Davide Morgante

Education

2021-	**PhD**, *University of Milan*, Milan.
	PhD Student under the supervision of prof. Antonio Amariti.
2019-2021	**M.Sc**, *Sapienza University of Rome*, Rome, *110 with Honors*.
	Master degree in theoretical high energy physics
2016-2019	**B.Sc**, *Sapienza University of Rome*, Rome, *110 with Honors*.
	Bachelor degree in physics.

Bachelor Thesis

Title	*Semiclassical transition amplitudes. (original: Ampiezze semiclassiche di transizione.)*
Advisior	Prof. Guido Martinelli
Short description	In my bachelor thesis I analyzed the transition probability of a metastable state for a generic scalar field theory, in the semiclassical limit. In the thesis I also gave the theoretical basis upon which the transition probability was calculated, namely: Feynman path integral formulation, quantum tunneling and classical field theory arising from the collective excitation of a system with many degrees of freedom.

Master Thesis

Title	Unitarity triangle analysis and recent theoretical advancements on ϵ'/ϵ
Advisor	Prof. Guido Martinelli
Co-advisor	Prof. Marco Nardecchia
Short description	In my master thesis I worked on the UT analysis of the ϵ'/ϵ parameter in the $K \to 2\pi$ decay starting from the recent result from R.Abbott et al. (arXiv:2004.09440v2). The work of my thesis resulted in the publication of a related paper in the "*Rendiconti Lincei*" journal.

Experience

2022	**Teaching Assistent**, *University of Milan*, Milan.
	I was a TA for the course of Mathematical Methods for Physics held in Unimi. My duties included extra tutoring classes, office hours and lectures.

2022	**Teaching Assistent**, *University of Milan*, Milan.
	I held the course of introductory math for the freshman of the physics bachelor at the University of Milan.

Schools and Conferences

11-13 Jan 2023	**Iberian Strings 2023**, *Murcia*.
	Participating at the conference school "Iberian Strings 2023"
16 Nov-26 Dec 2022	**LACES 2022**, *Florence*.
	Partecipating at the Advanced Lectures on Fields and Strings doctoral school.
20-22 Dec 2022	**XVIII Avogadro meeting on Strings, Supergravity and Gauge Theories**, *Turin*.
	Partecipating at the 18th installment of the Avogadro meetings.
16 Nov-26 Dec 2022	**LACES 2022**, *Florence*.
	Partecipating at the Advanced Lectures on Fields and Strings doctoral school.
21-27 August 2022	**CERN Winter School on Supergravity, Strings and Gauge Theory 2022**, *Geneva*.
	Partecipating at the CERN school on Supergravity, Strings and Gauge theories. The main topic covered have been: conformal bootstrap, higher symmetries and defects, spectral theory for gauge and string theory, flux compactifications, holography.
12-15 June 2022	**Theory of Fundamental Interactions INFN conference**, *Venice*.
	Partecipating at the INFN conference Theory of Fundamental Interactions.
9-13 May 2022	**ICTP Spring School on Superstring Theory and Related Topics**, *Trieste*.
	Participating at the ICTP Spring School on Superstring Theory and Related Topics. The main topics covered have been: celestial holography, non-invertible symmetries, topological aspects of string theory and strings in AdS_3.
23-25 March 2022	**Iberian Strings 2022**, *Gijòn*.
	Participating at the conference school "Iberian Strings 2022"

Highlights

2020	**Honours Program**, *Sapienza University*, Rome.
	The Honours Programme is an advanced course providing additional training to the normal study programme. For this program, I followed an additional course at Tor Vergata University held by prof. Raffaele Savelli on group theory, representation theory of finite and Lie groups.
2020	**Student Collaboration Scholarship**, *Sapienza University*, Rome, SoRT.
	I won one of the 39 collaboration scholarships at the Physics department of Sapienza. All informations can be gathered from the official page https://www.uniroma1.it/en/pagina/student-collaboration-scholarships
2017	**Member of the Italian Physical Society**, *SIF*.
	I was invited to be a member of the Italian Physical Society (SIF) in my high-school for my results in the physical sciences.

Languages

Italian	Mother tongue
English	Overall C2 level
French	Overall A2 level

Computer skills

Programming languages	C, C++, Python

Libraries: ROOT, Geant4, Scikit-learn, Tensorflow

Data analysis	R, Gnuplot
Writing	Office package, LaTeX
Misc	Basic knowledge of machine learning

List of publications

Chiral dualities for SQCD$_3$ with D-type superpotential, *doi:10.1007/JHEP02(2023)032*

New UTfit Analysis of the Unitarity Triangle in the Cabibbo-Kobayashi-Maskawa scheme, *doi:10.1007/s12210-023-01137-5*

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