Special event cosponsored by the Harvard Data Science Initiative

Monday, October 30, 2017 | 1:15-2:15 PM
Minot Room, 5th Floor, Countway Library, HMS
Pizza lunch will be provided (available at 1:00pm)
** Reception to follow in the Ballard Room, Countway Library **

Susan Murphy, PhD
Professor of Statistics, Radcliffe Alumnae Professor at the Radcliffe Institute, Harvard University and Professor of Computer Science at the Harvard John A. Paulson School of Engineering and Applied Sciences

Assessing Time-Varying Causal Interactions and Treatment Effects with Applications to Mobile Health

Mobile devices along with wearable sensors facilitate our ability to deliver supportive treatments anytime and anywhere. Indeed mobile interventions are being developed and employed across a variety of health fields, including to support HIV medication adherence, encourage physical activity and healthier eating as well as to support recovery in addictions. A critical question in the optimization of mobile health interventions is: “When and in which contexts, is it most useful to deliver treatments to the user?” This question concerns time-varying dynamic moderation by the context (location, stress, time of day, mood, ambient noise, etc.) of the effectiveness of the treatments on user behavior. In this talk we discuss the micro-randomized trial design and associated data analyses for use in assessing moderation. We illustrate this approach with the micro-randomized trial of HeartSteps, a physical activity mobile intervention.