Andrea Palermo, PhD

Curriculum Vitae

Professional experience

09/2025-09/2027 **Marie Curie postdoctoral fellow**, *CNRS, Institute Denis Poisson*, Tours, France.

08/2023-08/2025 **Postdoctoral Associate**, *Stony Brook University*, Stony Brook (NY), USA.

05/2023-07/2023 **Visiting research fellow**, *Goethe University*, Frankfurt am Main, Germany.

Education

2019-2023 **PhD in Theoretical Physics**, *Università di Firenze, Florence & Goethe Universität, Frankfurt am Main*, Joint doctoral program (Cotutelle), Graduation score: Summa cum Laude, Defended on 12/04/2023.
Supervisors: Prof Francesco Becattini & Prof Dirk H. Rischke

2017-2019 **Laurea Magistrale in Fisica e Astronomia**, *Università di Firenze*, Florence, Graduation score 110/110 cum laude, 22/10/2019.
Supervisor: Prof Francesco Becattini

2014-2017 **Laurea Triennale in Fisica e Astrofisica**, *Università di Firenze*, Florence, Graduation score 110/110 cum laude, 19/12/2017.
Supervisor: Prof Francesco Becattini

Summary of publications

12 publications in peer-reviewed journals, **4** proceedings to international conferences, **1** preprints

Citations **523**, (INSPIRE-HEP).

Hirsch Index **9**, (INSPIRE-HEP).

Refereeing

Physical Review Letters, C and D, Physics Letters B, Annals of Physics, European Physics Journal Plus.

Invited talks

16/09/2024 **Spin and quantum features of QCD plasma**, *ECT*, Trento*, Simulating spin polarization in high-energy heavy-ion collisions.

Via Cintoia Bassa, 26 – Greve in Chianti (Firenze), Italy 50022
✉ *andrea.palermo@stonybrook.edu*

22/07/2024 **Conference on Chirality, Vorticity and Magnetic Field in Quantum Matter**, *West University of Timisoara*, Timisoara,Romania, Theoretical review of polarization phenomena in heavy ion collisions.

15/07/2023 **Conference on Chirality, Vorticity and Magnetic Field in Heavy Ion Collisions**, *UCAS*, Beijing, Exact polarization in relativistic fluids at global equilibrium.

23/11/2021 **TNPI2021- XVIII Conference on Theoretical Nuclear Physics in Italy**, *Pisa*, Hybrid program, **Invited Talk**: Local polarization and spin shear coupling in a relativistic fluid.

02/11/2021 **Conference on Chirality, Vorticity and Magnetic Field in Heavy Ion Collisions**, *Stony Brook University*, Hybrid program, Exact equilibrium distributions for massive and massless fermions with rotation and acceleration.

07/10/2020 **Spin and Hydrodynamics in Relativistic Nuclear Collisions**, *European Centre for Theoretical Studies: ECT**, Trento, Exact Formulae for Wigner Functions at Equilibrium.

Contributed talks and posters

07/07/2025 **Conference on Chirality, Vorticity and Magnetic Field in Quantum Matter**, Sao Paulo, **Talk:** Spin alignment of the ϕ meson in the hadronic phase of the Quark Gluon Plasma.

07/04/2025 **Quark Matter 2025**, Frankfurt am Main, **Talk:** Initial conditions and bulk viscosity effects on Λ polarization in high-energy heavy ion collisions.

05/06/2024 **Strangeness in Quark Matter 2024**, Strasbourg, **Talk:** Initial conditions and bulk viscosity effects on Λ polarization in high-energy heavy ion collisions.

25/09/2023 **SPIN 2023**, Durham, USA, **Talk:** Exact polarization in relativistic fluids at global equilibrium.

06/09/2023 **Quark Matter 2023**, Houston, USA, **Talk:** Exact polarization in relativistic fluids at global equilibrium.

14/11/2022 **International Conference on Quantum Systems in Extreme Conditions 2022**, *Bingen*, **Poster**: Polarization in relativistic fluids at local equilibrium.

14/06/2022 **Strangeness in Quark Matter 2022**, *Busan*, Hybrid program, **Talk**: Local equilibrium and Λ-polarization in high-energy heavy-ion collisions.

08/04/2022 **Quark Matter 2022**, *Krakow*, Hybrid program, **Poster**: Exact equilibrium distributions for massive and massless fermions with rotation and acceleration.

28/07/2021 **Lattice 2021**, *MIT, Boston*, virtual program, **Poster:** Machine learning approaches to the QCD transition.

10/06/2021 **Cortona Young**, *Galileo Galilei Institute*, Florence, virtual program.
Video poster: Exact mean values at equilibrium with rotation and acceleration by analytic distillation. Available on youtube: https://www.youtube.com/watch?v=pdL6uSoSCOA

Public engagement

05 and 10/2024 **Physics communication in high schools**, *Rocky point, Long Island*, *"Black holes, Quark Gluon Plasma and Holography"*, two sessions.

27/11/2020 **European night of researchers**, *Florence*, Talk given: "Il plasma di quark e gluoni: il più estremo fra i fluidi", (The quark gluon plasma: the most exceptional fluid).

Teaching

1h20min **Stony Brook University**, *Stony Brook, NY, USA*, Nuclear physics.
Tutoring on high energy heavy ion collisions and ideal relativistic hydrodynamics

2h **Galileo Galilei Institute**, *Florence, Italy*, Frontiers in Nuclear and Hadronic Physics, International school.
Tutor for: Quantum Thermodynamics and Relativistic Hydrodynamics for Relativistic Heavy-ion Collisions

Grants

European Union **Marie Skłodowska-Curie Actions (MSCA)**, *Horizon Europe*, 2 years postdoctoral fellowship awarded under the "European fellowship" scheme.

Awards

INFN **Fubini prize**, *Award for the best PhD thesis in theoretical physics*, Special mention from the evaluation board.

QSEC2022 **Quantum Systems in Extreme Conditions 2022**, *Best Poster Slam*, awarded for the best one-minute presentation of the poster.

QSEC2022 **Quantum Systems in Extreme Conditions 2022**, *Best Poster*, awarded for the best poster presentation.

ENPAM **Borsa di studio per orfani di medici e odontoiatri**, *Scholarship for orphans of doctors and dentists*, from the National Insurance and Assistance Body for Doctors and Dentists, granted based on the academic career and the family income.

Computer skills

Good Linux (Ubuntu), LaTeX, Mathematica, GIMP, Julia, PYTHON, C++, C.

Intermediate TensorFlow, Gnuplot.

Basic Blender, SLURM, LSF.

Languages

Italian **Mother tongue**

English **Very good**

French **Good**

Spanish **Good**

German **Basic** *I can understand simple texts and speak simple sentences*

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