SOE 2: Focus Session: Swarm Intelligence

Time: Monday 10:15–11:45 Location: GÖR 226

Invited Talk SOE 2.1 Mon 10:15 GÖR 226
Social Media and Attention — •Bernardo Huberman — Social Computing Lab, HP Labs

The past decade has witnessed a momentous transformation in the way people interact and exchange information with each other. Content is now co-produced, shared, classified, and rated by millions of people, while attention has become the ephemeral and valuable resource that everyone seeks to acquire.

This talk will describe the ways through which social attention determines the production and consumption of content within both the scientific community and social media, how its dynamics can be used to predict the future, and its role in affecting the public agenda.

Invited Talk SOE 2.2 Mon 10:45 GÖR 226
Mobilizing society with a red balloon — •Riley Crane — MIT Media Lab, Cambridge, MA, USA

Last December DARPA – the US Defense Advanced Research Projects Agency – unveiled ten red balloons at undisclosed locations around the United States and offered a $40,000 reward to anyone in the world who could find them. Our team found all ten in 8 hours and 52 minutes with a crowdsourcing solution that allowed us to effectively build and query a human sensor network. This talk will discuss problems such as these that require coordination beyond the typical scope of crowdsourcing.

Invited Talk SOE 2.3 Mon 11:15 GÖR 226
Collective behaviour and swarm intelligence — •Jens Krause — IGB & Humboldt University, Berlin, Germany

Many group-living species exhibit complex and coordinated spatio-temporal patterns from the motion of locust swarms and fish schools to bird flocks, ungulate herds and human crowds. The common property of these seemingly unrelated biological phenomena is that of inter-individual interaction, by which individuals can influence the behaviour of others. Individual-based models provide predictions regarding collective processes which we tested in a set of experiments that explore human crowd dynamics and fish schooling behaviour. In particular we designed a robotic fish that can be used to manipulate decision-making processes in live shoals of fish. Finally, I will discuss the phenomenon of swarm intelligence using examples from both humans and animals.