

**Society for Birth Defects Research and Prevention (BDRP)**  
**63rd Annual Meeting**  
**Improving Pregnancy Outcomes through Collaborative Research**  
**Charleston Marriott**  
**Charleston, SC**  
**June 24–28, 2023**

***As of April 11, 2023***

The times listed are in Eastern Daylight Time.

**Friday, June 23, 2023**

**3:00 PM–6:00 PM                      Registration Open**

**Saturday, June 24, 2023**

**7:30 AM–5:00 PM                      Registration Open**

**8:00 AM–8:30 AM                      Education Course Coffee and Pastries**  
*(Education Course Session 1 Registrants Only)*

**8:30 AM–12:00 Noon                      Education Course Session 1**  
**Special Sensory Systems: The Ear**  
*(Separate Registration Required)*  
*Organized by the Education Committee*  
*Chairperson: Wafa A. Harrouk, Center for Drug Evaluation and Research, US FDA*

8:30 AM–8:40 AM                      Welcome  
*BDRP President, Bruce K. Beyer, Sanofi U.S. Inc.*

8:40 AM–8:45 AM                      Course Overview  
*Education Committee Chairperson, Wafa A. Harrouk, Center for Drug Evaluation and Research, US FDA*

8:45 AM–9:30 AM                      Embryology and Development of the Otic System: Normal and Abnormal Development  
*Terry C. Hrubec, E. Via Virginia College of Osteopathic Medicine*

9:30 AM–10:15 AM                      Animal Models of the Otic System  
*Matthew W. Kelley, National Institute on Deafness and Other Communication Disorders*

10:15 AM–10:30 AM                      Break

10:30 AM–11:15 AM                      Nonclinical Assessment of Ototoxicity: A Regulatory Perspective  
*Christopher D. Toscano, Center for Drug Evaluation and Research, US FDA*

11:15 AM–12:00 Noon                      Clinical Experiences of an Audiologist  
*Beth McCall, University of South Carolina*

**12:00 Noon–1:30 PM                      Lunch on Your Own**

**1:30 PM–5:00 PM**

**Education Course Session 2**  
**Gene Editing and Gene Therapy**  
(Separate Registration Required)

*Organized by the Education Committee*

*Chairperson: Wafa A. Harrouk, Center for Drug Evaluation and Research, US FDA*

1:30 PM–1:35 PM

Course Overview  
*Education Committee Chairperson, Wafa A. Harrouk, Center for Drug Evaluation and Research, US FDA*

1:35 PM–2:25 PM

Molecular Basics of Gene Editing and Gene Therapy  
*Sidra Shafique, Queen's University*

2:25 PM–3:15 PM

Methodology and Models for Preclinical Research with AAV  
*Kathleen Meyer, The Ohio State University*

3:15 PM–3:30 PM

Break

3:30 PM–4:15 PM

Developing Gene Therapy Products: Nonclinical Considerations  
*Shubhra Chaudhuri, Janssen R&D, LLC*

4:15 PM–5:00 PM

Clinical Applications of Gene therapy and Gene Editing  
*Jagdeep S Walia, Queen's University*

**5:00 PM–7:00 PM**

**Council 1 Meeting**

(Includes incoming Council members and committee chairs and vice-chairs)

**Sunday, June 25, 2023**

**7:00 AM–6:00 PM**

**Registration Open**

**8:00 AM–8:15 AM**

**President's Welcome**

*BDRP President, Bruce K. Beyer, Sanofi U.S. Inc.*

**8:15 AM–9:00 AM**

**Josef Warkany Lecture (L1)**

**Building the Future of Developmental and Reproductive Toxicology Testing: Our Legacy, Our Responsibility**

*Chairperson: Bruce K. Beyer, Sanofi U.S. Inc.*

*Lecturer: Stephen B. Harris, Stephen B. Harris Group*

**9:05 AM–12:05 PM**

**Graduate Student and Postdoctoral Fellow Platform Session 1**

*Organized by the Student Affairs Committee*

*Chairperson: Nicole Principato, Organon*

**Presenting author is underlined.**

9:05 AM–9:10 AM

Introduction  
*Nicole Principato, Organon*

9:10 AM–9:30 AM	1	<p>Identifying TRAP-Induced Alterations of Placental m6A Epitranscriptomic Regulators in the JEG-3 Cell Line</p> <p><u>Ferris A</u>, Caria M, Kupsco A, Wu H, Herbstman JB, Baccarelli AA, Maya Deyssenroth M. Columbia University, New York City, NY, United States</p>
9:30 AM–9:50 AM	2	<p>Disruptions in Prenatal Care Visits during the Pandemic: A Population-Based Cohort Study in Manitoba, Canada</p> <p><u>Aboulatta L</u><sup>1</sup>, Kowalec K<sup>1</sup>, Delaney J<sup>1</sup>, Leong C<sup>1</sup>, Alessi-Severini S<sup>1</sup>, Raimondi C<sup>1</sup>, Kearns K<sup>1</sup>, Boucoiran I<sup>1</sup>, Peymani P<sup>1</sup>, Lavu A<sup>1</sup>, Haidar L<sup>1</sup>, Farooq F<sup>1</sup>, Akinola PS<sup>1</sup>, Lix L<sup>1</sup>, Tadrous M<sup>2</sup>, Tan Q<sup>1</sup>, Eltonsy S<sup>1</sup>. <sup>1</sup>University of Manitoba, Winnipeg, MB, Canada. <sup>2</sup>University of Toronto, Toronto, ON, Canada</p>
9:50 AM–10:10 AM	3	<p>Enrichment of De Novo Variants in 491 Cleft Palate Trios</p> <p><u>Robinson K</u><sup>1</sup>, Curtis S<sup>1</sup>, Beaty TH<sup>2</sup>, Butali A<sup>3</sup>, Cutler DJ<sup>1</sup>, Epstein MP<sup>1</sup>, Buxó-Martinez CJ<sup>4</sup>, Shaw GM<sup>5</sup>, Hecht JT<sup>6</sup>, Moreno Uribe L<sup>3</sup>, Murray JC<sup>3</sup>, Brand H<sup>7</sup>, Weinberg SM<sup>8</sup>, Marazita ML<sup>8</sup>, Leslie EJ<sup>1</sup>. <sup>1</sup>Emory University, Atlanta, GA, United States. <sup>2</sup>Johns Hopkins University, Baltimore, MD, United States. <sup>3</sup>University of Iowa, Iowa City, IA, United States. <sup>4</sup>University of Puerto Rico, San Juan, PR, United States. <sup>5</sup>Stanford University, Stanford, CA, United States. <sup>6</sup>University of Texas Medical School at Houston, Houston, TX, United States. <sup>7</sup>Massachusetts General Hospital, Boston, MA, United States. <sup>8</sup>University of Pittsburgh, Pittsburgh, PA, United States</p>
10:10 AM–10:30 AM	4	<p>Developing and Deploying a Cell-Based, Whole-Pathway Sonic Hedgehog Inhibition Assay to Screen for Environmental Risk Factors in Birth Defect Etiology</p> <p><u>Beames TG</u>, Lipinski RJ. University of Wisconsin–Madison, Madison, WI, United States</p>
10:30 AM–10:45 AM		Break
10:45 AM–11:05 AM	5	<p>The Utility of Including Both Maternal and Fetal Pharmacokinetics in Developmental Toxicity Studies</p> <p><u>Tseligka ED</u><sup>1</sup>, Augey F<sup>2</sup>, Marsden E<sup>2</sup>, Bestgen B<sup>1</sup>, Tornesi B<sup>1</sup>. <sup>1</sup>Medicines for Malaria Venture (MMV), Geneva, Switzerland. <sup>2</sup>Charles River Laboratories, Lyon, France</p>

11:05 AM–11:25 AM	6	Evaluation of Chemical Exposures on Trophoblast Fusion <i>In Vitro</i> <u>Park SS</u> <sup>1,2</sup> , Hunter, III ES <sup>1</sup> . <sup>1</sup> Center for Computational Toxicology and Exposure, Office of Research and Development, US Environmental Protection Agency, Durham, NC, United States. <sup>2</sup> Oak Ridge Institute for Science and Education (ORISE), Oak Ridge, TN, United States
11:25 AM–11:45 AM	7	Mitochondrial Haplogroups and Associations with Clinical Outcomes among Probands with Congenital Heart Disease <u>Politis MD</u> <sup>1,2</sup> , Shadrina M <sup>1</sup> , Wallace DC <sup>3</sup> , Singh LN <sup>4</sup> , Gelb BD <sup>1</sup> . <sup>1</sup> The Mindich Child Health and Development Institute, Icahn School of Medicine, New York, NY, United States, <sup>2</sup> Department of Environmental Medicine and Public Health, Icahn School of Medicine of Mount Sinai, New York, NY, United States, <sup>3</sup> Center for Mitochondrial and Epigenomic Medicine, Children's Hospital of Philadelphia and Department of Pediatrics, Division of Human Genetics, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, United States, <sup>4</sup> Department of Pediatrics, Children's Hospital of Philadelphia, Philadelphia, PA, United States
11:45 AM–12:05 PM	8	<i>In Utero</i> Azathioprine Exposure and Neurodevelopmental Disorders in the Offspring <u>Mainbourg S</u> <sup>1</sup> , Sheehy O <sup>2</sup> , Bérard A <sup>1,2</sup> . <sup>1</sup> Université de Montréal, Montréal, QC, Canada, <sup>2</sup> Centre de Recherche CHU Sainte Justine, Montréal, QC, Canada

**12:05 PM–1:30 PM**

**Lunch on Your Own**

**12:05 PM–1:30 PM**

**Past Presidents' and Honorees' Luncheon**  
(By Invitation Only)

**12:30 PM–1:30 PM**

**Education Committee Meeting**

**12:30 PM–1:30 PM**

**Diversity, Equity, and Inclusion Workgroup Meeting**

**1:30 PM–2:00 PM**

**F. Clarke Fraser New Investigator Award**  
**Water Fleas to Women of Childbearing Potential: A Career Path Focused on Application of Developmental and Reproductive Toxicology Data to Human Health Risk Assessment**

*Chairperson: Joshua F. Robinson, University of California, San Francisco*

*Lecturer: Bethany R. Hannas, Eli Lilly and Company*

**2:00 PM–2:30 PM**

**James G. Wilson Publication Award**  
**Quantitative in vitro to in vivo extrapolation for developmental toxicity potency of valproic acid analogues**

*Chairperson: Russell S. Kirby, USF College of Public Health*

*Lecturer: Xiaoqing Chang, Inotiv-RTP*

**2:35 PM–3:35 PM**

**Innovator Award Finalists Platform Session 2**

*Organized by the Awards Committee*

*Chairperson: Joshua F. Robinson, University of California, San Francisco*

2:35 PM–2:55 PM

9

Screening for Elevated Congenital Malformation Risk Following Prenatal Antipsychotic Exposure Using Tree-Based Scan Statistics for Signal Identification

Straub L<sup>1</sup>, Wang SV<sup>1</sup>, Hernandez-Diaz S<sup>2</sup>, Vine S<sup>1</sup>, Russo M<sup>1</sup>, Bateman BT<sup>3</sup>, Zhu Y<sup>1</sup>, Huybrechts KF<sup>1</sup>. <sup>1</sup>Brigham and Women's Hospital, Boston, MA, United States, <sup>2</sup>Harvard T.H. Chan School of Public Health, Boston, MA, United States, <sup>3</sup>Stanford University School of Medicine, Stanford, CA, United States

2:55 PM–3:15 PM

10

No Time to Lose: Prenatal Exposure to Teratogenic Medications and New Abortion Laws in the United States

Winterstein AG<sup>1,2,3</sup>, Wang Y<sup>1</sup>, Smolinski NE<sup>1</sup>, Thai TN<sup>1</sup>, Ewig C<sup>1</sup>, Rasmussen SA<sup>4</sup>. <sup>1</sup>Department of Pharmaceutical Outcomes and Policy, College of Pharmacy, University of Florida, Gainesville, FL, United States, <sup>2</sup>Center for Drug Evaluation and Safety (CoDES), University of Florida, Gainesville, FL, United States, <sup>3</sup>Department of Epidemiology, College of Medicine and College of Public Health and Health Professions, University of Florida, Gainesville, FL, United States, <sup>4</sup>Department of Genetic Medicine, School of Medicine, Johns Hopkins University, Baltimore, MD, United States

3:15 PM–3:35 PM

11

High-Throughput Detection of Craniofacial Defects in Fluorescent Zebrafish

Everson JL, Tseng Y-C, Eberhart JK. University of Texas at Austin, Austin, TX, United States

**3:35 PM–3:50 PM**

**Break**

**3:50 PM–5:20 PM**

**The HEALthy Brain and Child Development Study Symposium**

(Joint with DNTS)

*Chairpersons: Christina D. Chambers, University of California San Diego and  
Ludmila Bakhireva, University of New Mexico*

3:50 PM–4:10 PM

S1

The HEALthy Brain and Child Development  
Study: Why This and Why Now?  
*Michelle Freund, National Institute on Drug  
Abuse, NIH*

4:10 PM–4:30 PM

S2

Overview of the HBCD Study Design and Plan for  
Data Release  
*Christina D. Chambers, University of California  
San Diego*

4:30 PM–4:50 PM

S3

Selection of Measures and Pilot Results for  
Biospecimens in the HBCD Study  
*Ludmila Bakhireva, University of New Mexico*

4:50 PM–5:10 PM

S4

Selection of Measures and Pilot Results for  
Neuroimaging  
*Doug Dean III, University of Wisconsin-Madison*

5:10 PM–5:20 PM

Discussion

**5:25 PM–5:55 PM**

**Patricia Rodier Mid-Career Award for Research and Mentoring  
Interactions between Early Postnatal Experience, Gut Microbiota, and Adult  
Neurobehavior in a Rodent Model**

(Joint with DNTS)

*Chairpersons: Joshua F. Robinson, University of California, San Francisco and  
Stephanie A Godleski, Rochester Institute of Technology*

*Lecturer: Lori L. Driscoll, The Colorado College*

**6:00 PM–7:30 PM**

**Poster Session 1 and Exhibits Attended**

(Joint with DNTS and OTIS)

BDRP Posters P1–P20

DNTS Posters 1–4

OTIS Posters 1–2

**7:30 PM–9:30 PM**

**Graduate Student and Postdoctoral Fellows Career Event**

*Hosted by Middle Atlantic Reproduction and Teratology Association (MARTA)*

**Monday, June 26, 2023**

**7:00 AM–4:30 PM**

**Registration Open**

**7:00 AM–8:00 AM**

***Birth Defects Research* Journal Editorial Board Meeting**

**7:00 AM–8:00 AM**

**Communications Coordination Committee Meeting**

**8:00 AM–9:00 AM**

**Keynote Lecture (L2)**

**Protecting Mothers and Babies Through Research: A Time for Change**

(Joint with DNTS and OTIS)

*Chairperson: Anthony M. DeLise, Novartis Pharmaceuticals Corporation*

*Speaker: Christina Bucci-Rechtweg, Novartis Pharmaceuticals Corporation*

**9:05 AM–12:00 Noon**

**A Lifecourse Perspective on the Epidemiology of Congenital Heart Disease: Surveillance, Risk Factors, Outcomes, and Future Directions Symposium**

(Joint with OTIS)

*Chairpersons: Russell S. Kirby, USF College of Public Health and*

*Sherry L. Farr, Centers for Disease Control and Prevention*

9:05 AM–9:15 AM

Introduction

9:15 AM–9:45 AM

S5

Congenital Heart Defects: Surveillance, Prevalence and Risk Factors

*Russell S. Kirby, USF College of Public Health*

9:45 AM–10:15 AM

S6

Neurocognitive Outcomes in Congenital Heart Defects

*Wendy Nembhard, University of Arkansas for Medical Sciences*

10:15 AM–10:30 AM

Break

10:30 AM–11:00 AM

S7

Co-occurring Health Conditions: Cancer Risk in Children with CHDs

*Jeremy Schraw, Baylor College of Medicine*

11:00 AM–11:30 AM

S8

Surveillance and Outcomes among Children, Adolescents, and Adults with Congenital Heart Defects

*Sherry L. Farr, Centers for Disease Control and Prevention*

11:30 AM–12:00 Noon

Discussion

**9:05 AM–12:00 Noon**

**Platform Session 3**

*Chairpersons: Christina D. Chambers, University of California San Diego and*

*Suzanne E. Fenton, Mechanistic Toxicology Branch, NIEHS, NIH*

**Presenting author is underlined.**

9:05 AM–9:15 AM

Introduction

9:15 AM–9:30 AM	12	<p>Genome-Wide Association Study of Nonsyndromic Anotia/Microtia in a Predominantly Hispanic Population</p> <p><u>Schraw JM</u><sup>1</sup>, <u>Richard MA</u><sup>1</sup>, <u>Jaime E</u><sup>1</sup>, <u>Yang W</u><sup>2</sup>, <u>Lei Y</u><sup>1</sup>, <u>Finnell RH</u><sup>1</sup>, <u>Ehli EA</u><sup>3</sup>, <u>Canfield MA</u><sup>4</sup>, <u>Shaw GM</u><sup>2</sup>. <sup>1</sup>Baylor College of Medicine, Houston, TX, United States, <sup>2</sup>Stanford University, Stanford, CA, United States, <sup>3</sup>Avera Institute for Human Genetics, Sioux Falls, SD, United States, <sup>4</sup>Texas Department of State Health Services, Austin, TX, United States</p>
9:30 AM–9:45 AM	13	<p>Utilization of Antihypertensives Before, During, and After Pregnancy</p> <p><u>Wang Y</u><sup>1,2</sup>, <u>Smolinski NE</u><sup>1</sup>, <u>Ewig C</u><sup>1</sup>, <u>Thai TN</u><sup>1</sup>, <u>Winterstein AG</u><sup>1,3,4</sup>. <sup>1</sup>Department of Pharmaceutical Outcomes and Policy, College of Pharmacy, University of Florida, Gainesville, FL, United States, <sup>2</sup>Department of Health Outcomes and Biomedical Informatics, College of Medicine, University of Florida, Gainesville, FL, United States, <sup>3</sup>Department of Epidemiology, College of Medicine and College of Public Health and Health Professions, University of Florida, Gainesville, FL, United States, <sup>4</sup>Center for Drug Evaluation and Safety (CoDES), University of Florida, Gainesville, FL, United States</p>
9:45 AM–10:00 AM	14	<p>Improving Pregnancy Outcomes through Collaboration: Updates from FDA</p> <p><u>Sahin L</u>. FDA, Silver Spring, MD, United States</p>
10:00 AM–10:15 AM	15	<p>Crowdsourcing AOP Development: Leveraging the Thesis Literature Review to Identify Knowledge Gaps and Facilitate Research Translation</p> <p><u>Johnson BP</u>, <u>Reynolds J</u>. Michigan State University, East Lansing, MI, United States</p>
10:15 AM–10:30 AM		Break
10:30 AM–10:45 AM	16	<p>Updated Real-World Safety of the Pfizer-BioNTech COVID-19 Vaccine in Pregnancy: Data from the Organization of Teratology Information Specialists (OTIS) Pregnancy Registry</p> <p><u>Chambers CD</u><sup>1</sup>, <u>Jones KL</u><sup>1</sup>, <u>Johnson DL</u><sup>1</sup>, <u>Xu R</u><sup>1</sup>, <u>Luo Y</u><sup>1</sup>, <u>Schatz M</u><sup>2</sup>. <sup>1</sup>University of California San Diego, La Jolla, CA, United States, <sup>2</sup>Kaiser Permanente San Diego, San Diego, CA, United States</p>



10:45 AM–11:00 AM	17	<p>Postnatal Developmental Toxicity Studies Following Repeated Dose Administration of Various Gadolinium (Gd) Based Contrast Agents (GBCAs) to Gestating Mice to Evaluate Effects of Long-Term Presence of Gd in the Brain of F1 Offspring</p> <p><u>Hoberman AM</u><sup>1</sup>, <u>Lewis EM</u><sup>1</sup>, <u>Guenther C</u><sup>2</sup>, <u>Bussi S</u><sup>3</sup>, <u>Coppo A</u><sup>3</sup>, <u>Jones P</u><sup>4</sup>, <u>Hirani E</u><sup>4</sup>, <u>Fretellier N</u><sup>5</sup>.  <sup>1</sup>Charles River Laboratories, Inc., Horsham, PA, United States, <sup>2</sup>Bayer AG, Berlin, Germany, <sup>3</sup>Bracco Imaging Spa, Milano, Italy, <sup>4</sup>GE HealthCare, Chalfont St Giles, United Kingdom, <sup>5</sup>Guerbet, Roissy, France</p>
11:00 AM–11:15 AM	18	<p>Transcriptomic Profiles of Murine Placental Gene Expression Following Developmental Exposure to PFOA or GenX in CD-1 Mice</p> <p><u>Blake BE</u><sup>1</sup>, <u>Chappell VA</u><sup>2</sup>, <u>Miller CN</u><sup>1</sup>, <u>Nguyen H</u><sup>1</sup>, <u>Phadke DP</u><sup>3</sup>, <u>Balik-Meisner MR</u><sup>3</sup>, <u>Fenton SE</u><sup>2</sup>.  <sup>1</sup>US EPA, Research Triangle Park, NC, United States, <sup>2</sup>MTB/DTT/NIEHS, Research Triangle Park, NC, United States, <sup>3</sup>Sciome, Durham, NC, United States</p>
11:15 AM–11:30 AM	19	<p>DNA Methylation Disruption in the Cranial Neural Crest Causes Orofacial Clefts</p> <p><u>Lipinski RJ</u>, <u>Ulschmidt C</u>, <u>Sun M</u>. University of Wisconsin, Madison, WI, United States</p>
11:30 AM–11:45 AM	20	<p>QAC Exposure Causes Infertility by Altering Endocrine Signaling and Gametogenesis</p> <p><u>Hrubec TC</u><sup>1,2</sup>, <u>Kirkpatrick Z</u><sup>2</sup>, <u>Melin VE</u><sup>2</sup>. <sup>1</sup>E. Via College of Osteopathic Medicine, Blacksburg, VA, United States, <sup>2</sup>VA-MD College of Veterinary Medicine, Blacksburg, VA, United States</p>
11:45 AM–12:00 Noon	21	<p>Two Categories of Toxicants Override Naïve Pluripotent ESC into Two Imbalanced Cell Fates: The Search for Pan-Stress Markers that Enable the Best High-Throughput Screen (HTS)</p> <p><u>Singh A</u><sup>1,2</sup>, <u>Ruden XL</u><sup>2,3</sup>, <u>Marben T</u><sup>4</sup>, <u>Awonuga AO</u><sup>2</sup>, <u>Ruden DM</u><sup>1,2,5</sup>, <u>Puscheck EE</u><sup>2,3,6</sup>, <u>Rappolee DA</u><sup>2,3,6</sup>, <u>Tang W</u><sup>7</sup>, <u>Feng H</u><sup>7</sup>. <sup>1</sup>Center of Molecular Medicine and Genomics, Wayne State University, Detroit, MI, United States, <sup>2</sup>C. S. Mott Center for Human Growth and Development, Wayne State University, Detroit, MI, United States, <sup>3</sup>Reproductive Stress Inc, Grosse Pointe Farms, MI, United States, <sup>4</sup>University of Detroit Mercy, Detroit, MI, United States, <sup>5</sup>Institute of Environmental Health Sciences, Wayne State University, Detroit, MI, United States, <sup>6</sup>Invia Infertility, Detroit, MI, United States, <sup>7</sup>Department of Population and Quantitative Health Sciences, Case Western Reserve University, Cleveland, OH, United States</p>

**12:00 Noon–2:00 PM**

**Lunch on Your Own**

**12:05 PM–1:45 PM**

**Grant Development Lunch Workshop**

*(Separate Registration Required)*

*Organized by the Student Affairs Committee*

*Chairpersons: Nicole Principato, Organon and Christopher J. Bowman, Pfizer Inc.*

12:05 PM–12:10 PM

Lunch Pick-Up

12:10 PM–12:20 PM

Identifying Funding Sources and Improving  
Persuasive Writing Skills  
*Christine P. Curran, Northern Kentucky University*

12:20 PM–12:30 PM

Navigating the Grant Submission Process  
*Joshua F. Robinson, University of California, San Francisco*

12:30 PM–12:55 PM

Navigating the NIH Grant Submission Process  
*James N. Coulombe, NICHD, NIH*

12:55 PM–1:05 PM

Foundations of Foundation Grant Writing: What  
You Need to Know When Working with a Donor-  
Funded Organization  
*Jonathan Cherry, March of Dimes*

1:05 PM–1:15 PM

Endowment-Based Philanthropies: Identifying  
Organizational Niches Before You Apply  
*Paige Cooper Byas, The Burroughs Wellcome Fund*

1:15 PM–1:45 PM

Panel Discussion

**2:00 PM–2:30 PM**

**Agnish Fellowship Lecture  
Knowledge, Education, and Computational Intelligence**

*Chairperson: Wafa A. Harrouk, Center for Drug Evaluation and Research, US FDA*

*Speaker: Thomas B. Knudsen, US Environmental Protection Agency*

**2:35 PM–5:30 PM**

**Machine Learning Applications in Understanding Embryogenesis and the  
Mechanisms of Birth Defects Symposium**

*Chairpersons: Sidra Shafique, Queens University and  
Brian Cox, University of Toronto*

2:35 PM–2:40 PM

Introduction

2:40 PM–3:20 PM

S9

AI-Assisted Insights into Developmental  
Disruption  
*Nicole C. Kleinstreuer, NIEHS/NICEATM*

3:20 PM–4:00 PM

S10

Working While Growing Up: The Developing Role  
of the Placenta in Maternal Adaptation to  
Pregnancy and Fetal Development  
*Brian Cox, University of Toronto*

4:00 PM–4:15 PM		Break
4:15 PM–4:45 PM	S11	Epigenomic Techniques and Machine Learning Approaches to Predict Pregnancy Complications <i>Samantha Wilson, McMaster University</i>
4:45 PM–5:30 PM		Discussion

## 5:30 PM–7:00 PM

### Poster Session 2 and Exhibits Attended

(Joint with DNTS)  
BDRP Posters P21–P40  
DNTS Posters 5–9

### Chat with a Grant Mentor

5:30 PM–6:15 PM *James Coulombe, NICHD, NIH; Paige Cooper Byas, Burroughs Wellcome Fund; and Joshua F. Robinson, University of California, San Francisco*

6:15 PM–7:00 PM *Jonathan Cherry, March of Dimes and Christine P. Curran, Northern Kentucky University*

## Tuesday, June 27, 2023

## 7:00 AM–3:30 PM

Registration Open

## 7:00 AM–8:00 AM

Membership Committee Meeting

## 7:00 AM–8:00 AM

Publications Committee Meeting

## 7:00 AM–8:00 AM

Science Committee Meeting

## 8:00 AM–9:00 AM

**Robert L. Brent Lecture—Teratogen Update (L3)**  
**Teratology Research in the Shadow of the *Dobbs* Decision**  
(Joint with DNTS and OTIS)

*Chairperson: Anthony M. DeLise, Novartis Pharmaceuticals Corporation*

*Lecturer: Anne D. Lyerly, University of North Carolina at Chapel Hill*

## 9:05 AM–12:00 Noon

**Health Disparities within Communities of Color Symposium**  
(Joint with DNTS and OTIS)

*Organized by the Diversity, Equity, and Inclusion Workgroup*

*Chairpersons Madeline Vera-Colon, University of California, Irvine and Vinita Leedom, South Carolina Department of Health and Environmental Control*

9:05 AM–9:40 AM S12 What You Need to Know about Children's Health and Environmental Exposures through the Diet  
*Gredia Huerta-Montañez, Northeastern University*

9:40 AM–10:15 AM S13 Disparities and Opportunities in Global Prevention and Care of Folate-Sensitive Spina Bifida  
*Vijaya Kancherla, Emory University*

10:15 AM–10:30 AM Break

10:30 AM–11:05 AM	S14	Traumatic Brain Injury in Women: The Case of Sex/Gender as Social Determinants of Health <i>Martina Anto-Ocrah, University of Pittsburgh</i>
11:05 AM–11:45 AM	S15	Medical and Developmental Effects of Prenatal and Early Childhood Lead Exposure <i>Michelle Myer, SC Department of Health and Environmental Control</i>
11:45 AM–12:00 Noon		Discussion

## 9:05 AM–12:00 Noon

### **Characterizing Developmental and Reproductive Hazards Using Rapid Review Tools Symposium**

*Chairpersons: Laura Carlson, US Environmental Protection Agency and Erin Yost, US Environmental Protection Agency*

9:05 AM–9:10 AM		Introduction <i>Laura Carlson, US Environmental Protection Agency and Erin Yost, US Environmental Protection Agency</i>
9:10 AM–9:40 AM	S16	Scoping of the Landscape of Developmental and Reproductive Toxicants at the Division of Translational Toxicology <i>Kembra L. Howdeshell, National Institute of Environmental Health Sciences</i>
9:40 AM–10:15 AM	S17	Using the PFAS-Tox Database to Streamline Identification of Developmental Hazards <i>Katie Pelch, Natural Resources Defense Council</i>
10:15 AM–10:30 AM		Break
10:30 AM–11:05 AM	S18	Consideration of Study Quality in Evidence-Based Assessments to Streamline Workflow on Rapid and Systematic Reviews <i>Danielle Wikoff, ToxStrategies</i>
11:05 AM–11:40 AM	S19	Blood-Brain-Barrier Morphogenesis: A Case Example of Rapid Review Approaches Informing Predictive Toxicity Models <i>Thomas B. Knudsen, US Environmental Protection Agency</i>
11:40 AM–12:00 Noon		Discussion

## 12:00 Noon–1:45 PM

### **Lunch and Learn Mini Course Ethical Issues and Novel Therapies** (Separate Registration Required)

*Sponsored by Charles River Laboratories*

*Organized by the Education Committee*

*Chairperson: Wafa A. Harrouk, Center for Drug Evaluation and Research, US FDA*

12:00 Noon–12:10 PM		Lunch Pick-Up
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12:10 PM–12:50 PM      Onward and Upward in Human Reproduction?  
Ethical Issues in Reproductive Gene Editing  
*Megan A. Allyse, Mayo Clinic*

12:50 PM–1:30 PM      Ethical and Legal Considerations of Uterus  
Transplantation and Artificial Wombs  
*Chloe Romanis, Durham Law School*

1:30 PM–1:45 PM      Discussion

**12:00 Noon–2:00 PM**

**Lunch on Your Own**

**2:00 PM–5:00 PM**

**COVID-19 and Pregnancy: An Update and Planning for the Future  
Symposium**  
(Joint with DNTS)

*Sponsored by the Health and Environmental Sciences Institute (HESI)*

*Organized by the Public Affairs Committee*

*Chairpersons: Vijaya Kancherla, Emory University and Sonja A. Rasmussen,  
Johns Hopkins University*

2:00 PM–2:25 PM      S20      COVID-19 in Pregnancy: Maternal, Placental, and  
Fetal Implications  
*Andrea Edlow, Massachusetts General Hospital,  
Harvard Medical School*

2:25 PM–2:50 PM      S21      COVID-19 in Pregnancy: An Update from the US  
Centers for Disease Control and Prevention  
*Suzanne Gilboa, National Center on Birth Defects  
and Developmental Disabilities, CDC*

2:50 PM–3:15 PM      S22      Findings from the ECHO Cohorts Regarding the  
Effects of the COVID-19 Pandemic  
*Leonardo Trasande, New York University  
Grossman School of Medicine*

3:15 PM–3:30 PM      Break

3:30 PM–3:55 PM      S23      COVID-19 in Early Pregnancy. Clinical  
Implications and Methodological Considerations  
*Sonia Hernandez-Diaz, Harvard T.H. Chan  
School of Public Health*

3:55 PM–4:20 PM      S24      COVID-19 in Pregnancy: What Do We Know  
Now?  
*Malavika Prabhu, Mass General Hospital*

4:20 PM–4:45 PM      S25      Ethics, Evidence, and Vaccination in Pregnancy:  
Lessons from COVID-19  
*Anne D. Lyerly, University of North Carolina at  
Chapel Hill*

4:45 PM–5:00 PM      Discussion

**5:05 PM–6:30 PM**

**Multidisciplinary Research Needs Workshop**

*Organized by the Science Committee*

*Chairpersons: Dana L. Shuey, Incyte Corporation and Kary E. Thompson, Janssen Pharmaceuticals*

**6:30 PM–8:00 PM**

**Poster Session 3 and Exhibits Attended**

BDRP Posters P41–P59

**Wednesday, June 28, 2023**

**6:30 AM–7:30 AM**

**BDRP 42nd Annual Volleyball Game**

**7:30 AM–2:30 PM**

**Registration Open**

**8:00 AM–9:00 AM**

**BDRP and European Teratology Society Exchange Lecture (L4)  
Animal Disease Models for DART Testing: Theory and Practice**

*Chairpersons: Bruce K. Beyer, Sanofi U.S. Inc. and  
Steven Van Cruchten, Antwerp University*

**European Teratology Society**

*Steven Van Cruchten, Antwerp University*

**BDRP**

*Kary E. Thompson, Janssen Pharmaceuticals*

**9:05 AM–12:00 Noon**

**Applications of New Approach Methods in Developmental and Reproductive  
Toxicology Symposium**  
(Joint with DNTS)

*Sponsored by the Health and Environmental Sciences Institute (HESI)*

*Chairpersons: Amer Jamalpoor, Toxys B.V. and  
Jessica A. Palmer, Stemina Biomarker Discovery, Inc.*

9:05 AM–9:40 AM

S26

Establishing Confidence in NAMs for  
Developmental and Reproductive Toxicity  
*Nicole C. Kleinstreuer, NIEHS/NICEATM*

9:40 AM–10:15 AM

S27

Practical Application of New Approach Methods  
(NAMs) in Developmental Toxicity Testing  
*Kathryn Wolton, Unilever Safety and  
Environmental Assurance Centre*

10:15 AM–10:45 AM

Warkany Tea

10:45 AM–11:10 AM

S28

How to Gain Confidence for Using NAMs in the  
Regulatory Arena of DART Testing  
*Steven Van Cruchten, Antwerp University*

11:10 AM–11:30 AM

S29

The Use of Zebrafish Alternative Model to Predict  
Human Developmental and Reproductive Toxicity  
According to the ICH S5 R3 Guideline  
*Arantza Muriana, BBD BioPhenix*

11:30 AM–11:50 AM	S30	ReproTracker as an <i>In Vitro</i> Alternative to Animal Models for Developmental Toxicity Testing <i>Amer Jamalpoor, Toxys B.V.</i>
11:50 AM–12:00 Noon		Discussion
<b>12:00 Noon–1:00 PM</b>		<b>Lunch on Your Own</b>
<b>12:00 Noon–1:00 PM</b>		<b>Awards Committee Meeting</b>
<b>12:00 Noon–1:00 PM</b>		<b>Public Affairs Committee Meeting</b>
<b>12:00 Noon–1:00 PM</b>		<b>Student Affairs Committee Meeting</b>
<b>1:05 PM–4:00 PM</b>		<b>Immune Responses during Development and Multi-System Inflammatory Disease in Children Symposium</b> <i>Organized by the Science Committee</i> <i>Chairpersons: Julia Gohlke, Virginia Tech and Sonja A. Rasmussen, Johns Hopkins University</i>
1:05 PM–1:40 PM	S31	Multisystem Inflammatory Syndrome in Children: Characteristics and Epidemiology <i>Sonja A. Rasmussen, Johns Hopkins University</i>
1:40 PM–2:15 PM	S32	Prevention and Treatment of Multisystem Inflammatory Syndrome in Children <i>Elizabeth H. Mack, Medical University of South Carolina</i>
2:15 PM–2:30 PM		Break
2:30 PM–3:05 PM	S33	Immune System Development Processes with Special Emphasis on Relationship to Potential Mechanisms of MIS-C <i>Jamie C. DeWitt, Eastern Carolina University</i>
3:05 PM–3:40 PM	S34	Molecular Mechanisms of Immune System Development: Implications for MIS-C <i>Mary Prael, University of California San Francisco</i>
3:40 PM–3:55 PM		Discussion
<b>4:15 PM–5:30 PM</b>		<b>Annual Meeting Awards Presentation and Business Meeting</b> Graduate Student and Postdoctoral Fellow Travel Awards Wilson Presentation Awards Marie Taubeneck Award James C. Bradford Memorial Student Poster Awards Edward W. Carney Trainee Awards BDRP Innovator Award Edward W. Carney Distinguished Service Award Recognition of Other Awards Presented throughout the Week Annual Business Meeting
<b>5:45 PM–6:45 PM</b>		<b>Council 2 Meeting</b> (2023–2024 Council members)

**7:00 PM–9:00 PM**

**Closing Celebration**