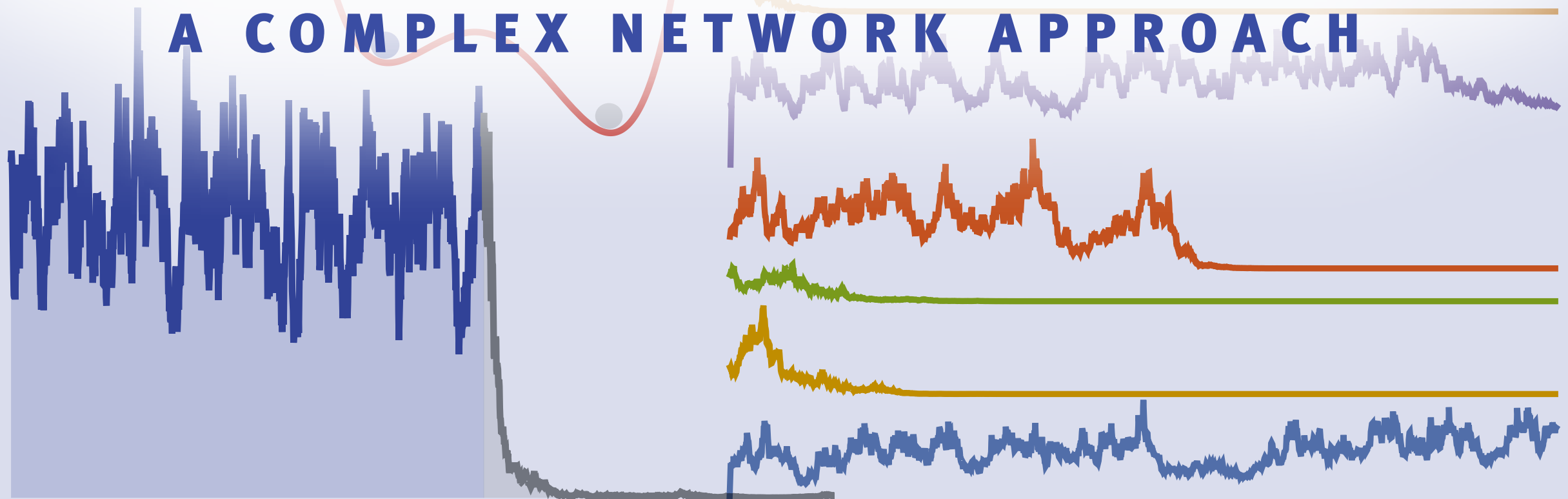




RESILIENCE OF THE GLOBAL FOOD SYSTEM

A COMPLEX NETWORK APPROACH



The world's food system is complex, highly interconnected and rapidly evolving. In such a globalized world, multiple pools of the same resource are often harvested by multiple users through a network of interactions. It is not clear to what extent the level of interconnectedness and the network structure may affect the resilience of the system. In this talk we will first give an overview about the concept of resilience, in particular applied to the food-population system. Then we will present a theoretical framework to investigate the impact of globalization on the sustainable use of natural resources for food production. We will show that the network's architecture plays a fundamental role in shaping the resilience of the system, and that in particular the global food trade resilience is decreasing with the increase in connectivity of the past few decades.

Monday, July 25, 2022 • 4:00 pm
College Hall, Auditorium B1 and Online



Samir Suweis
University of Padova

Samir is an assistant professor (RTDb) at the Physics and Astronomy Department at the University of Padova, where he works in the LiPh lab in collaboration with Amos Maritan and Sandro Azaele. He did his Ph.D in Environmental Engineering at the Ecole Polytechnique Fédérale de Lausanne (EPFL) under the supervision of Prof. Andrea Rinaldo. During his Ph.D. he worked with Prof. I.R. Iturbe at Princeton University on the analysis and modeling of Virtual Water trade networks. His work focuses on the study of complex living systems and addresses a wide range of topics, including ecosystem organizations, ecological networks, stochastic modeling of ecosystems' dynamics, eco-hydrological processes, sustainability, ecosystem services, and brain networks. He approaches these topics by adopting a comprehensive framework that includes data mining, theoretical modeling (both computational and analytical), and statistical analysis.

