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Mining networks of human contact with wearable sensors

ALAIN BARRAT, CPT Marseille, CNRS, France & ISI Foundation, Torino, Italy

Due to the development of sensors of various types and the use of digital media and computational devices, we increasingly leave digital traces of our daily activities. The scale at which such data can be gathered and analyzed makes possible a novel, data-driven approach to the investigation of various aspects of human behavior. In this talk, I will focus on the research done within the SocioPatterns project (www.sociopatterns.org), in which we have developed the SocioPatterns sensing platform to obtain longitudinal datasets on face-to-face contact events between individuals in a variety of contexts ranging from scientific conferences to museum, schools or hospitals. The gathered data sets consists in dynamic networks of human contacts, and their analysis reveal interesting similarities and differences of human interaction patterns across contexts. I will also consider the impact of the temporal resolution, which allows to take into account causality constraints, on dynamical processes occurring on networks, such as spreading processes.