

**Developmental Neurotoxicology Society (DNTS)
48th Annual Meeting
Wyndham Grand Pittsburgh Downtown
Pittsburgh, PA
June 22–26, 2024**

Saturday, June 22, 2024

2:00 PM–5:00 PM Registration Open

3:00 PM–5:00 PM DNTS Council Meeting

Sunday, June 23, 2024

7:30 AM–1:30 PM Registration Open

8:00 AM–8:10 AM President's Welcome

**8:15 AM–9:00 AM Josef Warkany Lecture
Understanding of Mechanisms of Environmental Teratogenesis: From
Mercury to Nutrition**

(Joint with BDRP)

Chairperson: Anthony M. DeLise, Novartis Pharmaceuticals Corporation

Lecturer: Christina D. Chambers, University of California San Diego

9:05 AM–12:05 PM Symposium: Patterns and Effects of Polysubstance Exposure

Chairperson: Natacha De Genna, University of Pittsburgh

9:05 AM–9:10 AM Introduction
Natacha De Genna, University of Pittsburgh

9:10 AM–9:50 AM Patterns and Correlates of Polysubstance Use
among Younger Pregnant and Birthing People
Natacha De Genna, University of Pittsburgh

9:50 AM–10:30 AM Substance Use and the Maternal Brain
Helena Rutherford, Yale School of Medicine

10:30 AM–10:45 AM Break

10:45 AM–11:25 AM Marijuana & Tobacco Co-Use in Pregnancy:
Biobehavioral Pathways & Impact on Offspring
Neurobehavioral Development
Laura Stroud, Brown University

11:25 AM–12:05 PM Polysubstance Exposure, Caregiving Context,
and Child Outcomes
Rina Das Eiden, Pennsylvania State University

**12:05 PM–1:30 PM Lunch: Career Mentoring Box Lunch/Discussion
(Separate Registration Required)**

12:05 PM–1:30 PM Lunch on Your Own

1:30 PM–3:45 PM

DNTS Platform Session 1

Chairperson: Kimberly Yolton, Cincinnati Children's Hospital Medical Center

1:30 PM–1:55 PM

Dopamine D2 Receptor-Mediated Effects on
Glutamatergic Neurons and Responses in the
Anterior Cingulate Cortex

Yasmeena Thabet, Florida State University

1:55 PM–2:20 PM

Perfluorohexane Sulfonate (PFHxS) Alters the
Choroid Plexus Transcriptome and Enters the
Developing Rat Brain

*Katherine O'Shaughnessy, U.S. Environmental
Protection Agency*

2:20 PM–2:45 PM

Developmental Toxicity of Cannabidiol (CBD) in
Sprague-Dawley Rats

Timothy Flanigan, US FDA/NCTR

2:45 PM–3:10 PM

The Relationships of Prenatal Cocaine Exposure
and Experience of Victimization to Aggression in
Adolescence

Duc Khoa Le, Case Western Reserve University

3:10 PM–3:35 PM

Early Developmental Neurotoxic Exposure
Continues to Impact Neurobehavioral Function
across the Lifespan into Aging

Edward Levin, Duke University

3:35 PM–3:45 PM

Discussion

3:45 PM–4:00 PM

Break

4:00 PM–4:30 PM

**Patricia Rodier Mid-Career Award for Research and Mentoring
Reproductive Toxicology in Industry: Research and Mentoring are the
Special Sauce**

(Joint with BDRP)

Chairperson: Bethany R. Hannas, Eli Lilly and Company

Lecturer: Christopher J. Bowman, Pfizer Inc.

4:30 PM–6:00 PM

DNTS Business Meeting

6:00 PM–7:30 PM

Poster Session 1

(Joint with BDRP)

Invertebrate DNT: Evaluating a PFAS Mixture from Pittsboro, NC in *Artemia
franciscana*

Desiree Batangan, Midwestern University

Impulsive Behavior in Rats Perinatally Exposed to Delta-9-tetrahydrocannabinol
(Δ 9-THC)

Monica Carbajol, University of Memphis

Prenatal Tobacco Exposure: Pathways to Aggression and Social Competence in Kindergarten

Makenna Luzenski, The Pennsylvania State University

Trajectories of Prenatal Tobacco and Cannabis Exposure: Implications for Child Inflammation

Madison Kelm, Pennsylvania State University

Sex-Specific Behavioral Changes Following Early Life Nicotine Exposure

Mia Truppiano, Florida State University

Unveiling the Effects of Nicotine and E-Cigarettes on GABA Neuron Migration

Amber Parnell, Florida State University

The Impact of Prenatal and Postnatal Substance Use and Early Adolescent Processes on Late Adolescent Substance Use

Rachel Marcus, Pennsylvania State University

Neurodevelopmental Vulnerability to Gestational Ozone Exposure

Vishnupriya Alavala, Virginia Commonwealth University

Dopamine and Serotonin Signaling Following Developmental Benzo[a]pyrene Exposure in Cyp1b1 (-/-) Knockout and Wild Type Mice

Mackenzie Feltner, Northern Kentucky University

Gut Microbiome Differences in Cyp1a1(+/+) Wild Type and Cyp1a1(-/-) Knockout Mice With and Without Developmental Exposure to Benzo[a]pyrene

Duong Pham, Northern Kentucky University

Associations of Prenatal Maternal Psychosocial Stress and Depression With Neurodevelopmental Outcomes in 7.5-Month-Old Infants in the ECHO.CA.IL Prospective Birth Cohorts

Nicholas Cragoe, University of Illinois Urbana-Champaign

7:30 PM–9:30 PM

Graduate Student and Postdoctoral Fellows Career Event

Hosted by Middle Atlantic Reproduction and Teratology Association (MARTA)

Monday, June 24, 2024

8:00 AM–9:00 AM

Keynote Lecture

Putting the Pieces Together: Head to Toe

(Joint with BDRP)

Chairperson: Philip J. Lupo, Baylor College of Medicine

Speaker: Wendy K. Chung, Boston Children's Hospital

9:05 AM–12:00 Noon

Symposium: Congenital Anomalies in Minoritized Populations: An Overview of Factors Affecting Prevalence and Outcomes

(Joint with BDRP)

Chairpersons: Jeremy M. Schraw, Baylor College of Medicine; and Wendy N. Nembhard, University of Arkansas for Medical Sciences

9:05 AM–9:15 AM

Introduction

Jeremy M. Schraw, Baylor College of Medicine

9:15 AM–9:45 AM	Using Birth Defects Surveillance Data to Understand and Address Health Disparities <i>Wendy N. Nembhard, University of Arkansas for Medical Sciences</i>
9:45 AM–10:15 AM	Congenital Anomalies among American Indian and Alaska Native People in Oklahoma <i>Amanda E. Janitz, University of Oklahoma Health Sciences Center</i>
10:15 AM–10:30 AM	Break
10:30 AM–11:00 AM	Voluntary Folic Acid Fortification Policy of Corn Masa Flour and Tortillas in the US and Neural Tube Defects among Hispanics <i>Vijaya Kancherla, Emory University</i>
11:00 AM–11:30 AM	Neighborhood Sociodemographic Characteristics and Prevalence of Congenital Anomalies in Texas <i>Jeremy M. Schraw, Baylor College of Medicine</i>
11:30 AM–12:00 Noon	Discussion
12:00 Noon–1:30 PM	Lunch on Your Own
1:30 PM–2:30 PM	Elsevier Distinguished Lecture Reopening Critical Periods with Psychedelics: Basic Mechanisms and Therapeutic Opportunities <i>Chairperson: Melissa Bailey, Emporia State University</i> <i>Lecturer: Gül Dölen, University of California, Berkeley</i>
2:35 PM–5:30 PM	Symposium: Chemicals Altering Signaling Molecules and Developmental Pathways (Joint with BDRP) <i>Organized by the BDRP Public Affairs Committee</i> <i>Chairpersons: Christine Perdan Curran, Northern Kentucky University and Rajesh C. Miranda, Texas A&M Health Science Center</i>
2:35 PM–2:40 PM	Introduction
2:40 PM–3:15 PM	Platelet-Derived Growth Factor Receptor Alpha (Pdgfra) and mTOR Signaling in Alcohol Teratogenesis <i>Johann K. Eberhart, University of Texas at Austin</i>
3:15 PM–3:50 PM	Alcohol and Cannabinoids Act through Overlapping Pathways Critical for Brain and Face Development <i>Karen E. Boschen, SUNY Upstate Medical University</i>
3:50 PM–4:05 PM	Break

4:05 PM–4:40 PM	Executive Function Deficits after Prenatal Opioid Exposure Relate to Changes in Microglia <i>Brittany Smith, Northern Kentucky University</i>
4:40 PM–5:15 PM	The Role of the Aryl Hydrocarbon Receptor in Multi-Organ Developmental Disorders <i>Christine Perdan Curran, Northern Kentucky University</i>
5:15 PM–5:30 PM	Discussion

5:30 PM–7:00 PM

Poster Session 2 (Joint with BDRP)

Prenatal Substance Exposure, Intergenerational Maltreatment, and Internalizing and Externalizing Symptoms in Early Adolescence
Meeyoung Min, University of Utah

Parvalbumin as a Target for Thyroid Hormone Mediated Developmental Neurotoxicity
MaryAnn Hawks, US Environmental Protection Agency

Alterations in Behavior and Proteomics Following Perinatal Agonism of GABA-gated Chloride Channels in Long Evans Rats
Emily Pitzer, NETB, PHITD, CPHEA, ORD, US Environmental Protection Agency

The Cincinnati Combined Childhood Cohort (C4): Data Harmonization across Longitudinal Cohorts
Melinda C. MacDougall, Cincinnati Children's Hospital Medical Center

Identification of Studies that Evaluate Effect Modification of Methylmercury (MeHg) Developmental Neurotoxicity (DNT) by Nonchemical Stressors
Deborah Segal, US Environmental Protection Agency

Cognitive and Behavioral Effects of Whole Brain 18 Gy Single Fraction Proton Irradiation in Adult Sprague Dawley Rats at 1 Gy/s, 60 Gy/s, or 95 Gy/s (FLASH)
Michael Williams, University of Cincinnati College of Medicine

Pathways from Prenatal Cocaine Exposure to Regular Marijuana Use During Emerging Adulthood
Sonia Minnes, Case Western Reserve University

Maintaining Balance: Examining Deiodination of Thyroid Hormones in the Developing Brain
Ryne Thomas, US Environmental Protection Agency

A Faster, Greener Approach to Thyroid Hormone Analysis in Brain
Carter Kuehn, Oak Ridge Institute for Science and Education, US Environmental Protection Agency

Advancing Computer Vision in High-Throughput Larvae Zebrafish: Developmental, Morphological, and Mortality Screening
Adrian Green, Sciome, LLC

Artificial Intelligence (AI)-Driven Morphological Assessment of Zebrafish Embryo for Developmental Toxicity Chemical Screening

Ruchir Shah, Sciome, LLC

Persisting Neurobehavioral Toxicity After Early Developmental Exposure to Lead and Ethanol in Zebrafish
Edward Levin, Duke University

Tuesday, June 25, 2024

8:00 AM–10:55 AM

Symposium: Neural Tube Defects in a Post-Folate Fortified World
(Joint with BDRP)

Chairpersons Robert M. Cabrera, Baylor College of Medicine; and Richard H. Finnell, Baylor College of Medicine

8:00 AM–8:10 AM

Introduction
Richard H. Finnell, Baylor College of Medicine

8:10 AM–8:40 AM

Genomic Advances in Understanding the Etiology of Neural Tube Defects
M. Elizabeth Ross, Weill Cornell Medicine

8:40 AM–9:10 AM

Policy Matters: Folate Fortification, Pharmaceutical Interactions, and Neural Tube Defect
Robert M. Cabrera, Baylor College of Medicine

9:10 AM–9:25 AM

Break

9:25 AM–9:55 AM

Folic Acid and Birth Defect Prevention: Metabolic Regulation of Biomechanical Forces Explains the Beneficial Effects of Folic Acid in Preventing Preventable Birth Defects
Richard H. Finnell, Baylor College of Medicine

9:55 AM–10:25 AM

Precision Medicine Approaches for Treating Spina Bifida
Bruna Corradetti, Baylor College of Medicine

10:25 AM–10:55 AM

Discussion

11:00 AM–12:00 Noon

Robert L. Brent Lecture—Teratogen Update
Everywhere All at Once: The Prenatal Chemical Exposome and Influences on Health and Health Inequities
(Joint with BDRP)

Chairperson: Philip J. Lupo, Baylor College of Medicine

Lecturer: Tracey Woodruff, University of California San Francisco

12:00 Noon–2:00 PM

NTT Editorial Board Luncheon

12:00 Noon–2:00 PM

Lunch on Your Own

2:00 PM–2:40 PM

Remembering Don Hutchings

Lecturer: Diana Dow-Edwards, SUNY, Downstate Health Sciences University

2:40 PM–5:00 PM

Symposium: The East Palestine Train Derailment: A Complex Environmental Disaster

Chairperson: Lynn T. Singer, Case Western Reserve University

2:40 PM–2:45 PM

Introduction

Lynn T. Singer, Case Western Reserve University

2:45 PM–3:20 PM

Healthy Futures Research Study: Utilizing Somatic Mutation Rate as a Novel Biomarker for Environmental Exposures

Fredrick Schumacher, Case Western Reserve University

3:20 PM–3:30 PM

Break

3:30 PM–4:05 PM

Identifying Chemical Disaster Hazards after the EP Derailment in Real Time

Timothy Ciesielski, Case Western Reserve University

4:05 PM–4:40 PM

Chemicals and Psychosocial Stressors as Toxic Exposures after the East Palestine Derailment

James P. Fabisiak, and Laura Dietz, University of Pittsburgh

4:40 PM–5:00 PM

Discussion

5:00 PM–5:10 PM

Best Student/Postdoctoral Fellow Presentation Awards

6:00 PM–9:00 PM

DNTS Social - Shorty's Pins x Pints

(Separate Registration Required)

Wednesday, June 26, 2024

8:00 AM–9:00 AM

Richard Butcher New Investigator Award Presentation

Lecturer: TBA

9:05 AM–12:15 PM

Workshop: Developmental Neuropathology in Rodents: Chemicals versus Pediatric Pharmaceuticals

(Joint with BDRP)

Chairpersons: Prägati S. Coder, Charles River Laboratories, Ashland LLC and Lori A. Dostal, LD DART Consulting

9:05 AM–9:25 AM

Regulatory Requirements for the Assessment of Developmental Neuropathology Following Chemical and Pharmaceutical Exposure

Prägati S. Coder, Charles River Laboratories, Ashland LLC

9:25 AM–10:05 AM

Neuropathology Evaluation of Olney Lesions in Regulatory Drug Development Toxicology Studies

Deepa Rao, Greenfield Pathology Services

10:05 AM–10:35 AM

Warkany Tea

10:35 AM–11:10 AM

Developmental Neurotoxicity and Brain
Morphometric Evaluations for Chemicals
*Catherine Picut, Charles River Pathology
Associates Inc.*

11:10 AM–11:40 AM

Neuropathology Evaluation in Juvenile Animal
Toxicity Studies for Pharmaceuticals
Brad Bolon, GEMpath, Inc.

11:40 AM–12:15 PM

Panel Discussion

12:15 PM

DNTS Meeting Adjourn