

Society for Birth Defects Research and Prevention (BDRP)
62nd Annual Meeting
From Bench to Bedside and Back Again
Hyatt Regency Vancouver
Vancouver, BC, Canada
June 25–29, 2022

As of April 19, 2022

The times listed are in Pacific Daylight Time.

Tuesday, June 21, 2022

9:00 AM–10:30 AM Premeeting Virtual Poster Showcase 1

Wednesday, June 22, 2022

9:00 AM–10:30 AM Premeeting Virtual Poster Showcase 2

Friday, June 24, 2022

3:00 PM–6:00 PM Registration Open

Saturday, June 25, 2022

7:30 AM–6:00 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
Embryology and Toxicology of the Developing Respiratory System
(Separate Registration Required)

Organized by the Education Committee

Chairperson: Katie J. Turner, Janssen R&D, LLC

8:30 AM–8:40 AM Welcome
*BDRP President, Susan L. Makris, Center for
Public Health and Environmental Assessment,
US EPA*

8:40 AM–8:45 AM Course Overview
*Education Committee, Chairperson Katie J.
Turner, Janssen R&D, LLC*

8:45 AM–9:30 AM Morphological Development of the Respiratory
System
*Terry C. Hrubec, E. Via Virginia College of
Osteopathic Medicine*

9:30 AM–10:15 AM Functional Development of the Respiratory
System
Geertje Lewin, Consultant

10:15 AM–10:30 AM Break

10:30 AM–11:15 AM	Developmental Toxicity of the Lung <i>John M. Rogers, ToxStrategies, Inc.</i>
11:15 AM–12:00 Noon	Animal Models of Respiratory Diseases in Children <i>Ida Washington, The University of Vermont</i>

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

1:30 PM–5:00 PM **Education Course Session 2**
Birth Defects: Causes and Mechanisms
(Separate Registration Required)
Organized by the Education Committee
Chairperson: Chairperson: Katie J. Turner, Janssen R&D, LLC

1:30 PM–1:35 PM	Course Overview <i>Education Committee, Chairperson, Chairperson: Katie J. Turner, Janssen R&D, LLC</i>
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1:35 PM–2:25 PM	Congenital Abnormalities: Common Birth Defects, Genetic Mechanisms, and Diagnosis <i>Sura Alwan, University of British Columbia</i>
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2:25 PM–3:15 PM	Understanding Teratogenesis Due to Disruption of Cell Signaling <i>Elaine M. Faustman, University of Washington</i>
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3:15 PM–3:30 PM	Break
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3:30 PM–4:15 PM	Diet, Nutritional Deficiencies, Excesses, and Abnormal Development <i>Susan Meacham, Professor Emerita, University of Nevada Las Vegas and Meacham Consulting</i>
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4:15 PM–5:00 PM	Gene-Environment Interactions and Birth Defects <i>Christine Curran, Northern Kentucky University</i>
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5:00 PM–7:00 PM **Council 1 Meeting**
(Includes incoming Council members and committee chairs and vice-chairs.)

Sunday, June 26, 2022

7:00 AM–6:00 PM **Registration Open**

7:00 AM–8:00 AM **2023 Program Committee Meeting**

7:30 AM–8:00 AM **Morning Coffee**

8:00 AM–8:15 AM **President's Welcome**
BDRP President, Susan L. Makris, Center for Public Health and Environmental Assessment, US EPA

8:15 AM–9:00 AM

Josef Warkany Lecture

Finding A Common Ground: Translation of the Principles of Teratology in Today's Regulatory Climate (Joint with DNTS and OTIS)

Chairperson: Susan L. Makris, Center for Public Health and Environmental Assessment, US EPA

Lecturer: Alan M. Hoberman, Charles River

9:05 AM–12:05 PM

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

Organized by the Student Affairs Committee

Chairperson: Melissa J. Beck, Cedarville University

Presenting author is underlined.

9:05 AM–9:10 AM

Introduction

Melissa J. Beck, Cedarville University

9:10 AM–9:30 AM

1

Identification of Chemicals Associated with Retinoid Signaling Pathway Disturbance and Skeletal Dysmorphogenesis for the Development of Computational Toxicology Models for New Approach Methods' (NAMs) Hazard Predictions
Pierro JD¹, Ahir B², Baker NC³, Knudsen TB¹.

¹US Environmental Protection Agency, Research Triangle Park, NC, United States, ²Eurofin Medical Device Testing, Lancaster, PA, United States, ³Leidos, Research Triangle Park, NC, United States

9:30 AM–9:50 AM

2

Prenatal Alcohol Exposure Induces Eye Defects in *Htt* Mutant Mice in a Sex and Dose-Dependent Manner

Boschen KE, Steensen M, Hunter CE, Hepperla A, Simon JM, Parnell SE. University of North Carolina, Chapel Hill, NC, United States

9:50 AM–10:10 AM

3

Malarial PI4K Inhibitor-Induced Diaphragmatic Hernias in Rat: Potential Link with Mammalian Kinase Inhibition

Demarta-Gatsi C, Donini C, Duffy J, Tornesi B. Medicines for Malaria Venture (MMV), Geneva, Switzerland

10:10 AM–10:30 AM

4

Place of Residence during Pregnancy and Risk of Stillbirths Among Non-Hispanic Whites, Non-Hispanic Blacks, and Hispanics in Arkansas, 2000–2014

Musfee FI¹, Politis MD^{1,2}, Cen R¹, Magann EF^{1,3}, Nembhard WN^{1,4}. ¹Arkansas Center for Birth Defects Research and Prevention, Fay W. Boozman College of Public Health, University of Arkansas for Medical Sciences, Little Rock, AR, United States, ²Department of Environmental Medicine and Public Health, Icahn School of Medicine at Mount Sinai, New York, NY, United

States, ³Department of Maternal-Fetal Medicine, University of Arkansas for Medical Sciences, Little Rock, AR, United States, ⁴Department of Epidemiology, Fay W Boozman College of Public Health, University of Arkansas for Medical Sciences, Little Rock, AR, United States

10:30 AM–10:45 AM

Break

10:45 AM–11:05 AM

5

Use of Antiepileptic Drugs during Pregnancy and Neonatal Birth Weight Outcomes: A Systematic Review and Meta-Analysis

Lavu A¹, Vacarro C¹, Zusman E², Aboulatta L¹, Aloud B¹, Alessi-Severini S¹, Rabbani R^{3,4}, Peymani P¹, Shouman W¹, Eltonsy S¹. ¹College of Pharmacy, University of Manitoba, Winnipeg, MB, Canada, ²British Columbia Children's Hospital Research Institute, Vancouver, BC, Canada, ³George & Fay Yee Center for Healthcare Innovation, Winnipeg, MB Canada, ⁴Community Health Sciences, University of Manitoba, Winnipeg, MB, Canada

11:05 AM–11:25 AM

6

Development of a Human-Relevant Replacement Screening Method to Animal Testing for Environmental Toxicants

Vera-Colon MK, Madrid JV, Zamora D, zur Nieden NI. University of California, Riverside, Riverside, CA, United States

11:25 AM–11:45 AM

7

The Effect of Maternal Tobacco and Marijuana Co-use on Adverse Birth Outcomes

Waddell M, Dickson S, Zablocki V, Dodge P, Kopkau H, Nadolski K, Bailey B. Central Michigan University College of Medicine, Mount Pleasant, MI, United States

11:45 AM–12:05 PM

8

The Impact of COVID-19 First Wave National Lockdowns on Perinatal Outcomes: Updated Rapid Review and Meta-Analysis

Aboulatta L¹, Vacarro C¹, Mahmoud F², Aloud B¹, Eltonsy S^{1,3}. ¹College of Pharmacy, Rady Faculty of Health Sciences, University of Manitoba, Winnipeg, MB, Canada, ²Faculty of Pharmacy, Université de Montréal, Montréal, QC, Canada, ³The Children's Hospital Research Institute of Manitoba, Winnipeg, MB, 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

Membership Committee Meeting

1:30 PM–2:00 PM

**F. Clarke Fraser New Investigator Award
From Birth Defects Surveillance to Prevention: A Career Focused on Using
Data for Action**

*Chairperson: Kembra L. Howdeshell, National Institute of Environmental Health
Sciences*

Lecturer: Mahsa Yazdy, Massachusetts Department of Public Health

2:00 PM–2:30 PM

James G. Wilson Publication Award

*Global birth defects app: An innovative tool for describing and coding congenital
anomalies at birth in low resource settings*

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

Lecturer: Helen Dolk, Ulster University

2:35 PM–4:30 PM

**Gerald G. Briggs Research Symposium
Can Experimental Animal Studies Be Used in Counseling?
(Joint with OTIS)**

*Chairpersons: Sarah Gloria Običan, University of South Florida and
Anthony R. Scialli, Reproductive Toxicology Center*

2:35 PM–2:40 PM

Introduction

2:40 PM–3:05 PM

S1

What Experimental Animal Testing Is Used to
Evaluate the Developmental Toxicity of Drugs
Lori A. Dostal, Lori Dostal Consulting LLC

3:05 PM–3:30 PM

S2

How Animal Test Results Are Used to Inform
Product Approval and Labeling
Melissa S. Tassinari, Consultant

3:30 PM–3:45 PM

Break

3:45 PM–4:05 PM

S3

Can Experimental Animal Results Be Used in
Counseling Patients?
Sarah Gloria Običan, University of South Florida

4:05 PM–4:30 PM

S4

Can Experimental Animal Results Be Used in
Counseling Patients?
*Anthony R. Scialli, Reproductive Toxicology
Center*

4:35 PM–5:35 PM

Innovator Award Finalists Platform Session 2

*Chairperson: Kembra L. Howdeshell, National Institute of Environmental Health
Sciences*

4:35 PM–4:55 PM

9

A High-Throughput Toxicity Screen of 42 Per-
And Polyfluoroalkyl Substances (Pfas) And
Functional Assessment of Migration and Gene
Expression in Human Placental Trophoblasts
Blake BE^{1,2,3}, Rickard BP¹, Fenton SE².
*¹University of North Carolina at Chapel Hill,
Chapel Hill, NC, United States, ²National
Toxicology Program, National Institute of
Environmental Health Sciences, Research*

Triangle Park, NC, United States, ³Chemical and Pollutant Assessment Division, Center for Public Health and Environmental Assessment, Office of Research and Development, US Environmental Protection Agency, Research Triangle Park, NC, United States

- 4:55 PM –5:15 PM AM 10 Maternal Hyperglycemia Impairs Cardiomyocyte Differentiation to Elevate the Risk of Congenital Heart Disease
Manivannan S^{1,2}, Mansfield C^{3,4}, Zhang X⁵, Kodigepall KM⁶, Majumdar U^{2,3}, Garg V^{2,3,7}, Basu M^{2,3,7}. ¹Research Institute at Nationwide Children's Hospital, Columbus, OH, United States, ²Heart Center, Nationwide Children's Hospital, Columbus, OH, United States, ³Research Institute at Nationwide Children's Hospital, Columbus, OH, United States, ⁴Heart Center, Nationwide Children's Hospital, Columbus, OH, United States, ⁵BioInfoRx Inc., Madison, WI, United States, ⁶Department of Pediatrics, Medical College of Wisconsin, Milwaukee, WI, United States, ⁷Department of Pediatrics, The Ohio State University College of Medicine, Columbus, OH, United States
- 5:15 PM–5:35 PM 11 Classification of Congenital Malformations Informed by Machine Learning with Human Adjudication
Straub L¹, Huybrechts K¹, Wang SV¹, Gray KJ¹, Holmes LB², Bateman BT³, Mogun H¹, Hernandez-Diaz S⁴. ¹Brigham and Women's Hospital, Harvard Medical School, Boston, MA, United States, ²Massachusetts General Hospital for Children, Boston, MA, United States, ³Stanford University School of Medicine, Stanford, CA, United States, ⁴Harvard T.H. Chan School of Public Health, Boston, MA, United States

5:40 PM–6:10 PM

Patricia Rodier Mid-Career Award for Research and Mentoring

Putting the Long in Longitudinal: Research and Mentoring in Neurotoxicology (Joint with DNTS)

Chairpersons: Kembra L. Howdeshell, National Institute of Environmental Health Sciences and Mary E. Gilbert, US Environmental Protection Agency

Lecturer: Jennifer Anne Willford, Slippery Rock University of Pennsylvania

6:15 PM–7:45 PM

Poster Session 1 and Exhibits Attended

BDRP Posters P1–P32

8:00 PM–10:00 PM

Graduate Student and Postdoctoral Fellows Career Event

Hosted by Middle Atlantic Reproduction and Teratology Association (MARTA)

Monday, June 27, 2022

7:00 AM–6:00 PM	Registration Open		
7:00 AM–8:00 AM	<i>Birth Defects Research Journal</i> Editorial Board Meeting		
7:00 AM–8:00 AM	Communications Coordination Committee Meeting		
8:00 AM–9:00 AM	Keynote Lecture Functional Correlation of Genome-Wide DNA Methylation Profiles in Genetic and Teratogenic Neurodevelopmental Disorders (L1) (Joint with DNTS and OTIS) <i>Chairperson: Bruce K. Beyer, Sanofi US, Inc.</i> <i>Speaker: Bekim Sadikovic, London Health Sciences Centre</i>		
9:05 AM–12:00 Noon	Novel Approaches for Assessment of Complex Chemical Mixtures in Evaluations of Reproductive and Developmental Effects Symposium (Joint with DNTS) <i>Chairpersons: Catheryne Chiang, Office of Research and Development, US EPA and Krista Christensen, Office of Research and Development. US EPA</i>		
9:05 AM–9:15 AM		Introduction	
9:15 AM–9:45 AM	S5	Exploration of Disinfection Byproduct Mixture Methods in an Epidemiological Study of Birth Defects <i>J. Michael Wright, US Environmental Protection Agency</i>	
9:45 AM–10:15 AM	S6	Application of Sufficient Similarity Analyses for Complex Polychlorinated Biphenyl Mixtures <i>Catheryne Chiang, US Environmental Protection Agency</i>	
10:15 AM–10:30 AM		Break	
10:30 AM–10:55 AM	S7	Impact of Prenatal Exposure to Phthalate Mixture on Uterine Function in Female Offspring <i>Indrani C. Bagchi, University of Illinois at Urbana Champaign</i>	
10:55 AM–11:30 AM	S8	Prenatal Consumer Product Chemical Mixtures and Size-for-Gestational Age at Birth <i>Paige A. Bommarito, National Institute of Environmental Health Sciences</i>	
11:30 AM–11:55 AM	S9	Association between Exposure to a Metal Mixture and Neurobehavior at Six to Seven Years of Age <i>Francheska M. Merced-Nieves, Icahn School of Medicine at Mount Sinai</i>	
11:55 AM–12:00 Noon		Discussion	

Chairpersons: Sura Alwan, University of British Columbia and
Bethany R. Hannas, Eli Lilly and Company

Presenting author is underlined.

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| 9:05 AM–9:15 AM | | Introduction |
| 9:15 AM–9:30 AM | 12 | <p>Science-Based Approach to Harmonize Contraception Recommendations in Clinical Trials and Pharmaceutical Labels
 <u>Bowman CJ</u>¹, <u>Becourt-Lhote N</u>², <u>Boulifard V</u>³, <u>Cordts R</u>⁴, <u>Corriol-Rohou S</u>⁵, <u>Enright B</u>⁶, <u>Erkman L</u>⁷, <u>Harris J</u>⁸, <u>Hartmann A</u>⁷, <u>Hilpert J</u>⁹, <u>Kervyn S</u>¹⁰, <u>Mattson B</u>¹¹, <u>Morford L</u>¹², <u>Muller M</u>⁷, <u>Powell M</u>¹³, <u>Sobol Z</u>¹¹, <u>Srinivasan S</u>¹⁴, <u>Stark C</u>⁹, <u>Thompson KE</u>¹⁵, <u>Turner K</u>¹⁵, <u>Barrow P</u>¹⁶. ¹Pfizer, Inc., Groton, CT, United States, ²Servier, Gidy, France, ³Ipsen Pharma, Les Ulis, France, ⁴Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach, Germany, ⁵AstraZeneca, Paris, France, ⁶AbbVie, Inc., North Chicago, IL, United States, ⁷Novartis Pharma, Basel, Switzerland, ⁸AstraZeneca, Cambridge, United Kingdom, ⁹Bayer AG, Berlin, Germany, ¹⁰UCB Pharma, Braine-l'Alleud, Belgium, ¹¹Merck & Co., Inc., West Point, PA, United States, ¹²Lilly Research Laboratories, Indianapolis, IN, United States, ¹³GlaxoSmithKline, Research Triangle Park, NC, United States, ¹⁴Sanofi, Marcy L'Etoile, France, ¹⁵Janssen Pharmaceuticals, Spring House, PA, United States, ¹⁶F. Hoffmann-La Roche Ltd., Basel, Switzerland</p> |
| 9:30 AM–9:45 AM | 13 | <p>Differences in Survival Among White, Black, and Hispanic Infants with Central Nervous System Defects: Texas 1999–2017
 <u>Ahmed M</u>¹, <u>Shumate C</u>², <u>Canfield MA</u>², <u>Bojes H</u>², <u>Patel K</u>². ¹Epidemic Intelligence Service, Centers for Disease Control and Prevention (CDC), Atlanta, GA, United States, ²Texas Department of State Health Services, Birth Defects Epidemiology and Surveillance Branch, Austin, TX, United States</p> |
| 9:45 AM–10:00 AM | 14 | <p>Survival of Severe Microcephaly Cases in the Texas Birth Defects Epidemiology and Surveillance Registry for Delivery Years 1999–2015
 <u>Marengo LK</u>¹, <u>Canfield MA</u>¹, <u>Shumate C</u>¹, <u>Archer N</u>², <u>Drummond-Borg M</u>³. ¹Texas Department of State Health Services, Birth Defects Epidemiology and Surveillance Branch, Austin, TX, United States, ²Texas Department of State Health Services, Environmental Epidemiology & Disease Registries Section, Austin, TX, United States</p> |

States, ³Texas Department of State Health Services, Birth Defects Epidemiology and Surveillance Branch, Granbury, TX, United States

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| 10:00 AM–10:15 AM | 15 | <p>A Novel Investigation of Seropositivity to Pathogens among Women Prenatally Diagnosed with and without Gastroschisis
 <u>Feldkamp ML</u>¹, Baum-Jones E², Krikov S¹, Enioutina E³, Kamath K². ¹Division of Medical Genetics, Department of Pediatrics, University of Utah School of Medicine, Salt Lake City, UT, United States, ²Serimmune, Inc., Goleta, CA, United States, ³Division of Pediatric Clinical Pharmacology, Department of Pediatrics, University of Utah School of Medicine, Salt Lake City, UT, United States</p> |
| 10:15 AM–10:30 AM | | Break |
| 10:30 AM–10:45 AM | 16 | <p>Prenatal Alcohol Exposure Impacts Infant Heart Rate Variability during Recovery Phase
 <u>Maxwell JR</u>¹, Stephen J², DiDomenico J¹, Beauman SS¹, Lacy CB¹, Kuan EC¹, Rai R¹, Rodriguez D¹, Stacy LK¹, Enriquez Marquez L¹, Jacobson SW³, Weinberg J⁴, Bakhireva LN¹. ¹University of New Mexico, Albuquerque, NM, United States, ²The Mind Research Network, Albuquerque, NM, United States, ³Wayne State University School of Medicine, Detroit, MI United States, ⁴ University of British Columbia, Vancouver, BC, Canada</p> |
| 10:45 AM–11:00 AM | 17 | <p>Topiramate during Pregnancy and the Risk of Neurodevelopmental Disorders in Children
 <u>Hernandez-Diaz S</u>¹, Straub L², Bateman BT³, Suarez EA², Zhu Y², Pennell PB⁴, Huybrechts KF². ¹Department of Epidemiology, Harvard T.H. Chan School of Public Health, Boston, MA, United States, ²Division of Pharmacoepidemiology and Pharmacoeconomics, Department of Medicine, Brigham and Women's Hospital and Harvard Medical School, Boston, MA, United States, ³Department of Anesthesiology, Perioperative and Pain Medicine, Stanford University School of Medicine, Stanford, CA, United States, ⁴Department of Neurology, University of Pittsburgh School of Medicine, Pittsburgh, PA, United States</p> |
| 11:00 AM–11:15 AM | 18 | <p>Integrated Microphysiological and Computational Models of Thyroid Homeostasis to Elucidate Teratogenic Mechanisms and Identify Sensitive Populations
 <u>Johnson BP</u>¹, Zhang Q², Terrian L¹, Gardner K¹. ¹Michigan State University, Lansing, MI, United States</p> |

States,²Emory University, Atlanta, GA, United States

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| 11:15 AM–11:30 AM | 19 | Classifying the Medical Complexity of Infants in the Texas Birth Defects Registry, 2010–2014, Using Medicaid Claims and Encounters Data
<u>Shumate C</u> ¹ , <u>Navarro L</u> ¹ , <u>Betancourt D</u> ¹ , <u>Nguyen J</u> ¹ , <u>Agopian AJ</u> ² , <u>Canfield MA</u> ¹ . ¹ <i>Birth Defects Epidemiology and Surveillance Branch, Texas Department of State Health and Human Services, Austin, TX, United States</i> , ² <i>Division of Epidemiology, Human Genetics and Environmental Sciences, University of Texas School of Public Health, Houston, TX, United States</i> |
| 11:30 AM–11:45 AM | 20 | Evaluation of Pleiotropic Role of p53 in Dysmorphic Astrocytes due to Pre- and Postnatal Exposure to Bisphenol A in Wistar Albino Offspring
<u>Singha S</u> ¹ , <u>Memon S</u> ² , <u>Memon F</u> ³ , <u>Isaac AD</u> ² . ¹ <i>Isra University, Hyderabad, Pakistan</i> , ² <i>Liaquat University of Medical and Health Sciences, Jamshoro, Pakistan</i> , ³ <i>Altamash, Hospital, Karachi, Pakistan</i> |
| 11:45 AM–12:00 Noon | 21 | Believing in Science
<u>Vekemans M</u> . <i>Université de Paris, Hôpital Necker-Enfants Malades, France</i> |

12:00 Noon–2:00 PM

Lunch on Your Own

12:05 PM–1:45 PM

**Professional Development Workshop
Publication Approaches from Different Perspectives**

Organized by the Student Affairs Committee

Chairpersons: Melissa J. Beck, Cedarville University

12:05 PM–12:10 PM

Lunch Pick-Up

12:10 PM–12:40 PM

Editorial Board of *Birth Defects Research* Tips on How to Get Your Manuscript Published
John M. Rogers, ToxStrategies, Inc.

12:40 PM–1:45 PM

Interactive Discussion with BDRP Mentors to Obtain Guidance/Insight into Publishing in Different Sectors

1:00 PM–2:00 PM

Science Committee Meeting

2:00 PM–2:30 PM

**Agnish Fellowship Lecture
Confession of an Accidental Leader**

Chairperson: Katie J. Turner, Janssen R&D, LLC

Speaker: Christopher S. Lau, US Environmental Protection Agency

2:35 PM–5:55 PM

The Legacy of Dr. Robert L. Brent: Accurate Assessment and Communication of Teratogen Risks Symposium

(Joint with DNTS and OTIS)

*Chairpersons: Janine E. Polifka, Retired and
Christine Perdan Curran, Northern Kentucky University*

2:35 PM–3:00 PM	S10	Tribute to Dr. Robert L. Brent: Let the Yolk Sac Speak—A Small Drop in the Deep Water of Bob's Legacy in Science <i>Asher Ornoy, Hebrew University, Hadassah Medical School, Adelson School of Medicine, Ariel University</i>
3:00 PM–3:25 PM	S11	Radiation Risks and Information Needs of Pregnant and Lactating Women <i>Fred Mettler, University of New Mexico School of Medicine</i>
3:25 PM–4:00 PM	S12	Professionally Responsible Counseling of Pregnant Women about COVID-19 Vaccination <i>Frank A. Chervenak, Lenox Hill Hospital</i>
4:00 PM–4:15 PM		Break
4:15 PM–4:40 PM	S13	Using Supervised Learning Methods to Create Prediction Models Based on Narrative Descriptions of Fetal Risk <i>Elizabeth C. Ailes, Centers for Disease Control and Prevention</i>
4:40 PM–5:05 PM	S14	Bob Brent: Medical Expert, Expert Medical Witness, and Expert on Medical Expert Witnessing. Jan M. Friedman, University of British Columbia
5:05 PM–5:55 PM		Sharing Memories of Dr. Robert L. Brent

2:35 PM–5:55 PM

The Key Characteristics Approach for Hazard Identification: Alternative Perspectives Symposium

Sponsored by Bayer Crop Science

*Chairpersons: Donna R. Farmer, Bayer Crop Science and
John DeSesso, Exponent*

2:35 PM–2:40 PM		Introduction
2:40 PM–3:20 PM	S15	Ten Characteristics of Carcinogens: Key to Nothing <i>James E. Klaunig, Indiana University</i>
3:20 PM–4:00 PM	S16	Statistical Considerations in Data Analysis and Quantification of Uncertainty <i>Claudio Fuentes, Oregon State University</i>
4:00 PM–4:15 PM		Break

4:15 PM–4:55 PM	S17	Are "Key Characteristics" Valid for Identifying Endocrine Hazards? <i>Christopher J. Borgert, University of Florida College of Veterinary Medicine and APT, Inc.</i>
4:55 PM–5:35 PM	S18	Case Study on Glyphosate: Key Characteristics versus Weight of Evidence <i>Donna R. Farmer, Bayer Crop Science</i>
5:35 PM–5:55 PM		Discussion

6:00 PM–7:30 PM **Poster Session 2 and Exhibits Attended**
BDRP Posters P33–P63

Tuesday, June 28, 2022

7:00 AM–5:00 PM **Registration Open**

7:30 AM–8:00 AM **Morning Coffee**

7:00 AM–8:00 AM **Diversity, Equity, and Inclusion Workgroup Meeting**

7:00 AM–8:00 AM **Publications Committee**

8:00 AM–9:00 AM **Robert L. Brent Lecture—Teratogen Update (L2)**
Developmental Origins of Health and Disease in the ECHO Program
(Joint with OTIS)
Chairperson: Bruce K. Beyer, Sanofi US, Inc.
Lecturer: Matthew W. Gillman, National Institutes of Health

9:05 AM–12:00 Noon **Disparities in Pregnancy and Birth Outcomes Symposium**
(Joint with DNTS and OTIS)
Organized by the Diversity, Equity, and Inclusion Workgroup
Chairpersons: José Cordero, University of Georgia and
Nicole R. Sparks, University of California, Riverside

9:05 AM–9:40 AM	S19	Disparities in Research Funding for Health Issues that Affect People of Color <i>José Cordero, University of Georgia</i>
9:40 AM–10:15 AM	S20	Disparities in Maternal Health and Neurodevelopmental Outcomes <i>Natacha M. De Genna and Gale A. Richardson, University of Pittsburgh</i>
10:15 AM–10:30 AM		Break
10:30 AM–11:05 AM	S21	The Influence of Social Disparities on Congenital Anomalies in the North <i>Laura Arbour, UBC Department of Medical Genetics</i>

11:05 AM–11:45 AM S22 Structural and Interpersonal Racism and Adverse Birth Outcomes: From Associations to Advocacy
Renee Mehra, University of California, San Francisco

11:45 AM–12:00 Noon Discussion

9:05 AM–12:00 Noon

The DARTable Genome: Bringing Molecular and Developmental Biology to DART Symposium

Organized by the Science Committee in collaboration with and sponsorship from the Health and Environmental Sciences Institute (HESI)

Chairpersons: Thomas B. Knudsen, US Environmental Agency and Richard A. Currie, Syngenta, Jealott's Hill International Research Centre

9:05 AM–9:40 AM S23 Overview of the DARTable Genome
Richard A. Currie, Syngenta, Jealott's Hill International Research Centre

9:40 AM–10:15 AM S24 Retinoic Acid Signaling in Developmental and Reproductive Toxicology: *In Vitro* and *In Silico* Approaches to Assess Toxicity
Joshua F. Robinson, University of California, San Francisco

10:15 AM–10:30 AM Break

10:30 AM–11:05 AM S25 Thalidomide: Historical Perspective and New Insights into Molecular Mechanisms of Teratogenicity
David G. Belair, AbbVie

11:05 AM–11:45 AM S26 Valproic Acid: Linking *In Vitro* and *In Silico* Techniques to Understand and Predict Developmental Toxicity
Nicole Churchill Kleinstreuer, NIEHS, NICEATM

11:45 AM–12:00 Noon Discussion

12:00 Noon–1:45 PM

**Lunch and Learn Mini Course
New Technologies for Developmental and Reproductive Toxicity Testing:
Microphysiological Systems**

(Separate Registration Required)

Organized by the Education Committee

Chairperson: Katie J. Turner, Janssen R&D, LLC

12:00 Noon–12:10 PM Lunch Pick-Up

12:10 PM–12:40 PM Advances in the Development of Microphysiological Systems and Application to the Developing Embryo
Sid Hunter, US Environmental Protection Agency

12:40 PM–1:10 PM	A Human Brain Spheroid Model for Developmental Neurotoxicity Testing <i>Lena Smirnova, Johns Hopkins University Center for Alternatives to Animal Testing</i>
1:10 PM–1:40 PM	Bioengineered Ovarian Models for Female Reproductive Toxicity Testing <i>Shuo Xiao, Rutgers University, Ernest Mario School of Pharmacy</i>
1:40 PM–1:45 PM	Discussion

12:00 Noon–2:00 PM

Lunch on Your Own

2:00 PM–5:00 PM

Per- and Polyfluoroalkyl Substances (PFAS) and Children's Health Symposium
(Joint with DNTS)

Organized by the Public Affairs Committee

Chairpersons: Suzanne E. Fenton, National Institute of Environmental Health Sciences and Tamarra James-Todd Harvard T.H. Chan School of Public Health

2:00 PM–2:15 PM		Introduction to PFAS: Exposures and Biomonitoring <i>Rachel D. Rogers, ATSDR, CDC</i>
2:15 PM–2:45 PM	S27	Underlying Conditions and PFAS Exposures: A Risky Mix in Pregnancy <i>Tamarra James-Todd Harvard T.H. Chan School of Public Health</i>
2:45 PM–3:15 PM	S28	GenX Effects in Pregnant Mice and Persistent Effects in Their Offspring <i>Suzanne E. Fenton, National Institute of Environmental Health Sciences</i>
3:15 PM–3:30 PM		Break
3:30 PM–4:00 PM	S29	Cardiometabolic and Bone Health Effects of PFAS Exposure in Adolescents <i>Joseph M. Braun, Brown University School of Public Health</i>
4:00 PM–4:30 PM	S30	Immunotoxic Effects of PFAS in Children <i>C. Amalie G. Timmermann, University of Copenhagen</i>
4:30 PM–4:45 PM	S31	Approaches to Protect Susceptible Populations from PFAS Health Effects <i>Rachel D. Rogers, ATSDR, CDC</i>
4:45 PM–5:00 PM		Discussion

2:00 PM–5:00 PM

Predicting and Preparing for the Next Pandemic: Protecting Pregnant Persons, the Fetus, and the Children Workshop

Organized by the Science Committee

Sponsored by the Health and Environmental Sciences Institute (HESI)

Chairpersons: Anthony R. Scialli, Scialli Consulting LLC and Sonja A. Rasmussen, University of Florida College of Medicine

2:00 PM–2:40 PM	W1	Preparing for the Next Pandemic <i>Sonja A. Rasmussen, University of Florida College of Medicine</i>
2:40 PM–3:15 PM	W2	Special Populations: Pregnant Persons and the Unborn <i>Sarah Gloria Običan, University of South Florida</i>
3:15 PM–3:30 PM		Break
3:30 PM–4:05 PM	W3	Predicting and Preparing for the Next Pandemic: Special Populations: Pediatrics <i>Srinivas Murthy, The University of British Columbia</i>
4:05 PM–4:40 PM	W4	Ethical Considerations in the Prevention and Treatment of Disease in Pregnant Persons <i>Anthony R. Scialli, Scialli Consulting LLC</i>
4:40 PM–5:00 PM		Discussion

5:05 PM–6:30 PM

Multidisciplinary Research Needs Workshop

Chairpersons: Madhumita Basu, Research Institute at Nationwide Children's Hospital and William Slikker, Jr., National Center for Toxicological Research, US FDA

Wednesday, June 29, 2022

6:30 AM–7:30 AM

BDRP 41st Annual Volleyball Game

7:30 AM–2:30 PM

Registration Open

7:30 AM–8:00 AM

Morning Coffee

8:00 AM–9:00 AM

**BDRP and European Teratology Society Exchange Lecture
Read Across for DART**

Chairpersons: Susan L. Makris, Public Health and Environmental Assessment, US EPA and Steven Van Cruchten, University of Antwerp

European Teratology Society

Jason C. Manton, Penman Consulting Ltd

BDRP

George P. Daston, Procter & Gamble Company

9:05 AM–12:00 Noon

**Wiley Symposium
Environmental Justice in Birth Defects Research**
(Joint with DNTS)

*Chairpersons: Bevin E. Blake, US Environmental Protection Agency and
Brandy Beverly, National Institute of Environmental Health Sciences*

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| 9:05 AM–9:30 AM | S32 | Understanding the Impact of the Environment on Maternal Health Outcomes and Disparities: Introduction and Future Directions
<i>Brandy Beverly, National Institute of Environmental Health Sciences</i> |
| 9:30 AM–10:00 AM | S33 | Health Disparities in Pregnancy and Postpartum Care During Public Health Emergencies
<i>Sonja A. Rasmussen, University of Florida</i> |
| 10:00 AM–10:30 AM | S34 | Developmental Lead Exposure, Brain and Behavioral Outcomes: A Forty-Year Prospective Study
<i>Kim Dietrich, The University of Cincinnati College of Medicine</i> |
| 10:30 AM–11:00 AM | | Warkany Tea |
| 11:00 AM–11:30 AM | S35 | Race Differences in Phthalate Exposure and Consequent Risk of Preterm Birth: Findings from Sixteen US Cohorts
<i>Kelly K. Ferguson, Perinatal and Early Life Epidemiology Group, NIEHS</i> |
| 11:30 PM–12:00 Noon | | Discussion |

12:00 Noon–1:00 PM

Lunch on Your Own

12:00 Noon–1:00 PM

Awards Committee Meeting

12:00 Noon–1:00 PM

Public Affairs Committee Meeting

12:00 Noon–1:00 PM

Student Affairs Committee Meeting

1:05 PM–4:10 PM

Novel Insights into the Genomics of Structural Birth Defects: Findings from the Gabriella Miller Kids First Pediatric Research Program Symposium

*Chairpersons: Philip J. Lupo, Baylor College of Medicine and
Sonja A. Rasmussen, University of Florida*

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| 1:05 PM–1:10 PM | | Introduction |
| 1:10 PM–1:45 PM | S36 | Genetics of Congenital Diaphragmatic Hernia in Mouse and Man
<i>Wendy Chung, Columbia University</i> |
| 1:45 PM–2:15 PM | S37 | Whole Genome Sequencing Reveals Varied Genetic Architectures of Orofacial Clefts
<i>Elizabeth J. Leslie, Emory University</i> |

2:15 PM–2:30 PM		Break
2:30 PM–3:05 PM	S38	Kids First Data Resource Center: A Platform for Genomic Data-Driven Discovery and Collaboration <i>Adam Resnick, Children's Hospital of Philadelphia</i>
3:05 PM–3:40 PM	S39	The Genomics of Acute Leukemia in Children with Down Syndrome <i>Philip J. Lupo, Baylor College of Medicine</i>
3:40 PM–3:55 PM		Discussion

4:00 PM–5:15 PM

Annual Meeting Awards Presentation and Business Meeting

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
Birth Defects Research Distinguished Scholar Awards
Edward W. Carney Distinguished Service Award
Recognition of Other Awards Presented throughout the Week
Annual Business Meeting

5:30 PM–6:30 PM

Council 2 Meeting
(2022–2023 Council members.)

7:00 PM–9:00 PM

Closing Celebration
Separate Ticket Required