## Ph.D. in Mathematics and Computer Science

Academic year 2023/2024

## COMPUTER AND DATA SCIENCE INNOVATION IN MULTIDISCIPLINARY AREAS

## **Emerging Models and Paradigms in Network Science**

## Francesco CAUTERUCCIO - University of Salerno

Network science, one of the key disciplines in data science, focuses on studying complex systems consisting of interconnected entities represented as networks or graphs. By exploring the structure, dynamics, and behavior of these networks, it provides valuable insights into domains such as social networks and biological networks. As data science continues to evolve, so does network science. This course delves into the latest advancements in network science, emphasizing models and approaches to analyze multi-dimensional and timevarying relationships in networks. It covers established and innovative models like temporal networks, multilayer networks, stream graphs, and hypernetworks, along with new methodologies to model network scenarios and examine phenomena like entity influence and centrality. The course aims to equip both experts and non-experts with the skills to address complex network analysis challenges in diverse domains, combining theoretical understanding with practical application.

MON 27/05TUE 28/05WED 29/05THU 30/05



MT 12 - CUBO 30 B - 2ND FLOOR

14:30 - 17:30