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1 Scientific CV

Personal Data

- Nationality: Italian

Employment

- 2019-present: (Roma Tre University, Roma, Italy) Associate Professor
- 2016-2019: (Roma Tre University, Roma, Italy) Researcher Rita Levi-Montalcini prize
- 2016: (IFAE, Barcelona, Spain) Post-Doc in the Theory Group
- 2014-2016: (CERN, Geneva, Switzerland) Theory Unit CERN Fellowship
- 2011-2014: (University of Maryland, College Park, MD, USA) Post-Doc in the group of Elementary Particle Theory (EPT)
- 2008-2011: (EPFL, Lausanne, Switzerland) Researcher in the Theoretical Particle Physics Group (LPTP)

Education

- (Scuola Normale Superiore, Pisa, Italy) "Perfezionamento in Fisica" (PhD) (degree awarded on October 21st 2011).
- (Università degli Studi Roma TRE, Roma, Italy) "Laurea in Fisica" (degree awarded on September 28th 2005).

Habilitations

- "Professore universitario di prima fascia"(Italy, call 2018). Valid until May 22nd 2029 to be hired as Full Professor

2 Teaching experience

Courses taught

- "Mathematical Methods for Physics" - 52 hours course given in the Spring semester from 2019 to date for **master** students in Physics
- "Monte Carlo Methods" - 40 hours course given in the Spring semester from 2018 to date for **master** students of mathematics at Rome 3 University
- "Physics for Philosophers" 36 hours course given in the spring semester from 2017 to date for **undergraduate** humanities students at Rome 3 University.
- Discussion leader for the recitation sessions of the 2016 CERN-JINR European School of HEP for **PhD students** in high energy physics
- Training "Particle Physics Phenomenology" for the tutors of CERN S'Cool LAB and CERN guide service Link (**undergraduate** level 1-hour crash-course)
- Discussion leader for the recitation sessions of the 10 days (June 24 - July 3 2015) of the 10th CERN-Fermilab Hadron Collider Physics summer school for **PhD students** in high energy physics
- CERN S'Cool LAB Workshops for **high school** teachers and students:
  1. Cloud Chamber (tutorial on the construction of a cloud chamber and short lecture on cosmic rays observation and classification) - Fall 2014 to date
  2. Electron tubes (demonstration of Lorentz force with magnetic dipoles) - Spring 2015 to date
  3. X-rays (X-ray imaging of human tissue-like materials) - Spring 2015 to date
- **Master course** "*Standard Model and collider physics*" (for 3 years together with Dr. Andrea De Simone, Dr. Michele Redi and Dr. Andrea Wulzer, February-June 2009, February-June 2010, February-June 2011, EPFL Lausanne)
- Problems solution for the EPFL **Graduate School course** "*QCD and collider physics*" given by Professor Stefano Frixione (September 2008 - February 2009, EPFL Lausanne)

3 Research

Research Subjects

- 2017-present: Future multi-TeV leptonic accelerators
- 2016-present: Future particle colliders
- 2012-present: QCD and top quark physics
- 2011-present: Kinematic variables for colliders
- 2008-present: Dark Matter and astro-particle physics
- 2006-present: Beyond the Standard Model physics with particular focus on supersymmetry
- 2006-present: Collider physics
- 2005-present: Neutrino physics

Further Research Interests

- Cosmic rays physics
- Unitarity and analyticity properties of scattering amplitudes
- Heavy quarks physics
- Cosmology
- Higgs modes in condensed matter systems

International Collaborations

- CLIC detector and physics collaboration (based at CERN, Geneva, Switzerland) (CLICdp)
- International Research Network "Terascale" (based at CNRS, France) (link)