

Society for Birth Defects Research and Prevention 2021 Annual Meeting
Building Bridges in Birth Defects Research and Prevention: From Innovation to Application
June 24–July 1, 2021

All times shown are Eastern Daylight Time.

As of March 3, 2021

Only sessions designated with **CME** are eligible for Continuing Medical Education credit.

Thursday, June 24, 2021

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| 11:00 AM–11:10 AM | President's Welcome
<i>BDRP President, Elise Madison Lewis, Charles River Laboratories</i> |
| 11:10 AM–11:45 AM

CME | Josef Warkany Lecture
<i>Chairperson: Elise Madison Lewis, Charles River Laboratories</i>
<i>Lecturer: Peter Wells, University of Toronto</i> |
| 11:45 AM–12:30 PM

CME | Robert L. Brent Lecture—Teratogen Update
Chairperson: Elise Madison Lewis, Charles River Laboratories
<i>Lecturer: Sonja A. Rasmussen, University of Florida College of Medicine</i> |
| 12:30 PM–1:00 PM | Break |
| 1:00 PM–3:30 PM | Graduate Student and Postdoctoral Fellow Platform Session 1
<i>Organized by the Student Affairs Committee</i>
<i>Chairpersons: Paul B. Bushdid, Covance Laboratories Inc. and Laura Carlson, US Environmental Protection Agency</i> |
| 3:30 PM–4:00 PM | Break |
| 4:00 PM–5:00 PM | President's Welcome Social |

Friday, June 25, 2021

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| 11:00 AM–11:30 AM | F. Clarke Fraser New Investigator Award
Consequentialist Epidemiology of Birth Defects: Early Career Experiences and Key Findings from National and Global Research
<i>Chairperson: Philip Lupo, Baylor College of Medicine</i>
<i>Lecturer: Vijaya Kancherla, Emory University</i> |
| 11:30 AM–12:00 Noon | James G. Wilson Publication Award
<i>Chairperson: Russell S. Kirby, USF College of Public Health</i>
<i>Lecturer: TBA</i> |

12:00 Noon–12:30 PM	Patricia Rodier Mid-Career Award for Research and Mentoring Manganese Overexposure during Development: Environmental and Genetic Effects (Joint with DNTS) <i>Chairpersons: Philip Lupo, Baylor College of Medicine and Sonia Minnes, Case Western Reserve University</i> <i>Lecturer: Michael T. Williams, Cincinnati Children's Research Foundation</i>	
12:30 PM–1:00 PM	Agnish Fellowship Lecture <i>Chairperson, Christina M. Carruthers, Janssen Pharmaceuticals</i> <i>Lecturer: Ronald Hood, The University of Alabama</i>	
1:00 PM–1:30 PM	Break	
1:30 PM–3:00 PM	Multidisciplinary Research Needs Workshop <i>Chairpersons: Dana L. Shuey, Incyte and William Slikker, Jr., National Center for Toxicological Research, US FDA</i>	
	1:30 PM–1:45 PM	Overview of Workshop Goals and Progress
	1:45 PM–2:25 PM	Concurrent Breakout Sessions
	2:25 PM–3:00 PM	Reassemble to Discuss Progress from Breakout Sessions
1:30 PM–3:00 PM	Professional Development Workshop <i>Organized by the Membership Committee and Student Affairs Committee</i> <i>Chairpersons: Paul B. Bushdid, Covance Laboratories Inc. and Deirdre K. Tucker, Charles River Laboratories</i>	
	1:30 PM–1:35 PM	Introduction <i>Paul B. Bushdid, Covance Laboratories Inc.</i>
	1:35 PM–1:55 PM	Career Options for Trainees <i>Tacey E.K. White, Aclairo Pharmaceutical Development Group, Inc.</i>
	1:55 PM–2:15 PM	Changing Professional Paths Mid-Career <i>Christine Perdan Curran, Northern Kentucky University</i>
	2:15 PM–2:35 PM	Balancing Career and Family <i>Terry C. Hrubec, E. Via Virginia College of Osteopathic Medicine</i>
	2:35 PM–2:55 PM	Career Challenges <i>Ida M. Washington, West Virginia University</i>
	2:55 PM–3:00 PM	Closing Remarks

Monday, June 28, 2021

11:00 AM–11:45 AM

Keynote Lecture

(Joint with OTIS)

Chairperson: Susan L. Makris, US Environmental Protection Agency

Speaker: Carleigh Krubiner, Center for Global Development and Johns Hopkins Berman Institute of Bioethics

11:45 AM–12:30 PM

BDRP and ETS Exchange Lecture

Covid-19 in Pregnancy and Lactation: US and European Perspectives on Research and Public Health

(Joint with OTIS)

Chairpersons: Susan Makris, US Environmental Protection Agency and Manon Beekhuijzen, Charles River

BDRP

Christina D. Chambers, University of California San Diego

ETS

Alice Panchaud, Universität Bern

12:30 PM–1:00 PM

Break

1:00 PM–3:00 PM

Wiley Symposium

Approaches for Mechanistic Evidence Analysis in Hazard Evaluation of Reproductive Toxicology Data

Chairpersons: Xabier Arzuaga, US Environmental Protection Agency and Erin Yost, US Environmental Protection Agency

1:00 PM–1:05 PM

Introduction

1:05 PM–1:25 PM

The Hazards of Endocrine Disrupting Chemicals Partially Overlap with the Hazards of Reproductive Toxicants
Michele La Merrill, University of California, Davis

1:25 PM–1:45 PM

A New Approach Methods (NAM) Based Integrated Assessment of Estrogenicity of Alkylphenols
Fabian Grimm, ExxonMobil Biomedical Sciences, Inc.

1:45 PM–2:05 PM

Application of Key Characteristics in Support of Identifying Chemicals with Reproductive Hazard Traits
Lauren Zeise, California Environmental Protection Agency

2:05 PM–2:25 PM

Application of the Key Characteristics Approach¹ to Female Reproductive Hazard Identification: Benzo[a]pyrene as a Case Example
Ulrike Luderer, University of California, Irvine

2:25 PM–2:45 PM Applying the Key Characteristics Approach to Evaluate Mechanistic Evidence for Qualitative and Quantitative Weight of Evidence to Support Risk Assessment: A Case Study with Benzo[a]Pyrene-Induced Male Reproductive Toxicity
Ingrid Druwe US Environmental Protection Agency

2:45 PM–3:00 PM Discussion

1:00 PM–3:00 PM

The Effects of Water Fluoridation on Neurodevelopment and Other Health Outcomes Symposium
(Joint with DNTS)

Chairpersons: Kembra L. Howdeshell, National Institute of Environmental Health Sciences and Kyla Taylor, National Institute of Environmental Health Sciences

1:00 PM–1:05 PM Introduction
Kembra L. Howdeshell, National Institute of Environmental Health Sciences

1:05 PM–1:30 PM Fluoride: A Perspective from the Dental Community
E. Angeles Martinez Mier, Indiana University School of Dentistry

1:30 PM–1:55 PM Prenatal and Postnatal Fluoride Exposure and Child Neurodevelopmental Outcomes
Christine Till, York University

1:55 PM–2:20 PM Systematic Review of Fluoride Exposure and Neurodevelopmental and Cognitive Health Effects
Kyla Taylor, National Institute of Environmental Health Sciences

2:20 PM–2:45 PM Fluoride Exposure and Neurodevelopmental and Neuroendocrine Outcomes among Youth in the United States
Ashley Malin, University of Southern California

2:45 PM–3:00 PM Discussion

1:00 PM–3:00 PM



Neglected Diseases/Neglected Patients Symposium

Chairpersons: Jane Stewart, Apconix, Melissa S. Tassinari, Consultant, and Belen Tornesi, Medicine for Malaria Medicine

1:00 PM–1:05 PM Introduction

1:05 PM–1:30 PM Global Efforts for Eradication of Malaria: A Focus on Pregnant and Lactating Women
Belen Tornesi, Medicine for Malaria Medicine

1:30 PM–1:55 PM	Use of Preclinical Humanized Mouse Model for Malaria to Identify Potential New Drugs and Drug Combinations <i>Claudia Demarta-Gatsi, Medicines for Malaria Venture</i>
1:55 PM–2:20 PM	Working at the Logistical Frontier of Clinical Research: How Do We Get Malarial Drugs to Pregnant and Lactating Women in the Real World? <i>TBA</i>
2:20 PM–2:45 PM	Above All Do No Harm: How Can Pregnancy Outcomes for Malarial Patients Be Monitored and How Can Benefit Be Measured in the Field? <i>Stephanie Dellicour, Liverpool School of Tropical Medicine</i>
2:45 PM–3:00 PM	Discussion
3:00 PM–3:30 PM	Break
3:30 PM–4:30 PM	Poster Session 1 Attended for Questions & Answers
7:00 PM–9:00 PM	BDRP Trivia Night Social <i>Organized by the Student Affairs Committee</i> <i>(Space is limited for this event)</i>

Tuesday, June 29, 2021

10:00 AM–10:45 AM	New and Prospective Member Meet and Greet <i>Organized by the Membership Committee</i>
11:00 AM–12:30 PM	Platform Session 2
11:00 AM–12:30 PM	Platform Session 3
11:00 AM–12:30 PM	Platform Session 4
12:30 PM–1:00 PM	Break
1:00 PM–3:00 PM	Cannabis in Pregnancy and Through Generations Symposium <i>Organized by the Public Affairs Committee</i> <i>Chairpersons: Poorni R. Iyer, California EPA and Marlissa Campbell, California EPA</i>
1:00 PM–1:05 PM	Introduction
1:05 PM–1:25 PM	Developmental Effects of Cannabis (Marijuana) Smoke and Δ^9 -THC: Recent Additions to California's Proposition 65 List <i>Marlissa Campbell, California EPA</i>

CME

1:25 PM–1:45 PM	A Review of Epidemiological Evidence in Humans of the Effects of Prenatal Exposure to Cannabis (Smoke and $\Delta 9$ -THC). <i>Farla Kaufman, California EPA</i>
1:45 PM–2:05 PM	A Clinical Perspective on Cannabis Use During Pregnancy <i>Torri Metz, University of Colorado–Denver</i>
2:05 PM–2:25 PM	Effects of Cannabinoids on the Developing Immune System <i>Prakash Nagarkatti, University of South Carolina School of Medicine</i>
2:25 PM–2:45 PM	Epigenetic Effects of Cannabis on the Developing Brain <i>Anissa Bara, Icahn School of Medicine</i>
2:45 PM–3:00 PM	Discussion

1:00 PM–3:00 PM

HESI Symposium Nonclinical Considerations for Inclusion of Pregnant and Lactating Women in Clinical Trials

Chairpersons: Kary Ellen Thompson, Janssen Pharmaceuticals and Dinesh J. Stanislaus, GlaxoSmithKline

1:00 PM–1:05 PM	Introduction <i>Kary Ellen Thompson, Janssen Pharmaceuticals</i>
1:05 PM–1:30 PM	The Time is Now: Why We Must Include Pregnant and Lactating Women in Drug Development <i>Belen Tornesi, Medicine for Malaria Medicine</i>
1:30 PM–1:55 PM	Nonclinical Evaluation of Medicines Used in Pregnancy/Lactation: Looking Back to Move Forward <i>Dinesh J. Stanislaus, GlaxoSmithKline</i>
1:55 PM–2:20 PM	Considerations for Evolution of the Nonclinical Toxicology Paradigm to Enable Clinical Trials in Pregnant/Lactating Patients <i>Kary Ellen Thompson, Janssen Pharmaceuticals</i>
2:20 PM–2:45 PM	Making Nonclinical Data Meaningful: Communicating Data and Risk Assessment with HCP and Women <i>Wendy Halpern, Genentech</i>
2:45 PM–3:00 PM	Discussion

1:00 PM–3:00 PM

Current Topics and Updates for Pregnancy Registries Workshop
(Joint with OTIS)

*Chairpersons: Lewis B. Holmes, MassGeneral Hospital for Children and
Keele Elise Wurst, GlaxoSmithKline*

1:00 PM–1:05 PM

Introduction

1:05 PM–1:25 PM

Criteria Used for Classifying Abnormalities
Identified in the Antiretroviral Pregnancy Registry
*Angela Scheuerle, UT Southwestern Medical
Center*

1:25 PM–1:45 PM

The Inclusion/Exclusion Criteria Used by the
North American Antiepileptic Drug (AED)
Pregnancy Registry
*Lewis B. Holmes, MassGeneral Hospital for
Children*

1:45 PM–2:05 PM

An Update on the Use of Social Media to Recruit
Enrollees in Pregnancy Registries
Nicole Chavez, Nicole Chavez Public Relations

2:05 PM–2:25 PM

To Be Selected from Abstracts
TBA

2:25 PM–2:45 PM

To Be Selected from Abstracts
TBA

2:45 PM–3:00 PM

Discussion

3:00 PM–3:30 PM

Break

3:30 PM–4:30 PM

Poster Session 2
Attended for Questions & Answers

Wednesday, June 30, 2021

11:00 AM–12:30 PM

Innovator Award Finalists Platform Session 5

Chairperson: Philip Lupo, Baylor College of Medicine

12:30 PM–1:00 PM

Warkany Tea

1:00 PM–3:00 PM

CME

**Molecular Mechanisms of Fetal Alcohol Spectrum Disorders (FASD) in
Humans and Animal Models Symposium**
(Joint with DNTS)

*Chairpersons: Peter G. Wells, University of Toronto and
Rajesh C. Miranda, Texas A&M Health Science Center*

1:00 PM–1:05 PM

Introduction

1:05 PM–1:30 PM

Oxidative DNA Damage and Repair and
Epigenetic Mechanisms in FASD
Peter G. Wells, University of Toronto

1:30 PM–1:55 PM	Epigenetic Mechanisms: Endocrine miRNAs in Pregnant Women, Predictive of FASD Infant Outcomes, Inhibit Placental Maturation and Result in Fetal Growth Restriction <i>Rajesh C. Miranda, Texas A&M Health Science Center</i>
1:55 PM–2:20 PM	Neural Stem Cell Modeling of FASD: Mouse Strain- and Sex-dependent Effects of Alcohol on DNA Methylation <i>Mojgan Rastegar, University of Manitoba</i>
2:20 PM–2:45 PM	FASD Predisposes to Metabolic Abnormalities in Adulthood <i>Wolfram Goessling, Brigham and Women's Hospital, Harvard Medical School</i>
2:45 PM–3:00 PM	Discussion

1:00 PM–3:00 PM

Refining Toxicology Testing to Detect Endocrine Disrupting Chemicals Symposium

Chairpersons: Kembra L. Howdeshell, National Institute of Environmental Health Sciences and Heather B. Patisaul, North Carolina State University

1:00 PM–1:05 PM	Introduction
1:05 PM–1:30 PM	Consortium Linking Academic and Regulatory Insights on BPA Toxicity (CLARITY-BPA): Findings and Implications for Future Toxicity Testing <i>Kembra L. Howdeshell, National Institute of Environmental Health Sciences</i>
1:30 PM–1:55 PM	Behavioral Testing for EDCs: Bisphenol A as a Case Study <i>Heather B. Patisaul, North Carolina State University</i>
1:55 PM–2:20 PM	Validation of <i>In Vitro</i> Thyroid Mechanistic Methods at the Organization of Economic Cooperation and Development <i>Sandra Coecke, European Commission</i>
2:20 PM–2:45 PM	Case-Study applications using evidence-based approaches to assess endocrine activity for risk assessment <i>Daniele Wikoff, ToxStrategies, Inc.</i>
2:45 PM–3:00 PM	Discussion

3:00 PM–3:30 PM

Break

3:30 PM–4:30 PM

Poster Session 3

Attended for Questions & Answers

4:30 PM–5:30 PM

BDRP 40th Annual Volleyball Game, A Virtual NETworking Event

Thursday, July 1, 2021

11:00 AM–12:30 PM

CME

Close the Gap: Transforming Women's Health Through Better Information on the Safety of Medications During Pregnancy and Lactation Symposium
(Joint with OTIS)

*Chairpersons: Janet R. Hardy, Consultant and
Elizabeth A. Conover, University of Nebraska Medical Center*

11:00 AM–11:05 AM	Introduction
11:05 AM–11:25 AM	PRGLAC: Recommendations and Next Steps <i>Leyla Sahin, US Food and Drug Administration</i>
11:25 AM–11:45 AM	Conception: Update <i>Marie Teil, UCB Pharma</i>
11:45 AM–12:05 PM	BDRP, OTIS, and the PRGLAC <i>Janet R. Hardy, Consultant</i>
12:05 PM–12:30 PM	Discussion <i>Melissa S. Tassinari, Consultant</i>

11:00 AM–12:30 PM

Hot Topic Symposium
Assessing Reproductive Risks from Fracking and Mountaintop Mining

*Chairpersons: Christine Perdan Curran, Northern Kentucky University and
Philip Lupo, Baylor College of Medicine*

11:00 AM–11:05 AM	Introduction
11:05 AM–11:20 AM	Intensity of Oil and Gas Well Site Activities in Early Pregnancy and the Risk of Structural Birth Defects <i>Lisa McKenzie, Colorado School of Public Health</i>
11:20 AM–11:35 AM	Drinking Water Vulnerability and Neonatal Health Outcomes in Relation to Oil and Gas Production in the Appalachian Basin <i>Nicole Deziel, Yale University School of Public Health</i>
11:35 AM–11:50 AM	Assessing Reproductive Risks from Fracking and Mountaintop Mining <i>Timothy Nurkiewicz, West Virginia University</i>
11:50 AM–12:05 PM	Fuel for Thought: Summing Up the Risks from Unconventional Energy Extraction <i>Christine Perdan Curran, Northern Kentucky University</i>
12:05 PM–12:30 PM	Discussion

12:30 PM–1:00 PM

Break

1:00 PM–3:00 PM

New Frontiers in Developmental Toxicity Testing for Environmental Chemicals Workshop

Organized by the Science Committee

Chairpersons: Thomas B. Knudsen, US Environmental Protection Agency and Susan Y. Euling, US Environmental Protection Agency

1:00 PM–1:05 PM

Introduction
Susan Y. Euling, US Environmental Protection Agency

1:05 PM–1:30 PM

Challenges and Opportunities: Building NAMs to Reflect Developmental Stage Complexity
Elaine M. Faustman, University of Washington

1:30 PM–1:55 PM

Novel Nonmammalian Whole Animal Approaches to Assessing Neurobehavioral Development
Randall T. Peterson, University of Utah

1:55 PM–2:20 PM

Defining Spatial-Temporal Developmental Programs: Single-Cell Resolution of Gene Expression during Heart Development
Yvanka De Soysa, Boston Children's Hospital

2:20 PM–2:45 PM

Predictive Developmental Toxicity with Pluripotent Stem Cell Models and ToxCast/Tox21 Assay Batteries
Thomas B. Knudsen, US Environmental Protection Agency

2:45 PM–3:00 PM

Discussion

3:00 PM–3:30 PM

Break

3:30 PM–4:30 PM

Annual Meeting Awards Presentation and Business Meeting

Wilson Presentation Awards

Marie Taubeneck Award

James C. Bradford Memorial Student Poster Awards

BDRP Innovator Award

Birth Defects Research Distinguished Scholar Award

Edward W. Carney Distinguished Service Award

Recognition of Other Awards Presented throughout the Week

Annual Business Meeting

Education Courses

Thursday, July 15, 2021

11:00 AM–2:30 PM

**Education Course Session 1
Development and Disorders of the Gastrointestinal (GI) Tract**
(Separate Registration Required)

Organized by the Education Committee

Chairperson: Christina M. Carruthers, Janssen Pharmaceuticals

11:00 AM–11:05 AM	Course Overview <i>Education Committee, Chairperson, Christina M. Carruthers, Janssen Pharmaceuticals</i>
11:05 PM–11:45 AM	Early Development <i>Wendy Halpern, Genentech</i>
11:45 AM–12:25 PM	Mechanisms of Gut Stem Cell Niches in Early Postnatal Gut Development and Necrotizing Enterocolitis <i>Tae-Hee Kim, The Hospital for Sick Children, University of Toronto</i>
12:25 PM–12:40 PM	Discussion
12:40 PM–12:55 PM	Break
12:55 PM–1:35 PM	Embryology and Pathogenesis of Gastroschisis: <i>Marcia Lynn Feldkamp, University of Utah</i>
1:35 PM–2:15 PM	Clinical Management <i>Suna Seo, US Food and Drug Administration</i>
2:15 PM–2:30 PM	Discussion

Thursday, July 22, 2021

11:00 AM–2:30 PM

**Education Course Session 2
Craniofacial Morphogenesis and Teratogenesis**
(Separate Registration Required)

Organized by the Education Committee

Chairperson: Christina M. Carruthers, Janssen Pharmaceuticals

11:00 AM–11:05 AM	Course Overview <i>Education Committee, Chairperson, Christina M. Carruthers, Janssen Pharmaceuticals</i>
11:05 PM–11:45 AM	Early Development <i>John DeSesso, Exponent</i>
11:45 AM–12:25 PM	Control and Dysregulation <i>Robert Lipinski, University of Wisconsin</i>
12:25 PM–12:40 PM	Discussion

12:40 PM–12:55 PM	Break
12:55 PM–1:35 PM	Clinical Management <i>Marilyn Jones, Rady Children's Hospital</i>
1:35 PM–2:15 PM	Clinical Management <i>Marilyn Jones, Rady Children's Hospital</i>
2:15 PM–2:30 PM	Discussion

Thursday, July 29, 2021

11:00 AM–1:00 PM

**Mini Course
Single-Cell RNA Sequencing in Understanding Normal and Abnormal
Development**

(Separate Registration Required)

Organized by the Education Committee

Chairperson: Christina M. Carruthers, Janssen Pharmaceuticals

11:00 AM–11:05 AM	Course Overview <i>Education Committee, Chairperson, Christina M. Carruthers, Janssen Pharmaceuticals</i>
11:05 AM–11:30 AM	TBA <i>Thomas B Knudsen, US EPA</i>
11:30 AM–11:55 AM	TBA <i>Ivanka de Soysa, Boston Children's Hospital</i>
11:55 AM–12:20 PM	TBA <i>Joshua F. Robinson, University of California, San Francisco</i>
12:20 PM–12:45 PM	TBA <i>David Gallegos, US EPA</i>
12:45 PM–1:00 PM	Discussion