

## Curriculum Vitae Et Studiorum

Pasquale Fabbricatore

Genova 9/1/ 2023

- He obtained his degree in Physics (cum laude) from the University of Salerno (Italy) in 1982.
- In 1982 he joined Ansaldo Energia (Genova) in the R&D section. During this period he carried out activities related to design of Superconducting Magnets
- In 1987 he joined the Genova Unit of the Italian Institute for Nuclear Physics, (INFN), to develop superconducting devices for particle physics. Presently he is retired (from June 2021) after covering a permanent staff position with profile "Dirigente Tecnologo".

His main activities covered:

- 1) Development of techniques for  $I_c$  characterization of high current cables for High Energy Physics applications;
- 2) Development of ac magnetic measurements for studying the electrical and magnetic properties of superconductors.
- 3) Design, follow-up and test of the superconducting coil for BABAR Detector at SLAC;
- 4) Design and construction follow-up of the superconducting coil for the CMS experiment at CERN;
- 5) Developments of fast cycled superconducting dipoles for FAIR SIS300 and future applications;
- 6) Design and test of the magnets for the delivery lines of CNAO (Center for hadron-therapy in Pavia).
- 7) Design and construction of a superconducting prototype module for Mu2e experiment at Fermilab
- 8) Design and construction of a short model and a prototype of the superconducting dipole D2 for the High Luminosity upgrade of LHC (on going activity)

- Among his responsibilities during his stay at INFN-Genova it is worth mentioning:
  - 1) Principal Investigator, in the frame of CEE COPERNICUS 1994, of the project *Manufacturing techniques for electromagnet giving 0.5 T at 77 K made from bi-based high-Tc superconductor* (1994-1998);
  - 2) Project Leader of the winding project of CMS Magnet (1997-2006);
  - 3) Member of CMS Magnet Technical Board (1994-2009);
  - 4) Responsible of task 11 of the project CNAO (Italian Center for Hadron-Therapy) aimed to the construction of the magnets for the Beam Deliver Line (2005-2009);
  - 5) Member (Vice Chairman for two years) of the Committee for Scientific and Technical Issues and of the Technical Advisory Committee of the facility FAIR at GSI in Darmstadt (2004-2006);
  - 6) Member of the INFN Committee for Technological Transfer (2005-2008);
  - 7) Local Group Leader for technological R&D (CSN5 1991-1996);
  - 8) Member of GEV02 (group of expert for Physical Sciences) in the Evaluation of Research Quality 2004-2010
  - 9) Member of the Machine Advisory Committee of INFN (2012-2016);
  - 10) Leader of the Work Package 5 (Industrialization) of the H2020 project AMICI (2017-2019);
  - 11) Chairman of the Scientific Program Committee of MT-19 Conference (2005);
  - 12) Co-chair of the Scientific Program Committee of EUCAS 2013 Conferences;
  - 13) Member of the Scientific Program Committee of conferences ASC06, SATT13, MT20, MT21, ASC2010, ASC2012 and MT23
  - 14) Member of the INFN Committee for Science and Technology of Accelerators
- In total he published 541 articles on international journals (h-index 91 as reported in WoS). In particular, he contributed to the knowledge of applied superconductivity by publishing about 177 articles in the fields of magnets, cryogenics and superconductivity.
- In 2020 he received the *Award for Continuing and Significant Contributions in the Field of Applied Superconductivity* by the IEEE Council on Superconductivity.

- He was also active in scientific spreading and teaching as Lecturer at University of Genova. He has been 20 times tutor of thesis work for students graduating in Physics and for PhD student.

CV – Salvatore De Pasquale (Andria, Italy, 7 April 1961)

Salvatore De Pasquale is Full Professor of Experimental Physics at the Department of Physics “E. R. Caianiello” of Salerno University and research fellow of the Italian Institute for Nuclear Physics (INFN).

He is an experimental physicist with expertise in high-energy physics, with a focus on studies of heavy flavour production in proton-proton collisions, proton internal structure through measurement of deep inelastic scattering and physics of strongly interacting matter at extreme energy density through the collision of heavy ions at the highest energy available. He is recognized also for the development of large area charged particle detectors designed for nuclear and sub-nuclear physics experiments.

He graduated in Physics, cum Laude, from the University of Palermo with a thesis on: “A study of heavy flavoured baryons production mechanisms in high energies proton-proton interactions”. He received, in 1991, the young researcher prize of the Italian Physical Society.

He spent, all along his career, long periods in some of the major European laboratories as CERN (*European Organization for Nuclear Research, Geneva, CH*), DESY (*Deutsches Elektronen Synchrotron, Hamburg, Germany*), INFN Frascati Laboratory and INFN-LNGS Gran Sasso Laboratory.

Member of ZEUS (*DESY, Hamburg*), LVD (*LNGS, Gran Sasso*) and ALICE (*CERN, Geneva*) international Collaborations and referee of many international journals.

He is presently Director of the Physics Department at the University of Salerno. He is also member of the Academic Senate of the University of Salerno and delegate of the Rector for PhD Programme.

He has been member of the Management Board of Salerno University from May 2017 until December 2018 and has been director of INFN Salerno *Gruppo Collegato* from 2008 to 2015.

He is member of the Council of the Italian Physical Society (SIF) elected in 2010, 2013 and 2016, and 2019, finishing his mandate in December 2022. He is Treasurer of the Italian Physical Society (SIF) since January 2019.

He is responsible of Salerno University sub-nuclear physics Group participating in the ALICE Experiment at the CERN Large Hadron Collider and member of the Board of ALICE International Scientific Collaboration. He is CERN associate since 1986.

He is author and co-author of more than 650 scientific papers published on international peer-reviewed journals regarding nuclear and sub-nuclear physics, applied physics and instrumentation and techniques for nuclear physics.

## Curriculum Vitae

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

### PRESENT POSITION:

Full Professor, Federico II University, Napoli, Italy

### EDUCATION:

1995 PhD in Physics, Federico II University, Napoli, Italy

1990 Laurea in Fisica, Università degli Studi di Napoli "Federico II"

### RESEARCH INTERESTS

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

INTERNATIONAL RESEARCH PROJECTS: DUNE, DARKSIDE, ARIS, RED, DEAP3600, T2K, SCENE, DARWIN, WARP, ICARUS, OPERA, CHORUS, CHARM II

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### COORDINATION OF SCIENTIFIC PROJECTS (PI or Co-PI):

- 2021 – now **DUNE** experiment at LBNF, Deep Underground Neutrino Experiment, co-Principal Investigator.
- 2018 – now **DEAP-3600** experiment at SNOLAB, Dark matter Experiment using Argon Pulse-shape discrimination, co-Principal Investigator.
- 2016 – now **ARIA**, "Progetto Premiale FOE 2015", co-Principal Investigator.
- 2016 – 2018 **ARIS** experiment at IPN Orsay, Argon Response Ionization and Scintillation, co-Principal Investigator.
- 2014 – now **RED** experiment, Recoil Directionality in Liquid Argon, Principal Investigator.
- 2011 – now **DARKSIDE** experiment at LNGS, Dark Matter search with Depleted Argon, co-Principal Investigator, Deputy Spokesperson (2016-2021), national PI for INFN (2013-2020).
- 2011 – 2013 **SCENE** experiment at Notre Dame, Measurement of scintillation and ionization yield of nuclear recoils in liquid argon and xenon with a compact, two-phase TPC, co-Principal Investigator.
- 2009 – 2013 **DARWIN** project, EU FP7-ASPERA Design study on a next-generation noble liquid dark matter facility in Europe, co-Principal Investigator, national PI for INFN.
- 2003 – 2011 **WARP** experiment at LNGS, Search for dark matter with the Wimp Argon Programme, co-Principal Investigator.
- 2002 – 2013 **ICARUS** experiment at LNGS, Study of neutrinos from solar, atmospheric and astrophysical origin, neutrinos from long baseline accelerator beams, proton decay, co-Principal Investigator.

### SCIENTIFIC COMMITTEES, STEERING AND ADVISORY BOARDS

- 2021 – now SNOLAB Science and Technical Review Committee (STRC), Member
- 2019 – 2021 ApPEC, Dark Matter Direct Detection Committee, Member
- 2018 – 2020 CERN, SPS and PS Experiments Committee (SPSC), Member
- 2017 – 2020 TIFPA, Trento Institute for Fundamental Physics and Applications, Steering Group for the coordination of collaborative activities between INFN and FBK (Fondazione Bruno Kessler), Member
- 2015 – 2019 INFN Astroparticle National Scientific Committee (CSN2), Napoli and Salerno groups Coordinator elected

2013 – 2014 Federico II University Physics Department, Scientific Evaluation Committee, Member  
 2013 – 2014 Federico II University, Project Genovate: Transforming organizational culture for gender equality in research and innovation (FP7-Science-in-Society-2012-1), Institutional Board Chair  
 2013 – 2014 Federico II University, Polytechnic and Basic Sciences School Steering Board, Member elected  
 2013 – 2014 Federico II University Physics Department, Executive Board, Member elected  
 2008 – 2013 Federico II University, Academic Senate, Member elected  
 2004 – 2013 Federico II University, Physics Department, Teaching Steering Board, Member elected  
 2004 – 2008 Federico II University, Faculty of Mathematical, Natural and Physical Sciences Executive Steering Board, Member elected  
 2001 – Several faculty search, graduate student admission, PhD evaluation, postdoc, researcher and other selection committees, Member or President.

#### TEACHING AND ADVISING DUTIES

Several General Physics, Laboratory and Electronics courses for students of Physics, Engineering, Informatics.  
 Astroparticle Physics lectures in PhD courses and International Schools.  
 Advisor of about 40 undergraduate students and 10 PhD thesis. External referee for additional 12 PhD thesis.

#### SUMMARY OF PUBLICATIONS:

Authored or co-authored more than 220 papers, 200 of them citeable.  
 An h-index of 53 is calculated by <http://inspirehep.net/> on 2021-11-20.

#### BOOKS:

“La materia oscura e l’energia oscura”, book by Giuliana Fiorillo and Nicolao Fornengo, *Lezioni di Fisica 9*, Corriere della Sera, 159 pages, December 2018, RCS MediaGroup S.p.a. Riedited in 2021.

#### INVITED TALKS, SEMINARS, COLLOQUIA, CONFERENCE ORGANIZATION

Invited speaker for plenary talks in about forty International Conferences.  
 Invited to give dozens of scientific seminars and colloquia to a larger audience.  
 Organizer of several International Workshops, chair or convener of Astrophysics sessions at International Conferences.  
 Member of International Advisory Committees for conferences, workshops and schools of astroparticle physics.  
 Co-editor of the *XVI International Workshop on Weak Interaction and Neutrinos Proceedings*.

#### PEER REVIEW ACTIVITIES

Referee of CERN SPSC for MADMAX, PROTODUNE-DP (NP02), PROTODUNE-SP (NP04), CLOUD, UA9, NA62 Experiments.  
 Referee of INFN CSN2 for SABRE, CUPID and CUORE experiments.  
 Reviewer for Nature, EPL, Physics Letters, JHEP, JINST, Journal of Physics, NIM-A.  
 Evaluator for UK Particle Physics Grants Panel of the Science and Technology Facilities Council, Swiss National Foundation, EU MSCA Actions in FP6, FP7, Horizon2020.