

## Curriculum vitae

**Family name, First name:** Fiorillo, Giuliana

**ORCID:** <http://orcid.org/0000-0002-6916-6776>

**Date of Birth:** 10.10.1967

**Nationality:** Italian

**Education:** 1995 PhD in Physics, Università degli Studi di Napoli "Federico II"  
1990 Laurea in Fisica, Università degli Studi di Napoli "Federico II"

**Present Position:** Associate Professor, Federico II University, Napoli, Italy

### Research Interests

Particle astrophysics, dark matter detection, neutrino physics, experimental elementary particle physics.

**Summary of Publications** (from <http://inspirehep.net>):  $h_{index}=39$

160 papers, 134 of them citeable (published or arXiv)

Citeable papers: 134 (88)

Total citations: 4077 (3856)

Average citations per paper: 30.4 (43.8)

### Collaborative Research Projects

- 2011 – Dark Matter search with Depleted Argon (**DARKSIDE** experiment at LNGS). Deputy Spokesperson, since 2016. National PI for INFN, since 2013. Napoli group leader. Member of the Executive Board. Chair of the Speakers Board (2014-2016). Member elected of the Steering Committee (2012-2014). Project leader of the cryogenic photo sensors WG (2011-2013).
- 2014 – Recoil directionality with liquid argon detectors for Dark Matter searches (**RED** experiment). Principal Investigator.
- 2011 - 2013 Measurement of scintillation and ionization yield of nuclear recoils in liquid argon and xenon with a compact, two-phase TPC (**SCENE** experiment at Notre Dame). Napoli group leader. Co-Principal Investigator.
- 2009 - 2013 EU FP7-ASPERA Design study on a next-generation noble liquid dark matter facility in Europe (**DARWIN** project). National PI for INFN, Napoli group leader. Member of the Executive Board and of the Project Management Group. WP3 leader (light read-out).
- 2007 – R&D study of new high sensitivity ultra low background photosensors for applications in neutrino and astroparticle physics (**VSIPMT** and **SIGHT** R&D)
- 2003 - 2011 Search for dark matter with the Wimp Argon Programme (**WARP** experiment at LNGS). Napoli group leader. Member of the Executive Board. Project leader for the photomultipliers of both the TPC and the VETO detector of WARP140 experiment.
- 2002 - 2013 Study of neutrinos from solar, atmospheric and astrophysical origin, neutrinos from long baseline accelerator beams, proton decay (**ICARUS** experiment at LNGS). Co-founder and manager of the Naples cryogenic laboratory. Project leader for the Supernova trigger.
- 1996 - 2002 Conceptual design and proposal for a long baseline neutrino oscillation experiment at LNGS (**OPERA** experiment). Co-author together with 11 Italian and Japanese colleagues of the Letter of Intent for the realization of the experiment at LNGS.
- 1989 - 2002 Search for neutrino oscillations and charm production at CERN SPS (**CHORUS** experiment). Responsible for the energy calibration of the calorimeter (PhD thesis). Analysis Coordinator for the oscillation search. Author of a review article on the CERN neutrino experiments at the major international conference of the field, the "International Conference on Neutrino Physics and Astrophysics", in 2002.
- 1989 - 1992 Study of electroweak interaction with muon neutrino-electron scattering at CERN SPS (**CHARM II** experiment). In charge for the hadronic shower energy calibration of the calorimeter and for the analysis of the multimMuon sample of neutrino induced events (laurea thesis work).

### Commissions of Trust

- 2015 - Referee, INFN CSN2, CUORE, CUPID and SABRE experiments
- 2011 - Evaluator, Swiss National Foundation
- 2007 - Reviewer: Physics Letters, JHEP, JINST, Journal of Physics, NIM-A
- 2002 - 2005 Evaluator, EU FP6 INTAS

2003 - 2004 Evaluator, Marie Curie Actions - FP6 Panel Physics

#### **Institutional responsibilities**

- 2015 - Coordinator of the Astroparticle activities of INFN division, Napoli, and member of the Astroparticle Physics National Commission of INFN (CSN2), with a 4 years mandate
- 2013 Member of the Scientific Advisory Board for the Physics Department Colloquia "Antonio Barone Lectures", Federico II University, Napoli.
- 2013 - 2015 Member of the Physics Department Research Evaluation Committee, Federico II University, Napoli
- 2013 - 2014 Chair of the Institutional Advisory Board of Naples Federico II University for the project *Genovate: Transforming organizational culture for gender equality in research and innovation (FP7-Science-in-Society-2012-1)*
- 2013 - 2014 Member of the Steering Board, Polytechnic and Basic Sciences School, Federico II University, Napoli
- 2013 - 2014 Member of the Executive Board, Department of Physics, Federico II University, Napoli
- 2008 - 2013 Member of the Academic Senate, Federico II University, Napoli
- 2004 - 2013 Member of the Steering Board, Faculty of Mathematical, Natural and Physical Sciences, Federico II University, Napoli
- 2004 - 2008 Member of the Teaching Board, Department of Physics, Federico II University, Napoli
- 2001 - Member of various faculty search, graduate student admission, PhD evaluation and other committees.

#### **Tutoring and Mentoring activities**

19 undergraduate students and 5 PhD thesis supervised. Some of my former students currently hold a position in research: G. De Lellis (Associate Professor Napoli), G. De Rosa (Assistant Professor Napoli), B. Di Micco (Assistant Professor Roma3), L. Scotto Lavina (Researcher IN2P3), B. Rossi (Researcher INFN), E. Borriello (Researcher DESY), A. Maurano (Postdoc MIT), F. Adamo (CIRA Napoli), V. Gallo (Postdoc Geneva), R. Santorelli (Researcher CIEMAT).

# CURRICULUM VITAE

di

**Sergio Catalanotti**

- Nato a Napoli il 09/12/1948
- Laureato in Fisica presso l'Università degli Studi di Napoli nel novembre 1973
- Borsista CNR da giugno 1974
- Assegnista ministeriale dal 1975
- Professore incaricato di Fisica presso l'Università di Napoli dal 01/11/1977
- Professore associato di Fisica presso l'Università di Napoli dall'agosto del 1984

Dal febbraio 1973 ha iniziato ad occuparsi di energie rinnovabili, dapprima sviluppando una tesi sotto la direzione del Prof. V. Silvestrini e successivamente, prima come borsista e poi come assegnista, partecipando alle ricerche del gruppo Energia Solare diretto dal Prof. V. Silvestrini.

L'ambito della ricerca in quegli anni riguardava le problematiche relative al risparmio energetico ed all'utilizzo di energia solare in ambito domestico.

L'attività di ricerca è proseguita negli anni successivi volgendosi dapprima alla progettazione di impianti fotovoltaici, con l'ottimizzazione dei diversi parametri progettuali.

Successivamente, a partire dalla fine degli anni '80, l'attività di ricerca si è indirizzata maggiormente sulle proprietà delle celle a silicio amorfo, con lo studio delle caratteristiche di questo materiale.

A partire dal 1997 l'attività di ricerca si è spostata nell'ambito della fisica astroparticellare, partecipando all'esperimento ARGO-YBJ all'interno del quale ha dapprima svolto il ruolo di responsabile del DAQ e successivamente quello di responsabile della farm di calcolo dell'esperimento realizzata nei locali del Dipartimento di Scienze Fisiche.

A partire dal 2014, con la cessazione delle attività connesse all'esperimento ARGO, l'interesse scientifico si è spostato verso le problematiche connesse alla rivelazione della materia oscura, partecipando all'esperimento DARKSIDE.

Questa attività prosegue a tutt'oggi

Napoli, 08/06/2017

## Curriculum Vitae – Gianfranca De Rosa

Gianfranca De Rosa, Naples 17/06/1971, Italian.

ORCID: [orcid.org/0000-0002-2197-511X](http://orcid.org/0000-0002-2197-511X)

Scopus Author ID: 23099401600

ResearcherID: E-8737-2012

URL: <http://www.researcherid.com/rid/E-8737-2012>

### Education:

- 2003 **Ph.D. in Physics** with a thesis *Measurement of the charm cross section induced by antineutrinos*, Thesis Advisor: Prof. P. Strolin at Università Federico II, Naples.
- 1999 **Degree in Physics laurea** thesis: *Ottimizzazione del rivelatore dell'esperimento OPERA per la ricerca di oscillazioni di neutrino su long-baseline. (Optimization of OPERA detector for neutrino oscillation search on long baseline.)*, supervisors: Dr. G. Fiorillo, Prof. P. Strolin at Università Federico II, Naples, obtaining full marks: 110/110 cum laude.

### Current position:

- 2011-present: Permanent researcher at Dept. of Physics, Università Federico II, Naples.

### Past positions:

- 2008-2010: I.N.F.N. Post-docs Associated Researcher
- 2003-2008: Postdoctoral Fellowships at the Physics Dept of Univ. 'Federico II, Naples

### Visiting:

- 2002: Grant at the Nagoya University in Japan, within the program **INFN-JSPS** (Japanese Society for the Promotion of Science)
- 1998-2005: on a regular basis at **CERN** working within the **CHORUS** and **OPERA** collaborations as a diploma, Ph.D student and Post-doc researcher.

### Career supervision:

- 2008-2015: 2 PhD students (1 on-going), 2 Post-doctoral researcher, 7 Master's degree, 3 diploma degree students at Dept. of Physics, Università Federico II, Naples; in many other case, she has a supervision even if not as legal authority

### Teaching:

- 2014-2017: *General Physics, laboratory courses and scientific computing*, Program of Biological Science, Univ. Federico II, Naples, Italy (UNINA);
- 2011-2014: *Basic computing (Modulo Laboratorio di Calcolo del corso Istituzioni di Matematica 1 e laboratorio di calcolo)*, Program of Optics and Optometry, UNINA;
- 2014-2015: *Introduction to Geant4 toolkit*, PhD school in Physics, UNINA;
- 2006-2012: Lectures within the course of *Detectors and Sensors*, Program of Physics, UNINA;
- 2006-2008: Assistant to the course *Laboratory of Physics, Optics and basic electronics*, Program of Physics, UNINA;
- 2005: Lectures within the *Master in Communication and Scientific Promulgation*, UNINA;
- 2003-2005: Assistant to the course *Physics, Electromagnetism and Optics*, Program of Mathematics, UNINA;
- 2000-2005: Assistant to the course *Laboratory of Physics*, Program of Biotechnologies, UNINA;

### Major collaborations, EU programs and roles

- 2005-present: **T2K Coll. Topic: Long-baseline neutrino oscillation experiment;**
  - Responsible for the measurement of neutrino contamination in the antineutrino beam;
  - As supervisor of Ph.D. student, responsible for the neutrino and antineutrino cross section combined measurement;
  - Since 2016, INFN responsible at Naples division;
  - Proponent of MultiPMT as photodetection system for Hyper-Kamiokande and TITUS detectors;
  - Since 2016, co-convenor for the PhotoDetector Working Group of the HyperKamiokande Collaboration..
- 2014-present: project **JENNIFER** (Proposal No: 644294 - JENNIFER - MSCA-RISE, Strategic objective: H2020 MSCA-RISE-2014). *Topic: Japan and Europe Network for Neutrino and Intensity Frontier Experimental Research;*

- Responsible at Naples INFN division.
- **2008-present: VSiPMT project.** *Topic: An innovative hybrid photodetector.*
  - Simulation of photons and electrons interactions in the SiPM based on GEANT4 toolkit and on COMSOL MultiPhysics package for the optimization of the SiPM as electron amplifier and laboratory tests.
- **2005-2016: NEMO-RD-Km3 Coll. and the KM3Net Project.** *Topic: Cubic kilometer sized European neutrino Cherenkov telescope in the Mediterranean Sea*
  - member of the Km3 Steering Committee;
  - development and optimization of Montecarlo simulation codes;
  - Development of a new reconstruction algorithm based on Kalman Filter in collaboration with Dr.Y. Pethukov (Joint Institute for Nuclear Research, Protvino, Russia),
- **2013-2015: ANTARES Coll.** *Topic: Large area water Cherenkov detector in the deep Mediterranean Sea*
  - As supervisor for a Master's degree thesis, Search for neutrino signal from Gamma-Ray Bursts with Antares neutrino telescope
- **2005-2009: PAMELA-WIZARD Coll.** *Topic: Satellite-based experiment dedicated to the detection of cosmic rays*
  - Development of data monitoring, data reduction and analysis software tools for Time of Flight (ToF) detector and Trigger system;
  - Responsible for calibration and performance studies for the ToF;
  - Development of the software for the monitoring of the stability of the PMTs signal;
  - Preliminary measurement of the light nuclei charge by using the ToF data.
- **2000-2005: CHORUS Coll.** *Topic: Short baseline neutrino oscillation experiment at CERN*
  - Responsible for the analysis on neutrino and antineutrino induced charm production;
  - Co-responsible for the detection efficiencies for neutrino events in emulsion;
  - Author/reviewer of several publications.
- **1998-2005: OPERA Coll.** *Topic: Discovery of tau neutrino appearance in the CNGS neutrino beam*
  - Project, construction and test beam exposure to CERN/PS beam of "Emulsion Cloud Chamber (ECC)" prototypes;
  - Development of detector simulation software based on GEANT3 and optimization studies;
  - Involved in the emulsion quality studies and technical test.

#### Project leadership

- PI at Naples INFN division for the **T2K** experiment since 2016. To realize this activity, I have been assigned a 34.5 k€ funding by INFN. The funding is assigned every year by INFN Commissione Nazionale II after a detailed referee scrutiny and approval.
- Responsible for INFN Naples division of the **JENNIFER** Project (Proposal No: 644294 - JENNIFER - MSCA-RISE, Strategic objective: H2020 MSCA-RISE-2014).
- PI for the start-up phase of **SOLAR** project, funded by *Università degli Studi di Napoli Federico II and Compagnia di San Paolo and Istituto Banco di Napoli – Fondazione*, within the Program **STAR**.

#### Research performances

##### Publications:

More than **100** in international journals with more than **5000** citations.

Prize: Fundamental Physics Breakthrough prize 2016: as T2K Collaboration member, for the achievements in neutrino oscillation physics.

#### **CAREER BREAKS**

21/03/2009-20/08/2009 Maternity Leave (5 months).