

▪ *Meeting Report*

Twenty-Third International Neurotoxicology Conference: “*Neurotoxicity in Development and Aging*”

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Overview. The 23rd meeting in the *International Neurotoxicology Conference Series* (NTX XXIII) was held September 17-21, 2006 at the DoubleTree Hotel Conference Center in Little Rock, Arkansas, USA. Approximately 200 people from academia, government, industry, private foundations and the public originating from fourteen different countries participated. The 2006 conference focused on the theme of *Neurotoxicity in Development and Aging*.

Rationale for the Theme. The theme of the 2006 Conference, *Neurotoxicity in Development and Aging*, was chosen as the logical extension to the 2005 Conference which focused on *Environment and Neurodevelopmental Disorders*. Dr. Jean Harry of NIEHS proposed and justified the choice for this theme as follows: Examination of susceptible populations -- with regards to *environmental exposure outcomes* -- requires a significant expansion to cover the broader spectrum of the human life cycle. The pattern of differential vulnerability can dramatically change at each stage of life. During development one is concerned with alterations in the formation of the organism and the establishment of the neural network; however, childhood also represents the period of greatest plasticity and repair capability. With aging, plasticity and compensatory responses are less efficient in dealing with the repair process. In addition, with aging comes a background of greater and more diverse exposure history than what would be the case for development. It is now the time to address these issues and to consider the critical changes that occur across the entire lifetime that defines environmental susceptibility. Toward this end, Organizers of NTX XXIII developed a scientific program with the goal of establishing a dialogue between clinical and basic science investigators working in each of the life stages. In each session an emphasis was placed on Translational Research. The complete program with session themes, speakers and topics plus all abstracts are published in this issue of *NeuroToxicology* Vol. 27, No. 6, 2006.

Sponsors and Host Institution: We all thank and gratefully acknowledge the generous support of our sponsors who made this international conference possible: Diamond Level Sponsors ~ U.S. Army Medical Research and Materiel Command; U.S. Army Research Institute of Environmental Medicine; Platinum Level Sponsors ~ US Environmental Protection Agency; Manganese Health Research Program; National Institute of Environmental Health Sciences/NIH; SafeMinds; Gold Level Sponsors ~ Autism Society of America; Elsevier Publishers; Janssen Pharmaceutical KK; March of Dimes Birth Defects Foundation; Morris and Joan Cranmer; Silver Level Sponsors ~ Center for Toxicology and Environmental Health; Charles River DDS – Argus Division; Environmental and Occupational Health Sciences Institute/University of Medicine and Dentistry of New Jersey & Rutgers University; Bronze Level Sponsors ~ Arkansas Children's Hospital; UAMS College of Medicine; FDA/National Center for Toxicological Research; OxyHealth Corporation; Society of Toxicology; World Health Organization. Host Institution ~ University of Arkansas for Medical Sciences. The huge success of this meeting was in large part due to these sponsors. The Sponsor Poster displayed at the conferences is reproduced on the next page.

Conference Organizers: I especially would like to recognize the Conference Organizers for their expert advice and assistance in either outlining the research program, identifying world-wide experts, formulating topics for discussion, serving as stimulating session chairs and/or delivering stimulating presentations. Special thanks go to Drs. Michael Aschner, Deborah Cory-Slechta, G. Jean Harry, Martha Herbert, Cynthia J.M. Kane, Gary Myer, Toshio Narahashi, Merle Paule, Isaac Pessah, Susan P. Proctor, Deborah Rice, Don Schmechel, Evelyn Tiffany-Castiglioni and Bernard Weiss. The Conference Organizers and Staff with their affiliations are recognized on a separate page following this Meeting Report.

Conference Staff: On behalf of all Conference participants I extend my heartfelt thanks and appreciation to the talented, dedicated individuals who worked diligently before, during and after this meeting to insure that everything ran smoothly and all details were attended to. These experienced, professional and hard-working individuals are Leslie Lang (Conference Administrator and Editorial Assistant), Jackie Jagers (Associate Director of Continuing Medical Education), and Alycia Buford-Penn (Senior Conference Assistant).

Student Competition and Judges: Special emphasis was placed on nurturing, recognizing and rewarding pre-doctoral and post-doctoral students participating in the Student Award Competition. Thirteen poster abstracts were entered and divided into a pre- or post-doctoral group with approximately the same number of posters in each group. Dr. Lisa Opanashuk did an outstanding job as the overall Chair of the Poster Session and organizer of the Student Award competition. The judges for the two groups were as follows: *Post-doctoral Award Committee Judges:* Drs. Anumantha Kanthasamy (chair), Virginia Moser and Toshio Narahashi; *Pre-Doctoral Award Committee Judges:* Drs. Lisa Opanashuk (chair), Randy LoPachin and Rich Seegal. Thanks to the judges for their expert efforts on behalf of all the students! The judges, students, topics, mentors and affiliations are included in the Program which is published in this issue of *NeuroToxicology*.

Student Awards: 1st, 2nd and 3rd place awards were given consisting of money and a plaque or certificate plus a subscription to *NeuroToxicology* compliments of Elsevier Publishers as follows: First Place ~ (\$500 plus engraved plaque), Second Place ~ (\$300 plus Certificate of Award), Third Place ~ (\$200 plus Certificate of Award) in each of the two divisions. In addition to money, plaque or certificate and subscription, all six winners received the Special Issue of *NeuroToxicology* devoted to the 22nd International Neurotoxicology Conference entitled: *Environment & Neurodevelopmental Disorders*.

Pre-Doctoral Award Named in Honor of Dr. Morris F. Cranmer. At NTX XXIII the First Place Pre-doctoral Student Award was named in honor of Dr. Morris F. Cranmer in recognition of his initiation of the Neurotoxicology Conference Student Awards and in appreciation of his generous sponsorship spanning more than two decades. Vince Wang was the first recipient of this named award.

...and the Winners are:

Post-Doctoral Award Winners

1st Place: Ruth Jameson, PhD - Title: "Are Nonenzymatic Functions of Acetylcholinesterase (AChE) Involved in the Developmental Neurotoxicity of Organophosphates? Effects of Chlorpyrifos and Diazinon on Expression of AChE Splice Variants in vitro and in vivo." Mentor: Ted Slotkin, PhD, Duke University Medical Center, Durham, NC.

2nd Place: Tin Tin Win Shwe, PhD – Title: "T cell-mediated neuroprotective response in toxic chemical induced memory-related gene expressions in a mouse hippocampus" Mentor: Hidekazu Fujimaki, PhD, National Institute for Environmental Studies, Tsukuba, Ibaraki, Japan.

3rd Place: Sarah Owens, PhD – Title: "Genetic Susceptibility in Autism" Mentor: Michael Aschner, PhD, Vanderbilt University School of Medicine, Nashville, TN.

Pre-Doctoral Award Winners:

1st Place: Victor Wang - Title: "Age-Dependent Impairments of Chronic Estrogen Exposure on DSA and DRL Operant Tasks." Mentor: Susan Schantz, PhD, University of Illinois, Urbana-Champaign, IL.

2nd Place: Lisa Miyatake - Title: "Utilization of Behavioral Testing, Atomic Absorption Spectroscopy (AAS) and Isoprostone Analysis to Determine the Effects of Brain Manganese (Mn) Accumulation in Male C57BL/6J Mice." Mentor: Vanessa Fitsanakis, PhD and Michael Aschner, PhD, Vanderbilt University School of Medicine, Nashville, TN.

3rd Place: Derek Drechsel - Title: "1-Methyl-4-Phenylpyridinium-Induced Alterations of Glutathione and Redox Environment in Immortalized Rat Dopaminergic Neurons." Mentor: Manisha Patel, PhD, University of Colorado at Denver, Denver, CO.

Congratulations to All!

Pictures of the winners, mentors, and some judges are portrayed on pages that follow in this issue.