# LEONARDO DI BARI

PhD Student, Politecnico di Torino & Sorbonne Universitè

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[LinkedIn Profile](#) | [Web Page](#) | [Google Scholar](#)

## Research Interests

I am a physicist with interests in machine learning, biostatistics and statistical mechanics. My research interests lie in understanding protein evolution using tools inspired by statistical physics and machine learning.

## Employment

**2023-2026**    **Politecnico di Torino | Sorbonne Universitè (co-tutelle)**
**(on-going)**   PhD Candidate, Physics

**2023**          **Intellera Consulting**
                  Data Analyst
                  Projects: Data lineage and governance at Ministero della Salute (Rome)

## Education

**2023-2026**    **Politecnico di Torino | Sorbonne Universitè (co-tutelle)**
**(on-going)**   PhD Candidate, Physics
                  Advisor: Andrea Pagnani, Martin Weigt
                  Dissertation: "Statistical-physics inspired learning of the protein sequence universe"

**2021-2023**    **Politecnico di Torino | Sorbonne Universitè/Paris Saclay/Paris Citè | Sissa/Ictp**
                  M.S., Double degree (France & Italy) Physics of Complex Systems
                  Final mark: 110L/110
                  Advisor: Martin Weigt, Francesco Zamponi
                  Final project: "Modeling the stochastic dynamics of protein evolution experiments using protein sequence landscapes"

**2018-2021**    **Università degli Studi di Perugia**
                  B.S., Physics
                  Final mark: 110L/110
                  Advisor: Orlando Panella
                  Final project: "Quantum backflow for a massless Dirac fermion on a ring"

## Awarded Grants

2024   Bando Vinci Mobility Scholarship for PhD Co-tutelle from Univ. Franco Italienne
2023   PhD Scholrship from Poltecnico di Torino
2022   Smarts-Up Excellence Scholarship of Universitè Paris Citè
2021   Erasmus Scholarship for Double Degree in physics of Complex Systems
2021   Excellence Scholarship of Università degli Studi di Perugia
2020   Excellence Scholarship of Università degli Studi di Perugia
2019   Excellence Scholarship of Università degli Studi di Perugia

## Awards & Honors

2024   Best Poster Award at "Niš School 2024: Information, Noise and Physics of Life"

## Publications

**Di Bari, L.,** Bisardi, M., Cotogno, S., Weigt, M., & Zamponi, F. (2024). Emergent time scales of epistasis in protein evolution. *bioRxiv*, 2024.03. 14.585034.

**Di Bari, L.** (2023). Modeling the stochastic dynamics of protein evolution experiments using protein sequence landscapes. Politecnico di Torino.

**Di Bari, L.,** Paccoia, V. D., Panella, O., & Roy, P. (2023). Quantum backflow for a massless Dirac fermion on a ring. *Physics Letters A*, *474*, 128831.

## Schools, workshops and conferences

2024   **Niš School: Information, Noise, Physics of Life**
(Nis, Serbia)

2024   **Physics of Biomolecules: Structure, Dynamics and Function** (Bressanone)

2023   **Spring college on the Physics of Complex Systems**
(Ictp, Trieste)