BIOSTATISTICS SEMINAR

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Biostatistical Methods for Wearable Devices with Applications to NHANES and UK Biobank

Abstract:

Wearable devices, such as accelerometers and heart monitors, are used in health research because they provide objective, continuous, unbiased, and detailed information about human activity either in the laboratory or the free-living environment. In this talk I will explore the different resolutions of the data, ways to summarize it, and inferential methods for exploring the associations with health outcomes. We will illustrate these methods using large, publicly available datasets, including the NHANES and UK Biobank.

Questions for students:

1. How do think that your smart phone recognizes specific physical activities? Could you design an algorithm that mimics what you think your smart phone does?

2. Smart devices regularly record the number of steps per unit interval (e.g., number of steps per minute). How would you analyze data where for hundreds of thousands of individuals you have physical activity data at every minute of a day?

3. Same question as 2, but now you have months of data for every individual.

October 14, 2021   **133 Rosenua Hall**   **3:30-4:30 PM**

Zoom Link:
https://unc.zoom.us/j/93545206596? pwd=N1IKeVZjSFhuM2lhSDJCWjN3c21BUT09
Meeting ID: 935 4520 6596   Passcode: 823321

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