

Transgenerational Inheritance: State of the Science

April 21-22, 2016

Natcher Auditorium Balcony B, NIH Campus, Bethesda, MD.

http://tools.niehs.nih.gov/conference/transgenerational_2016/

Day 1: April 21, 2016

8:00 a.m. Registration

8:30 a.m. Welcome

Linda Birnbaum, Ph.D., National Institute of Environmental Health Sciences

Session I: Many Exposures, Many Endpoints

Chair: Sharon Ross, Ph.D., National Cancer Institute

8:45 a.m. "Transgenerational Inheritance: Transformation or Transgression"

Marisa Bartolomei, Ph.D., University of Pennsylvania

9:35 a.m. "Transgenerational Inheritance of Prenatal Obesogen Exposure"

Bruce Blumberg, Ph.D., University of California-Irvine

10:05 a.m. "Paternal Stress Programming of Sperm miRNA and Offspring Neurodevelopment"

Tracy Bale, Ph.D., University of Pennsylvania

10:35 a.m. Break

10:55 a.m. "Multi- and Transgenerational Effects of Parental Drug Exposure"

Fair Vassoler, Ph.D., Tufts University

11:25 a.m. "Maternal High Fat Intake During Pregnancy and Increased Mammary Tumorigenesis in F3 Generation Female Mice Offspring"

Leena Hilakivi-Clarke, Ph.D., Georgetown University

11:55 a.m. "Inheritance of Environmentally Induced Epigenetic States"

David Martin, M.D., Children's Hospital Oakland Research Institute

12:25 p.m. Lunch (pick up boxed lunches)

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Panel Discussion A: Burden of Proof and Validation of Transgenerational Studies

Moderator: Andrea Beckel-Mitchener, Ph.D., National Institute of Mental Health

1:20 p.m. Panelists:
Susan Erdman, D.V.M., Massachusetts Institute of Technology
Andrea Gore, Ph.D., University of Texas at Austin
John Greally, Ph.D., Albert Einstein College of Medicine
Vickie Walker, National Toxicology Program

Session II: Possible Mechanisms of Transmission Across Generations

Chair: Susan Taymans, Ph.D., National Institute of Child Health and Human Development

2:05 p.m. “Environmentally Induced Epigenetic Transgenerational Inheritance of Disease and Mechanism Involved”
Mike Skinner, Ph.D., Washington State University

2:50 p.m. “Exploring the Role of Histone Methylation in Transgenerational Inheritance in Mice and Men”
Romain Lambrot, Ph.D., McGill University

3:20 p.m. Break

3:40 p.m. “Sperm Small RNAs as the Carrier of Epigenetic Information “
Wei Yan, M.D., Ph.D., University of Nevada

4:10 p.m. “Microbe Modulate Transgenerational Cancer Risks”
Susan Erdman, D.V.M., Massachusetts Institute of Technology

Panel Discussion B: Mechanisms of Transmission Across Generations

Moderator: Amy Lossie, Ph.D., National Institutes of Health

4:40 p.m. Panelists:
Tracy Bale, Ph.D., University of Pennsylvania
Victor Corces, Ph.D., Emory University
Michael Skinner, Ph.D., Washington State University
Miklos Toth, M.D., Ph.D., Weill Cornell Medical College

5:25 p.m. Adjourn for the Day

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Day 2: April 22, 2016

8:30 a.m. “Mendel 2.0: Modes, Molecules and Mechanisms of Epigenetic Inheritance”
Joseph Nadeau, Ph.D., Pacific Northwest Diabetes Research Institute

Session III: Utility of Non-Mammalian Models in Transgenerational Studies
Chair: Michael Reddy, Ph.D., National Institute of General Medical Sciences

9:20 a.m. “RNAi Inheritance and Germline Immortality “
Scott Kennedy, Ph.D., Harvard University

9:50 a.m. “Zebrafish as a Model for Dioxin Induction of Transgenerational Inheritance of Disease”
Tracie Baker, D.V.M., Ph.D., Wayne State University

10:20 a.m. Break

Session IV: Implications for Human Populations
Chair: Michael Reddy, Ph.D., National Institute of General Medical Sciences

10:35 a.m. “Challenges in Conducting Transgenerational Studies in Humans: an Example From the Bogalusa Heart Study”
Emily Harville, Ph.D., Tulane University

11:05 a.m. “Ethical Implications for Human Populations”
Mark Rothstein, J.D., University of Louisville

Panel Discussion C: What’s Next? What’s Needed?
Moderator: John Satterlee, Ph.D., National Institute on Drug Abuse

11:35 a.m. Panelists:
Marisa Bartolomei, Ph.D., University of Pennsylvania
Emily Harville, Ph.D., Tulane University
David Martin, M.D., Children’s Hospital Oakland Research Institute
Joseph Nadeau, Ph.D., Pacific Northwest Diabetes Research Institute

12:20 p.m. Wrap-up
Lisa Helbling Chadwick, Ph.D., National Institute of Environmental Health Sciences

12:30 p.m. Adjourn