



Lorenzo Cirigliano

EDUCATION AND TRAINING

[1 Oct 2021 – 29 Jan 2025]

PhD in Physics

Sapienza University of Rome

City: Rome | **Country:** Italy | **Field(s) of study:** Natural sciences, mathematics and statistics: • *Physics* | **Final grade:** Cum laude; Doctor Europaeus | **Thesis:** Extended-range percolation and complex networks

[2018 – 2021]

Master's degree in Physics

Sapienza University of Rome

City: Rome | **Country:** Italy | **Field(s) of study:** Natural sciences, mathematics and statistics: • *Physics* | **Final grade:** 110/110 cum laude

[2015 – 2018]

Bachelor degree in Physics

Sapienza University of Rome

City: Roma | **Country:** Italy | **Field(s) of study:** Natural sciences, mathematics and statistics: • *Physics* | **Final grade:** 110/110 cum laude

WORK EXPERIENCE

[Nov 2024 – Dec 2024]

Research Collaboration

Indiana University

City: Bloomington | **Country:** United States

- Theoretical study of degree-based targeted site and bond percolation in complex networks.

[Jun 2023 – Dec 2023]

Research Collaboration

Universidade de Aveiro

City: Aveiro | **Country:** Portugal

- Research collaboration with the complex networks group to study a model of random clustered networks.
- Study of general aspects of percolation critical properties in complex networks.

[Apr 2019 – May 2020]

Research Collaboration

CoBBS Laboratory - Istituto dei Sistemi Complessi (ISC-CNR)

City: Rome | **Country:** Italy

- Design of a numerical algorithm to filter bird's flapping from data of flocks trajectories.

[Jan 2017 – Dec 2020]

Library Assistant

PUBLICATIONS

- [2024] [Scaling and universality for percolation in random networks: A unified view](#)
Reference: L. Cirigliano, G. Timár, C. Castellano, Physical Review E 110 (6), 064303 (2024)
- [2024] [General theory for extended-range percolation on simple and multiplex networks](#)
Reference: L. Cirigliano, C. Castellano, G. Bianconi, Physical Review E 110 (3), 034302 (2024)
- [2024] [Optimal quantum key distribution networks: capacitance versus security](#)
Reference: L. Cirigliano, V. Brosco, C. Castellano, C. Conti, L. Piloizzi, npj Quantum Information 10 (1), 44 (2024)
- [2023] [Strongly clustered random graphs via triadic closure: an exactly solvable model](#)
Reference: L. Cirigliano, C. Castellano, G. J. Baxter, G. Timár, Physical Review E 109 (2), 024306 (2024)
- [2023] [Extended-range percolation in complex networks](#)
Reference: L. Cirigliano, C. Castellano, G. Timár, Phys. Rev. E 108, 044304 (2023)
- [2022] [Cumulative merging percolation: A long-range percolation process in networks](#)
Reference: L. Cirigliano, G. Cimini, R. Pastor-Satorras, and C. Castellano, Phys. Rev. E 105, 054310 (2022)

CONFERENCES AND SEMINARS

- [10 Jul 2023 – 14 Jul 2023] **NetSci2023** Wien, Austria
Presenter with a short talk titled
"Extended-range percolation on complex networks"
- [25 Apr 2023 – 28 Apr 2023] **CompleNet2023** Aveiro, Portugal
Presenter with a short talk titled
"Extended-range percolation on complex networks"
- [8 Feb 2022 – 11 Feb 2022] **NetSciX 2022** Porto, Portugal
Presenter with a short talk titled
"Cumulative Merging Percolation: a long-range process in networks"

SCHOOLS

- [17 Feb 2025 – 28 Feb 2025] **Winter school on Statistical Mechanics, Nonequilibrium Processes and Probability**
Department of Mathematics, Sapienza University of Rome
- [2 Jul 2024 – 26 Jul 2024] **Les Houches School of Physics**
Theory of Large Deviations and Applications
Les Houches, France
- [3 Jun 2024 – 15 Jun 2024] **Beg Rohu Summer School**
Concepts and Methods of Statistical Physics
- [22 May 2023 – 26 May 2023] **Lake Como School**
Complex Networks: Theory, Methods, and Applications
- [17 Jul 2022 – 23 Jul 2022] **Lipari School Computational Complex and Social Systems**
DATA SCIENCE: Models, Algorithms, AI and Beyond

TEACHING EXPERIENCE

- [Feb 2024 – May 2024] **Tutor for the course "Elementi di Analisi Reale" (Introduction to real analysis)**
Bachelor's degree in Mathematics, Sapienza University of Rome
- [Feb 2023 – Jun 2023] **Tutor for the course "Analisi 2" (Vector calculus, partial differential equations)**
Bachelor's degree in Engineering, Sapienza University of Rome
- [Oct 2022 – Feb 2023] **Tutor for the course "Analisi" (calculus)**
Bachelor's degree in Physics, Sapienza University of Rome

REFeree EXPERIENCE

- [2025 – Current] **Referee for Scientific Reports**
- [2024 – Current] **Referee for Nature Communications**
- [2024 – Current] **Referee for Europhysics Letters**
- [2023 – Current] **Referee for American Physical Society [Phys. Rev. Letters, Phys. Rev. E, Phys. Rev. Research]**
- [2023 – Current] **Referee for IOP Publishing**

HONOURS AND
AWARDS

[2024] **AccelNet-Multinet Fellow Awarding institution:** AccelNet-MultiNet program
Travel award to the US to collaborate in a multidisciplinary research project in multilayer networks

[Dec 2023] **IOP Trusted Reviewer Awarding institution:** IOP Publishing

LANGUAGE SKILLS

Mother tongue(s): Italiano

Other language(s):

Inglese

LISTENING B2 **READING** C1 **WRITING** C1

SPOKEN PRODUCTION B2 **SPOKEN INTERACTION** B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

My Digital Skills

Linux (including Arch Linux, Ubuntu, Manjaro) | C | Wolfram Mathematica (Intermediate) | Inkscape | LaTeX (very good)

Rome, 11 Mar 2025



Lorenzo Cirigliano