SESSION I: OPENING, OVERVIEW, RECOGNITION OF FEDERAL LEADERS AND KEYNOTE ADDRESS

Chair: Dr. Joan M. Cranmer

8:30 – 9:00 Opening of the Conference, Overview and Introductions

Conference Chair: Dr. Joan M. Cranmer
Professor, University of Arkansas for Medical Sciences and Arkansas Children’s Hospital

Conference Co-Chairs:
Dr. Lynn R. Goldman
Professor, Johns Hopkins University

Dr. Donald R. Mattison
Senior Advisor to the Directors of NICHD and CRMC, National Institutes of Health

Dr. Deborah C. Rice
Senior Toxicologist, Maine Department of Environmental Protection

9:00 –9:15 ALOHA! Welcome to Hawai’i
Dr. Edwin C. Cadman
Dean, John A. Burns School of Medicine, University of Hawaii at Manoa

9:15 – 9:45 RECOGNITION OF FEDERAL LEADERS BY THE HONORABLE LINDA LINGLE GOVERNOR OF HAWAI’I

Represented by
Chiyome Fukino, MD
Director, Hawai’i State Department of Health

Recognition of the leaders of Federal Agencies for their contributions to children, environmental health, and the special needs of oceanic people!

Duane Alexander, MD
Director, National Institute of Child Health and Human Development/NIH

Henry Falk, MD, MPH
Director, National Center for Environmental Health/CDC and Assistant Administrator, Agency for Toxic Substances and Disease Registry

Paul Gilman, PhD
Assistant Administrator for Research and Development, and Science Advisor to the EPA Administrator

Richard J. Jackson, MD, MPH
Senior Advisor to the Director, Centers for Disease Control and Prevention (CDC)

Kenneth Olden, PhD
Director, National Institute of Environmental Health Sciences/NIH

William A. Suk, PhD, MPH
Director, Center for Risk and Integrated Sciences; Director, Superfund Basic Research Program
Senior Science Advisor Division of Extramural Research & Training National Institute of Environmental Health Sciences/NIH

9:45 – 9:50 Introduction of Keynote Speaker
Dr. Robert Amler
Regional Health Administrator, USDHHS/PHS

9:50 – 10:30 Keynote Address
“Children’s Environmental Health: An International Perspective”

HENRY FALK, MD, MPH
Director, National Center for Environmental Health/CDC and Assistant Administrator, ATSDR

10:30 – 10:45 Refreshment Break

SESSION II: CROSS-CUTTING ISSUES

Chair: Dr. Donald R. Mattison

10:45 – 11:10 Neurodevelopmental Effects of Persistent Pollutants: Data Gaps and Policy Implications
Dr. Lynn Goldman - Johns Hopkins University

11:10 – 11:35 Biomonitoring: An Integral Part of Exposure Analysis
Dr. Larry L. Needham - National Center for Environmental Health/CDC

11:35 – 12:00 Ethical, Legal, and Social Issues - Our Children’s Future
Dr. Steven G. Gilbert - Institute of Neurotoxicology and Neurological Disorders, Seattle

12:00 – 1:15 Lunch on Your Own

SESSION III: HOT NEW RESULTS FROM THE NIEHS/ EPA CHILDREN’S CENTERS

Co-Chairs: Dr. Gwen W. Collman - NIEHS
Dr. Christopher G. Saint - US EPA

This session will feature the hottest and most exciting new findings from the NIEHS/EPA-funded Children’s Centers that address the issues in this conference including: Pesticides, PCBs, Methylmercury, Mixtures, Autism, Neurodevelopment, Growth and Development, and Interventions.

1:15 – 1:20 The NIEHS/EPA Children’s Centers: Overview
Dr. Gwen W. Collman - NIEHS

1:20 – 1:50 Center for Child Environmental Health Risks Research
Dr. Elaine M. Faustman – University of Washington

1:50 – 2:20 Center for the Health Assessment of Mothers and Children of Salinas
Dr. Brenda Eskenazi - Univ of California at Berkeley

2:20 – 2:50 The NIEHS/EPA Children’s Environmental Health and Disease Prevention Research Center
Dr. Mary S. Wolff - Mt Sinai School of Medicine

2:50 – 3:20 Columbia Center for Children's Environmental Health
Dr. Frederica Perera - Columbia Univ Sch of Pub Hlth

3:20 – 3:35 Refreshment Break
## Tuesday, February 10, 2004

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Details</th>
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<tbody>
<tr>
<td>3:35 – 3:50</td>
<td>Cincinnati Children’s Environmental Health Center</td>
<td>Dr. Bruce P. Lamphere - Cincinnati Children’s Hospital Medical Center, University of Cincinnati</td>
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<tr>
<td>3:50 – 4:05</td>
<td>Friend’s Children’s Environmental Health Center</td>
<td>Dr. Susan L. Schantz - University of Illinois, Urbana-Champaign</td>
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### Autism-Related Centers:

- **4:05 – 5:00**
  - The Center for the Study of Environmental Factors in the Etiology of Autism.
  - Dr. Isaac N. Pessah - University of California, Davis
- **4:15**
  - GABA<sub>α</sub> Receptor Block Significantly Potentiates Excitotoxicity of Noncoplanar PCB170 in the Hippocampal Slice Preparation
  - Dr. Isaac N. Pessah - University of California, Davis
- **4:30**
  - Sub-Micromolar Thimerosal and Ethylmercury Induce Apoptosis in Murine Dendritic Cells in Culture
  - Dr. Samuel R. Goth - University of California, Davis
- **4:45**
  - Abnormal Motor, Sensory, Cognitve and Social Behaviors in Homer 1 Transgenic Mice
  - Dr. Robert F. Berman - University of California, Davis

### 5:00 – 5:55

- Center for Childhood Neurotoxicology and Exposure Assessment
  - Dr. George H. Lambert - Univ of Medicine & Dentistry of New Jersey

**5:00**
- Autism and the Environment: Exposure Assessment, Intervention and Clinical Expression
  - Dr. George H. Lambert – Robert Wood Johnson Medical School, UMDNJ

**5:10**
- Developmental Neurogenesis is Highly Sensitive to Low Level Exposures to Neurotoxins (MeHg, Pb) and Teratogens (VPA)
  - Dr. E. DiCicco-Bloom – Robert Wood Johnson Medical School/UMDNJ

**5:25**
- Role of Adhesion and Repulsion Molecules During Toxicant-Induced Brain Dysgenesis
  - Dr. Kenneth R. Reuhl – Rutgers, The State University of New Jersey & EOHSI

**5:40**
- A New Model of Autism: Behavioral Markers Following Prenatal and Postnatal Sodium Valproate and Methylmercury to Balb/c Mice
  - Dr. MA Cheh – Rutgers University

**6:00 – 8:00 PM**

- Welcoming Reception
- Hosted Buffet Dinner

**Ginger Terrace Poolside**

## Wednesday, February 11, 2004

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<tr>
<th>Time</th>
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<tr>
<td>8:30 – 8:40</td>
<td>Introduction of Keynote Speaker</td>
<td>Dr. Lynn R. Goldman - Johns Hopkins University</td>
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<tr>
<td>8:40 – 9:20</td>
<td>Keynote Address</td>
<td>“Children, Obesity, Sprawl and Environmental Health”</td>
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<td><strong>Richard J. Jackson, MD, MPH</strong></td>
<td>Senior Advisor to the CDC Director</td>
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<tr>
<td>9:25 – 9:50</td>
<td>New Data from Ongoing Long-Term Children’s Environmental Health Studies</td>
<td>Dr. Gina Muckle - University of Laval, Montreal</td>
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<td>9:50 – 10:15</td>
<td>Contribution of PCBs, Pesticides, Methylmercury and N-3 Fatty Acids to Fetal Growth and Motor Development in Inuit Infants in Artic Quebec</td>
<td>Dr. Sandra W. Jacobson - Wayne State University</td>
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<td>10:15 – 10:30</td>
<td>Refreshment Break</td>
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<td>10:30 – 10:55</td>
<td>Specificity of the Neuropsychological Effects of Prenatal Exposure to PCBs, Methylmercury and Lead on Infant Cognitive Development</td>
<td>Dr. Sandra W. Jacobson - Wayne State University</td>
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<tr>
<td>10:55 – 11:20</td>
<td>Effects of Exposure to Chemicals from Industrial Contamination in New Bedford, Mass</td>
<td>Dr. Susan A. Korrick - Harvard University</td>
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<td>11:20 – 11:45</td>
<td>Neurobehavioral and Neuroimaging Findings from the Faroese Cohort</td>
<td>Dr. Roberta F. White - Boston University</td>
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<tr>
<td>11:45 – 12:00</td>
<td>Discussion</td>
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SESSION V: INFANT AND CHILD LONGITUDINAL NEUROTOXICITY STUDIES – PART II

Co-Chairs: Dr. David C. Bellinger - Harvard Medical School
Dr. Susan L. Schantz – Univ. of Illinois at Urbana

This session is a continuation of Session IV involving presentation of additional studies of the neurodevelopmental effects from prenatal and early postnatal exposures to environmental contaminants.

1:15 – 1:45 What is an Adverse Effect?
Dr. David C. Bellinger - Harvard Medical School

1:45 – 2:15 Interactions of Risk Factors and Modulation of Developmental Neurotoxicity
Dr. Deborah A. Cory-Slechta - EOHSI and UMDNJ-Robert Wood Johnson Medical School

2:15 – 2:40 Prenatal PCB Exposure and Impulsive Responding: Is Impaired Response Inhibition a Common Behavioral Sequelae of PCB Exposure?
Dr. Paul W. Stewart - State Univ of New York, Oswego

2:40 – 3:05 Prenatal Exposure to PCBs and Heptachlor Epoxide in Relation to Child Development in the Collaborative Perinatal Project
Dr. Matthew P. Longnecker - NIEHS

3:05 – 3:30 Neurodevelopmental Outcome on the Seychelles Child Development Study
Dr. Phillip W. Davidson – University of Rochester

3:30 – 3:45 Refreshment Break

3:45 – 4:10 Developmental Exposure to PCBs and MeHg: Use of Data from Animal Models to Develop Testing Strategies for Exposed Children
Dr. Susan L. Schantz - University of Illinois at Urbana

4:10 – 4:35 Low-Level Environmental Lead Exposure and Intellectual Impairment in Children: An International Pooled Analysis
Dr. Bruce P. Lanphear - Cincinnati Children’s Environmental Health Center on behalf of Richard Hornung, Jane Khoury, Kim Yolton, Peter Baghurst, David Bellinger, Robert Bornschein, Richard Canfield, Kim Dietrich, Claire Ernhart, Joseph Graziano, Herbert Needleman, Russell Roberts, Stephen J. Rothenberg, Lourdes Schmaus and Gail Wasserman

4:35 – 5:00 Persistent Retinal Alterations in Children Following Low-Level Prenatal Lead Exposure
Dr. Donald A. Fox - University of Houston

Roundtable Discussion:

5:00 – 5:30 Interpretation of Child Epidemiological Studies of Subtle Effects
Moderators: Dr. David C. Bellinger
Dr. Deborah C. Rice
Panelists: Speakers in Sessions IV and V

A series of questions have been developed to help focus the Discussion. These questions are meant to structure - but not constrain - scientific discussion.
SESSION VII-A: METHYLMERCURY RISKS VS. FISH BENEFITS

Co-Chairs: Dr. Linda M. Rosen - Hawaii State Health Dept
Dr. Kathryn R. Mahaffey – US EPA

The control of mercury pollution in the environment has become one of the more complicated policy questions facing both environmental and food safety regulators, because the majority of exposure occurs indirectly, via consumption of methylmercury in fish. Because elemental mercury is semi-volatile at ambient temperatures, releases are vaporized and carried long distances in the air as vapors or on particles. Such releases eventually condense and fall to earth but as long as the mercury is in an elemental state it will continue to move long distances. It isn’t captured into the food web until it is converted, by aquatic or soil organisms, to methylmercury. Methylmercury not only has long residence time in the environment but also bioaccumulates in the food chain, eventually causing exposure to humans, mostly via consumption of fish. The implications of this process for regulation and control are manifold.

8:30 – 8:50 Biomarkers of Mercury Exposure: Differences Between Children and Adult Women in the Distribution of Blood and Hair Mercury Concentrations among the 1999/2000 NHANES Examinees
Dr. Kathryn R. Mahaffey – US EPA

8:50 – 9:05 Mercury Levels in Major Hawaiian Commercial Fish Species
Dr. Barbara Brooks – Hawaii State Health Department

9:05 – 9:20 Hawaiian/Pacific Islander Dietary, Cultural and Social Issues in Relation to Methylmercury in Fish
Dr. Linda M. Rosen - Hawaii State Health Department

9:20 – 9:40 Methylmercury in Hawaii Fish: Risk/Benefit Issues
Dr. Lynn R. Goldman - Johns Hopkins University

9:40 – 9:55 Smart Fishing: Consumption Advice for Clinicians and Patients
Dr. Kathleen Schuler - Inst for Agricul & Trade Policy

9:55 - 10:15 Discussion

10:15 – 10:30 Refreshment Break

SESSION VII-B: PESTICIDES & THE HONOLULU-ASIA AGING COHORT STUDY. A Population-Based Longitudinal Study Providing Clues as to how Lifestyle and Workplace Factors Can Contribute to Neurodegenerative Disease

Co-Chairs: Dr. Lon R. White - Pacific Health Research Institute
Dr. James P. O’Callaghan – CDC-NIOSH

The Honolulu-Asia Aging Study (HAAS) began in 1991 as a supplement to the Honolulu Heart Program, a longitudinal study of cardiovascular disease in a cohort of Japanese-American men living on Oahu at the time of the baseline examination in 1965. The original cohort consisted of 8006 men born 1900 through 1919. Some members of this cohort were occupationally exposed to persistent pesticides, including Heptachlor. Brain samples from decedents of the HAAS cohort are being analyzed for levels of pesticides and an attempt is being made to relate these data to occupational exposures, premortem diagnosis of neurological disease as well as postmortem evidence of ghosts and neuropathological hallmarks of specific neurological disease states.

8:30 – 8:50 The Design of Perspective Population-Based Longitudinal Studies and Their Role in Establishing Etiology of Human Disease
Dr. Wayne T. Sanderson - University of Iowa

8:50 – 9:15 The Honolulu-Asia Aging Study (HAAS): Design, Description and Data Resources
Dr. Lon R. White and Dr. James Nelson - Pacific Health Research Institute

9:15 – 9:35 Neurodegenerative Diseases in the HAAS
Dr. G. Web Ross - Department of Veteran Affairs

9:35 – 9:55 Plantation Work in Hawaii and Risk of Parkinson's Disease
Dr. Helen Petrovitch - Pacific Health Research Institute

9:55 – 10:15 Brain Tissue Analysis in the Honolulu-Asia Aging Study – Pesticides and other Persistent Chemicals
Dr. Diane B. Miller - CDC-NIOSH

10:15 – 10:30 Refreshment Break

SESSION VIII-A: ROLE OF OBESITY IN CHILDREN’S ENVIRONMENTAL HEALTH

Co-Chairs: Dr. William J. Slikker, Jr. - NCTR/FDA
Dr. Rüdiger von Kries - Ludwig-Maximilians University

The prevalence of childhood obesity has nearly doubled during the last two decades and is the most common nutritional disorder, showing an increasing prevalence. Overweight children have a higher risk for being overweight in adulthood and are therefore at risk for disease states associated with obesity, including Type 2 diabetes, cancer, and cardiovascular problems. Although family genetic factors are prime risk factors for childhood obesity, non-genetic factors also show a strong association with obesity. Some of these non-genetic factors include frequent TV viewing/video games and frequent consumption of snacks while watching TV. While a large number and variety of agents are associated with abnormal human development, efforts to identify an association between perinatal exposure to a substance and subsequent childhood obesity are just beginning. Recent studies have demonstrated an increased risk for overweight and obesity in children of mothers who smoked during pregnancy. These data and other clinical observations and animal model studies support the hypothesis that obesity in children of mothers who smoked during pregnancy is the result of long lasting behavioral teratogenic effects of nicotine exposure in utero.

10:30 – 10:50 Impact of Childhood Obesity on Children's Health
Dr. Woodie Kessel – Office of Disease Prevention & Health Promotion

10:50 – 11:10 The Fetal Programming Hypothesis: Possible Role in Childhood Obesity
Dr. William J. Slikker, Jr. - NCTR/FDA

11:10 – 11:30 Maternal Smoking During Pregnancy and Association with Childhood Obesity
Rüdiger von Kries, Ludwig-Maximilians University, Munich, Germany

11:30 – 11:50 Fetal Nicotine Exposure Impacts Weight Gain Later in Life
Dr. Edward D. Levin - Duke University

11:50 – 12:10 Obesity Exacerbates Neurotoxicity
Dr. James P. O’Callaghan – CDC-NIOSH
cortex. Given the high affinity of MeHg for sulfhydryl groups and their confinements to distinct brain regions, such as the cerebellum and visual addition, the pathophysiology of MeHg, specifically in the adult brain, phenomenon has for decades puzzled the research community. In effect or efficacy at the time of peak blood concentration, this not all, toxicological or pharmacological agents exert their maximal poisoning symptoms may not occur for weeks or months after exposure, but not unduly constrain scientific discussion.

1. What potential mechanisms can be invoked for the silent phase of MeHg?
2. Can analogies be drawn from other compounds?
3. What mechanisms guide the distribution of MeHg in the brain?
4. In the absence of differences in regional MeHg concentrations, what mechanisms might be invoked to describe cellular and regional specificity?
5. Does demethylation play a role in the neurotoxicity of MeHg?
6. Is MeHg's effect potentially mediated via extracellular effects?
SESSION X-A: GENETIC POLYMORPHISMS AND MECHANISMS OF NEUROTOXICITY

Co-Chairs: Dr. Evelyn Tiffany-Castiglioni - Texas A&M University
Dr. Clem Furlong - University of Washington

The completion of the human genome project and its ongoing annotation of gene elements offer an opportunity for revolutionary insights into the dynamic interaction between the genome and the environment. Genetic polymorphisms are population-specific alleles that may lead to variation between individuals in protein structure and function. Polymorphisms in metabolic, DNA replication, and repair enzymes are associated with altered susceptibility to carcinogens and teratogens. This session will provide a critical overview of selected polymorphisms in genes related to the neurotoxicity of lead (Pb), organophosphorus compounds (OPs), and environmental toxicants associated with neurodegenerative disease etiology, such as pesticides, metals, and industrial solvents.

3:30 – 3:40 Genetic Polymorphisms and Mechanisms of Neurotoxicity: Overview
Dr. Evelyn Tiffany-Castiglioni - Texas A&M University

3:40 – 4:05 Polymorphisms as a Mechanistic Link Between the Organism and its Responses to the Environment: Introduction to Concepts
Dr. Vijayanagaram S. Venkatraj - Texas A&M Univ

4:05 – 4:30 Genetic and Temporal Determinants of Pesticide Sensitivity in Children: Role of Paraoxonase (PON1)
Dr. Clem E. Furlong - University of Washington

4:30 – 4:55 Population Distribution and Implications of Paraoxonase (PON1) Polymorphism for Risk Assessment
Dr. Bob Sonawane - US EPA
Dr. Gary Ginsberg - Connecticut Dept of Health

4:55 – 5:20 Neonatal Exposure to Lead and Regulation of the APP Gene in the Aging Brain
Dr. Nasser Zawia - University of Rhode Island

5:20 – 5:30 Discussion

SESSION X-B: DIOXINS, PESTICIDES, HORMONE DISRUPTORS AND RISK ASSESSMENT

Co-Chairs: Dr. John Peterson Myers – Env’l Health Sciences
Dr. Peter Preuss - NCEA/US EPA

3:30 – 3:45 Emerging Chemicals of Concern and Their Potential for Adverse Neurological Effects
Dr. Heraline E. Hicks - ATSDR

3:45 – 4:00 Visual Attention in Infants Exposed to Insufficient Thyroid Hormone Levels in Utero: Implications for Studying Thyroid Hormone Disruptor Effects in Children
Dr. Joanne F. Rovet - The Hospital for Sick Children, Canada

4:00 – 4:15 Effects on Thyroid Hormone Homeostasis and Implications for Brain Development from Hydroxylated Organochlorine Metabolites in Sows and their Offspring
Dr. Courtney D. Sandau – CDC

4:15 – 4:30 Maternal Exposure to Dioxin Causes Central Precocious Puberty in Female Rats
Dr. M Kakeyama - National Institute for Environmental Studies, Tsukuba, Japan

4:30 – 4:45 Farmed Salmon Contains High Levels of Organochlorine Carcinogens: Implications for Public Health
Dr. David O. Carpenter - University of Albany

4:45 – 5:00 A Community Comparison of Insulin Resistance Associated With Blood Lipid Levels of 2,3,7,8-tetrachlorodibenzo(p)-dioxin (TCDD) and TCDD Equivalents
Dr. Morris F. Cranmer – Univ of Arkansas for Med Sci

5:00 – 5:15 Farm Children’s Exposure to Herbicides: Comparison of Exposure Estimates Derived from Biomonitoring and Questionnaire Data
Dr. Tye Arbuckle - Health Canada, Ottawa

5:15 – 5:30 Developmental Neurotoxicity in the Regulatory Context: EPA's Data Call-In and the Adequacy of Tiered Toxicity Testing For Assuring Safety
Dr. David Wallinga - Inst for Agricul. & Trade Policy

SESSION XI: CONCURRENT SESSIONS (A, B, C)

XI-A: COMMUNITY BASED PUBLIC HEALTH

Co-Chairs: Susan Marmagas - Physicians for Social Responsibility
Joy E. Carlson – J. Carlson Consulting

The Community Outreach Session is OPEN TO THE PUBLIC.
This session is scheduled for the evening to facilitate participation by Hawaiians without work or school conflicts.

7:30 – 7:45 Mobilizing Health Professionals to Protect Children
Susan West Marmagas – Phys. for Social Responsibility

7:45 – 8:00 Transforming the Public Debate on Neurotoxicants: The Learning and Developmental Disabilities Initiative
Elise Miller - Inst for Children’s Environmental Health

8:00 – 8:15 Diagnosing Mercury Intoxication
Dr. Sherlita Amler - CDC

8:15 – 8:30 The Inappropriate Use of Chelating Agents in the Diagnosis and Treatment of Putative Mercury Intoxication
Dr. John F. Risher - ATSDR

8:30 – 8:45 Design of a Court-Ordered Medical Monitoring Program for an Arsenic-Exposed Community
Dr. Sandra N. Mohr - Environomix

8:45 – 9:00 Fish Contamination in the Ala Wai Canal, Hawaii
Dr. Bruce Anderson – University of Hawaii at Manoa

9:00 – 9:15 Discussion or Assessment of the Cardiovascular Autonomic Nervous Function in Aluminum Electrolytic Workers
Dr. Qiao Niu - Shanxi Med Univ, Taiyuan, PR China

9:15 – 9:30 Discussion
XI-B: WORKSHOP: HOW DO NEUROTOXICANTS EXPLOIT GENETIC SUSCEPTIBILITY?

Co-Chairs: Dr. Vijayanagaram S. Venkatraj - Texas A&M
Dr. Nasser Zawia - University of Rhode Island

Interfaces between the genome and the environment can occur through multiple facets, two of which will be addressed in this workshop. One facet is the influence of population-specific alleles (polymorphisms) on susceptibility to xenobiotic agents. In general, these genetic polymorphisms encode proteins with variable activities that metabolize or interact with environmental toxicants. The other facet is the unexplored concept of the susceptibility of genome architecture to alteration by the environment. Studies of genome architecture have revealed that there are “hot spots” in which the probability for rearrangement or mutation to occur is much higher than for the rest of the genome. Do environmental toxicants influence the stability of hot spots? The implications of these two distinct mechanisms on childhood susceptibility to neurotoxicity will be compared with specific examples taken from the emerging literature.

Invited Discussants:
Evelyn Tiffany-Castiglioni, Texas A&M University
V. S. Venkatraj, Texas A&M University
Clem Furlong, University of Washington
Gary Ginsberg, Connecticut Dept of Health
Nasser Zawia, University of Rhode Island
Xiao-Ming Shen, Shanghai Second Medical Univ
Bob Sonawane, US Environmental Protection Agency

XI-C: MECHANISMS AND IMPLICATIONS FOR RESEARCH DESIGN

Co-Chairs: Dr. William H. Hanneman – Colorado State University
Dr. Prasada Kodavanti - US EPA

7:30 – 7:50 The Utility of Large-Scale Insertional Mutagenesis Screens to Identify and Disrupt Novel PCB-Induced Genes in Mouse Embryonic Stem (ES) Cells
Dr. William H. Hanneman - Colorado State University

7:50 – 8:10 Changes in Nuclear Transcription Factors in Rat Hippocampus and Cerebellum Following Developmental Exposure to a Commercial PCB Mixture
Dr. Prasada Kodavanti - NHEERL/ORD, US EPA

8:10 – 8:30 Sexually Dimorphic Behaviors Provide Essential Criteria of Developmental Neurotoxicity
Bernard Weiss - University of Rochester

8:30 – 8:45 Study Design Considerations for Conducting Juvenile Toxicology Studies
MJ Kallman - Eli Lilly and Co, Greenfield Labs

8:45 – 9:00 Invoking the Critical Period to Explain Pediatric Lead Toxicity: Problems and Possibilities
Todd A. Jusko – University of Washington

9:00 – 9:15 Constructing Exposure Indices from Blood Lead Measures: Implications for Research Design
Jessica Conser – University of North Carolina

9:15 - 9:30 Neurotoxic Effects of Sodium Azide Lead to Alterations in Amyloid Precursor Protein Metabolism and Protein Phosphatase 1 Expression
Edgar F. da Cruz e Silva - Universidade de Aveiro, Portugal

SESSION XII-A:
HEPTACHLOR IN HAWAII: TWENTY YEARS LATER

Co-Chairs: Dr. Donald R. Mattison - NIEHS/NIH
Dr. Lynn R. Goldman - Johns Hopkins
Sherry P. Broder, JP - Attorney-at-Law

During 1980 to 1982, the commercial cows milk supply on the island of Oahu, Hawaii, was contaminated for approximately 15 months with heptachlor epoxide (HE). The source of exposure was treated pineapple plants which were used as cattle feed. The entire cows milk-consuming population of Oahu was potentially exposed. An EPA “reasonable worst case estimate” suggested that between April 1981 and April 1982, commercial milk may have contained as much as 1.2 ppm of heptachlor epoxide.

8:30 – 8:50 Introduction to the Session, Tribute to David Rall and Overview of the Process
Dr. Donald R. Mattison - Outgoing chair of the Hawaii Heptachlor Science Advisory Board

8:50 – 9:20 How the Hawaii Heptachlor Foundation Came to Be: History of Contamination, Lawsuit and Settlement
Sherry P. Broder, Attorney-at-Law & Architect of the Hawaii Heptachlor Foundation

9:20 – 10:00 Heptachlor Epoxide in Hawaii: Exposure Estimation & Neurobehavioral Study
Dr. Dean Baker - University of California at Irvine

10:00 – 10:15 Refreshment Break

10:15 – 10:40 Prenatal Exposure to Heptachlor Epoxide and Early Child Development
Dr. Irva Hertz-Picciotto - Univ of California, Davis

10:40 – 11:05 Long-term Neurotoxicological and Immuno-toxicological Consequences of Developmental Heptachlor Exposure in Rats
Dr. Virginia C. Moser - US EPA

11:05 – 11:30 Opposite Gender-Specific Increases in Peripheral Benzodiazepine Receptor (PBR) Density in Rat Brain After Single Heptachlor and Heptachlor Epoxide Administration During Development in the Rat
Dr. Dorothy E. Woolley - Univ California at Davis

11:30 - 12:00 Panel and Open Discussion: Characterization and Communication of the Risks and Implications for the Future

Co-Chairs: Dr. Donald Mattison
Dr. Lynn Goldman
Sherry Broder

Invited Discussants:
Session XII-A Speakers plus:
Bruce Anderson – University of Hawaii School of Medicine at Manoa
Willis Butler - Hawaii Heptachlor Research & Education Foundation
Gail Hirota - Hawaii Heptachlor Research & Education Foundation
Peter Preuss – NCEA, US EPA

All Plenary Sessions will be held in the Hibiscus Ballroom of the Ala Moana Hotel, Honolulu, Hawai'i
SESSION XII–B: PARKINSON’S DISEASE, ENVIRONMENT AND GENES
Cellular Mechanisms Involved in Environmental Neurotoxin-Induced Selective Neuronal Damage and Its Relevance to Parkinson’s Disease

Co-Chairs: Dr. Syed F. Ali – FDA/NCTR
Dr. Anumantha Kanthasamy - Iowa State University

Environmental neurotoxic chemical exposures are increasingly recognized as dominant risk factors in the etiology of Parkinson’s disease. Exposure to pesticides, PCBs and metals promote selective neuronal damage that is often superimposed with the pathological hallmarks of Parkinson’s disease. However, cellular mechanisms underlying selective neuronal degenerations remain to be established. In recent years, cell death signaling has been investigated extensively. Despite this growing amount of information regarding the cell death process, little effort has been made to integrate this body of knowledge with the field of selective neuronal injury and establish its relevance to neurodegenerative diseases. This symposium is designed to fill this gap by addressing key cell death signaling molecules and other cellular targets that may impact the disease process of PD.

8:30 – 8:50 Selective Alterations in Gene Expression using Real-Time PCR in MPTP-Induced Neurotoxicity in Mice
Dr. Syed F. Ali – National Center for Toxicological Research/FDA

8:50 – 9:10 Role of Oxidative Stress-Sensitive Kinase in Dieldrin-induced Dopaminergic Cell Death: Relevance to Parkinson’s Disease
Dr. Anumantha Kanthasamy - Iowa State University

9:10 – 9:30 Dopamine Transporters as Mediators of Environmentally-Induced Dopamine Damage
Dr. Gary W. Miller – Emory University

9:30 – 9:50 Biological Bases for PCB Induced Alterations in Dopamine-Mediated Neurological Function
Dr. Richard F. Seegal - New York State Dept of Health

9:50 – 10:00 Discussion

10:00 – 10:15 Refreshment Break

SESSION XIII: MECHANISMS OF BRAIN INJURY

Co-Chairs: Dr. David Dorman - CIIT Centers for Health Research
Dr. Gary W. Miller – Emory University

10:15 – 10:35 Maternal-Fetal Distribution of Manganese in the Rat Following in Utero Inhalation Exposure to Manganese Sulfate
Dr. David Dorman - CIIT Centers for Health Research

10:35 – 10:55 Screening of Pesticides that Inhibit Complex I: Relevance to Parkinson’s Disease
Dr. Jason Richardson - Emory University

10:55 – 11:15 Old Age and Gender Influence the Pharmacokinetics of Inhaled Manganese Sulfate and Manganese Phosphate in Rats
Melanie Struve - CIIT Centers for Health Research

11:15 – 11:35 Role of Proinflammatory Cytokines in Chemically-Induced Dopaminergic Neurodegeneration
Dr. Krishnan Sriram – CDC-NIOSH

11:35 – 11:50 Neuromorphometrical Study on the Radio-protective Role of Beta-Carotene on Postnatally Developing Mice Cerebellum
Dr. A. L. Bhatia - Univ of Rajasthan, Jaipur, India

11:50 – 12:00 Discussion