

Dr. Anna Colaleo CV

General information

Senior Staff Researcher at INFN Bari

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The main field of interest is experimental high-energy physics using accelerators, exploring Standard Model and MSSM and searching for new signals Beyond SM. I have been working on the design and implementation of different types of gas detectors in complex experimental apparatus at CERN, covering many international responsibilities. Since 2015 I have been leading the CMS Muon System, the largest Muon detector ever built, coordinating a team of about 400 scientists, students and technicians.

Since 2007 I am working also on diagnostics tools for medical application, using gaseous detectors. I am currently involved in the R&D for the Muon collider experiment.

Education

- July 1994 Physics Degree in Bari University about Trigger and DAQ system for LEP2.
- 1998 Ph.D. Thesis about search for supersymmetry at LEP2.

Publications:

- From ISI Web Of Science: 1276 publications , H-index: 110

Journal Reviewer:

- 2019 – today: JINST
- 2020 – today: Nuclear Inst. and Methods in Physics Research, A

Research and academic positions

- 2012: National Academic Qualification as Full Professor– Experimental Physics and fundamental interactions.
- 2009-today: Senior Researcher at the INFN-Bari
- From April 2006 until March 2008 Project associate position at CERN
- From 1/01/2005 until 31/03/2006 Scientific Associate position at CERN.
- May 2003- December 2004 Project associate position at CERN as responsible for final tests for the Resistive Plate Chamber system (RPC) of the CMS experiment at LHC.

- November 2003 Permanent Research position in Experimental Physics at INFN Bari
- 2000-2003 Research contract at Bari University on data acquisition and reconstruction software for the CMS muon system at LHC.
- 1999-2000 Post-doc Fellowship at Bari University

Research activities and responsibilities in ALEPH experiment at LEP (CERN)

- 1996-1998: member of the group SUSY TASK FORCE: search for supersymmetric particles at center of mass energy between 161 and 209 GeV
- 1995-1998: Hadron calorimeter and Muon system on call expert.
- 1993 software development for a new HCAL and Muon trigger board for LEP2 data taking.
- Since 1993 member of the ALEPH Collaboration

Research activities and responsibilities in the CMS experiment at LHC (CERN)

- Since 1994 member of the CMS RPC group.
- 1994-2002 responsible for the acquisition and online display of data collected during R&D tests on RPC detectors at LHC.
- 1998-2003 coordinator at CERN Gamma Irradiation Facility of the aging tests on CMS RPC Barrel detector.
- 2003-2009 responsibility for testing and final certification of the Barrel RPCs of CMS.
- 2004-2009 Installation Technical Coordinator of the CMS RPC system
- 2005-2008 responsible for the commissioning of the CMS Barrel RPC system.
- 2006-2008 CMS RPC Technical Coordinator
- 2006 RPC coordinator during the CMS Magnet Test and Cosmic Challenge, first test of CMS subdetector integration in magnetic field.
- 2008 RPC coordinator during the Cosmic Run At Four Tesla (CRAFT08), first test of CMS running and continuous operation.
- 2009-2010 Deputy Project Manager of the CMS RPC project
- 2011-2012 coordinator of INFN activities (Bari, Naples, Pavia, LNF) within the CMS RPC Project
- 2011-today coordinator of CMS Bari group activities on the search for Standard Model and MSSM Higgs Bosons in τ final states (several Master and PhD theses), search for BSM physics:
 $Z' \rightarrow \mu\mu$ and $\tau \rightarrow 3\mu$.
- 2011-2013 Resource Manager of the CMS RPC Project
- 2013-2015 Resource Manager of the CMS GEM Project
- 2013-2015 Detector Performance Group coordinator of CMS GEM project
- 2013-2016 coordinator of INFN activities (Bari, Bologna, Naples, Pavia, LNF) within the CMS GEM Project
- 2015 Editor of CMS Technical Design Report for the Muon Endcap GEM Upgrade
- 2015-2017 Muon Upgrade coordinator of the CMS Muon System, coordinating the Phase2 Upgrade of the Muon system. ~450 people
- 2013-2015 Editor of “CMS Technical Design Report for the Muon Endcap GEM Upgrade” (CERN-LHCC-2015-012 CMS-TDR-013)
- 2016-2018 Editor of “The Phase-2 Upgrade of the CMS Muon Detectors (CERN-LHCC-2017-012; CMS-TDR-016).
- 2015-2017 Deputy Project Manager of the CMS Muon System (four Muon subprojects: RPC, DT, GEM, CSC)
- 2017-2019 CMS Muon System Manager (four Muon subprojects: RPC, DT, GEM, CSC) ~450

people

- 2019 – 2020 CMS Muon Resource Manager.
- 2020-2022 Chair of the Muon Institution Board of the CMS experiment
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European and National Projects

- 2015- 2019 member of AIDA_2020 -WP13 “Innovative gas detectors”.
- 2011-2013 AIDA WP.8 “Improvement and equipment of irradiation and test beam lines. Subtask 8.5.3 - GIF++ user infrastructure”.
- AMIDERHA -"Ricerca e Competitività 2007-2013"- PON02_00576_3329762, “Sistemi Avanzati Mini-Invasivi di Diagnosi”. I developed a beam monitor using GEM detector, for environmental and hadrotherapy application. Supervisor of PhD thesis “A study of GEM based detectors for Medical and Environmental Physics applications”

Conference, school committees

- 2004- today. For several years member of program committee Nuclear Science Symposium & Medical Imaging Conference, Chair of Gaseous Detector sessions and Topic Convener Gaseous Detectors: R&D I, Gaseous Detectors: R&D II.
- 2015 organization committee of ACES 2016 - Fifth Common ATLAS CMS Electronics Workshop for LHC Upgrades
- 2012 -today. Member of local organizing committee of National and International Seminars of Nuclear and Subnuclear Physics Francesco Romano (Otranto-Italy)

Review of Grants

- 2017 - Research Grants Council (RGC) of Hong Kong.
- 2018 - review Areas of Excellence Scheme proposal for Research Grants Council, Hong Kong

Italian National Scientific committees

- 2013-2019 Referee of Compass experiment in the INFN National Scientific Committee for Particle Physics activities.
- 2011-2019 Referee of UA9 experiment in the INFN National Scientific Committee for Particle Physics activities.

- 2011-2019 Coordinator of Particle Physics activities of the Bari Group
- 2011-2019 Member of INFN National Scientific Committee for Particle Physics at accelerators
- 2020 – today Coordinator of the Muon collider group at INFN Bari.
- 2020 - today Coordinator of Art and Science across Italy- INFN-Bari.

Teaching

- PhD courses on detectors and particle physics at national and international schools.
- 2013-today member of committee of PhD school at the Physics Department in the Bari University
- Master degree thesis supervised: 13
- PhD thesis supervision: 11
- Post-doc supervised: 5