosphosphate (Op) Poisoning: Therapeutic Considerations**

M. Teresa Colomina, Spain  
**Behavioral Changes and  $\beta$ -Amyloid Levels in a Mice Model of Alzheimer Disease after an Acute Exposure to Chlorpyrifos**

M. Aschner, USA  
**Search for Biomarkers to Control and Prevent the Risk of Neurotoxicity Induced in Rats Sub-Acutely Exposed to  $MnCl_2$**

B.Enriquez, France  
**Environmental Neurotoxicology: A Preliminary Study towards the Use of Pets as Sentinels of Human Exposure to Neurotoxic Pollutants**

Peter Filipcik, Slovakia  
**Transgenic Expression of Human Truncated Tau Protein Induces Neurotoxicity in Animal and Cellular Model of Human Tauopathies**

Laura Hondebrink, The Netherlands  
**Revised Cellular Working Mechanism of Amphetamine**

Duško Kozić, Serbia  
**Neurotoxic Consequences of Wilson's Disease**

Jordi Llorens, Spain  
**Assessment of the Axonopathic Potential of the Unsaturated Butenenitriles in the Rat**

D.F. Mir, Israel  
**Impact of IPM Training in Illinois Childcare Centers**

Virginia C Moser, USA  
**Neurological Alterations Following a Single Dose of Polybrominated Diphenylether 47 in Mice on Postnatal Day 10**

Eduard Rodríguez-Farré, Spain  
**Differential Spatial Distribution of Parkinson's Disease Mortality in Spain – Is There a Link with Environmental Exposure to Neurotoxic Xenobiotics from Persistent Industrial Pollutants?**

Fernando Sánchez-Santed, Spain  
**Brain Regional and Temporal Dynamics of Ache and Acylpeptide Hydrolase after Acute Chlorpyrifos**

S. Kh. Sarmanaev, Russia  
**Estimation of Chemical Injury Severity in Cases of Mass Inhalational Poisonings**

Katie Sokolowski, USA  
**Acute Low Dose Methylmercury (MeHg) Exposure Activates Caspase-3 in Postnatal Rat Hippocampus**

Moshe Sternfeld, Israel  
**Electromagnetic Field Irradiation Emitted from Cell Phones and Attention Deficit- Hyperactivity Disorder in Children**

Hiromi Wada, Japan  
**Effects of Perinatal Hypothyroidism on Auditory Startle Responses and Prepulse Inhibition in Weanling and Adult Rats**

Remco H.S. Westerink, The Netherlands  
***In Vitro* Neurotoxicity of Brominated Flame Retardants Studied in PC12 Cells**

Rajesh S. Yadav, India  
**Attenuation of Arsenic Neurotoxicity by Curcumin in Rats**

Magdalena Zielińska, Poland  
**Upregulation of the Heterodimeric Amino Acid Transporter Y<sup>+</sup>LAT2 in Brain in Hyperammonemia: A Link to Impaired Modulation of the NO/CGMP Pathway by Glutamine?**