



JOHNS HOPKINS  
BIOMEDICAL ENGINEERING

# BME Virtual Seminar Series

## Jessilyn Dunn, PhD

Assistant Professor  
Duke University

Monday, September 20<sup>th</sup>, 2021  
1:30 p.m.  
Held via Zoom

Faculty host: Casey Overby Taylor



### The Digital Physiome: Wearables for Early Disease Detection

**Abstract:** Digital health is rapidly expanding due to surging healthcare costs, deteriorating health outcomes, and the growing prevalence and accessibility of mobile health and wearable technologies. Recent technological advancements make it possible to closely and continuously monitor individuals using multiple measurement modalities in real time. We are collecting and integrating such wearables data with clinical information to gain a more precise understanding of health and disease and develop actionable, predictive health models for improving cardiometabolic and infectious respiratory disease outcomes. We are simultaneously developing open source data science and machine learning tools for the digital health community, including the Digital Biomarker Discovery Pipeline (DBDP), to facilitate the use of mobile device data in healthcare.

**Bio:** Jessilyn Dunn is an Assistant Professor of Biomedical Engineering and Biostatistics & Bioinformatics at Duke University, and Director of the Duke BIG IDEAs Laboratory which is focused on biomedical data science and mobile health for digital biomarker discovery. Dr. Dunn is PI of the CDC-funded CovIdentify study to detect and monitor COVID-19 using mobile health technologies, which is built upon the team's previous infection detection work through the DARPA Prometheus and Biochronicity programs. Dr. Dunn was an NIH Big Data to Knowledge (BD2K) Postdoctoral Fellow at Stanford, an NSF Graduate Research Fellow at Georgia Tech & Emory, and a visiting scholar at the CDC and the National Cardiovascular Research Institute in Madrid, Spain. Her work has been internationally recognized with media coverage from the NIH Director's Blog to Wired, Time, and US News and World Report.