



## **Using smartphones for measuring social networks with high resolution**

Social networks have become prevalent in recent years due to online social networks such as Facebook and Twitter. However, the social embeddedness is neither new to human life nor limited to these online networks. In an unprecedented study at the Technical University of Denmark, 1000 freshman students were equipped with smartphones to study the dynamic social interactions within a large social system and across different levels of behaviour and communication. The smartphones collected information about face-to-face meetings (proximity estimated via Bluetooth), telecommunication (phone-calls, text messages), online social networks (Facebook friendships and interactions), geo-locations, wifi-signals, and a number of other data channels. Furthermore, participants answered questionnaires at multiple time points regarding their personality, study habits, and health-related behaviour. The data collection lasted 2.5 years and resulted in a dataset that allows both, in-depth analysis of single individuals, small groups as well as insights into the dynamics of larger social networks. The talk will summarize the key findings from this seminal study, with an emphasis on communities in dynamic networks and human mobility.

Sune Lehmann is an associate professor at the Technical University of Denmark, an adjunct (full) professor at University of Copenhagen's Department of Sociology, and an adjunct associate professor at the Niels Bohr Institute (Department of Physics, University of Copenhagen). He is the associate director of the Center for Social Data Science at University of Copenhagen. Sune's work focuses on the dynamics of complex networks as well as processes unfolding on such evolving networks. He is the author of multiple papers in high-impact journals such as Nature and PNAS and his work has received world-wide press coverage.

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*Using Smartphones for measuring social networks with high resolution* (Lecture in English)

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