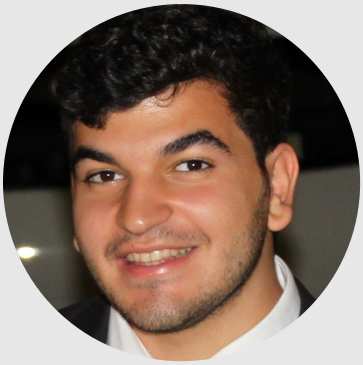

Andrea Santoro

Postdoctoral Researcher

06 May 1993

Geneva, Switzerland

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About me

I am a mathematician with a strong interest in applied science. My research is focused on Complex Networks, Computational Neuroscience, Information Theory with particular attention towards high-order networks and their application to the human brain.

Skills

Bash

C

Python

Matlab

Mathematica

HTML⋆4 Octave⋆5 Minitab⋆3 Linux⋆5 Latex⋆6 MongoDB⋆2

(*)[The skill scale is from 0 (Fundamental Awareness) to 6 (Expert).]

Languages

Italian - Native Speaker
Fluent - Academic IELTS score 7.0 (2016)
French - Basic

Education

2021-Present Postdoctoral Researcher — EPFL, Switzerland
Higher-order models for brain network dynamics and neurodegeneration

2016-2021 Ph.D. in Applied Mathematics — QMUL, UK
Optimisation and information-theoretic principles in multiplex networks

2018-2019 Ph.D. Enrichment Student — The Alan Turing Institute,UK
National institute for data science and artificial intelligence

2018 Complex Systems Summer School Graduate — Santa Fe Institute, NM, USA

2011-2018 Diploma di Licenza (with honors), — Scuola Superiore di Catania, IT
Spectral Embedding of Multiplex Network

2014-2016 M.Sc. magna cum laude — Unict, Catania, IT
Pareto Strategies for Air Transportation Networks

2011-2014 B.Sc. magna cum laude — Unict, Catania, IT
Sensitivity Techniques for Effective Optimization of Tandem Thin- Film Silicon Solar Cells.

2006-2011 Scientific High school - 100/100 — Messina, IT
Specializing in mathematics and physics.

Publications

Feb 2021 arXiv:2102.13013 (submitted)
A. Bassolas*, A. Santoro*, S. Sousa, S. Rognone, V. Nicosia - Optimising the mitigation of epidemic spreading through targeted adoption of contact tracing apps

Jul 2020 Phys. Rev. Research 2, 033122
A. Santoro, V. Nicosia - Optimal percolation in correlated multilayer networks with overlap

Jun 2020 Phys. Rev. X 10 (2), 021069
A. Santoro, V. Nicosia - Algorithmic complexity of multiplex networks

Jun 2019 arXiv:1903.08049
J.C.W. Billings, M. Hu, G. Lerda, A. N. Medvedev, F. Mottes, A. Onicas, A. Santoro, G. Petri - Simplex2Vec embeddings for community detection in simplicial complexes

Sep 2018 Phys. Rev. Lett. 121, 128302
A. Santoro, V. Latora, G. Nicosia, V. Nicosia - Pareto optimality in multilayer network growth.

Mar 2018 Journal of Global Optimization
A. Patanè*, A. Santoro*, A. La Magna, V. Romano, G. Nicosia- Enhancing Quantum Efficiency of Thin-Film Silicon Solar Cells by Pareto Optimality

Jun 2017 Engineering Applications of Artificial Intelligence, 62, 373 - 383
A. Patanè, A. Santoro, et al. - Multi-objective optimization and analysis for the design space exploration of analog circuits and solar cells.

Aug 2015 IEEE Transactions on Biomedical Circuits and Systems, 9, 555 - 571
A. Patanè, A. Santoro, et al. - Pareto Optimal Design for Synthetic Biology.

Conference Papers

May 2015 A. Patanè, A. Santoro, et al. - 2015 International Workshop on Artificial Immune Systems (AIS), 1-7.

Dec 2016 A. Patanè, P. Conca, G. Carapezza, A. Santoro, et al. - International Workshop on Machine Learning, Optimization and Big Data, 30-44.

Awards

2018 QJMAM Fund for Applied Mathematics, Institute of Mathematics and its Applications (£1500).

2016 Erasmus Traineeship scholarship to visit for four months the Complex Networks group at QMUL (1920 €).

2011-2015 "Premio di Studio" scolarship, University of Catania (4000 €).