

## Scientific and Academic Career

**Researcher**, Istituto Nazionale di Fisica Nucleare - Sezione di Roma 1, Italy since March 2017  
**Non-tenure assistant professor** (RTD-A), Sapienza University of Rome, Roma, Italy Jun. 2015 - Feb. 2017  
**Research Associate Fellow**, CERN, Geneva, Switzerland Sep. 2014 - Aug. 2015  
**PostDoctoral Researcher**, Sapienza University of Rome, Roma, Italy Sep. 2013 - May 2015  
**Ph.D. in Physics**, University of Padova, Italy. *Study of the  $ZZ$  diboson production at CDF II* 2013

## Participation in Physics experiments

ATLAS (CERN) since 2013  
 CDF (Fermilab) since 2009

## Scientific Appointments

**Convener** of ATLAS Jets and Dark Matter (JDM) Exotics sub-group 2017-2019  
**Analysis coordinator** (contact) for ATLAS search for new physics in dijet final state 2016-2017  
**Publication editor** for ATLAS search for new physics in dijet final state 2016  
**Theory hot-spot contact** for  $q^*$ ,  $\ell^*$ , and contact interaction models for the ATLAS collaboration since 2015  
**Contact person** for GPU deployment in the Atlas experiment muon trigger feasibility studies since 2014  
**Muon Trigger On-call Expert** for the ATLAS experiment since 2015  
 Atlas authorship qualification activity on muon trigger algorithm test for the LHC Run-2 2014  
**Silicon Vertex Trigger (SVT) On-call Expert** for the CDF experiment 2011  
**Contact person** for the  $H \rightarrow ZZ \rightarrow 4\ell$  search at the CDF experiment 2011 - 2013  
**Contact person** for the  $ZZ$  cross section measurement at the CDF experiment 2009 - 2013

## Grants and Awards

**Principal Investigator** of the project "*MAT: Muon Accelerator Targets*" 2018  
*I.N.F.N. funds - 2 years, 20k euro*  
**Principal Investigator** of the project "*GPU deployment for pattern recognition based on machine learning algorithms for trigger systems in High Energy Physics.*" 2016  
*Sapienza University (Rome) funds - 1 year, 15k euro*  
**Member** of the project "*Development of an innovative computing device able to execute pattern-recognition algorithms in real time and power efficiently on large datasets based on graphical processing units.*" 2015  
*Sapienza University (Rome) funds - 1 year, 13k euro*  
**Member** of the project "*Development of pattern recognition algorithms for a GPUs cluster in a energy effective real time environment*" 2014  
*Sapienza University (Rome) funds - 1 year, 13k euro*  
**INFN fellowship - CoAS** (1 year) to spend at CERN (on the ATLAS experiment) 2014 - 2015

## Conference Organization

**Principal organiser** ATLAS Collaboration Exotics workshop, Rome, 4 days, 100 participants May 2018

## Outreach

Organization of International Physics Masterclass at Sapienza Università di Roma - ATLAS Feb. 2018  
 Participation to the *Lab2Go* project as a Tutor for Secondary school's students. since 2017  
 Outreach Institute contact for the ATLAS group in Sapienza University in Rome. since 2017  
 Organization of International Physics Masterclass at Sapienza Università di Roma - ATLAS Feb. 2016

## Conference Talks and Seminar

20 contribution as talks at national and international conferences and seminars since 2010  
*Major topics: Higgs, QCD, Exotics searches, Dark Matter, Diboson production, Software Trigger*

## Scientific Research activity

<b>Searches for Dark Matter in ATLAS</b> <i>Partecipation to the Dark Matter (DM) Summary paper - combination and reinterpretation of searches in different signatures towards simplified models for DM production at the LHC. [arXiv:1903.01400]</i>	2017-Today
<b>Exotics searches in hadronic final states</b> <i>Since the beginning of Run-2 leading contribution in searches for New Physics phenomena appearing as dijet resonances. [ATLAS-CONF-2019-007, Phys. Rev. D 96 (2017) 052004, Physics Letters B 754 (2016) 302-322]</i>	2015-Today
<b>Atlas Muon Detector and Trigger Operation</b> <i>Class 1 shifts in ATLAS CR for muon detectors; on call shifts for the muon trigger signature</i>	2015-Today
<b>GPU applications in HEP trigger systems</b> <i>Study of the GPU deployment for parallel algorithm execution in the Atlas High Level Trigger. [J.Phys.Conf.Ser. 513, 012017 (2014), Nucl. Instr. Meth. A 824, 307 (2016), J.Phys.Conf.Ser. 664 (2015) no.9, 092014]</i>	2013-2017
<b><math>A \rightarrow Zh</math> searches at the LHC</b> <i>Search for massive CP-odd boson predicted in 2HDM extensions of the SM in decays involving the SM higgs boson. [Phys.Lett. B 744 (2015)]</i>	2013-2015
<b>GPU integration in CDF Silicon Vertex Trigger</b> <i>Feasibility studies for GPU deployment in the CDF trigger systems; results presented to IEEE 2011 conference. [Phys.Procedia 37 1965-1972 (2012)]</i>	2011
<b><math>ZZ</math> diboson production and Higgs searches at the Tevatron</b> <i>Measured the <math>ZZ</math> production cross section at CDF in the corresponding leptonic decay modes and search for the SM Higgs boson in the <math>H \rightarrow ZZ</math> decay. [Phys.Rev. D89 (2014) 112001, Phys.Rev. D88 (2013) 5, 052014, Phys.Rev. D88 (2013) 5, 052013, Phys.Rev. D88 (2013), 052012, Phys.Rev. D86 (2012) 072012, Phys.Rev.Lett. 108 (2012) 101801]</i>	2009-2014