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**Science of  
Complexity**

# Financial networks: from systemic risk to sustainable finance

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Friday **25th May 2018**, 11.30 am – 1.00 pm  
Meeting Room 1, Campus Economico San Giobbe,  
Cannaregio 873, 30121 Venezia

## **Abstract.**

Ten years after the 2008 financial crisis, the importance of the interconnectedness of the financial system for its stability has become widely recognized. The architecture of financial networks matters because the indirect exposures of a financial institution, via its counterparties, can have comparable impact than its direct exposure to shocks on certain asset classes. Moreover, today we have a mathematical understanding of when and why risk diversification across counterparties and external assets can lead to higher systemic risk, instead of leading to higher financial stability. These fundamental insights from the discipline of financial networks contrast with traditional views that neglect the complexity of the interactions among financial institutions and the frictions that lead to shock amplification. In the wake of Paris agreement and the growing societal concern on climate change, financial stability is seen today as a precondition for a broader policy agenda on sustainable finance, aiming at building a financial system that accounts for the social and environmental impact of institutions' financial portfolios. Understanding the direct and indirect exposure of public and private finance to climate change, both in terms of physical risks and energy transition risks, is a new emerging frontier of application for financial networks.

Stefano Battiston is SNF Professor of Banking at the University of Zurich. He is a leading scholar in the field of systemic risk, financial contagion and corporate ownership from the perspective of network models and network analysis. He has looked extensively at policy issues related to interconnectedness and complexity in the financial system, as well as to the climate-finance nexus. Over the years, he has directed several research works and co-authored 50+ publications including on prestigious journals such as PNAS, Nature Communications and Nature Climate Change. He has been involved in many international research projects on financial networks and systemic risk. Within the Future Emerging Technologies program of the European Commission, he has coordinated two projects (SIMPOL and DOLFINS) on sustainable finance. Within the Financial Stability Program directed by the Nobel laureate Joseph Stiglitz and funded by the Institute of New Economic Thinking, Stefano Battiston coordinates the Working Group on Financial Networks.

Bibliometric profile:  
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