



Channing Network Science Seminar

March 8 (Friday), 2019, 11am @ 5th-floor conference room



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Multilayer networks: Structure and Function

Abstract: In recent years multilayer networks are emerging as a novel and powerful way to describe complex systems. Multilayer networks are ubiquitous and include brain networks, molecular networks and social, financial and transportation networks are well. Uncovering the interplay between multilayer network structure and function is a big theoretical challenge with a vast realm of applications. On the other side the urgency of understanding real-world multilayer network problems requires novel theoretical approaches. In this talk we will show how the fundamental mathematics beyond multilayer networks reveals the information encoded in these structures and its effect on multilayer network dynamics. Finally we will discuss the consequences of these results for analysing real network data.

Short Bio: Ginestra Bianconi is Reader of Applied Mathematics at the School of Mathematical Sciences of Queen Mary University of London. Her research activity on Network Science includes Network Theory and its interdisciplinary applications. She has formulated the Bianconi-Barabasi model that displays the Bose-Einstein condensation in complex networks. She has worked in network entropy and network ensembles and on dynamical processes on networks. In the last years she has been focusing on multilayer networks, network geometry and topology, percolation and network control. Ginestra Bianconi has published more than 140 papers and her work has appeared in major scientific journals such as Science, Nature, PNAS, PRX and Physical Review Letters. She is the author of the book Multilayer Networks: Structure and Function by Oxford University Press.

Hosted by Arda Halu and Abhijeet Sonawane