

# Curriculum Vitae et Studiorum Valeria Braccini

## WORK EXPERIENCE

January 2023 - today	<b>Senior Researcher (permanent)</b> CNR-SPIN, Genova, I
February 2010 – December 2022	<b>Researcher (permanent)</b>
March 2010 – March 2011	<b>Visiting Scientist / Researcher at</b> Applied Superconductivity Center, NHMFL, Tallahassee, FL, USA
May 2005 – January 2010	<b>Research Scientist (fixed-term)</b> at CNR – INFM LAMIA, Genova, I on 'Development of MgB <sub>2</sub> superconductors for high-field applications' in the framework of the EU-FP6 STRP "HIPERMAG" 'Nano- and micro-scale engineering of higher-performance MgB <sub>2</sub> composite superconductors for macro-scale applications'
February 2004 – April 2005	<b>Post-doctoral Fellow</b> University of Genova, I on: "Synthesis and properties of magnesium diboride superconducting samples"
July 2003 – January 2004	<b>Post-doctoral Fellow as Research Associate</b> Applied Superconductivity Center - University of Wisconsin, Madison-WI (USA)
April 2003 – July 2003	<b>Research Grant</b> INFM, Genova, I on: "Preparation of pure and doped MgB <sub>2</sub> "
March 2002 – March 2003	<b>Research Intern</b> Applied Superconductivity Center - University of Wisconsin, Madison-WI (USA)

*Career breaks* I have been on maternity leave for the birth of my three children in the following periods: May - October 2007, November 2008 - September 2009; April – December 2014.

## EDUCATION AND TRAINING

April 2003	<b>PhD in Physics</b> University of Genova, I Dissertation title: "Superconducting behaviour of bulk MgB <sub>2</sub> : dependence of critical temperature, irreversibility line and upper critical field on the normal state properties"
July 1999	<b>Degree (Laurea, 4 years curriculum) in Physics, magna cum laude</b> University of Genova, I

## RESEARCH PROJECTS

PI of Projects	I have been <b>Principal Investigator</b> of the following Projects: <ul style="list-style-type: none"><li>- <b>Principal Investigator</b> of the project NaMaSCale - From the Nano to the Macro SCale: a deep investigation of Grain Boundaries in High-T<sub>c</sub> Superconducting Wires – PRIN 2022TZ8R7C (2023-2025)</li><li>- <b>Responsible for CNR</b> of the Sottoprogetto 4 of the JRC Fusione "Sviluppo di superconduttività: materiali e processi produttivi, in particolare per materiali ad alta T<sub>c</sub>" within the JRA CNR – Eni (2019-2024)</li><li>- <b>Responsible for CNR-SPIN Unit</b> of the project HIBiSCUS – High performance-low cost Iron BaSe<sub>d</sub> Coated condUctorS for high field magnets - PRIN 201785KWLE (2019-2023)</li><li>- <b>Responsible for CNR-SPIN</b> of the IEEE Sponsorship of the International Workshop IBS2app (2020)</li><li>- <b>Responsible of the Work Unit</b> "Development of IBS conductors" in the Addendum FCC-GOV-CC-0086, EDMS 1750320 / KE 3507 to the Memorandum of Understanding for the FCC study with CERN (2017-2020)</li><li>- <b>Responsible</b> of the Project AD003.029 "Superconduttori a base di Ferro depositati su substrati metallici" within the MIUR-funded Project "Tomografo MRI Interventivo" (2016-2018)</li><li>- <b>Responsible</b> of the Project Premiale 2012 AD001.097 - Tecnologie integrate ed ecosostenibili per la produzione, l'accumulo e l'utilizzo dell'energia (2014–2016)</li></ul>
Participation in Projects	I participated to the following Projects: <ul style="list-style-type: none"><li>- FP7-NMP-2011-EU-Japan "SUPER-IRON, Exploring the potential of Iron-based Superconductors" (2011-2013)</li></ul>

- MIUR-funded PRIN “Studio, definizione e sviluppo di un cavo in MgB<sub>2</sub> con proprietà elettriche e termiche adatte al suo utilizzo in un limitatore di corrente” (2009-2010)
- MAE bilateral cooperation Italy-USA funded project on “MgB<sub>2</sub>: from microscopic mechanisms to large scale applications” (2008-2009)
- FP6-NMP EU-FP6 STRP NMP3-CT-2004-505724 “Nano- and micro-scale engineering of higher-performance MgB<sub>2</sub> composite superconductors for macro-scale applications (HIPERMAG)” (2004-2008)

## CONFERENCES

### Conference participation

- I gave many talks at the main international conferences/workshops on superconductivity, especially applied superconductivity. Among them, I gave the following **invited talks**:
- in symposium D2 of the Advanced Materials Research Grand Meeting MRM2023/IUMRS-ICA2023, Kyoto, Japan
  - in symposium E2 of the Material Research Meeting 2021 (MRM2021), Yokohama, Japan
  - at ICSM 2020, 7th International Conference on Superconductivity and Magnetism, Milas-Bodrum, Turkey
  - at EUCAS 2019, 14th European Conference on Applied Superconductivity, Glasgow, UK

### Conference Organization Tasks

- **Chair of the Materials sub-committee**, on the Scientific Programme Committee (SPC) for the 16th European Conference on Applied Superconductivity EUCAS2023 (Bologna, Sep 2023)
- **Chair of the Symposium QT11 — Superconducting Materials and Applications of 2022** MRS Spring Meeting and Exhibit (Honolulu, Hawaii, USA, May 2022)
- **Member of the Materials Program Committee** of the Applied Superconductivity Conference ASC 2024 (Salt Lake City, USA, Sep 2024), ASC 2020 (Virtual, Oct 2020) and ASC 2018 (Seattle, USA, Oct 2018)
- **Chair and Member of the Scientific and Organizing Committee** of the 1st International workshop on “Iron-based Superconductors: advances towards applications” (Santa Margherita Ligure, Genova, Feb 2020)
- **Member of the Organizing Committee** of SuperFox2020, 5th Conference on Superconductivity and Functional Oxides (Santa Margherita Ligure, Genova, Feb 2020)
- **Member of the “Wires Tapes and Conductors” Program Committee** of the 12th European Conference on Applied Superconductivity EUCAS 2015 (Lyon, F, Sep 2015)
- **Member of the Organizing Committee** of the 11th European Conference on Applied Superconductivity EUCAS 2013 (Genova, Sep 2013)

## MANAGEMENT TASKS

- Since 2023: **Member of the ESAS (European Society for Applied Superconductivity) Board**
- Since 2016: **Member of the Italy Chapter of the IEEE CSC Council on Superconductivity**
- 2016 – 2020: **Member of the CNR-SPIN Executive Board**
- Since 2021: **Member of the Editorial Board for Smart Materials for the journal Materials**
- 2019 – 2021: **Member of the Advisory Board of Supercond. Sci. Technol.**
- **Guest Editor of the Focus Issue “Iron-Based Superconductors 2020: Advances Towards Applications” in Supercond. Sci. Technol.**
- **Technical Editor of Vol 32 Issue 4 (2022), Vol 28 Issue 4 (2018), Vol 24 Issue 3 (2014), Vol 23 Issue 3 (2013) of IEEE Trans. Appl. Supercond.**
- **Referee for Institute of Physics (IOP), American Institute of Physics (AIP), Elsevier and Institute of Electrical and Electronic Engineers (IEEE) journals**

## HIGHER EDUCATION and TRAINING SKILLS

- **Contract for teaching the “Superconductivity” Course (cod. 61865, SSD FIS/03, 6 CFU), Master in Physics of UniGe, for the Academic Years 2022/23, 2021/22, 2020/21, 2019/2020**
- **Holder of the teaching course “Applied Superconductivity” for the PhD School in Physics at UniGe, Academic Year 2016/17**
- **Supervisor of 1 PhD Thesis in Physics, 3 PhD Thesis in Material Science, 1 Master Thesis in Physics, 1 Master Thesis in Material Science, 1 Degree Thesis in Material Science**
- **External Examiner of a PhD Thesis in Engineering Sciences, University of Southampton, Faculty of Engineering and the Environment**

## OUTREACH

- 2022: member of the Organizing Committee of the event "Gender Asymmetries: The case of STEM" (<https://asimmetriedigenere.unige.it/>) held in Genova on 17/06/2022
- 2019 – 2021: Member of the Working Group "Superconductivity Events – Genova 2020" for the organization of training and dissemination events – i.e. EEASISCHOOL3 post-graduate school of Applied Superconductivity, EASITRAIN young researchers' workshop on superconductivity and cryogenics, Exhibition of the Itinerant Exhibition of CERN: "THE CODE OF THE UNIVERSE a photographic journey of discovery", exhibition on superconductivity at Festival della Scienza - within the EASITrain project - H2020-MSCA-ITN-2017
- 2019 – 2021: Member of the Working Group "EASITrain" for the organization of training and dissemination events related to the European Project "European Advanced Superconductivity Innovation and Training - EASITrain - H2020-MSCA-ITN-2017", through CERN

## PUBLICATIONS

### Bibliographic metric

I am co-author of **96 publications** on peer-reviewed journals (as reported on Web of Science and Scopus platforms), with 3407 citations and **H-index: 31** (source: Scopus).

For the complete list see <https://www.scopus.com/authid/detail.uri?authorId=6701827392> or <https://orcid.org/0000-0003-0073-367X> or <https://www.spin.cnr.it/people/researchers/braccini-valeria>

### 10 selected publications

- M Scuderi *et al.*, Sci Rep 11 (2021) 20100 DOI 10.1038/s41598-021-99574-5
- G Sylva *et al.*, Supercond Sci Technol 33 (2020) DOI 10.1088/1361-6668/abb35d
- G Sylva *et al.*, Supercond Sci Technol 32 (2019) 084006 DOI 10.1088/1361-6668/ab0e98
- A Abada *et al.*, Eur Phys J C 79 (2019) 474 DOI 10.1140/epjc/s10052-019-6904-3
- G Sylva *et al.*, Supercond Sci Technol 31 (2018) 054001 DOI 10.1088/1361-6668/aab3bd
- V Braccini *et al.*, Appl Phys Lett 103 (2013) 172601 DOI 10.1063/1.4826677
- V Braccini *et al.*, Supercond Sci Technol 24 (2011) 035001 DOI 10.1088/0953-2048/24/3/035001
- V Braccini *et al.*, Phys C 456 (2007) 209 DOI 10.1016/j.physc.2007.01.030
- V Braccini *et al.*, Phys Rev B 71 (2005) 012504 DOI 10.1103/PhysRevB.71.012504
- V Braccini *et al.*, Appl Phys Lett 81 (2002) 4577 DOI 10.1063/1.1528289

### Book Chapters

I have co-authored 3 Book chapters, between them: A Malagoli and V Braccini "MgB<sub>2</sub> wires fabricated using the ex situ technique", Chapter 4b in "MgB<sub>2</sub> superconducting wires, Basics and applications", ed. by R. Flukiger, published by World Scientific in Applications of Superconductivity and Related Phenomena, vol. 2 (2016)

### Book

I Pallecchi, V Braccini, A Malagoli "I materiali superconduttori per le applicazioni su larga scala" ed. by inriga edizioni (2022)

### Patent

I am Inventor of the International Patent "A method for synthesizing magnesium diboride (MgB<sub>2</sub>) in bulk form"; Pub. n. WO03043936 (2003); Inventors: V Braccini, P Manfrinetti, A Palenzona; Applicants: V Braccini, P Manfrinetti, A Palenzona, INFM (IT); Classification: International C01B35/04; C01B35/00; (IPC1-7): C01B35/04; European: C01B35/04; Application n.: WO2002IB05158 20021121 Priority n.: IT2001TO01098 20011123