

## Abstract:

Wearable computing is a shift in computing paradigm. Computers are no longer machines separate from the persons using them. Instead, they are an unobtrusive extension of our very bodies, providing us with additional ubiquitous sensing, feedback and computational capabilities. This opens new possibilities: context-aware smart-assistants that react to our activities, emotions, or social interactions to provide just-in-time assistance.

I will present some of the work done at the University of Sussex Sensor Technology Research Centre along new sensor modalities (e.g. electric field sensing), methods for opportunistic context recognition, and how to scale up activity sensing to crowds.

Finally I will conclude mentioning some ongoing initiatives and new themes we wish to explore in the future.

## Daniel Roggen:

My research activities lie in ***computational behaviour analytics in wearable, mobile and ubiquitous computing***: the use of machine learning techniques, miniature sensors, and online data sources to **recognize and understand human behaviours, activities, and context**, including **social interactions and cognitive-affective states**. I emphasize novel sensing modalities and embedding this intelligence in miniature and mobile devices, multimodal sensor fusion approaches that scale to sensor-rich environments, and follow a lifelong adaptive machine learning paradigm for use in open-ended environments.

I graduated from EPFL in 2005 with a PhD in bio-inspired robotics at EPFL. Afterwards I led the activity/context recognition activities at the Wearable Computing Laboratory at ETH Zürich. I am now Reader (assoc. prof.) in Sensor Technology at the University of Sussex.