

**DEBORAH A. CORY-SLECHTA**

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**ADMINISTRATIVE POSITIONS**

- 2015-2017            Acting Chair, Department of Environmental Medicine  
Director, NIEHS Environmental Health Science Center  
University of Rochester School of Medicine and Dentistry
- 2003-2007            Director, Environmental and Occupational Health Sciences  
Institute, a joint Institute of Robert Wood Johnson Medical  
School, University of Medicine and Dentistry of New Jersey and  
Rutgers, the State University of New Jersey
- 2003-2007            Chair, Department of Environmental and Occupational Medicine,  
Robert Wood Johnson Medical School, University of Medicine and  
Dentistry of New Jersey
- 2000-2002            Dean for Research  
Director of the Aab Institute for Biomedical Sciences  
University of Rochester School of Medicine & Dentistry  
Rochester, NY
- 1998-2002            Director, NIEHS Environmental Health Sciences Center  
University of Rochester School of Medicine & Dentistry,  
Rochester, NY
- 1998 - 2002            Chair and Professor, Department of Environmental Medicine;  
University of Rochester School of Medicine and Dentistry  
Secondary appointments in the Departments of Neurobiology and  
Anatomy and Pediatrics
- 1997 – 1998            Acting Chair of Neurobiology and Anatomy  
Secondary appointments in the Department of Environmental  
Medicine and the Department of Pediatrics  
University of Rochester School of Medicine & Dentistry

## **FACULTY POSITIONS**

- 2007-present Professor, Department of Environmental Medicine, Pediatrics and Public Health Sciences  
University of Rochester School of Medicine and Dentistry
- 2003-2007 Professor, Department of Environmental and Occupational Medicine, Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey
- 1998 - 2002 Professor, Department of Environmental Medicine  
University of Rochester School of Medicine and Dentistry  
Secondary appointments in the Departments of Neurobiology and Anatomy and Pediatrics
- 1997 – 1998 Professor, Department of Neurobiology and Anatomy  
Secondary appointments in the Department of Environmental Medicine and the Department of Pediatrics  
University of Rochester School of Medicine & Dentistry
- 1995-1997 Associate Professor of Neurobiology and Anatomy  
Secondary Appointments in the Department of Environmental Medicine and the Department of Pediatrics  
University of Rochester School of Medicine & Dentistry
- 1990-1995 Associate Professor of Environmental Medicine (Toxicology) and of Pediatrics  
Department of Environmental Medicine  
University of Rochester School of Medicine & Dentistry
- 1984-1990 Assistant Professor of Toxicology  
Environmental Health Sciences Center  
Department of Biophysics  
University of Rochester School of Medicine & Dentistry
- 1982-1984 Research Associate  
Division of Toxicology  
Environmental Health Sciences Center  
Department of Radiation Biology and Biophysics  
University of Rochester School of Medicine & Dentistry

## **EDUCATION**

- 1979-1982 Postdoctoral Fellow  
Behavioral Toxicology and Pharmacology  
Department of Radiation Biology and Biophysics

University of Rochester School of Medicine & Dentistry  
Advisors: Drs. Bernard Weiss and Victor G. Laties

- 1977-1979            Junior Staff Fellow  
National Center for Toxicological Research  
Jefferson, Arkansas
- 1972-1977            Ph.D.  
University of Minnesota, Minneapolis, MN  
Major: Experimental Psychology  
Minor: Pharmacology, Psychopharmacology  
Dissertation: The effects of chronic lead acetate  
administration on Fixed Interval performance of rats.  
Advisor: Dr. Travis Thompson
- 1971-1972            M.A., with honors  
Western Michigan University, Kalamazoo, Michigan  
Major: Experimental Psychology  
Thesis: The application of the species-specific defense  
reaction to free Operant avoidance.  
Advisor: Dr. David O. Lyon
- 1968-1971            B.S., magna cum laude  
Western Michigan University  
Kalamazoo, Michigan  
Major: Psychology  
Minor: Biology

**NATIONAL AND INTERNATIONAL COMMITTEES**

Member, Science Advisory Committee on Chemicals, Toxic Substances Control Act, U.S.  
Environmental Protection Agency, 2019-present

Member, Board of Scientific Counselors, Agency for Toxic Substances and Disease  
Registry, Centers for Disease Control, 2015-2018.

Advisory Committee Member, Report evaluating the Health and Equity Impacts of  
Policies  
to Prevent and Respond to Childhood Lead Exposure, Pew Advisory Trust, 2016-2017.

Chair, Gulf War and Health, Volume 10: Update of Health Effects of Serving in the Gulf War, Institute of Medicine, 2014-2016.

Chair, External Review Meeting on EPA's Draft Health Effects Documents for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS), 2014

Member, Development of a Case Definition for Chronic Multisymptom Illness, Institute of Medicine, National Academy of Sciences, 2013-2014.

Member, Chemical Assessment Advisory Committee, Science Advisory Board, U.S. Environmental Protection Agency, 2012-2016.

Member, Committee on Toxicology, National Academy of Sciences, Washington, D.C., 2011-2015.

Member, Review of Pb Air Quality Criteria Document, Clean Air Scientific Advisory Committee, U.S. Environmental Protection Agency, 2011-2013

Chair, Draft Risk Assessment for Trichloroethylene, US EPA Science Advisory Board, 2010-2011.

Chair, Committee on Health Risks of Phthalates and Cumulative Risk Assessment, National Academy of Sciences, National Research Council, 2007-2008.

Chair, US EPA Science Advisory Board, Exposure and Human Health Committee, 2007-2010.

Member, Science Integration in Decision Making, US EPA Science Advisory Board, 2009-present.

Chair, Draft Risk Assessment for Acrylamide, US EPA Science Advisory Board, 2008.

Chair, Current Concepts in Toxicology Committee, Society of Toxicology, July 2008 - 2010

Advisory Committee for Childhood Lead Poisoning Prevention, Centers for Disease Control, Health and Human Services, 2006-2013.

Science Advisory Board, U.S. Environmental Protection Agency, 2003-2010.

Member, Science Strategy Committee, Society of Toxicology, 2006-2007

Chair, Review of the Neurotoxicology Division, ORD, U.S. Environmental Protection Agency, Research Triangle Park, NC, March, 2006.

Clean Air Scientific Advisory Committee Lead Review Panel, Research Triangle Park, NC, Feb-March, 2006 - 2008.

Chair, Draft Risk Assessment of the Potential Human Health Effects Associated with Exposure to Perfluorooctanoic Acid and its Salts, Science Advisory Board, US Environmental Protection Agency, 2004-2005.

National Research Council, National Academy of Sciences, panel on Trichloroethylene, 2004-2005

Executive Committee, Scientific Group on Methodologies for the Safety Evaluation of Chemicals (SGOMSEC), 2003-2006.

Chair, Scientific and Technological Achievement Awards Subcommittee of the Science Advisory Board, U.S. Environmental Protection Agency, 2002-2005.

National Institute of Environmental Health Sciences Advisory Council, NIH, 1996-2001.

Committee Co-Chair and Panel on Gulf War and Health, Institute of Medicine, the National Academy of Science, February 2001-present.

Chair, Search Committee for Director, Neurotoxicology Division, U.S. Environmental Protection Agency, 2001-2002.

Consultant, Food and Drug Administration, National Center for Toxicological Research, Science Advisory Board Subcommittee on the Neurotoxicology Program, Little Rock Arkansas, January, 1998, 2004.

National Academy of Sciences, Committee on Toxicology, 1992-1996.

U.S. Environmental Protection Agency, Subcommittee on Scientific and Technological Achievement Awards, Science Advisory Board, 1993-2004.

Consultant, Food and Drug Administration, National Center for Toxicological Research, Science Advisory Board Subcommittee on the Neurotoxicology Program, Little Rock Arkansas, 1993.

Chair, Search Committee for Head of the Division of Neurotoxicology, Health Effects Research Laboratory, U.S. Environmental Protection Agency, Research Triangle Park, NC, September, 2000.

Environmental Protection Agency, Science Advisory Board Committee on Residual Risk Review for Secondary Lead Smelters, Research Triangle Park, NC, March, 2000.

Advisory Board, Environmental Health Foundation, 1995-1998

Committee on Toxicology, Board of Environmental Studies and Toxicology, Commission of Life Sciences, National Research Council, National Academy of Sciences, appointed October, 1993-1996.

Consultant, Science Advisory Board, U.S. Environmental Protection Agency, Washington, D.C., 1993-1994.

World Health Organization, IPCS Task Group Meeting on the Environmental Health Criteria for Inorganic Lead, Brisbane, Australia, February, 1993.

National Institute of Environmental Health Sciences Representative to the ADAMHA Reorganization, 1992-1993.

Member, FIFRA Scientific Advisory Subpanel on Neurotoxicity Test Guidelines, Office of Pesticide Programs, Environmental Protection Agency, Washington, D.C., October, 1987.

Project Advisory Group, U.S. Army Medical Research and Development Command, Fort Detrick, MD, 1984-1985.

#### **NATIONAL AND INTERNATIONAL REVIEW PANELS**

Member, Systemic Injury and Environmental Exposure Study Section, NIH, 2017-present

Member, Scientific Advisory Committee, March of Dimes, 2015-2019

Reviewer, NTP Low Level Lead Effects Monograph, National Institute of Environmental Health Sciences, Research Triangle Park, NC, November 2011.

Reviewer, Superfund Grant Review Committee, National Institute of Environmental Health Sciences, Research Triangle Park, NC, October, 2011.

Chair, March of Dimes Review Committee B, March of Dimes, 2011-2014.

Chair, Neurotoxicology and Alcohol Review Panel, Center for Scientific Review, NIH, Washington, D.C., 2008-2010

Chair, Review Panel for Centers for Neurodegeneration Science, NIEHS, February 2008.

Science Advisory Board, US Environmental Protection Agency, SAB Committee for Science Integration for Decision Making, 2009-2010

Member, March of Dimes Review Committee, 2008-2014

BCDN-4 Committee, Center for Scientific Review, NIH, October, 2002 – 2006

NIH, NCRR Institutional Clinical and Translational Sciences Award Review Panel, July 2006, 2007.

NIH, NIEHS Special Emphasis Panel for Outstanding New Environmental Scientist RFA, March, 2006; March 2007.

Clean Air Scientific Advisory Committee, All Ages Lead Model Review Panel, Science Advisory Board, U.S. Environmental Protection Agency, Washington, D.C., 2005

Federal Insecticide Fungicide and Rodenticide Act Panel on Dimethoate, US Environmental Protection Agency, 2004.

National Association for Autism Research Review Panel, May 2003.

Chair, United States Army Research and Materiel Command (USAMRMC), and the Military Operational Medicine Research Program, (MOMRP) Force Health Protection Program Review, March 2003.

Gulf War Phase 3 Panel, National Academy of Sciences, Institute of Medicine, 2003-present.

Reviewer, Michael J. Fox Foundation, October, 2002; April, 2006.

Ad-Hoc Reviewer, NSD-B Committee, National Institute of Neurological Diseases and Stroke, NIH, October, 2002.

Reviewer, Independent Assessment of the Environmental Management Science Program Portfolio of Projects, Department of Energy, July, 2002.

National Institute of Environmental Health Sciences, Review of the Director, October, 2000.

National Institute of Environmental Health Sciences, Division of Intramural Research Program Reviewer, September 1998.

Member, Gulf War Grants Review Panel, U.S. Army, March, 1998; June, 1999.

Environmental Health Sciences Review Committee, National Institute of Environmental Health Sciences, 1985-1989.

Reviewer, Toxicological Profile of Lead, Agency for Toxic Substances and Disease Registry, Centers for Disease Control, 1989, 1997, 1999.

Reviewer, Human Health Effects of Complex Exposure Patterns, U.S. Environmental Protection Agency, May 1997.

Ad-Hoc Site Reviewer, National Center for Research Resources, NIH, November, 1994.

Ad-Hoc Reviewer, Environmental Health Sciences Review Committee, NIEHS, 1990, 1991, 1992, 1993, 1994, 1995.

Superfund Hazardous Substances Basic Research Program Review Committee National Institute of Environmental Health Sciences, July, 1987; October, 1991; October, 1994.

Ad Hoc Reviewer, Toxicology Study Section, NIH, June, 1988; February, 1990.

Ad Hoc Reviewer, Human Development and Aging Study Section, NIH, 1991.

Ad Hoc Reviewer, Radiation Study Section, NIH, May, 1994; November, 1994; June, 1995.

Ad Hoc Reviewer, Natural Sciences and Engineering Research Council of Canada, July, 1994

Ad Hoc Reviewer, National Institute of Dental Research, March, 1995.

Outside Opinion, Experimental Therapeutics Study Section-2, NCI, October, 1991

Special Review Committee for Center Development Grants, National Institute of Environmental Health Sciences, November, 1992; October, 1993; December, 1994.

Ad Hoc Reviewer, Physiological Sciences Study Section, NIH, July, 1993

Reviewer, National Academy of Sciences, Institute of Medicine, "Gulf War and Health: Volume I. Depleted Uranium, Pyridostigmine Bromide, Sarin, Vaccines", June, 2000-2002.

Reviewer, American Institute of Biological Sciences Panel on US Army's Research Program (Step N0 Entitled "Chronic Effects of Low Dose CW Agent Exposure, June, 2000.

Board of Scientific Counselors, National Institute of Environmental Health Sciences, Review of the Intramural Program Laboratory of Pharmacology and Physiology, Subcommittee Member, May, 2000.

Reviewer, Department of Defense, Review of the USACHPPM Report on Depleted Uranium Exposure and Risk Assessment for Gulf War Illness, February, 2000.

Reviewer, Agency for Toxic Substances and Disease Registry, Centers for Disease Control, Toxicological Profile of Lead, September, 1992.

Ad-Hoc Reviewer, Report on Chemical Toxicity and Aging, National Research Council/National Academy of Sciences, 1987.

### **INVITED PANELS AND WORKSHOPS**

Co-Chair, National Academy of Sciences, Engineering and Medicine, Neuroscience Forum Workshop: Environmental Neuroscience: Advancing the Understanding of How Chemical Exposures Impact Brain Health and Disease, June 2020.

Jacob Hooisma Lecture, International Neurotoxicology Association, Dusseldorf Germany, October, 2019.

Invited Speaker, Teratology Society Meeting, Assessing the Lifelong Impacts of Prenatal and Early-Life Exposure to Air Pollution Symposium, Florida, 2018.

Invited Member, Pew Charitable Trust Advisory Committee Evaluating the Health and Equity Impacts of Policies to Prevent Lead Exposure, 2016-2017.

Invited Participant, *A 2020 Vision & Blue Print For Protecting Our Children from Environmental Hazards*, Children's Environmental Health Network Workshop, Racine Wisconsin, Oct, 2014.

Invited Participant, Chemical Mixtures Workshop, National Institute of Environmental Health Sciences, Research Triangle Park, NC, September 2011.

Invited Participant, National Institute of Environmental Health Sciences Strategic Planning Workshop, Research Triangle Park, NC, July 2011.

Invited Panel Reviewer, Air Quality Criteria Review for Pb, U.S. Environmental Protection Agency, Washington, D.C., July 2011.

Invited Speaker, International Neurotoxicology Meeting, Mendoza Argentina, April, 2011.

Invited Speaker, Fetal Basis of Disease Symposium, Society of Toxicology, March, 2011, Washington, D.C.

U.S. Senate Briefing on Cumulative Risk Assessment, Washington D.C., February, 2011.

Invited Speaker, U.S. Environmental Protection Agency, Human Health Risk Assessment Colloquium preparation, September 2010.

Invited Participant, NAS Workshop "Computational Toxicology: From Data to Analyses to Applications", Washington, D.C. September 2009

Co-Chair and Organizer, International Neurotoxicology Conference, University of Rochester Medical School, Rochester, NY, October, 2008.

Organizer and Co-Chair of the Modifiers of Chemical Toxicity: Implications for Human Health Risk Assessment Workshop, a Collaboration of the Joint Research Center (European Commission, Ispra, Italy) and the Environmental and Occupational Health Sciences Institute, Poros, Greece, 2005.

Invited Member, Steering Committee on Developmental Neurotoxicity Test Guidelines, International Life Sciences Institute, July, 1999. Member, Working Committee on Developmental Neurotoxicity Test Guidelines, 1999-2000.

Invited Participant, NIH Behavioral and Social Sciences Review Integration Panel I, February 1998

Chair, White Paper Neurotoxicology Team, sponsored by the Chemical Industry Institute, October-November, 1997.

Invited Participant, Workshop on "Mercury Vapor Toxicology Update" sponsored by the Food and Drug Administration, June, 1996.

Invited Co-Chair, Workshop on Human Variability, sponsored by the International Life Sciences Risk Institute and the Environmental Protection Agency, October, 1995.

Invited Participant, Workshop on Developmental Neurotoxicology, sponsored by the National Institute of Environmental Health Sciences, Research Triangle Park, NC, September, 1995.

Invited Participant, Environmental Health Summit sponsored by the Environmental Health Foundation, Tucson, Arizona, June, 1995.

Organizer and Participant National Academy of Sciences, Committee on Toxicology, Annual Workshop, "Behavioral Toxicology and Risk Assessment, Irvine, CA, January, 1995.

Invited Participant, Scientific Group on Methodologies for the Safety Evaluation of Chemicals (SGOMSEC), June, 1994.

Invited Participant, National Working Conference on Research Frontiers in Behavioral Medicine, NIMH, Chantilly VA, July, 1993.

Symposia Chair and Speaker, Biochemical and Neurochemical Bases of Behavioral Toxicity, Society of Toxicology Annual Meeting, New Orleans, March, 1993.

Continuing Education Course Chair and Speaker, Advanced Behavioral and Neurophysiological Testing for Neurotoxicology, Society of Toxicology Annual Meeting, New Orleans, March, 1993.

Chair, Symposium on Behavioral Toxicology, National Institute of Environmental Health Sciences Center Directors Meeting, Iowa City, Iowa, November, 1992.

Program Co-Chair, Ninth International Neurotoxicology Conference, "New Dimensions of Lead Neurotoxicity: Redefining Mechanisms and Effects", sponsored by NIEHS, EPA, CDC, FDA and Johnson and Johnson, Little Rock, Arkansas, October, 1991.

Invited Speaker and Co-Chair, Seventh International Neurotoxicology Conference, "Neurotoxicology and Risk Assessment", Little Rock, Arkansas, September, 1989.

Invited Participant, International Conference, "Lead in Bone: Implications for Dosimetry and Toxicology", sponsored by the National Institute for Environmental Health Sciences, Baltimore, MD, March, 1989.

Invited Co-Chair, Workshop on Developmental Neurotoxicity, sponsored by the Environmental Protection Agency and the National Institute on Drug Abuse, Williamsburg, VA, April, 1989.

Invited Conference Participant, "Behavioral Aspects of Neurotoxicity: Critical Issues Workshop" sponsored by the National Research Council, National Academy of Sciences (National Committee for the International Union of Psychological Science), Canberra, Australia, August, 1988.

Invited Participant, Science of Toxicology in the Future, sponsored by the Society of Toxicology, January, 1988.

Invited Participant, "Risk Assessment Workshop: Reproductive and Developmental Toxicity", co-sponsored by Risk Science Research Center, AIHC, ATSDR, CDC, EPA, NCTR, NIEHS and NCTR Associated Universities, September, 1987.

Invited Participant, Interdivisional Task Force on Developmental Behavioral Toxicology of Childhood and Adolescence, American Psychological Association, Lincoln, Nebraska, November, 1987.

## HONORS AND AWARDS

- 2018 Recipient of the Lifetime Academic Mentoring Award, University of Rochester.
- 2017 Recipient of the Distinguished Neurotoxicologist Award from the Society of Toxicology (SOT), Neurotoxicology Specialty Section (NTSS). Presented at the SOT 56<sup>th</sup> Annual Meeting, Baltimore, MD, March 2017.
- 2009 Recipient of the Life-Time Achievement Award from the Annual International Conference on Soils, Sediments, Water and Energy, University of Massachusetts at Amherst, Amherst, MA, Oct, 2009.
- 2001 Honoree, Fourth Annual Women in Science Symposium, Joint Programs of University of Medicine and Dentistry of New Jersey and Rutgers University, sponsored by The Environmental and Occupational Health Sciences Institute, Douglass College Project for Rutgers Women in Math, Science and Engineering, Joint Graduate Program in Toxicology, and the Joint Postdoctoral Program in Exposure Assessment, Piscataway, NJ.
- 1982-1985 National Institute of Environmental Health Sciences New Investigator Award
- 1979-1982 National Research Service Award Postdoctoral Fellowship
- 1969 Alpha Lambda Delta, honorary sorority

## UNIVERSITY ADVISORY BOARDS

Consultant, Texas Southern University Minority Center for Toxicological Research, Houston, Texas, 1992-1995.

### **Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey**

Chair, UMDNJ-Robert Wood Johnson Medical School, Department of Molecular Genetics, Microbiology and Immunology Review Committee, October, 2003-present.

Member, UMDNJ-Robert Wood Johnson Medical School, The Cancer Institute of New Jersey, Internal Scientific Advisory Board, December, 2003-present.

### **University of Rochester Medical School**

Animal Care and Use Committee, 1999-2000

Vivarium Planning Committee, 1996-1997

Neuroscience Speaker Selection Committee, 1990-1991  
Neuroscience Graduate Admissions, 1988-present; Chair, 1991-1996  
Library Committee, Department of Biophysics, 1987-1988  
Animal Resources Advisory Committee, 1991-1992  
Toxicology Graduate Admissions Committee, 1991-2000  
Long-Range Planning for the Vivarium & Transgenic Animal Facilities, 1993-1994  
Biostatistics Chair Search Committee, 1994  
Internal Advisory Committee, Alzheimer's Disease Center, 1998-2000

### **CENTER and TRAINING GRANT ADVISORY BOARDS**

Baylor University Superfund  
UC Davis Environmental Health Sciences Center  
Mt. Sinai Environmental Health Sciences Center  
UPenn Environmental Health Sciences Center  
Columbia University NIEHS Environmental Health Sciences Center  
University of Cincinnati Toxicology Training Program  
Texas A&M Environmental Health Sciences Center  
Harvard University Children's Environmental Health Center  
New Mexico NIEHS Environmental Health Sciences Center  
University of Miami NIEHS Environmental Health Sciences Center  
UMDNJ/Rutgers NIEHS Children's Environmental Health Center  
John Hopkins NIEHS Environmental Health Sciences Center  
SUNY Stony Brook proposed NIEHS Environmental Health Sciences Center  
University of Texas at Austin NIEHS Environmental Health Sciences Center  
Penn State College of Medicine Dept. of Pharmacology NIEHS Training Grant  
"Molecular Basis of Cellular Damage and Toxicology"

### **EDITORIAL BOARDS**

- Pediatric Research, Associate Editor, 2016-present
- Environmental Health Perspectives, 2003- 2017
- NeuroToxicology - Associate Editor, 1987-present
- Fundamental and Applied Toxicology, 1987-1993, Associate Editor, 1993-1997
- Toxicological Sciences - Associate Editor, 1997-1999
- Toxicology and Applied Pharmacology, Associate Editor, 2012-present
- Neurobehavioral Toxicology and Teratology, editorial board, 1984-2005
- Toxicology and Applied Pharmacology, editorial board, 1993-1998
- American Journal of Mental Retardation, editorial board 1993-2005
- Toxicology, editorial board, 1994-present
- Open Toxicology Journal, editorial board, 2008-present

### **AD HOC EDITORIAL REVIEWS**

New England Journal of Medicine  
Proceedings of the National Academy of Science

Journal of Neuroscience  
Journal of Neurochemistry  
Journal of Pharmacology and Experimental Therapeutics  
Behavioural Pharmacology  
Toxicology, Clinical Toxicology  
Pharmacology and Toxicology  
Chemosphere  
Human and Experimental Toxicology  
American Journal of Physiology  
Toxicology and Applied Pharmacology  
Pharmacology, Biochemistry and Behavior  
Psychopharmacology  
Environmental Health Perspectives  
Brain Research  
Brain Research Bulletin  
Neuropharmacology  
Neurology  
Toxicology  
American Journal of Mental Deficiency  
Biochemical Toxicology  
Environmental Research  
Biological Trace Element Research  
Chemico-Biological Interactions  
Aggressive Behavior  
Fundamental and Applied Toxicology  
Behavioral Neuroscience  
Biology of the Neonate  
Life Sciences

#### **ELECTED OFFICES HELD IN PROFESSIONAL SOCIETIES**

Society of Toxicology

Awards Committee, 2004-2006, Chair, 2008-2010

Education Committee, 1987-1990

Nominating Committee, 1990-1991, 1998-1999

Society of Toxicology, Neurotoxicology Specialty Section

Councilor, 1986-1988

Secretary-Treasurer, 1988-1990

Vice-President Elect, 1990-1991

Vice-President, 1991-1992

President, 1992-1993

Society of Toxicology, Metals Specialty Section

Councilor, 1996-1998

Behavioral Toxicology Society  
Secretary-Treasurer, 1983-1986  
President, 1992-1994

American Psychological Association  
Member-at-Large, Division 28 Executive Committee  
Chair, Behavioral Toxicology Committee, Division 28

#### **MEMBERSHIPS IN PROFESSIONAL SOCIETIES**

Society for Neuroscience  
Society of Toxicology  
Behavioral Toxicology Society  
Behavioral Pharmacology Society  
American Psychological Association (Fellow, Division 28)  
Society for the Stimulus Properties of Drugs

#### **CURRENT RESEARCH SUPPORT**

NIH RO1 ES025541-01 (Cory-Slechta, PI), 08/01/2015-6/30/2020, Developmental Exposures to Inhaled Air Pollution and the Autism Phenotype in Mice

NIH R01 ES021534-01 (Cory-Slechta; Schneider, J.S. multi-PIs), 12/1/12-11/30/17, CNS Glucocorticoid Epigenetic Mechanisms of Pb and Prenatal Stress Effects

P30 ES001247 (Cory-Slechta; Deputy Director and Director of the Career Development Core; Director, Neurobehavioral Facility Core), 4/1/2015 – 3/31/2020;  
Environmental Agents as Modulators of Diseases Processes

R01 ES025721-01A1 (Rand, PI; D. Cory-Slechta, Co-Investigator), 4/1/16-3/31/21,  
Methylmercury Toxicity in Neuromuscular Development

#### **PRIOR RESEARCH SUPPORT**

R01 ES08442 (Davidson, PI; D. Cory-Slechta, Co-Investigator), 9/17/10 - 4/30/16  
Methylmercury Effects on Adolescent Development

NIH 2RO1 ES006189 (Guilarte), 06/01/10-6/30/2015, NMDA Receptor function in lead neurotoxicity, Co-investigator

U.S. Environmental Protection Agency RD 83457801-0, Effects of Metals and Stress on the Central Nervous System, 10/01/2010 to 9/30/2014, D. A. Cory-Slechta, P.I.

NIEHS R21 ES019105 CNS Toxicity of Ambient Air Pollution: Postnatal Exposure to Ultrafine Particles. 08/01/2010-07/31/2012 D.A. Cory-Slechta, P.I.

NIEHS – R01 ES012712 – Pb-Environmental Stress Interactions: Re-evaluating Risk. April 1, 2005 to March 31, 2011. D.A. Cory-Slechta, P.I.

NIEHS – 2R01 ES008442 Methyl Mercury Effects on Adolescent Development, P. Davidson, P.I, University of Rochester School of Medicine and Dentistry, Aug 1, 1997 to May 31, 2010, 10% effort, D.A. Cory-Slechta.

NIEHS - 1R21ES015135-01 Lead Exposure, HPA Axis Dysfunction, and Blood Pressure: Hypertension Risk, N. Fiedler, P.I., Robert Wood Johnson Medical School, Sept 22, 2006 to Aug 31, 2009, D.A. Cory-Slechta, 10% effort.

NIEHS R01 ES016357 Developmental Ah Receptor Activity in the CNS: Neurogenesis and Neurotoxicity, 03/12/09 – 02/28/2014, Co-Investigator .6 calendar months

NIEHS R01 ES015991 Mechanisms of pesticide-induced neurobehavioral deficits Relevance to ADHD (J. Richardson, PI), 7/14/08-6/30/2012, D. Cory-Slechta, Co-Investigator, .6 calendar months

NIEHS 2R01 ES006189 NMDA Receptor function in lead neurotoxicity (T. Guilarte, PI), 06/01/10-6/30/2015, D. Cory-Slechta, Co-investigator

The major goal of this project is to investigate the role of the NMDA receptor complex in lead-induced impairments in synaptic plasticity and learning.

NIEHS – P30 ES05022 Research Center in Environmental Health Sciences, University of Medicine and Dentistry of New Jersey, D.A. Cory-Slechta, P.I. March 1, 2006 to August 31, 2007.

NIEHS- R01ES05017 - Behavioral Toxicity of Lead: A Pharmacological Analysis. 4/01/2000-03/31/2005. D.A. Cory-Slechta, P.I.

NIEHS – R01 ES10791 – Combined Agrichemical Exposures and Parkinson’s Disease, July 1, 2000 to June 30, 2005. D.A. Cory-Slechta, P.I.

DAMD 12-98-1-8628 (U.S. Army) – A Murine Model of Genetic and Environmental Neurotoxicant Action. September 1, 1998 – August 31, 2003. E. Richfield, P.I., D.A. Cory-Slechta, 10% effort. Total costs \$1,661,254.

NIEHS - P30ES01247 – Environmental Agents as Modulators of Human Disease and Dysfunction. May 1, 2000 - April 30, 2005. D.A. Cory-Slechta, P.I., Center Grant. Annual direct costs, \$1,000,000.

NIEHS - R01ES05903 - Behavioral Toxicity of Lead: Role of the NMDA Receptor. April 1, 1998-March 31, 2003. D.A. Cory-Slechta, P.I. First year direct costs \$224,622.

NIEHS - RO1ES08388 - Neurobehavioral Effects of Low-level Lead Exposure. Dec. 1 1996-November 31, 2001. B. Lanphear, P.I., D.A. Cory-Slechta, 10% effort. First year direct costs \$384,973.

NIEHS – RO1ES09391 – Environmental Neurotoxicant Genetic Action: A Murine Model. April 1, 1998 – March 31, 2003. H. Federoff, P.I., D.A. Cory-Slechta, 10% effort. First year direct costs \$263,001.

## **TEACHING RESPONSIBILITIES**

### **University of Rochester School of Medicine and Dentistry**

#### **Program Administration**

Co-Director, Interdepartmental Program in Neuroscience, 1997-1999

Chair, Admissions and Recruitment Committee, Interdepartmental Ph.D. Program in Neuroscience, 1991-1997.

Admissions and Curriculum Committee, Toxicology Ph.D. Program, 1991-2000; 2010-present

#### **Courses**

Toxicology 521	Lecturer
Toxicology 522	Toxicology Core Course, Head of Neurotoxicology Component and Lecturer
Toxicology 523	Elective Seminar "Behavioral Pharmacology and Toxicology"
Neuroscience 541	Course "Principles of Behavior Analysis"
Neuroscience 500	Neuroscience Core Course, Section on Behavior
Neuroscience 532	Behavioral Neuroscience
Neuro/Psych 243	Neurochemical Foundations of Behavior

**Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey**

ECM I Environmental Health and Toxicology Lecturer

ECMII Pesticides: Risks vs. Benefits, Health vs. Disease, Lecturer

Gen Tox II Behavioral Toxicology Lecturer

**GRADUATE STUDENT TRAINING**

**PH.D. STUDENTS (Primary Mentor)**

Dan Widzowski  
1987-1993 Toxicology pre-doctoral student, Ph.D. advisor  
Current position: Asst. Prof., Indiana University of Pennsylvania

Christina (Zuch) deZafra  
1993-1998 Toxicology predoctoral student, Ph.D. advisor  
Current position: Principal Scientist, Amgen, Inc.

Scott Ng-Evans  
1995-2000 Neuroscience predoctoral student, Ph.D. Thesis Advisor  
Present position: Research Engineer, Univ. of Wash.

Mona Thiruchelvam  
1996-2001 Neuroscience predoctoral student, Ph.D. advisor  
Present position: Unknown

Dan O'Mara  
1998-1999 Toxicology predoctoral student, Ph.D. advisor  
Principal Quality Engineer, iuvo BioScience

Ruth Reeves  
2000-2003 Toxicology predoctoral student, Ph.D. advisor  
Current position: Director, Toxicology, Shire  
**Pharmaceuticals**

Michele Taylor  
2003-2007 Toxicology predoctoral student, Ph.D. advisor  
Current position: Neurotoxicologist, EPA

Joe Frasca  
2008-2012 Toxicology predoctoral student, Ph.D. advisor  
Current position: Toxicologist at Huntsman, Corporation,  
Woodlands, TX

Josh Allen  
2008-2013 Toxicology predoctoral student, Ph.D. advisor  
Current position: Research Scientist/Study Director,  
Battelle

Kian Merchant-Borna 2009-2011	Toxicology predoctoral student, Ph.D. advisor Current position: Research Manager, Dept. of Emergency Medicine, URM
Carolyn Klocke 2014-2017	Toxicology predoctoral student, Ph.D. advisor
Keith Morris-Schaffer 2014-2019	Toxicology predoctoral student, Ph.D. advisor
Tim Anderson 2017-present	Toxicology predoctoral student, Ph.D. advisor

**POST-DOCTORAL FELLOWS (Primary Mentor)**

Jeff Cohn 1989-1992	Toxicology postdoctoral fellow Toxicology Training Grant
Becky Brockel 1995-1997	Toxicology postdoctoral fellow Last known position: Research Scientist, AstraZeneca Pharmaceuticals
Veronica Rodriguez 1999-2000 2002-2005	Fulbright Scholar (UR) Postdoctoral Fellow (UR and Rutgers University) Current Position: Associate Professor, Department of Cognitive and Behavioral Neurology, Institute of Neurobiology—National Autonomous University of Mexico
Miriam Virgolini 1999-2006	Postdoctoral Fellow Current Position: Associate Professor and Investigator, Pharmacology, National University of Cordoba, Argentina
Alba Rossi-George 2006-2007	Postdoctoral Fellow, Rutgers University Toxicology Current Position: Assistant Research Professor, Rutgers School of Pharmacy
Marissa Sobolewski 2013-present	Postdoctoral Fellow Toxicology
Carolyn Klocke 2017-2018	Postdoctoral Fellow Toxicology

### **M.S. STUDENTS (Primary Mentor)**

Shane Johnson 1989-1993	Neuroscience/Toxicology M.S. student thesis advisor
Robert Fox 1991-1993	Neuroscience M.S. student Current position: Senior Systems Analyst/Programmer, DaVinci Discovery Center of Science and Technology
Calvin Brown 1993	Master's Student in Industrial Hygiene
Gayle Chiralco 1993	Master's Student in Industrial Hygiene
Karen Kostusiak 1997	Master's Student in Industrial Hygiene, thesis advisor

### **PH.D. ROTATION STUDENTS**

Dana Selley 1988	Pharmacology pre-doctoral student, laboratory rotation
Gary Samoriski 1990	Neuroscience pre-doctoral fellow, laboratory rotation
Jodi Paar 1990-1991	Program in Biology and Medicine Ph.D. student, laboratory rotation
Robert Angell 1994	Neuroscience predoctoral student laboratory rotation
Russell Ferland 1994	Neuroscience predoctoral student laboratory rotation
Candace Flaughner 1994	Toxicology predoctoral student laboratory rotation
Rod Pazmino 1995	Neuroscience predoctoral student laboratory rotation
Carissa Filbrandt 1999	Toxicology predoctoral student Laboratory rotation

Kitty Wu 2000	Neuroscience predoctoral student Laboratory rotation
Doug Short 2000	Toxicology predoctoral student, Ph.D. Co-advisor Laboratory rotation
Pheona Radcliffe 2000	Toxicology predoctoral student Laboratory rotation
Donna Lee 2001	Toxicology predoctoral student Laboratory rotation
Jay Pennel 2002	Toxicology predoctoral student Laboratory rotation
Sarah Ward 2003	Neuroscience predoctoral student Laboratory rotation
John Norman 2003	Toxicology predoctoral student Laboratory rotation
Michele Saul 2008	Neuroscience predoctoral student Laboratory rotation
Lisa Prince 2013	Toxicology predoctoral student Laboratory rotation
Becca Rausch 2013	Neuroscience predoctoral student Laboratory rotation
Michael Rudy 2014	Toxicology predoctoral student Laboratory rotation
Brian Palmer 2015	Toxicology predoctoral student Laboratory rotation
Elizabeth Saionz 2015	M.D. Ph.D. student Laboratory rotation
Candace Wong 2016	Toxicology predoctoral student Laboratory rotation
Denise Herr 2016	Toxicology predoctoral student Laboratory rotation

Kadijah Abston  
2017 Toxicology predoctoral student  
Laboratory rotation

Jake Gunderson  
2017 Toxicology predoctoral student  
Laboratory rotation

Tim Anderson  
2017 Toxicology predoctoral student  
Laboratory rotation

Alycia Merrill  
2018 Toxicology predoctoral student  
Laboratory rotation

#### **PH.D. THESIS COMMITTEE MEMBERSHIP**

Lisa Shemancik  
1991-1994 Toxicology pre-doctoral student, Ph.D.  
committee member

Mary Richardson  
1993-1994 Toxicology predoctoral student, Ph.D.  
committee member

Jay McLaughlin  
1996-1999 Neuroscience predoctoral student  
Ph.D. thesis committee member

Andrew Brooks  
1996-1999 Microbiology and Immunology predoctoral student  
Ph.D. thesis committee member

Cheryl Osterhout  
2000 Pharmacology and Physiology predoctoral student  
Ph.D. thesis committee member

#### **OTHER TRAINEES**

Beth Kreuger  
1992 Toxicology Master's degree student,  
committee member

Yvonne Dudak  
1991 Toxicology training grant medical student  
summer fellow

Apryl McNeil  
1991 Strong Children's Research Center  
(Pediatrics) summer medical student fellow

Marsha Nortz  
1992 Undergraduate Neuroscience deKiewiet  
summer fellow

Iddil Bekirov 1992	Undergraduate Neuroscience student, special project
Scott Ng-Evans 1993	Undergraduate Neuroscience deKiewiet summer fellow
John Inglefield 1993	Chair, Ph.D. Committee Neurobiology and Anatomy
Jim Carleo 1994	Medical Student summer fellow
Tsung-I Peng 1994	Chair, Ph.D. committee Graduate Program in Neuroscience
Run Yu 1997	Chair, Ph.D. Committee Pharmacology Ph.D. Program

**RESEARCH GOALS: Environmental Neurotoxicants as Risk Factors for Behavioral Disorders and Neurodegenerative Diseases**

This laboratory focuses on understanding the contribution of environmental chemical exposures to human diseases and disorders of the nervous system with a goal of evaluating human health risks and determination of effective preventive and mitigation strategies. Studies increasingly focus on multi-hit models based on the assertion that multiple concurrent environmental and host stressors operating at different target sites of a neurochemical system will enhance vulnerability by compromising the operation of homeostatic repair mechanisms. Such models are also consistent with the multiplicity of risk factors sustained by humans. A particular focus has been on brain development and behavioral consequences.

***i) Developmental air pollution exposure as a risk factor for neurodevelopmental disorders***

In a series of studies, we have observed that exposures of mice during early postnatal development (equivalent to the human third trimester) to ambient concentrated ultrafine particle air pollution leads to a phenotype consistent with autism spectrum disorder (ASD), and that is, like ASD, observed preferentially in males. Consequences of these exposures, which persist throughout life, have included impaired development of white matter tracts in brain, ventriculomegaly, glial inflammation, glutamate/GABA imbalance and repetitive behaviors. Planned studies include defining critical periods of exposure and particle characteristics that contribute to the phenotype, mechanisms of male vulnerability and translation to human studies of air pollution and ASD.

**ii) *Epigenetic Mechanisms of the Effects of Lead Exposure and Prenatal Stress:***

Elevated exposures to lead (Pb) remain a worldwide environmental health problem. Although primary prevention remains the best approach to eliminating such problems, behavioral interventions may be useful in mitigating this neurotoxicity. In an attempt to begin to ascertain its mechanisms for developmental neurotoxicity, epigenetic profiles are being examined in response to lead. These studies focus on potential epigenetic mechanisms as they offer an opportunity for reversal of such effects. In these studies, it will be possible to determine what specific behavioral experiences can erase the epigenetic profiles produced by Pb as well as its neurotoxicity.

The first of our studies have focused on changes in frontal cortex and hippocampus, and have included both post translational histone modifications and DNA methylation changes. The time course of the trajectory of such epigenetic changes in response to Pb has been examined from embryonic to adult time points. Importantly, the epigenetic alterations produced by Pb are significantly modified by the type of behavioral experiences that mice are subsequently exposed to, i.e., positive vs. negative behavioral experience. Current studies are attempting to examine which such altered epigenetic marks are particularly critical to the behavioral alterations and whether such behavioral experiences can restore epigenetic profiles to non-Pb exposed conditions.

**iii) *Combined effects of Metals and Stress:***

The fact that the highest Pb levels in the U.S. occur in low socioeconomic status (SES) children and that both stress hormones (via activation of the hypothalamic-pituitary-adrenal (HPA) axis) and Pb ultimately target the mesocorticolimbic dopamine system led us to investigate a multi-hit model of combined Pb and stress. These studies have demonstrated that: 1) stress can enhance Pb neurotoxicity, 2) Pb exposures permanently alter HPA axis function, resulting in a hypercortisolism, and 3) effects are frequently gender specific. Further, Pb-stress interactions are not limited to early development: even Pb exposures initiated postweaning alter basal corticosterone and stress responsivity. Importantly, altered HPA axis function may serve as a mechanism for the behavioral and catecholamine neurotoxicity associated with Pb, as well as for the increased incidence of disease and dysfunctions (cardiovascular disease, hypertension, obesity, diabetes, immune deficiencies and metabolic syndrome) associated with low SES and with Pb exposures in humans. Towards that end, translation of these findings to human populations is being examined in occupationally Pb-exposed workers, with assessment of HPA axis function and stress responsivity.

The permanent consequences of maternal only Pb exposure suggest that Pb screening programs should include pregnant women, and that stress should be considered as an additional risk. Pb+stress effects observed in the absence of either alone raises questions about the capacity of current risk assessment methods to adequately identify human health risks.

We have now extended these observations to show similar enhancement of the toxicity of developmental exposures to methylmercury and to arsenic with prenatal

stress. In addition, these studies demonstrate an interactive effect of early behavioral experience in modifying the effects of lead exposure

***iv) Pesticide exposures as risk factors for the Parkinson's disease (PD) phenotype.***

Humans are exposed to multiple pesticides, many classes of which affect dopaminergic systems of the brain. Our laboratory first developed a young adult multi-hit mouse model of the PD phenotype using combined exposures to the herbicide paraquat (PQ) and the fungicide maneb (MB), both of which have dopaminergic effects, but act through different mechanisms. This resulted in an environmental Parkinsonism characterized by a selective neurotoxicity to the nigrostriatal dopamine system that, like Parkinson's disease, is both progressive and irreversible. These studies have served as a major stimulus for both animal and epidemiological studies evaluating the role of environmental exposures and risk factors in PD.

Our subsequent studies demonstrated that PQ+MB effects are enhanced by aging and by genetic background (over-expression of human mutant alpha-synuclein, a genetic basis for one form of familial PD), are more pronounced in males than in females, as is the disease, are associated with oxidative stress, and prevented by over-expression of the antioxidant enzymes superoxide dismutase and glutathione peroxidase. Ongoing studies indicate that non-hormonal estrogen analogs likewise confer protection against the phenotype and may provide potential therapeutic applications.

Developmental exposures enhanced the effects of exposures imposed during adulthood to these pesticides. A gestational only exposure to maneb alone markedly enhanced vulnerability to paraquat administered in adulthood, despite the lack of common mechanisms or of any structural similarity of these pesticides. Collectively, these findings, indicative of cumulative neurotoxicity across the life span, raise significant questions about the adequacy of current methods for defining human health risks.

**INVITED PRESENTATIONS**

Invited Speaker, Society of Toxicologic Pathology, Exposure to Ambient Ultrafine Particles as a Risk Factor for Neurodevelopmental Disorders, Raleigh-Durham, NC, June, 2019.

Invited Keynote Speaker, UPenn Environmental Neuroscience Workshop, Parallels Between the Developmental Neurotoxicity of Ambient Ultrafine Particle Air Pollution and Features of Neurodevelopmental Disorders, Philadelphia, PA, May, 2019.

Invited Panel Member and Speaker, NYU Center for the Investigation of Environmental Health, Air Pollution Exposures and Neurodevelopmental Disorders, New York City NY, May, 2019.

Invited Speaker, Health Journalism Conference, Neuropathological and Behavioral

Consequences of Developmental Exposure to Air Pollution: Parallels to Neurodevelopmental Disorders, Baltimore, MD, April, 2019.

Invited Speaker, Louisiana State University, Department of Pharmacology and Toxicology, Parallels of Neuropathological and Behavioral Consequences of Developmental Exposure to Air Pollution: Parallels to Neurodevelopmental Disorders, Shreveport LA, March, 2019.

Invited Speaker, Brown University Pathobiology Graduate Program, Developmental Exposure to Air Pollution Produces Features of Multiple Neurodevelopmental Disorders. February, 2019.

Invited Speaker, The Academy of Medicine, Engineering & Science of Texas Annual 2019 Conference: Neuroscience and Brain Health, Environmental Influences on Brain Health, January, 2019, Austin, TX.

Invited Speaker, Baylor University Department of Environmental Science, September 2018.

Invited Speaker, 2018 Children's Health Symposium - Air Pollution and Lifecourse Neurological Impacts, Office of Environmental Health Hazard Assessment, California EPA, October 2018.

Invited Speaker, Teratology Society Meeting, Clearwater FL, June 2018.

Invited Speaker, UC Davis Environmental Health Sciences Center, April 2018.

Invited Speaker, Pathobiology Seminar Series, Brown University, March 2018.

Invited Speaker, Attributable Risk for Neurodevelopmental Disorders, West Virginia University, March 2018.

Invited Speaker, University of Cincinnati, Combined Effects of Developmental Lead Exposure and Prenatal Stress and their Transgenerational Consequences, January, 2018.

Invited Speaker, Air Pollution and Brain Development, Attributable Risk for Neurodevelopmental Disorders, May 2017, Harvard School of Public Health

Invited Speaker, Developmental Neurotoxicity: Sex Differences in Toxic Effects and Toxic Effects on Sex Differences, Integrated Toxicology and Environmental Health Program Symposium, Duke University, March, 2017.

Invited Speaker, Developmental Neurotoxicology Society, Symposium on Systematic Evaluations of Mechanistic Data for Developmental Neurotoxicity Outcomes, San

Antonio, June, 2016.

Invited Speaker, Mt. Sinai Medical School, Ignoring Cumulative Neurotoxicity May Undermine Public Health Protection: Enhanced and Sex-Dependent Neurotoxicity of Combined Exposures to Metals and Stress, May, 2016.

Invited B.F. Skinner Lecturer, Association for Behavior Analysis, The Cognitive Consequences of Children's Exposure to Lead Revealed by Behavior Analysis, Chicago, May, 2016.

Invited Speaker, Undergraduate Education Program, Society of Toxicology, Does Air Pollution Exposure Contribute to the Etiology of Neurodevelopmental Disorders?, Annual meeting of the Society of Toxicology, New Orleans, March, 2016.

Invited Speaker, Workshop on Epigenetics and Cumulative Risk, U.S. Environmental Protection Agency, Interactions Between Lead and Stress and Associated Epigenetic Changes, August, 2016

Invited Speaker, International Neurotoxicology Association, Montreal, CA, June 2015. Developmental Neurotoxicity of Inhaled Ultrafine Particle Air Pollution.

Invited Speaker, Workshop on Silent Neurotoxicity, Society of Toxicology, San Diego, CA, Stress-Induced Enhancement and Unmasking of Adverse Effects of Neurotoxic Metals, March, 2015.

Invited Speaker, NIEHS Center for Urban Response to Environmental Stressors, Wayne State University, Nov. 2014.

Invited Speaker, PPTOX IV, Stress and the Fetal Basis of Adult Disease, Boston, MA, Oct, 2014.

Invited Speaker, International Society for Exposure Science, Combined Effects of Neurotoxic Metals and Stress, Cincinnati, OH, Oct. 2014.

Invited Speaker, University of Southern California, Developmental Neurotoxicity of Inhaled Ultrafine Particle Air Pollution, Los Angeles, CA, Sept. 2014.

Invited Speaker, Ricardo Miledi Neuroscience Training Course, Pesticides and Parkinson's disease, Mexico, Aug. 2014

Invited Speaker, Neurobehavioral Teratology Society, Unmasking Silent Toxicity following Developmental Exposure to Environmental Toxicants, Seattle WA, June 2014.

Symposium Organizer and Speaker, Air Pollution and Brain, Central Nervous system

Consequences of Developmental Exposure to Air Pollution, AAAS Meeting, Chicago, IL, Feb 2014.

Invited Speaker, Neurobehavioral Teratology Society, Cumulative Effects of Metals and Stress, Tucson AZ, June 2013.

Invited Speaker, California Environmental Protection Agency, Cumulative Risk Workshop, Modifying Impact of Early behavioral experiences on the Trajectory of Neurochemical Changes Produced by Lead and or Prenatal Stress, Sacramento, CA, January, 2013.

Invited Participant, Cumulative Risk Workshop, U.S. Environmental Protection Agency, Research Triangle Park, NC, November, 2012.

Invited Speaker, Children's Environmental Health Network Meeting, San Francisco, May 2012. Modifying Impact of Early behavioral experiences on the Trajectory of Neurochemical Changes Produced by Lead and or Prenatal Stress.

Invited Speaker, EPA Grantee Cumulative Risk Workshop, Washington DC, May 2012. Cumulative risks to CNS from combined Pb and prenatal stress.

Invited Speaker, The Consequences of Early Life Exposure to Lead and Stress: Understanding the Fetal Basis of Childhood and Adult Diseases, Center of excellence in Environmental Pharmacology, University of Pennsylvania, Philadelphia, PA, January, 2012.

Invited Speaker, Invited Speaker, The Consequences of Combined Lead Exposure and Stress, i.e. DuPont Hospital for Children, Wilmington, DE, December 2011.

Invited Speaker, Air Pollution and the Brain, Health Effects Institute Annual Meeting, Boston, MA, May 2011.

Invited Speaker, The Consequences of Combined Lead Exposure and Stress, University of Louisville, KY, May, 2011.

Invited Speaker, International Neurotoxicology Society Meeting, "The Enduring Consequences of Developmental Exposure to Lead in Conjunction with Stress", Mendoza, Argentina, April, 2011.

Invited Speaker, "The Enduring Consequences of Developmental Exposure to Lead in Conjunction with Stress", Society of Toxicology of Canada, Montreal, December, 2010.

Invited Speaker, "Multi-Hit Models of Neurotoxicity: Implications for Understanding Disease and Improving Risk Assessment", Northern California Society of Toxicology, San

Francisco, November, 2010.

Invited Speaker, “Lead Effects on the HPA Axis: a Biological Unifying Mechanism for Pb-Associated Diseases and Disorders”, North American Congress of Clinical Toxicology, Denver, CO, October, 2010.

Invited Speaker, “Elevated Blood Lead and Cognitive Dysfunction: Reciprocal Insights from Human and Animal Studies, Department of Pediatrics, University of Rochester Medical School, Rochester, NY, September 2010.

Invited Speaker, “The NRC Report: Phthalates and Cumulative Risk”, U.S. Environmental Protection Agency Risk Assessment Forum, Washington D.C. Sept, 2010.

Invited Speaker, “Delineating Behavioral Domains Underlying Lead-Induced Cognitive Deficits, Symposium on Behavioral Toxicology of Cognition: Extrapolation from Experimental Animal Models to Humans, Neurobehavioral Teratology Society, Louisville, KY, June, 2010.

Invited Speaker, “Combined Effects of Neurotoxicants with Other CNS Risk Factors: Moving Towards Cumulative Risk”, International Symposium on Disturbances of Cerebral Function Induced by Food and Water contaminants, March, 2010, Valencia, Spain.

Invited Speaker, Strengthening Environmental Justice and Decision Making: A Symposium on the Science of Disproportionate Environmental Health Impacts, U.S. Environmental Protection Agency, Washington D.C., March, 2010.

Invited Speaker, Phthalate Reproductive and Developmental Toxicity: Implications for Cumulative Risk Assessment Symposium, “The NRC Report on Phthalates and Cumulative Risk Assessment: Focus on Cumulative Risk and Common Adverse Outcomes”, Society of Toxicology, March 2010, Salt Lake City, UT.

Invited Speaker, Fetal Basis of Adult Disease Symposium, “Permanent Effects of Maternal Lead (Pb) on the HPA Axis, A Biological Unifying Mechanism for Pb-Associated Adult Diseases”, Society of Toxicology, March 2010, Salt Lake City, UT.

Invited Speaker, Toxicology Forum, Washington, D.C., February, 2010, “Phthalates and Cumulative Risk Assessment: The Path Ahead”.

Invited Seminar, Auburn University, Harrison School of Pharmacy, Auburn AL, October 2009 “Cumulative Models of Neurotoxicity”.

Invited Seminar, University of Louisville, Department of Environmental and Occupational Health Sciences, School of Public Health and Informational Sciences, May, 2009.

Invited Speaker, Society of Toxicology Symposium: Novel Signaling Mechanisms that Regulate Dopaminergic Neuronal Survival or Death: implications in Parkinson's disease, Baltimore, MD, March, 2009.

Invited Speaker, Pesticides and the Parkinson's disease Phenotype: Interactions of Risk Factors, Department of Biology, University of Rochester Medical School, Rochester, NY April, 2008.

Invited Speaker, Refining the Understanding of Behavioral and Neurochemical Mechanisms of Lead Effects on the Central Nervous System, Mt. Hope Family Center, University of Rochester Medical School, Rochester, NY April, 2008.

Invited Speaker, Society of Toxicology Symposium on Chlorotriazine Herbicides and Their Common Degradation Products of Concern: Disposition and Health Effects, "Atrazine and Dopamine Neurotoxicity", March, 2008.

Invited Speaker, Frontiers in Environmental Sciences Seminar Series, "Multiple Hit Models of Neurotoxicity: Clarifying the Contribution of Neurotoxicants to Human Diseases and Disorders, National Institute of Environmental Health Sciences, March, 2008.

Invited Interview, Pb in Toys, Jim Lehrer News Hour, Washington DC, December, 2007.

Invited Speaker, International Neurotoxicology Conference, "Interactions of Lead Exposure, Stress and Gender: Implications for Cognitive Disorders", San Antonio, November, 2007.

Invited Speaker, New Concepts in the Neurotoxicology of Lead, Society of Toxicology, San Diego, CA, March 2006.

Invited Speaker, AAAS Symposium, Does Blood Lead Affect Child Development at Levels Below 10 Micrograms per Deciliter? St. Louis, MO, February, 2006.

Invited Speaker, Eurotox 2005, Neurobehavioral toxicity: Children and Health, Cracow, Poland, September, 2005.

Invited Speaker, Symposium on Neurodevelopment, Texas A&M University, College Station, TX, April, 2005, "Developmental Pesticide Exposures and the Parkinson's Disease Phenotype"

Keynote Speaker, Air Quality Criteria for Lead Workshop, Washington, D.C., February, 2005, "Combined Effects of Pb Exposure and Stress: Implications for Human Health Risk Assessment and Screening".

Invited Speaker, The Non-Linear Nature of Lead-Related Changes in Behavior and Neurochemistry, Non-Linear Dose-Response Relationships in Biology, Toxicology and Medicine, University of Massachusetts, Amherst, MA, June, 2004.

Invited Speaker, Pesticides as Risk Factors for the Parkinson's Disease Phenotype, Boston University, Department of Pharmacology, Boston, MA, May, 2004.

Invited Speaker, Gene-Behavior-Environment Workshop, National Institute of Environmental Health Sciences, Research Triangle Park, NC, May, 2004.

Invited Speaker, Fetal Basis of Disease Grantees Workshop, National Institute of Environmental Health Sciences, Research Triangle Park, NC, March, 2004.

Invited Speaker, Interactions of Risk Factors and Modulation of Developmental Neurotoxicity. International Neurotoxicology Conference, Hawaii, February, 2004.

Invited Speaker, Cocktail Effect in Risk Assessment – Assessment of Exposures to Complex Mixtures, Pre-Conference Workshop, International Society for Exposure Analysis, Stresa, Italy, September, 2003.

Invited Speaker, Combined Pesticide Exposures and the Parkinson's Disease Phenotype International Society of Exposure Analysis, Stresa, Italy, September, 2003.

Invited Speaker, Combined Pesticide Exposures and the Parkinson's Disease Phenotype, Joint Research Centre, Ispra, Italy, July 2003.

Invited Speaker, Developmental Exposure and the Parkinson's Disease Phenotype, Second World Congress on Fetal Origins of Adult Disease, Brighton, England, June 2003.

Invited Speaker, Developmental Pesticide Exposure and the Parkinson's Disease Phenotype, Fetal Origins of Adult Disease Symposium, Society of Teratology Meeting, Philadelphia, PA, June, 2003.

Invited Speaker, Behavioral Test Methods Workshop, Society of Teratology Meeting, Philadelphia PA, June, 2003.

Invited Speaker, Developmental Pesticide Exposure and the Parkinson's Disease Phenotype, Early Environmental Origins of Neurodegenerative Disease Later in Life: Research and Risk Assessment, New York Academy of Medicine, New York, NY, May, 2003.

Invited Speaker, "Pesticides and the Parkinson's Disease Phenotype: Interaction of Risk Factors", The 8<sup>th</sup> Annual Toxicology Symposium, University of Michigan, Ann Arbor, MI,

April 4, 2003.

Invited Speaker “Pesticides and the Parkinson’s Disease Phenotype: Interaction of Risk Factors”, Environmental and Occupational Health Sciences Institute, University of Medicine and Dentistry of New Jersey and Rutgers University, Piscataway, NJ, January 2003.

Invited Speaker, “Developmental Pesticide Exposures and subsequent Vulnerability to the Parkinson’s Disease Phenotype, Twentieth International Neurotoxicology Conference, Little Rock, AR, November, 2002.

Invited Speaker, Texas A&M University, Center for Environmental and Rural Health, “Pesticides as Risk Factors for the Parkinson’s Disease Phenotype: Interactions with Age, Genetic Background and Gender, September, 2002.

Invited Speaker, “Combined Pesticide Exposures as Risk Factors for Parkinson’s Disease”, International Conference on Chemical Mixtures, sponsored by NIEHS, FDA, CDC, NIOSH, Society of Toxicology, Health Council of the Netherlands and the International Joint Commission, Atlanta GA, September, 2002.

Invited Speaker, “Environmental and Genetic Risk Factors for the Parkinson’s Disease Phenotype”, Department of Pathology and Microbiology, Atlantic Veterinary College, University of Prince Edward Island, Charlottetown, Canada, August, 2002.

Invited Lecturer, National Health Research Institute Lecture Series, Department of Health and Occupational Medicine, Taiwan, ROC, June 6-10, 2002.

Invited Speaker, Rush Presbyterian St. Luke’s Medical Center, May 31 2002, “Environmental and Genetic Risk Factors for the Parkinson’s Disease Phenotype”

Invited Speaker, Department of Brain and Cognitive Sciences, University of Rochester, May 30, 2002. “Genes, Environment, Age and Parkinson’s Disease”.

Invited Speaker, 8<sup>th</sup> Annual Public Policy Forum, Scientific Panel for Congressional Briefing and 9<sup>th</sup> Annual Morris K. Udall Awards Dinner, May 21, 2001.

Distinguished Lecturer, National Institute of Environmental Health Sciences, Research Triangle Park, NC, “ Interactions of Risk Factors for the Parkinson’s Disease Phenotype” May13-14, 2002.

Invited Speaker, Toxicology Scholars Colloquium, University of Connecticut School of Pharmacy, Storrs, CT, “Lead and Pesticides: Targeting of Brain Dopamine Systems and Risk Factors for Behavioral and Neurological Dysfunctions”, May 3, 2002.

Invited Speaker, Chemicals in Breast Milk and Drugs Workshop, sponsored by National Institute of Child Health and Development, Food and Drug Administration, Rockville, MD, April 24-25, 2002, "Neurochemical mechanisms and behavioral function: effect of chemical exposure"

Invited Speaker, Environmental Horizons 2002 University of Illinois, Champaign-Urbana, April 1-2 2002, "Pesticides and Parkinson's Disease: Are They Linked?"

Invited Speaker, Michael J. Fox Foundation for Parkinson's Research, Parkinson's Institute, Sunnyvale CA, November, 2001.

Honoree, Fourth Annual Women in Science Symposium, For Lifetime Achievement and Dedication to the Role of Women in Science, Presented by the Environmental and Occupational Health Sciences Institute, Douglass College Project for Rutgers Women in Math, Science and Engineering, Joint Graduate Program in Toxicology and Joint Doctoral Program in Exposure Assessment, University of medicine and Dentistry of New Jersey and Rutgers University, October, 2001.

Conference Organizer and Invited Speaker, "Genes, Environment and Parkinson's Disease", sponsored by the National Institute for Environmental Health Sciences, the Michael J. Fox Foundation, the University of Arkansas for Medical Sciences and the University of Rochester Medical School, Colorado Springs, CO, August 2001.

Invited Speaker, Rochester Rotary Club, "The Changing Face of Research at the University of Rochester Medical School: Implications for Business and the Community", Rochester, NY, July 2001.

Invited Speaker, Pre-College Experience in Physics Program, "Lead as a Public Health Problem", University of Rochester Medical School, Rochester, NY, July 2001.

Round Table Participant, Convergence 2001, Governor's Conference on Biotechnology, University of Rochester Medical School, Rochester, NY, June 2001

Invited Speaker, International Neurotoxicology Association, "Combined Agrichemical Exposures and Parkinson's Disease", Estoril Portugal, June, 2001.

Invited Speaker, "The Nigrostriatal Dopamine System as a Preferential Target of Repeated Exposure to Combined Paraquat and Maneb: Implications for Parkinson's Disease", Massachusetts General Hospital, Boston, MA, May, 2001.

Invited Speaker, "The Nigrostriatal Dopamine System as a Preferential Target of Repeated Exposure to Combined Paraquat and Maneb: Implications for Parkinson's Disease", Behavioral Toxicology Society, Research Triangle Park, NC, May, 2001.

Invited Speaker, “The Nigrostriatal Dopamine System as a Preferential Target of Repeated Exposure to Combined Paraquat and Maneb: Implications for Parkinson’s Disease”, Centers for Disease Control, Atlanta GA, April, 2001.

Invited Speaker, The Role of the Environment in Parkinson’s Disease, Recent Research, sponsored by the National Institute of Environmental Health Sciences, San Francisco, CA, March 2001.

Invited Speaker “Combined Agrichemical Exposure and Parkinson’s Disease”, Parkinson’s Institute, Sunnyvale Colorado, March, 2001.

Invited Speaker: “The Nigrostriatal Dopamine System as a Preferential Target of Repeated Exposure to Combined Paraquat and Maneb: Implications for Parkinson’s disease” Universidad Nacional Autonoma de Mexico, Centro de Neurobiologia, Juriquilla, Qro., Mexico, October, 2000.

Invited Speaker: “Combined Agrichemical Exposure and Parkinson’s Disease”, Children’s Health and the Environment, Eighteenth International Neurotoxicology Conference, Colorado Springs, Colorado, September, 2000.

Invited Speaker: “Mesolimbic Dopamine and Glutamate Involvement in Lead-Induced Cognitive Deficits”, Advances in Heavy Metal Neurotoxicity and Exposure Assessment: An International Conference, University of California Irvine, September 2000.

Invited Speaker: “The Nigrostriatal Dopamine System as a Preferential Target of Repeated Exposures to Combined Paraquat and Maneb: Implications for Parkinson’s Disease”?, Neurology Grand Rounds, University of Rochester Medical School, July, 2000.

Invited Interview, the Diane Rehm Show, National Public Radio, New Research on Lead Poisoning, May, 2000.

Invited Speaker: “The Nigrostriatal Dopamine System as a Preferential Target of Repeated Exposures to Combined Paraquat and Maneb: Implications for Parkinson’s Disease?”, Kennedy-Krieger Institute and Johns Hopkins University Department of Environmental Health Sciences, Baltimore, May, 2000.

Keynote Speaker, The Gatlinburg Conference on Research and Theory in Intellectual and Developmental Disabilities, San Diego CA, March, 2000.

Invited Speaker, “Advanced Neurotoxicology: Biomarkers and Mechanisms of Oxidative Stress-Induced Neurotoxicity”, Society of Toxicology, Continuing Education Course, Philadelphia PA, March 2000.

Invited Speaker and Session Chair, “The Role of Mesolimbic Dopamine and Glutamate in

Lead-Induced Cognitive Impairments”, Seventeenth International Neurotoxicology Conference “Children’s Health and the Environment”, Little Rock, AR, October, 1999.

Invited Speaker, “The Role of Mesolimbic Dopamine and Glutamate in Lead-Induced Cognitive Impairments”, Argentine Society for Neurochemistry, Cordoba, Argentina, October, 1999.

Invited Speaker, “Behavioral Neurobiology: A Workshop on Current Techniques, Problems and Interpretation”, sponsored by NIGMS-MBRS and NIMH, Meharry Medical College, Nashville, TN, June, 1999.

Invited Speaker, Neurochemical Mechanisms of Lead-Induced Cognitive Impairments, Oklahoma State University, College of Pharmacy, April, 1999.

Invited Speaker, Neurochemical Mechanisms of Lead-Induced Behavioral Dysfunction”, Wayne State University, Department of Pharmaceutical Sciences, March, 1999.

Invited Speaker, Workshop “Cognitive Tests: Interpretation for Neurotoxicity?”; Society of Toxicology Meeting, New Orleans, D. A. Cory-Slechta “ Assessment of Complex Cognitive Function in Rodents and Extrapolation Across Species”, March, 1999.

Invited Speaker, Symposium “Lead: From Cellular Effects to Community Action, Duke University Medical Center, March, 1999.

Invited Speaker, Mesolimbic System Alterations and Pb-Induced Cognitive Impairments, Neurotoxicology Division, Health Effects Research Laboratory, U.S. Environmental Protection Agency, Research Triangle Park, NC, February, 1999.

Invited Speaker and Participant, “A Prevention of Lead Poisoning in Children - From Baltimore to the World Initiatives” sponsored by the Kennedy Krieger Institute and the NIEHS Center in Urban Environmental Health, Johns Hopkins University, June 1998.

Invited Speaker, Methods for the Assessment of Complex Motor, Sensory and Cognitive Aspects of Neurotoxicity, Neuropharmacology Course, Food and Drug Administration, November, 1998.

Invited Speaker, “Behavioral Methods for the Assessment of Neurotoxicity”, 6<sup>th</sup> Annual Meeting of the General Pharmacology/Safety Pharmacology Organization, Philadelphia, October, 1998.

Invited Speaker, “Accounting for Lead’s effects”, The Role of Environmental Neurotoxicants in Developmental Disabilities, the 20<sup>th</sup> Rochester Conference on Environmental Toxicity, sponsored by NICHD, NIEHS and The University of Rochester Medical School, Rochester, NY, September, 1998.

Invited Speaker, "Behavioral Methods for the Assessment of Neurotoxicity", Society of Toxicology Meeting, Continuing Education Course: 'Methods for Assessment of Neurotoxicity', Seattle, WA, March, 1998.

Invited Speaker, "Lead Neurotoxicity: Biomarkers, Risk Assessment and Extrapolation to Humans", Society of Toxicology Meeting, Roundtable Workshop: 'The Risk Assessment Process Applied to Novel Toxicological Biomarkers: Extrapolation to Humans', Seattle, WA, March, 1998.

Invited Speaker, "Relationships of Glutamatergic and Dopaminergic Mesolimbic System Changes to Lead-Induced Behavioral Toxicity, University of Wisconsin at Milwaukee, Department of Pharmacology and Marine and Freshwater Biomedical Sciences Center, September, 1997.

Invited Speaker, "Animal Models of Disabilities of Brain and Behavioral Development", American Psychological Association Meeting, Program on Neurobehavioral Pharmacology of Developmental Disabilities, Symposium on 'Animal Models of Developmental Disabilities', Chicago, IL, August, 1997.

Invited Speaker, "Lead as a Risk Factor? Alterations in Glutamatergic and Dopaminergic Function in Mesocorticolimbic Systems and Their Relationship to Behavioral Toxicity", 14th International Neurotoxicology Conference, 'Neurotoxicity and Neurodegeneration: Biological Links', Soverato, Italy, June, 1997.

Invited Speaker, "Implications of the Preferential Vulnerability of Mesolimbic Dopamine Systems to the Effects of Chronic Low-Level Lead Exposure", Neuroscience Day, sponsored by Astra Pharmaceuticals and the Department of Pharmacology and Physiology of the University of Rochester Medical School, Rochester, NY, December 4, 1996.

Invited Speaker, "Pb as a Risk Factor: Implications of Changes in Glutamate/Dopamine Balance in Mesocorticolimbic Systems", Institute of Chemical Toxicology, Wayne State University, Detroit, MI, October 10, 1996.

Invited Speaker, "Pb as a Risk Factor: Changes in Glutamate/Dopamine Balance in Mesolimbic Systems, sponsored by the Department of Environmental Health Science and the Kennedy Krieger Institute, John Hopkins University, Baltimore, MD, September 5, 1996.

Invited Speaker, "Biochemical Correlates of Lead (Pb)-Induced Behavioral Toxicity" Annual Meeting of the Federacao de Sociedades de Biologia Experimental, Caxambu, Brazil, August 21-24, 1996.

Visiting Scientist, Department of Pharmacology and Toxicology, School of Veterinary Medicine, University of Sao Paulo, Brazil, August, 1996.

Invited Speaker, "Behavioral Toxicology: Mechanisms and Outcomes", American Society of Zoologists, Washington, D.C., December, 1995.

Invited Speaker, "Environmental Neurotoxicology: From Molecular Biology to Behavior" symposium sponsored by the Medical Institute of Environmental Hygiene at the Heinrich-Heine University, Dusseldorf, Germany, September, 1995.

Invited Speaker, Marine and Freshwater Biomedical Sciences Center, University of Miami, Miami, FL, November, 1995.

Invited Speaker, University of Texas at Austin, Department of Pharmacology and Toxicology and University of Texas M.D. Anderson Cancer Center, Science-Park Research Division, April, 1995.

Organizer and Speaker, National Academy of Sciences, Committee on Toxicology, Annual Workshop, "Behavioral Toxicology and Risk Assessment, Irvine, CA, January, 1995.

Invited Speaker, 12th International Neurotoxicology Conference, Neurotoxicity of Mercury: Indicators and Effects of Low-Level Exposure, Hot Springs, Arkansas, October, 1994.

Invited Speaker, National Institute of Environmental Health Sciences Conference on Chelating Agents and Metal Toxicity, September, 1994.

Invited Speaker, Scientific Group on Methodologies for the Safety Evaluation of Chemicals (SGOMSEC), June, 1994.

Invited Speaker, The Role of Neurotransmitter Systems in Lead-Induced Learning Impairments. Department of Pediatrics, Specialized Center of Research in Neonatology Lecture Series, University of Rochester, December, 1994.

Invited Speaker The Role of Dopaminergic and Glutamatergic Neurotransmitter Systems in Lead-Induced Learning Impairments, Neurobehavioral Teratology Society, Puerto Rico, June, 1994.

Invited Speaker, The Nature of Lead-Induced Learning Impairments and Neurotransmitter System Involvement. Columbia University College of Physicians and Surgeons, Department of Pharmacology, March, 1994.

Invited Speaker, The Impact on NMDA Receptor Antagonists on Learning and Memory

Functions. Fison Pharmaceuticals, Rochester, NY, January, 1994.

Invited Speaker, The Neurotoxicity of Lead. Health Implications of Lead Exposure at Work, Center for Research on Occupational and Environmental Toxicology, Oregon Health Sciences University, sponsored by OHSU School of Medicine and SAIF Corporation, Portland, OR, November, 1993.

Invited Speaker, Treatment for Overexposure to Lead. Health Implications of Lead Exposure at Work, Center for Research on Occupational and Environmental Toxicology, Oregon Health Sciences University, sponsored by OHSU School of Medicine and SAIF Corporation, Portland, OR, November, 1993.

Invited Speaker, National Institute of Environmental Health Sciences Council Meeting, January, 1993.

Invited Speaker, The Impact of NMDA Receptor Antagonists on Learning and Memory Function. NIMH Psychotherapeutic Medications Development Program Workshop on NMDA Receptor Antagonists: Neurotoxicity Evaluation. Rockville, MD, October, 1993.

Invited Speaker, The role of dopaminergic and glutamatergic neurotransmitter systems in Pb-induced behavioral toxicity. Department of Physiology and Pharmacology, Bowman Gray School of Medicine, Wake Forest University, Winston-Salem, NC, October, 1993.

Invited Speaker, Species differences and similarities in lead toxicity. Bone-Lead Workshop, National Institute for Environmental Health Sciences, Research Triangle Park, NC, September, 1993.

Invited Speaker, The role of dopaminergic and glutamatergic neurotransmitter systems in lead-induced learning impairments. Center for Research on Occupational and Environmental Toxicology, Oregon Health Sciences University, Portland, OR, August, 1993.

Invited Speaker, Operant techniques for testing complex behaviors in animals and humans. Society of Toxicology Continuing Education Course, Advanced Behavioral and Neurophysiological Testing for Neurotoxicity, Society of Toxicology Meeting, New Orleans, March, 1993.

Invited Speaker, Dopaminergic (DA) and glutamatergic (NMDA) involvement in lead-induced behavioral toxicity. Society of Toxicology Symposium: Biochemical and Neurochemical Bases of Behavioral Toxicity, Society of Toxicology Meeting, New Orleans, March, 1993.

Invited Speaker, The role of dopaminergic and glutamatergic systems in lead-induced

learning impairments. National Institute of Environmental Health Sciences Council Meeting, Research Triangle Park, NC, January, 1993.

Invited Speaker, Involvement of neurotransmitter systems in lead-induced behavioral toxicity, American Psychological Association, Washington, D.C., August, 1992.

Invited Speaker, Implications of changes in schedule-controlled behavior, 18th Rochester Conference on Environmental Toxicology, Rochester, N.Y., June 1992.

Invited Speaker, Behavioral measures of neurotoxicity. The National Institute for Minamata Disease, Minamata City, Japan, Oct. 1, 1992.

Invited Speaker, Low level methylmercury exposure and its potential behavioral consequences. Symposium "Epidemiologic Studies on Environmental Pollution and Health Effects of Methylmercury", Kumamoto City, Japan, Oct. 2, 1992.

Invited Speaker, The nature of lead-induced learning impairments and neurotransmitter system involvement. Annual Workshop of the National Institute of Minamata Disease, Kumamoto City, Japan, Oct. 3, 1992.

Invited Speaker, Functional alterations in dopamine systems assessed using drug discrimination procedures. Ninth International Neurotoxicology Conference, New Dimensions of Lead Neurotoxicity: Redefining Mechanisms and Effects, Little Rock, Arkansas, October 28-31, 1991.

Invited Speaker, Chronic low level lead exposure: Behavioral toxicity and dopaminergic involvement. Invited presentation, Texas A&M University, College Station, TX, October 1, 1990.

Invited speaker and Co-chair, Combined effects of lead and aging. Seventh International Neurotoxicology Conference, Little Rock, AR, September 1989.

Invited Session Chair. Workshop on Developmental Neurotoxicology, sponsored by the Environmental Protection Agency and the National Institute on Drug Abuse, Williamsburg, VA, April 1989.

Invited speaker, Lead exposure during advanced age, International Conference on Lead in Bone: Implications for Dosimetry and Toxicology, sponsored by the National Institute of Environmental Health Sciences, Baltimore, MD, March 1989.

Invited speaker, Behavioral measures of neurotoxicity. Neurotoxicology Continuing Education Course, Society of Toxicology, Atlanta, GA, February 1989.

Invited Speaker, Bridging experimental animal and human behavioral toxicology studies.

Workshop on Behavioral Aspects of Neurotoxicology, sponsored by the National Academy of Sciences, Canberra, Australia, August, 1988.

Invited Speaker, Mobilization and redistribution of lead over the course of chelation therapy: Comparison of CaEDTA and DMSA. Trace Elements in Human Health and Disease. Odense, Denmark, August, 1987.

Invited Speaker, Alterations in lead body burden: comparison of chelating agents and aging. National Institute of Environmental Health Sciences Symposium on Lead, Rochester, NY, June, 1987.

Invited Speaker, The lessons of lead for behavioral toxicology, International Workshop on the Effects of Lead Exposure on Neurobehavioral Development: Recent Findings and Future Research Directions. Edinburgh, Scotland, September, 1986.

Invited Speaker, Chronic low level lead exposure: Behavioral consequences, biological exposure indices and reversibility, International Conference on Lead, Chromium and Thallium, Milan, Italy, April, 1986.

Invited Speaker, Combined effects of lead and aging: Some preliminary observations. Behavioral Toxicology Society, Atlanta, GA. May, 1986.

Invited Speaker, Efficacy of the chelating agent CaEDTA in reversing lead-induced changes in behavior and body burden. Behavioral Toxicology Society, Delaware, MD, May, 1985.

Invited Speaker, Behavioral and biological toxicity of chronic lead exposure. Temple University, Philadelphia, PA, June, 1984.

Invited Speaker, Behavioral toxicity of chronic lead exposure. Association for Behavior Analysis, Nashville, TN, May 1984.

Invited Speaker, Schedules of reinforcement in behavioral toxicology. FASEB Symposium, St. Louis, MO, April 1984.

Invited Speaker, Vulnerability to lead at later developmental stages. NICHD Sponsored Conference, Developmental Behavioral Pharmacology, Leesburg, VA, August, 1983.

Invited Speaker, A perspective on the behavioral toxicity of lead. NIEHS Program Project and Center Grant Directors Meeting, Research Triangle Park, NC, Nov. 1982.

Invited Speaker, Fixed interval performance following lead exposure: problems and perspectives. Neurobehavioral Toxicology Society, Baltimore, May, 1982.

Invited Speaker, Suitability of behavioral indices of lead exposure for human risk evaluation. Neurotoxicology of Selected Chemicals, Chicago, IL, September, 1982.

Invited Speaker, The role of schedules of reinforcement in behavioral toxicology. American Psychological Association, Washington, DC, August, 1982.

Invited Speaker, Behavioral toxicity of chronic postweaning lead exposure: Individual Differences. Rutgers University Medical School, Piscataway, NJ, June 3, 1980.

Invited Speaker, The behavioral toxicity of lead. Western Michigan University, Kalamazoo, MI, March 21, 1980.

Invited Speaker, Individual variability in response to chronic postweaning lead exposure: Response duration performance. Behavioral Pharmacology Society, Pittsburgh, PA, May, 1980.

Invited Speaker, The role of regulatory behaviors in toxicology. Johns Hopkins University, Baltimore, MD, March 11, 1980.

Invited Speaker, Behavioral toxicity of lead: An early warning system. Midwestern Psychological Association, May, 1977.

Invited Speaker, Effects of chronic postweaning lead exposure on fixed interval performance. All Lead Conference, EPA, Hendersonville, NC, October, 1976.

Invited Speaker, Behavioral toxicity of chronic postweaning lead exposure. NIEHS, Research Triangle Park, NC, September, 1976.

## **PUBLICATIONS**

Sobolewski, M., Abston, K., Conrad, K., Marvin, E., Harvey, K. Susiarjo, M. and Cory-Slechta, D.A. Lineage- and Sex-Dependent Behavioral and Biochemical Transgenerational Consequences of Developmental Exposure to Lead, Prenatal Stress and Combined Lead and Prenatal Stress in Mice. Environmental Health Perspectives, in press.

Cory-Slechta, D.A., Sobolewski, M., Marvin, E., Conrad, K., Merrill, A., Anderson, T., Jackson, B.P. and Oberdorster, G. The Impact of Inhaled Ambient Ultrafine Particulate Matter on Developing Brain: Potential Importance of Elemental Contaminants. Toxicologic Pathology, in press.

Gottesfeld, P. and Cory-Slechta, D.A. 2019. Letter to the editor re: CDC blood lead reference value for children. Environmental Health, vol 18: 32.

Payne-Sturges DC, Marty MA, Perera F, Miller MD, Swanson M, Ellickson K, Cory-Slechta DA, Ritz B, Balmes J, Anderko L, Talbott EO, Gould R, Hertz-Picciotto I. 2019. Healthy Air, Healthy Brains: Advancing Air Pollution Policy to Protect Children's Health. *Am J Public Health* Feb 21:e1-e5. doi: 10.2105/AJPH.2018.304902. [Epub ahead of print]

Morris-Schaffer K, Merrill A, Jew K, Wong C, Conrad K, Harvey K, Marvin E, Sobolewski M, Oberdörster G, Elder A, Cory-Slechta DA. 2019. Effects of neonatal inhalation exposure to ultrafine carbon particles on pathology and behavioral outcomes in C57BL/6J mice. *Part Fibre Toxicol.* Feb 18;16(1):10. doi: 10.1186/s12989-019-0293-5.

Morris-Schaffer K, Merrill AK, Wong C, Jew K, Sobolewski M, Cory-Slechta DA. 2019. Limited developmental neurotoxicity from neonatal inhalation exposure to diesel exhaust particles in C57BL/6 mice. *Part Fibre Toxicol.* Jan 7;16(1):1. doi: 10.1186/s12989-018-0287-8.

Buczynski BW, Mai N, Yee M, Allen JL, Prifti L, Cory-Slechta DA, Halterman MW, O'Reilly MA. 2018. Lung-Specific Extracellular Superoxide Dismutase Improves Cognition of Adult Mice Exposed to Neonatal Hyperoxia. *Front Med (Lausanne).* Dec 10;5:334. doi: 10.3389/fmed.2018.00334. eCollection 2018.

Klocke C, Sherina V, Graham UM, Gunderson J, Allen JL, Sobolewski M, Blum JL, Zelikoff JT, Cory-Slechta DA. 2018. Enhanced cerebellar myelination with concomitant iron elevation and ultrastructural irregularities following prenatal exposure to ambient particulate matter in the mouse. *Inhal Toxicol.* Dec 20:1-16

Payne-Sturges DC, Scammell MK, Levy JI, Cory-Slechta DA, Symanski E, Carr Shmool JL, Laumbach R, Linder S, Clougherty JE. 2018. Methods for Evaluating the Combined Effects of Chemical and Nonchemical Exposures for Cumulative Environmental Health Risk Assessment. *Int J Environ Res Public Health.* Dec 10;15(12). pii: E2797.

Huang LS, Cory-Slechta DA, Cox C, Thurston SW, Shamlaye CF, Watson GE, van Wijngaarden E, Zareba G, Strain JJ, Myers GJ, Davidson PW. 2018. Analysis of Nonlinear Associations between Prenatal Methylmercury Exposure from Fish Consumption and Neurodevelopmental Outcomes in the Seychelles Main Cohort at 17 Years. *Stoch Environ Res Risk Assess.* Apr;32(4):893-904.

Morris-Schaffer K, Sobolewski M, Welle K, Conrad K, Yee M, O'Reilly MA, Cory-Slechta DA. 2018. Cognitive flexibility deficits in male mice exposed to neonatal hyperoxia followed by concentrated ambient ultrafine particles. *Neurotoxicol Teratol.* Nov - Dec;70:51-59.

Sobolewski M, Anderson T, Conrad K, Marvin E, Klocke C, Morris-Schaffer K, Allen JL, Cory-Slechta, DA. 2018. Developmental exposures to ultrafine particle air pollution

reduces early testosterone levels and adult male social novelty preference: Risk for children's sex-biased neurobehavioral disorders. *Neurotoxicology*. Sep;68:203-211.

Sobolewski M, Singh G, Schneider JS, Cory-Slechta DA. 2018. Different Behavioral Experiences Produce Distinctive Parallel Changes in, and Correlate With, Frontal Cortex and Hippocampal Global Post-translational Histone Levels. *Front Integr Neurosci*. Jul 19;12:29

Morris-Schaffer K, Sobolewski M, Allen JL, Marvin E, Yee M, Arora M, O'Reilly MA, Cory-Slechta DA. 2018. Effect of neonatal hyperoxia followed by concentrated ambient ultrafine particle exposure on cumulative learning in C57Bl/6J mice. *Neurotoxicology*. Jul;67:234-244.

Singh G, Singh V, Sobolewski M, Cory-Slechta DA, Schneider JS. 2018. Sex-Dependent Effects of Developmental Lead Exposure on the Brain. *Front Genet*. Mar 16;9:89.

Sobolewski M, Varma G, Adams B, Anderson DW, Schneider JS, Cory-Slechta DA. 2018. Developmental Lead Exposure and Prenatal Stress Result in Sex-Specific Reprogramming of Adult Stress Physiology and Epigenetic Profiles in Brain. *Toxicol Sci*. Jun 1;163(2):478-489.

Calabrese EJ, Iavicoli I, Calabrese V, Cory-Slechta DA, Giordano J. 2018. Elemental mercury neurotoxicity and clinical recovery of function: A review of findings, and implications for occupational health. *Environ Res*. May;163:134-148.

Sobolewski M, Conrad K, Marvin E, Allen JL, Cory-Slechta DA. 2018. Endocrine active metals, prenatal stress and enhanced neurobehavioral disruption. *Horm Behav*. May;101:36-49.

Cory-Slechta DA, Allen JL, Conrad K, Marvin E, Sobolewski M. 2018. Developmental exposure to low level ambient ultrafine particle air pollution and cognitive dysfunction. *Neurotoxicology*. Dec;69:217-231.

Williams AM, Shah R, Shayne M, Huston AJ, Krebs M, Murray N, Thompson BD, Doyle K, Korotkin J, van Wijngaarden E, Hyland S, Moynihan JA, Cory-Slechta DA, Janelins MC. 2018. Associations between inflammatory markers and cognitive function in breast cancer patients receiving chemotherapy. *J Neuroimmunol*. Jan 15;314:17-23.

Cory-Slechta DA, Sobolewski M, Varma G, Schneider JS. 2017. Developmental Lead and/or Prenatal Stress Exposures Followed by Different Types of Behavioral Experience Result in the Divergence of Brain Epigenetic Profiles in a Sex, Brain Region, and Time-Dependent Manner: Implications for Neurotoxicology. *Curr Opin Toxicol*. Oct;6:60-70.

Klocke C, Allen JL, Sobolewski M, Mayer-Pröschel M, Blum JL, Lauterstein D, Zelikoff

JT, Cory-Slechta DA. 2017. Neuropathological Consequences of Gestational Exposure to Concentrated Ambient Fine and Ultrafine Particles in the Mouse. *Toxicol Sci.* Apr 1;156(2):492-508.

Cory-Slechta DA, Sobolewski M, Varma G, Schneider JS. 2017. Developmental lead and/or prenatal stress exposures followed by different types of behavioral experience result in the divergence of brain epigenetic profiles in a sex, brain region, and time-dependent manner: Implications for neurotoxicology. *Current Opinions in Toxicology*, 2017: 6: 60-70.

Klocke C, Allen JL, Sobolewski M, Blum JL, Zelikoff JT, Cory-Slechta DA. 2017. Exposure to fine and ultrafine particulate matter during gestation alters postnatal oligodendrocyte maturation, proliferation capacity and myelination. *NeuroToxicology*, Oct 24. pii: S0161-813X(17)30208-5. doi: 10.1016/j.neuro.2017.10.004. [Epub ahead of print].

Varma G, Sobolewski M, Cory-Slechta DA, Schneider JS. 2017. Sex- and Brain Region-Specific Effects of Prenatal Stress and Lead Exposure on Permissive and Repressive Post-Translational Histone Modifications from Embryonic Development Through Adulthood. *NeuroToxicology*, 62: 207-217.

Beier EE, Sheu TJ, Resseguie EA, Takahata M, Awad HA, Cory-Slechta DA, Puzas JE. 2017. Sclerostin activity plays a key role in the negative effect of glucocorticoid signaling on osteoblast function in mice. *Bone Res.* May 9;5:17013. doi: 10.1038/boneres.2017.13.

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Klocke C, Allen JL, Sobolewski M, Mayer-Pröschel M, Blum JL, Lauterstein D, Zelikoff JT, Cory-Slechta DA. 2017. Neuropathological Consequences of Gestational Exposure to Concentrated Ambient Fine and Ultrafine Particles in the Mouse. *Toxicol Sci.* 2017 Apr 1;156(2):492-508.

van Wijngaarden E, Thurston SW, Myers GJ, Harrington D, Cory-Slechta DA, Strain JJ, Watson GE, Zareba G, Love T, Henderson J, Shamlaye CF, Davidson PW. Methyl mercury exposure and neurodevelopmental outcomes in the Seychelles Child Development Study Main cohort at age 22 and 24years. *Neurotoxicol Teratol.* 2017 Jan - Feb;59:35-42

Payne-Sturges DC, Korfmacher KS, Cory-Slechta DA, Jimenez M, Symanski E, Carr Shmool JL, Dotson-Newman O, Clougherty JE, French R, Levy JI, Laumbach R, Rodgers K, Bongiovanni R, Scammell MK. Engaging Communities in Research on Cumulative Risk and Social Stress-Environment Interactions: Lessons Learned from EPA's STAR Program. *Environ Justice.* 2015 Dec 1;8(6):203-212.

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Sobolewski M, Allen JL, Morris-Schaffer K, Klocke C, Conrad K, Cory-Slechta DA. A novel, ecologically relevant, highly preferred, and non-invasive means of oral substance administration for rodents. *Neurotoxicol Teratol.* 2016 Jul-Aug;56:75-80

Cory-Slechta D, Wedge R, editors *Gulf War and Health: Volume 10: Update of Health Effects of Serving in the Gulf War.*. Committee on Gulf War and Health, Volume 10: Update of Health Effects of Serving in the Gulf War, Board on the Health of Select Populations, Institute of Medicine, National Academies of Sciences, Engineering, and Medicine, 2016.

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Allen JL, Oberdorster G, Morris-Schaffer K, Wong C, Klocke C, Sobolewski M, Conrad K, Mayer-Proschel M and Cory-Slechta DA. Developmental neurotoxicity of inhaled ambient ultrafine particle air pollution: Parallels with neuropathological and behavioral features of autism and other neurodevelopmental disorders. *Neurotoxicology*, epub ahead of print, December, 2015.

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Richardson, J.R., Taylor, M.M., Shalat, S.L., Guillot, T.S. 3<sup>rd</sup>, Caudle, W.M., Hossain, M.M., Mathews, T.A., Jones, S.R., Cory-Slechta, D.A., Miller, G.W. 2015. Developmental pesticide exposure reproduces features of attention deficit hyperactivity disorder. *FASEB*, 29: 1960-1972.

Sobolewski, M., Conrad, K., Allen, J.L., Weston, H., Martin, K., Lawrence, B.P., and Cory-Slechta, D.A. 2014. Sex-specific enhanced behavioral toxicity induced by maternal exposure to a mixture of low dose endocrine-disrupting chemicals. *Neurotoxicology*, 45:121-130.

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Allen JL, Liu X, Weston D, Prince L, Oberdörster G, Finkelstein JN, Johnston CJ, Cory-Slechta DA. 2014. Developmental exposure to concentrated ambient ultrafine particulate matter air pollution in mice results in persistent and sex-dependent behavioral neurotoxicity and glial activation. *Toxicol. Sci.* 140:160-178

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Nkhoma OW, Duffy ME, Cory-Slechta DA, Davidson PW, McSorley EM, Strain JJ, O'Brien GM. 2013. Early-stage primary school children attending a school in the Malawian School Feeding Program (SFP) have better reversal learning and lean muscle mass growth than those attending a non-SFP school. *J Nutr*. 143(8):1324-30.

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