

Welcome to the 5th Meeting of the



**Rizzo Center
Chapel Hill, NC
November 7-9, 2021**

US DOHaD Society 5th Annual Meeting

November 7-9th 2021

“WOMB AND CRADLE: DEVELOPMENTAL EXPOSURES AFFECTING THE TRAJECTORY OF HEALTH AND DISEASE”

The Rizzo Center, Chapel Hill, North Carolina, USA

Scientific Program Officer: Phu V Tran, PhD

Organizing Committee:

Bevin Blake, PhD

Danielle Christifano, PhD

Suzanne Fenton, PhD

Thea Golden, PharmD, PhD

Folami Ideraabdullah, PhD

Cheryl Rosenfeld DMV, PhD

Hudson Santos, PhD

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Acknowledgments:

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NOTES

MEETING AGENDA

DAY 1: Sunday (November 7th, 2021, Daylight Saving Time ends: Fall back 1h)

8:00AM – 6:00 PM Career Development for Trainees and Junior Faculty

8:00AM – 9:00 AM Meet and Greet Breakfast

Magnolia Room – Trainee Session

9:00AM - 12:00PM Session I: How I got from here to there... and what I learned along the way

9:00 – 9:20 Dr. Matthew Gillman, ECHO Program Director

9:20 - 9:40 Dr. Lyric Jorgenson, NIH Acting Director of Science Policy

9:40 - 10:00 Dr. Elizabeth Martin, Epigenetics & Stem Cell Biology, NIEHS

10:00 - 10:30 Discussion: Q & A for Panelists

10:30 – 10:45 AM Coffee Break

10:45 – 11:05 Academic career (Dr. Rebecca Fry, UNC-Chapel Hill)

11:05 - 11:25 Industry-related career (Dr. Ashley Peppriell, ICF)

11:25 - 11:55 Discussion: Q & A for Panelists

12:00 – 1:30 PM Lunch (Round table discussion/Networking)

1:30 - 6:00 PM Session II: Preparing for the Next Step

1:30 – 2:30 Preparing an Elevator Pitch - Dr. Robert Lane, MD, MS

2:30 – 3:30 Effective Grant Writing Tips

Dr. Jerry Heindel, retired Program Officer, NIEHS

Co-Director, Healthy Environment and Endocrine Disruptor Strategies

3:30 – 3:45 Coffee Break

3:45 - 5:00 CV and Research Statement Writing Tips, and Bookends
Tammy Collins; Director, NIEHS Office of Fellows' Career Development,
“Articulating Your Accomplishments: Tips for Building a High-Impact Job
Application and Acing the Interview”

5:00 – 5:30 Break/End of training day

5:30 – 6:00 US DOHaD Council Business Meeting

6:00 – 7:00 PM Social hour

DAY 2: Monday (November 8th, 2021)

Magnolia Room – Plenary Sessions

8:00 – 8:10AM Welcome and Introduction by Dr. Cheryl Rosenfeld, DMV, PhD, Professor, College of Veterinary Medicine, University of Missouri(Presiding President of US DOHaD)

8:10 - 8: 45AM **Opening Talk:** Dr. Jerrold Heindel, PhD, Co-Director, Healthy Environment and Endocrine Disruptor Strategies

8:45 – 10:30AM **Theme 1: Gestational Environmental Exposures: Placental and Fetal Outcomes**

Session Chair: Dr. Tracy Manuck, MD, Associate Professor of Obstetrics and Gynecology, University of North Carolina at Chapel Hill

8:45 - 9:15AM Keynote Speaker: Dr. Suzanne E Fenton, PhD. Group Leader, DNTP/NIEHS, Mechanistic Toxicology Branch.

“The Placenta as a Sensitive Target for Emerging PFAS contaminants”.

9:15 – 9:45AM Jr Investigator: Dr. Phoebe Stapleton, PhD, ATC, Assistant Professor of Pharmacology and Toxicology, Rutgers University.

“Is the Placenta a Barrier to Nanosized Particles?”

9:45 – 10:30AM Platform Session I

1. (9:45 - 10:00) Dr. Khusheed Iqbal, PhD, Assistant Professor

“The role of Aryl hydrocarbon receptor signaling in trophoblast cell development”

2. (10:00 - 10:15) Dr. Danielle Stevens, PhD, Postdoctoral Fellow

“Urinary phthalate and metabolites mixtures in pregnancy, omega-3s, and fetal growth”

3. (10:15 - 10:30) Jesse Tehrani, BS, Graduate Student

“Placental microRNAs dysregulated by gestational cadmium exposure are implicated in placentation and neurodevelopment”

10:30 – 10:45AM Coffee Break

10:45A – 12:30PM **Theme 2: Gestational Nutritional/Obesity: Maternal, Placental and Fetal Health**

Session Chair: Dr. Ganesa Wegienka, PhD, Associate Scientist, Department of Public Health Sciences, Henry Ford Health System, MI

10:45 – 11:15A Keynote Speaker: Dr. Alina Maloyan, PhD, FAHA, Associate Professor, Knight Cardiovascular Institute, OHSU.

“Role of Glycoprotein Dipeptidyl-peptidase 4 (DPP4) in Programming Effects of Maternal Obesity”

- 11:15 – 11:45A Jr Investigator: Dr. Martha Susiarjo, PhD., Assistant Professor, Department of Environmental Medicine, University of Rochester School of Medicine and Dentistry.
“Vitamin B6 and Maternal Health During Pregnancy”
- 11:45 – 12:30P Platform Session II
1. (11:45 -12:00PM) Dr. Jennifer Adibi, MPH, ScD
“Phthalate exposures and effects on the placental DOHADogen, human chorionic gonadotropin: a second wave of findings.”
 2. (12:00 - 12:15PM) Shirelle Liu, BS, Graduate Student
“Chromatin accessibility and histone H3K9me3 landscape revealed the altered epigenome by fetal-neonatal iron deficiency in the adult rat hippocampus”
 3. (12:15 - 12:30PM) Dr. Kaela Varberg, PhD, Postdoctoral Fellow
“HIF2a is critical for extravillous trophoblast cell lineage development”
- 12:30 – 2:00PM Lunch/Networking
- 2:00 – 4:00PM Theme 3: Gene and Environment Interaction: Gene, Epigenetics, and Fetal Programming**
- Session Chair: Dr. Folami Ideraabdullah, PhD, Associate Professor of Genetics and Nutrition, University of North Carolina at Chapel Hill
- 2:00 - 2:30PM Keynote Speaker: Dr. Julienne Rutherford, PhD, Associate Professor and Associate Head, Department of Human Development Nursing Science, University of Illinois at Chicago.
“Womb to womb: Intergenerational influences on reproductive development and pregnancy outcomes in the common marmoset monkey”
- 2:30 – 3:00PM Jr Investigator: Dr. Arjun Bhattacharya, PhD, Postdoctoral Fellow, University of California, Los Angeles.
“Distal Mediator-Enriched, Placental Transcriptome-Wide Analyses Illustrate the Developmental Origins of Health and Disease”.
- 3:00 – 4:00PM Platform Session III
1. (3:00 - 3:15PM) Dr. Reid S Alish, PhD, Assistant Professor
“Cord blood DNA methylation modifications in infants are associated with white matter microstructure related to prenatal-maternal depression and anxiety”
 2. (3:15 - 3:30PM) Dr. Bevin Blake, PhD, Postdoctoral Fellow, EPA
“Developmental exposure to perfluorooctanoic acid (PFOA) or hexafluoropropylene oxide-dimer acid (HFPO-DA, a GenX chemical) disrupts biologic pathways in maternal and fetal liver in CD-1 mice”
 3. (3:30 - 3:45PM) Lauren Eaves, BSPH, Graduate Student
“Prenatal exposure to toxic and essential metal/metalloid mixtures is associated with placental genomic signatures”
 4. (3:45 - 4:00PM) Dr. Tate Gisslen, MD, Assistant Professor

“Effect of fetal inflammation on the developing rat hippocampus”

4:00 – 4:15PM

Coffee Break

4:15 – 5:30PM

Poster-Platform Session I (3-5 min slide presentation/2-3min Q&A)
Session Chairs - Drs. Thea Golden, PharmD, PhD and Bevin Blake, PhD

6:00 – 8:30PM Reception Dinner

DAY 3: Tuesday (November 9th)

Magnolia Room – Plenary Sessions

8:00 – 8:30AM

Milestones of the US DOHaD Society

Address by Past President – Dr. Robert Lane, MD, MS, Executive VP/Physician-in-Chief, Schellhorn Family Endowed Chair in Medical Administration, Children’s Mercy Kansas City

8:30 – 11:00AM

Theme 4: DOHaD Research in the Environmental Influences on Child Health Outcomes Project

Session Chair: Dr. Linda Adair, PhD, Professor, Department of Nutrition, Gillings School of Global Public Health, University of North Carolina at Chapel Hill

8:30 – 9:00AM

Keynote Speaker: Dr. Rosalind Wright, MD, MPH, Dean for Translational Biomedical Research, Professor of Pediatrics, Environmental Medicine & Public Health, Icahn School of Medicine at Mount Sinai.

9:00 – 11:00AM

Platform Session IV

1.

(9:30 - 9:45AM) Dr. Alison Paquette, PhD, Assistant Professor
“A comprehensive assessment of association between prenatal phthalate exposure and the placental transcriptomic landscape”

2.

(9:45 - 10:00AM) Dr. Izzuddin Aris, PhD, Assistant Professor
“Association of early-life growth with offspring pubertal development: A nationwide US multi-cohort study”

3.

(10:00 - 10:15AM) Dr. Catherine Bulka, PhD, Postdoctoral Fellow
“Sexual differences in placental epigenetic profiles related to gestational age: An NIH ECHO meta-analysis”

4.

(10:15 - 10:30AM) Dr. Jerod Rasmussen, PhD, Postdoctoral Fellow
“Maternal pre-pregnancy body mass index and newborn offspring hypothalamic mean diffusivity” (*Zoom*)

5.

(10:30 - 10:45AM) Carmen Marable, MPH, Graduate Student
“Origins of Cerebral White Matter Damage: The Placental Transcriptome-Brain Axis in Extremely Preterm Infants”

6.

(10:45 - 11:00AM) Dr. Lauren Petrick, PhD, Associate Professor
“Comparison of long-term storage conditions on chemical profiling of dried blood spots, dried blood microsamplers, and plasma” (*Zoom*)

11:00 – 11:10AM	Coffee Break
11:10A – 12:00PM	Poster-Platform session II (3-5 min slide presentation/2-3min Q&A) Session Chairs - Drs. Bevin Blake, PhD and Thea Golden, PharmD, PhD
12:00 – 1:00PM	Lunch/Networking
1:00 – 3:30PM	Theme 5: Early Origins of Cardiometabolic and Metabolic Disorders Session Chair: Dr. Robert Lane, MD, MS, Executive VP/Physician-in-Chief, Schellhorn Family Endowed Chair in Medical Administration, Children’s Mercy Kansas City
1:00 - 1:30PM	Keynote Speaker: Dr. Robert M. Sargis, MD, PhD, Associate Professor of Medicine, Division of Endocrinology, Diabetes, and Metabolism, University of Illinois at Chicago. “Miscoding Metabolism: Developmental Origins of Diabetes and Metabolic Dysfunction”
1:30 – 2:00PM	Jr Investigator: Dr. Thea Golden, PharmD, PhD., Postdoctoral Fellow, Children’s Hospital of Philadelphia, University of Pennsylvania. “Role of Extracellular Vesicles in Metabolic Programming”
2:00 - 3:15PM	Platform Session V
1.	(2:00 - 2:15PM) Laetitia Meyrueix, BS, Graduate Student “Developmental programming of the placental epigenetic landscape by gestational diabetes mellitus”
2.	(2:15 - 2:30PM) Alexis Roach, BS, Veterinary Student “Nonhuman primate pregnancies at advanced maternal age show markers of poor metabolic health”
3.	(2:30 - 2:45PM) Dr. Musa Kana, MD, PhD, Visiting Research Fellow “Piloting the Kaduna infant development (KID) birth cohort study in Nigeria”
4.	(2:45 - 3:00PM) Dr. Nadia Saadat, PhD, Postdoctoral Fellow “Developmental programming of liver transcriptome by prenatal BPA in female sheep”
5.	(3:00 - 3:15PM) Dr. Kylie Kavanagh, DVM, Associate Professor “Juvenile reprogramming of monocytes and adipose gene expression based on maternal health and obesity status”
3:15 - 3:40PM	Presentation of US DOHaD Science Awards
3:40 – 4:00PM	US DOHaD Membership Business Meeting
4:30PM	Wrap up and Farewell