The conference will focus on generating strategies for fruitful collaboration between population health sciences and biologists to shed light on the following issues: (a) mechanisms through which early life conditions influence adult health and diseases with the goal of moving beyond the Barker Hypothesis; (b) what is the potential role of epigenetic changes as pathways linking early conditions and adult health and disease and, relatedly, how can we empirically test conjectures about transgenerational effects; (c) what role does the microbiome play in these processes? We will also explore and assess strategies to utilize population based data collection projects (ongoing or planned) to answer the key problems or questions that need to be elucidated to move forward. We hope to provide an opportunity to generate innovative approaches to data collection, as well as innovative tools to generate causal analysis in the context of observational data.

Breakfast 8:00-8:30am

Introduction and Keynote Speaker: 8:30-9:30am
Caleb Finch, University of Southern California
Environmental Inflammogens and ApoE alleles in Brain Development & Aging

Break 9:30-9:45am

Panel 1: Gut Microbiome 9:45-10:45am
Katherine Amato, Northwestern University: Gut Microbes: Along for the Ride Or a Critical Pathway for Determining Long Term Health Outcomes
Pam Herd, University of Wisconsin-Madison, Wisconsin Longitudinal Study (WLS): Social Determinants of the Gut Microbiome

Panel 2: Epigenetics 10:45-11:45am
Christopher Kuzawa, Northwestern University: The Long Reach of History: Pathways Linking Phenotypes with Ancestral Environments
Thomas McDade, Northwestern University: Early Environments, the Regulation of Inflammation, and Implications for Health within and across Generations

Lunch: Boxed Lunches & Beverages provided Noon-1:00pm

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Panel 3: Epigenetics
1:00-2:15pm

Michael Kobor, University of British Columbia: Epigenetic Embedding of Early Life Experiences – How Environments Get Under the Skin
Kimberly Krautkramer, UW-Madison: Interactions between Environment, the Gut Microbiota, and Host Chromatin
Kymberleigh Romano, UW-Madison: Microbe-Diet Interactions Modulate Nutrient Availability and Transgenerational Epigenetic Programming

Break
2:15-2:30pm

Panel 4: Data Collection Practices
2:30-4:15pm
Colter Mitchell, University of Michigan, Fragile Families and Child Well Being Study
Pamela Herd, UW-Madison, Wisconsin Longitudinal Study (WLS)
Kristen Malecki, UW-Madison, Survey of the Health of Wisconsin (SHOW)
Nancy Dole, National Longitudinal Study of Adolescent to Adult Health (Add Health)

Final Discussion:
4:15-5:00pm
Future Directions and Collaborations

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