The first 1,000 days of life, spanning from conception until age 2, are of critical importance to short- and long-term health outcomes for infants and children. During this phase of life, proper nutrition is of key importance for supporting growth and developmental outcomes and is an optimal time for personalized/precision nutrition.

**Research Interests**
- Development of the gut microbiome and gut-brain-microbiome axis
- Genetic, microbiome and environmental determinants of childhood obesity
- Nutritional regulation of intestinal and cognitive development of neonates
- Bioactive components in human milk

**Current Projects**
- STRONG kids 2 longitudinal birth cohort study
  [https://www.familyresiliency.illinois.edu/strong-kids-program](https://www.familyresiliency.illinois.edu/strong-kids-program)
- Human milk oligosaccharides
- Milk bioactive proteins on infant microbiome and immune development

**Keywords**
First 1000 days, pediatrics, human milk, precision nutrition, microbiome, childhood obesity, neurocognitive development

**Interest Areas for Collaboration/Future Work**
Dr. Donovan is interested in working with data scientists to apply machine learning to data sets emerging from the STRONG kids 2 cohort including dietary intake, growth trajectories, health outcomes and ‘omic analyses. (microbiome, epigenome, and single nucleotide polymorphisms).