

Chiara Zappalà

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Citizenship: Italy

Research interests

Inequalities, science of success, science of science, collective behavior, network science, agent-based modeling, complex systems.

Current Position

September 2023
– Present

Center for Collective Learning (CCL), Corvinus Institute for Advanced Studies (CIAS), Corvinus University of Budapest
Position: Postdoctoral Research Fellow
Supervisor: Professor Hidalgo, C.
Research topics: success and inequalities, diffusion of knowledge, geography of innovation, science of science, network science.

Education

2019 – 2023

Department of Physics and Astronomy, University of Catania – Catania, Italy
PhD in Complex Systems for Physical, Socio-economic and Life Sciences (*summa cum laude*)
Thesis title: *The impact of random events in social systems: from individual sports to epidemics*
Mentors: Professors Pluchino, A., Rapisarda, A.

2016 – 2018

Department of Physics, University of Turin – Turin, Italy
MSc in Physics of Complex Systems
Thesis title: *Weighted network analysis based on correlations of protein domain families in bacterial genomes*
Mentors: Doctor Osella, M., Professor Caselle, M. *Grade: 110/110 summa cum laude.*

2012 – 2016

Department of Physics and Astronomy, University of Catania – Catania, Italy
BSc in Physics
Thesis title: *A multilayer approach on criminal complex network analysis*
Mentor: Professor Pluchino, A. *Grade: 110/110 summa cum laude.*

Research experience

May 2023 – July 2023

Department of Network and Data Science (DNDS), Central European University (CEU)
Mentor: Professor Battiston, F.
Visiting research period at CEU, based in Vienna.
Research topics: diffusion of knowledge, gender inequality in academia, agent-based modeling, network science.

February 2023 – March 2023

Copenhagen Center for Social Data Science (SODAS), University of Copenhagen
Mentor: Professor Sinatra, R.
Visiting research period at SODAS, Faculty of Social Sciences, University of Copenhagen.
Research topics: science of science, network science, science of success, sports analytics.

January 2022 – July 2022 **NEtworkRs, Data and Society (NERDS), IT University of Copenhagen**
Mentor: Professor Sinatra, R.
Visiting research period in the NERDS group, Department of Computer Science, IT University of Copenhagen.
Research topics: science of success, sports analytics, network science.

Teaching experience

Spring 2021 **Teaching assistant, Physics course**
Department of Mathematics and Computer Science, University of Catania
Meeting with students outside of class. Tutorials on the content covered in the lectures.

Academic Supervision

February 2025 – Present **Graz University of Technology**
Internship of student research assistant (co-supervisor with Professor Karimi, F.).
MSc in Social Data Science.
Topics: Diffusion of knowledge, scientific collaborations, gender inequality.

Work experience

Spring 2019 **High school teacher, IISS des Ambrois – Oulx, Italy**
Full-time teacher of mathematics and physics, planning lectures and grading students from seven different classes.

Awards and Scholarships

- 2023 Danish Data Science Academy
Visit grant for PhD students.
- 2022 Erasmus Mobility Network, Erasmus+
Student mobility for traineeship scholarship.
- 2022 Research environment of the Year, Danish Young Academy of the Royal Danish Academy
Awarded to NERDS group to have created an exemplary academic environment in Denmark.
- 2021 Clean Cities Award, Legambiente Catania
For a study on the possible causes and different spreading of COVID-19 in Italy.

Technical skills

Programming languages

Proficient in: Python (*Coursera Specialization Certificate*), R, NetLogo, LaTeX
Familiar with: C++, Gama, Github

Languages

English (fluent, *OLS certification level C2*), Italian (native), Hungarian (beginner)

Invited talks and tutorials

February 2025 Gender disparities in the dissemination and acquisition of scientific knowledge
2nd Budapest Winter Workshop, Budapest, Hungary

February 2024 Network visualization tutorial
Opening event of the new Corvinus University campus, Budapest, Hungary

February 2024 The impact of random events in sports success
1st Budapest Winter Workshop, Budapest, Hungary

May 2021 Air pollution and epidemics: COVID-19 and epidemic risk assessment in Italy
Seminars on Air pollution, environment and health, Laboratorio di Diritto, Scuola Superiore di Catania, Italy (online)

May 2020 The case of COVID-19 outbreak in Italy
Y2Y Meetings, EPS YoungMinds Catania Section, Italy (online)

Contributed talks

January 2025 Gender disparities in the dissemination and acquisition of scientific knowledge
CS2Italy, Trento, Italy

September 2024 Gender disparities in the dissemination and acquisition of scientific knowledge
CCS 2024, Exeter, United Kingdom

September 2024 Early career wins and tournament prestige characterize tennis players' trajectories
CSS @ CCS 2024, Exeter, United Kingdom

January 2024 The power of one win: Early career success and tournament prestige in tennis players' trajectories
NetSciX 2024, Venice, Italy

July 2023 Understanding the evolution of successful careers in professional tennis
NetSci 2023, Vienna, Austria

October 2022 On the role of chance in individual sports: an agent-based approach for fencing tournaments
Complexity and Sports Satellite, CCS 2022, Palma de Mallorca, Spain

October 2021 The role of chance in individual sports: an agent-based approach to fencing tournaments
CCS 2021, Lyon, France

Academic services

Organizer Computational Social Science at the Conference on Complex Systems
Member of the Organizing Committee, September 2025.

Reviewer *Journals:* Scientific Reports, Archives of Budo, BMC Infectious Diseases, EPJ Data Science.
Conferences: NetSci 2025.

Schools and workshops

May 2023 Complexity Science meets Digital Humanism
Complexity Science Hub and leiwand.ai, Vienna, Austria

April 2023 TLQS Workshop on Inequality Across Scales, Space, Time and Domains (limited enrollment)
The Abdus Salam International Centre for Theoretical Physics, Trieste, Italy

July 2022 DATA SCIENCE: Models, Algorithms, AI and Beyond
Lipari School Computational Complex and Social Systems, Lipari, Italy

- May 2022 Complex Networks: Theory, Methods, and Applications (limited enrollment)
Lake Como School of Advanced Studies, Como, Italy
- March 2021 Scientific Evolutionary Writing (SEW) Workshop (limited enrollment)
Sony CSL, Inseem and the University La Sapienza of Rome, Rome, Italy (online)

Professional memberships

- 2025 – Present Society Computational Social Science Italy - CS2Italy
Member.
- 2023 – Present Women in Network Science - WiNS
Member.
- 2023 – Present Network Science Society - NetSci
Member.
- 2020 – Present Complex Systems Society - CSS
Member.

Outreach

- November 2022 Participant in *Penne amiche della Scienza*
 – May 2023 *Pen pal scientific program with primary school students.*

List of publications

- 2024 **Early career wins and tournament prestige characterize tennis players' trajectories**
 Zappalà, C., Sousa, S., Cunha, T., Pluchino, A., Rapisarda, A., Sinatra, R.
EPJ Data Science 13 (1), 32.
- 2023 **The paradox of talent: How chance affects success in tennis tournaments**
 Zappalà, C., Biondo, A. E., Pluchino, A., Rapisarda, A.
Chaos, Solitons & Fractals 176, 114088.
- 2022 **On the role of chance in fencing tournaments: An agent-based approach**
 Zappalà, C., Pluchino, A., Rapisarda, A., Biondo, A. E., Sobkowicz, P.
PLOS One 17 (5), e0267541.
- 2021 **A novel methodology for epidemic risk assessment of COVID-19 outbreak**
 Pluchino, A., Biondo, A. E., Giuffrida, N., Inturri, G., Latora, V., Le Moli, R., Rapisarda, A., Russo, G., Zappalà, C.
Scientific Reports 11 (1), 5304.

List of preprints

- 2024 **Gender disparities in the dissemination and acquisition of scientific knowledge**
 Zappalà C., Gallo, L., Bachmann J., Battiston F., Karimi F.
arXiv:2407.17441.
- 2024 **Higher-order modeling of face-to-face interactions**
 Gallo, L., Zappalà C., Karimi F., Battiston F.
arXiv:2406.05026. Second round of review in PNAS.