

Symposium Data Analysis in Complex Systems (SYCS)

jointly organized by the Divisions of
Physics of Socio-Economic Phenomena (AGSOE),
Biological Physics (BP), and
Dynamical Systems and Statistical Physics (DY)

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Complex Systems transcend the disciplines from the Physical across the Bio- and Life- to the Social sciences and include brains, genomes, immune systems, societies, markets and information systems. They are characterized by collective, time-dependent phenomena emerging from the dynamic interplay of a large number of heterogeneous constituents. These phenomena cannot be reduced to or explained by the properties of the constituents alone and their understanding poses a number of challenging problems.

Currently, research is to a great extent data-driven. Scientists are still searching for the relevant parameters to describe and model complex systems. Both the collection of meaningful datasets for their description as well as new methodological approaches for their analysis are needed before meaningful models can be constructed.

Spotlighting these challenges, the symposium aims at bringing together researchers from various disciplines working on complex systems. It intends to expose physicists to the phenomena and pressing problems awaiting a solution as well as to disseminate recent progress made in the understanding of complex systems by physicists or using methodologies rooted in physics.

For further information see www.daics09.de

Overview of Invited Talks and Sessions

(lecture room BAR SCHÖ)

Invited Talks

SYCS 1.1	Fri	10:15–11:00	BAR SCHÖ	Eat, Drink, and Be Merry: The Spread of Health Phenomena in Complex, Longitudinally Resolved Social Networks — ●NICHOLAS CHRISTAKIS
SYCS 1.2	Fri	11:00–11:30	BAR SCHÖ	Transport efficiency and resilience in mycelial networks — ●MARK FRICKER, DANIEL BEBBER, LYNNE BODDY
SYCS 1.3	Fri	11:30–12:00	BAR SCHÖ	From genetic variability between species to the inference of protein-protein interactions — ●MARTIN WEIGT, ROBERT A. WHITE, HENDRIK SZURMANT, JAMES A. HOCH, TERRENCE HWA
SYCS 1.4	Fri	12:00–12:30	BAR SCHÖ	Clustering and multiscale structure of graphs — ●BOAZ NADLER
SYCS 1.5	Fri	12:30–13:00	BAR SCHÖ	Clustering, chance, and statistical mechanics — MARTA LUKSZA, MICHAEL LÄSSIG, ●JOHANNES BERG
SYCS 1.6	Fri	13:00–13:30	BAR SCHÖ	Physics of recommendation mechanisms — ●YI-CHENG ZHANG