



PFAST Network (Per- and Polyfluoroalkyl Substance Testing Network)

Meet Team 5e: Health effects following exposure- impacts on pregnancy outcomes

Rebecca Fry, Ph.D., Team 5 co-lead and team 5c project lead, is Professor and Associate Chair for Strategic Initiatives in Environmental Sciences and Engineering at UNC Chapel Hill. She is also Director of the Institute for Environmental Health Solutions in the Gillings School of Global Public Health. Dr. Fry is a leader in environmental epigenetics and her lab uses toxicogenomic and systems biology approaches to identify key molecular pathways that associate environmental exposures with development of human disease.

Tracy Manuck, M.D. M.S., project co-lead, is Associate Professor of Obstetrics & Gynecology at UNC Chapel Hill. She is a maternal-fetal medicine specialist and co-Director of the Prematurity Prevention Center at UNC-Chapel Hill. Dr. Manuck is a leading expert in spontaneous preterm birth and translational obstetrics.

Matthew Lockett, Ph.D., project co-lead, is Assistant Professor of Chemistry at UNC Chapel Hill. Dr. Lockett is an expert in 3D cell culture model development and validation with a focus on hormone-responsive tissues and cancers. His lab pioneered the paper-based invasion assays that the team is using to assess impacts of PFAS exposures on invasion and migration in JEG-3 placental cells.

Stephanie Sun, Pharm.D., Clinical Research Assistant at UNC Chapel Hill, data abstraction

Jackie Bangma, Ph.D., Postdoc at UNC Chapel Hill, conducting experiments and data analysis

Shelby Smith, Clinical Research Assistant at UNC Chapel Hill, human subjects recruitment

Team Objective: Determine levels of PFAS in drinking water; assess exposure in pregnant women; and investigate the impact of PFAS on the placenta and pregnancy outcomes as well as the mechanisms underlying the adverse effects. Specific aims include:

- Determine levels of PFAS in drinking water, placenta, cord blood, maternal urine, and maternal serum in a pregnancy cohort in NC.
- Examine PFAS-induced inflammatory effects on the placenta *in vitro*.