**Title**: Using movement as a marker to trace human activity and contact patterns

**Abstract**: This research uses movement as a marker to study interactions and activity patterns of humans to better understand their collective behaviors. Ubiquitous tracking and collection of movement data have been instrumental to understanding human space use and interactions. Movement data at both trajectory and aggregate forms can be used to estimate human exposure to health risk factors such as infectious diseases and viruses as witnessed during the ongoing COVID-19 pandemic. This talk demonstrates the advantage of applying a time-geographic approach to trace space-time contact patterns over the state-of-the-art proximity based approaches which are currently used in digital contact tracing applications.

**Bio**: Somayeh Dodge serves as Assistant Professor of Spatial Data Science and leads the MOVE Laboratory in the Department of Geography at the University of California, Santa Barbara. She received her PhD in Geography with a specialization in Geographic Information Science (GIScience) from the University of Zurich, Switzerland in 2011. She holds a MS degree in GIS Engineering and a BS degree in Geomatics Engineering from the KNT University of Technology, Iran. Somayeh's research focuses on developing data analytics, knowledge discovery, modeling, and visualization techniques to study movement in human and ecological systems. She has published in a number of high-ranked international journals such as *Methods in Ecology and Evolution*, *International Journal of Geographic Information Science*, *Philosophical Transactions of the Royal Society B*, *Journal of Spatial Information Science (JOSIS)*, *Movement Ecology*, *Computers, Environment and Urban Systems (CEUS)*, *Geographical Analysis*, and *Information Visualization*. Somayeh currently serves as the Co-Editor in Chief of the *JOSIS* as well as on the editorial board of multiple journals including *Geographical Analysis*, *Cartography and Geographic Information Science*, *CEUS*, *Journal of Location Based Services*, and *The Professional Geographer*.

