

JACOPO NIEDDA CURRICULUM VITAE

CONTACT

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EMPLOYMENT

- **Post-Doc position**: Abdus Salam Institute for Theoretical Physics (ICTP), Trieste. Mentor: Prof. Antonello Scardicchio. October 2023 present.
- **Research fellow**: Sapienza, University of Rome. January 2023 September 2023.

EDUCATION

 PhD in Theoretical Physics: Sapienza, University of Rome, 12/05/2023, with honours. Thesis: "Realistic Model for Random Lasers from Spin-Glass Theory". Advisors: Prof. Luca Leuzzi and Prof. Giacomo Gradenigo.
Second-cycle Degree (MSc) in Theoretical Physics: Sapienza, University of Rome, Physics Department, 24/07/2019, Rome, Italy. Final grade: 110/110. Final Thesis: "On the Semiclassical Approach to the Problem of Time in Quantum Gravity". Advisor: Prof. Giovanni Montani.
First-cycle Degree (BA) in Physics: Sapienza, University of Rome, Physics Department, 12/01/2016, Rome, Italy. Final grade: 110/110 cum laude. Final Thesis: "On the Three-Dimensional Vlasov-Poisson System". Advisor: Prof. Guido Cavallaro.
High School Diploma: Liceo Classico Francesco Vivona, Rome, 07/2012, Italy. Final grade: 100/100.

FUNDINGS and FELLOWSHIPS

- June 2023. **Postdoc fellowship** at ICTP, Trieste. Project title: National Quantum Science and Technology Institute (NQSTI).
- December 2022. **Research fellowship** in Sapienza, University of Rome. Title: *Statistical mechanics analysis of the glassy behaviour of random lasers in the framework of multi-equilibrium disordered systems*. PI: Prof. Giorgio Parisi. Supervision: Prof. Luca Leuzzi.
- October 2022. Winner of the **Starting Grant** "Avvio alla ricerca" of Sapienza, University of Rome, with a budget of 4,000 eu.
- September 2020. **Research fellowship** in Sapienza, University of Rome. Title: *Analytical and numerical study of spin glass models for non-linear optical waves in disordered media*. PI: Prof. Giorgio Parisi. Supervision: Prof. Luca Leuzzi and Prof. Giacomo Gradenigo.

VISITING

- April 2023. Visiting period (two weeks) in LPTMS and MSC.
- May-June 2022. Visiting period (one month) in LPTMS Université Paris-Saclay and MSC Université de Paris, under the joint supervision of Prof. Silvio Franz and Prof. Ada Altieri, working on a project on theoretical ecology.

PARTICIPATION IN SCHOOLS and WORKSHOPS

- XVI International Workshop on COMPLEX SYSTEMS, Andalo (Trento), 2023, March 13th-17th. Talk title: "Numerical evidence of glass and pseud-localization transition in the mode-locked p-spin model for random lasers".
- Workshop on spin glasses, Les Diablerets, SwissMAP Research Station (SRS). 2022, September 25th – 30th
- Glassy Systems and Inter-Disciplinary Applications, Cargese. 2021, June 28th July 7th Poster title: "Mode-locked p-spin: a spin glass model for random lasers".



STUDENTS SUPERVISION

- Giacomo Trinca, Master Thesis in Physics. Title: "*Dynamics of disordered statistical mechanics models for random lasers*". Supervisor: Prof. Luca Leuzzi. Sapienza University of Roma (2022).
- Giacomo Bracci Testasecca, PhD in Physics. *Ongoing*.

COMPUTER SKILLS

- Languages: C, Python;
- Operative Systems: LINUX, Windows;
- Softwares: Mathematica, R, Latex, Awk, Gnuplot.

LANGUAGES

- Italian (mother tongue)
- English (advanced, C1)
- French (elementary, A2)

WORK EXPERIENCE

- Scientific tutor for cultural association "The Science Zone Associazione di Divulgazione Scientifica" devoted to science communication, scientific learning, and divulgation.
- Private tutoring to both high school and university students.

- Philosophy, epistemology and education.
- Mountain (trekking, climbing, skiing).
- Music (guitar playing and singing).
- Sailing.
- Cooking.

PUBLICATIONS AND REFEREE ACTIVITY

- **Publications** I published **3** papers on international journals
- **Referee Activity** Nature Physics, Physical Review E.

LIST OF PUBLICATIONS

[1] "Non-unitarity problem in quantum gravity corrections to quantum field theory with Born-Oppenheimer approximation", Di Gioia, F., Maniccia, G., Montani, G. and <u>Niedda, J.</u> **Phys. Rev. D** 103, 103511 (2021)

[2] "Universality class of the mode-locked glassy random laser", <u>J. Niedda</u>, G. Gradenigo, L. Leuzzi and G. Parisi, **SciPost Phys.** 14 (6), 144 (2023).

[3] "Intensity pseudo-localized phase in the glassy random laser" <u>J. Niedda</u>, L. Leuzzi and G. Gradenigo, **JSTAT** 5, 053302 (2023).

[4] "Probing marginal stability in the spherical p=2 model" <u>J. Niedda</u>, T. Tonolo and G. Gradenigo. <u>ArXiv:2403.15819</u> (2024).

[5] "Renormalization-Group Analysis of the Many-Body Localization Transition in the Random-Field XXZ Chain" <u>J. Niedda</u>, G. Bracci Testasecca, G. Magnifico, F. Balducci, C. Vanoni and A. Scardicchio. <u>ArXiv:2410.12430</u> (2024).

"Autorizzo il **trattamento** dei miei **dati personali** ai sensi del Decreto Legislativo 196/2003, coordinato con il Decreto Legislativo 101/2018, e dell'art. 13 del GDPR (Regolamento UE 2016/679) ai fini della pubblicazione in Trasparenza Ateneo - Sapienza come da normativa vigente."