



POLITECNICO
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Dipartimento di
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COMPLEX SIMPLEX

Topological Data Analysis and Network Science

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Network Science has been very successful in providing simplified statistical mechanical descriptions of large complex systems. Topology, in particular computational and applied topology, has found large use in computer graphics, robotics, biology and chemistry. This is due to its capacity to produce informative summaries of the global properties of a system starting from local information. Until recently, these two fields have had little interaction due to differing languages and domains of applications. However, recent efforts to highlight topological properties of statistical systems highlighted the need to enrich the binary interaction paradigm implicit in networks, promoting the objects under study to simplicial complexes, in order to capture higher order coordination patterns.

The aim of this workshop is to bring together leading experts in network science and computational topology to share their latest results and problems. The goal is to challenge theoreticians to understand and meet the key questions raised by domain-specific problems, and for specialists to explore which current theoretical challenges are of greatest and immediate importance for applications.

Scientific & organizing committee

Francesco Vaccarino [PoliTO]

Giovanni Petri [ISI Foundation]

Keynote speakers

Mattia Bergomi [Fondazione Champalimaud]
Ginestra Bianconi [QMUL]
Patrizio Frosini [UNIBO]
Ulderico Fugacci [PoliTO]

Vladimir Itskov [Penn. State Univ.]
Dima Krioukov [Northeastern Univ. Boston]
Claudia Landi [UNIMORE]
Mason Porter [UCLA]

Contacts

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