BRIGHAM AND WOMEN'S HOSPITAL
HARVARD MEDICAL SCHOOL

181 Longwood Avenue
Boston, Massachusetts 02115-5804

Department of Medicine
Channing Division of Network Medicine

Channing Microbiome Seminar

January 13 (Friday), 2022, 9AM-10AM (ET)

Zoom: https://us02web.zoom.us/j/81070959105?pwd=RFJNd3dSZmR6dXJZNjJiYVVzQ3NEQT09
Meeting ID: 810 7095 9105
Passcode: 984617

Kathleen A. Lee-Sarwar, MD

Channing Division of Network Medicine
Division of Allergy and Clinical Immunology
Brigham and Women's Hospital
Harvard Medical School

The Maternal Prenatal and Offspring Early-Life Gut Microbiome of Asthma

Abstract: The infant fecal microbiome is known to impact subsequent asthma risk, but the environmental exposures impacting this association, the role of the maternal microbiome, and how the microbiome impacts different childhood asthma phenotypes are unknown. To identify associations between features of the prenatal and early-life fecal microbiomes and child asthma phenotypes, we analyzed fecal 16 s rRNA microbiome profiling and fecal metabolomic profiling from stool samples collected from mothers during pregnancy and their offspring at multiple early-life time points. We identified maternal and offspring fecal taxa associated with asthma, and a longitudinal gut microenvironment profile was associated with early asthma. Though mode of delivery was not directly associated with asthma, we found substantial evidence for a pathway whereby cesarean section reduces fecal *Bacteroides* and microbial sphingolipids, increasing susceptibility to early asthma.

Bio: Dr. Lee-Sarwar is a physician scientist with a clinical specialty in Allergy and Immunology. She received her MD from Johns Hopkins University School of Medicine and earned an MS in Epidemiology from the Harvard T.H. Chan School of Public Health. She is an Instructor of Medicine at Harvard Medical School, Associate Scientist in the Channing Division of Network Medicine at Brigham and Women's Hospital and Associate Physician in the Division of Allergy and Clinical Immunology at Brigham and Women's Hospital. She studies the human gut microbiome and metabolome during pregnancy and early life and its association with offspring allergic diseases.

PARTNERS HEALTHCARE

Hosted by Yang-Yu Liu