europass Curriculum vitae

PERSONAL INFORMATION

Gianluca De Marzi

Via Enrico Fermi 45, 00044 Frascati, Rome (Italy)

gianluca.demarzi@enea.it Orcid ID: 0000-0002-5752-2315

PERSONAL STATEMENT

Staff Researcher at ENEA, Applied Superconductivity Lab.

Associated Scientist, CERN (2018-2019)

EU successful laureate, included in the reserve list of the EPSO competition COM/AD/03/2010 (Administrators in the Field of Physics, AD6).

National Scientific Qualification, B01 Fascia 02 - Experimental Condensed Matter Physics

WORK EXPERIENCE

02 Oct 2006–Present — Research Scientist (staff)

Fusion and Technology for Nuclear Safety and Security Dept., Applied Superconductivity Laboratory

ENEA - Agenzia Nazionale per le Nuove Tecnologie, l'Energia e lo Sviluppo Economico Sostenibile, Via Enrico Fermi 45, 00044 Frascati (Italy)

Magnetic characterization of superconducting strands and cables for large devices (ITER and JT60-SA Tokamaks). Electrical characterization of stacks of *RE*BCO coated conductors. Design and manufacture of High-T_c Cable-In-Conduit Conductors for high-field magnet applications (fusion energy and high-energy physics).

01 Feb 2018–31 Jan 2019 — Associated Scientist

CERN, European Organization for Nuclear Research, Esplanade des Particules 1,1211 Meyrin (Switzerland)

Electromechanical characterization of Nb_3Sn superconducting Rutherford cables.

EDUCATION AND TRAINING

1997–2000 — Doctor of Philosophy (Ph.D.), Material Science

Infrared Optical Properties of $La_{1-x}Ca_xMnO_3$ Manganites

Università degli Studi di Roma "Sapienza", Piazzale Aldo Moro 5, 00185 Rome (Italy)

1989–1996 — M. Sc. Physics, 110/110 *cum laude*

Optical Properties of CuO_2 "infinite-layers" films

Università degli Studi di Roma "Sapienza", Piazzale Aldo Moro 5, 00185 Rome (Italy)

SHORT STAYS ABROAD

27 Jun–26 Jul 2016, 29 Jan–28 Feb 2015, 22 Sep–31 Oct 2014 — Visiting Scientist

Massachusetts Institute of Technology (MIT), Plasma Science and Fusion Center, NW16-288, 167 Albany Street, Cambridge, MA 02139-4213 – United States

Bending tests of HTS cable-in-conduit conductors for high-field magnets applications.

01 Mar–30 May 2010 — Visiting Scientist

Lawrence Berkeley National Lab, 1 Cyclotron Road, Berkeley CA 94720 – United States

Electrical characterization of Nb_3Sn multifilamentary strands subjected to uniaxial loads.

SKILLS

Design, manufacturing and electrical characterization of superconducting cables; electrical and magnetic characterization of HTS and LTS superconductors; cryogenics and vacuum techniques.

Experimental techniques: dc and ac magnetometry, SEM and AFM, Focused Ion Beam, FTIR and Raman spectroscopies, user of synchrotron radiation (infrared and X-rays)

Image Processing, Java, Fortran and C++ Programming, LaTeX, Signal Processing, Igor Pro, COMSOL, Java, Visual Basic 5.0/6.0, DFT tools

ADDITIONAL INFORMATION

Advanced Courses

Quantum Espresso Workshop - 25-29 June 2012, The Pennsylvania State University, 113 Information Science and Technology (IST) Building, State College, Pennsylvania (USA)

Matefu Spring Training School "Superconducting Magnets" – 5-9 April 2009, Le Château CEA Cadarache, 13108 St. Paul Lez Durance (France)

International School of Fusion Reactor Technology, 12th Course – Superconducting Magnets: Case Studies – 8-16 September 2009, "Ettore Maiorana" Foundation and Centre for Scientific Culture, Erice (Italy)

Technical Editor

IEEE Transaction on Applied Superconductivity

Refereeing

Regular referee for the following international journals on applied physics and superconductivity:

- Journal of Applied Physics (AIP Publishing)
- Superconductor Science and Technology (IOP)
- IEEE Transaction on Applied Superconductivity (The IEEE Council on Superconductivity)

Publications

Citations: 1129; *h*-index = 17 (source: *scopus*, January 2021).

Book chapters and Reference collections:

G. De Marzi, and L. Muzzi, "Low-Temperature Superconductors", in "*Handbook of Superconductivity - Theory, Materials, Processing, Characterization and Applications*, 2nd Edition (3-Volume Set)", by CRB Press, **ISBN 9781439817308**, Edited By David A. Cardwell, David C. Larbalestier, Aleksander Braginski (2021).

G. De Marzi, L. Muzzi, and P. J. Lee, "Superconducting Wires and Cables: Materials and Processing", in *Reference Module in Materials Science and Materials Engineering: Superconductor Applications*, 19 May 2016 (available on-line: https://doi.org/10.1016/B978-0-12-803581-8.01917-2).

75 Articles in peer-reviewed international journals (full list available upon request)