



Spring 2021 Course on

Complex Networks

Networks matter! This holds for social, economic and biological systems, for technical infrastructures like the Internet as well as for information systems like the World Wide Web.

How can we understand the evolution of such networked systems and what are the local processes that shape their global features? How does their topology influence dynamical processes? And how can we characterize the role and the importance of a specific node?

In this course, students get a broad overview of the methods used in the quantitative study of complex networks.

A detailed syllabus is available at
<http://www.sg.ethz.ch/teaching/cn>

Prof. Dr. Dr. Frank Schweitzer

When? Tuesday, 9-10 (U), 10-12 (V)
Where? ML E 12 (V), ML E 12 (U)

The course will show how networks can be represented mathematically and how properties of their link structures as well as the importance of individual nodes can be quantified.

Students will understand how networks influence dynamical processes and how complex link topologies emerge from simple network formation processes. We will further explore how data mining and machine learning techniques can be applied to gain insights based on complex relational data from social, economic and technical systems.

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