

Curriculum Vitae of Simona Boninelli

Position: Researcher

Institute for Microelectronics and Microsystems
Italian Research National Council (IMM-CNR)
Catania, Italy

Spoken languages: Italian (mother tongue), English and French

EDUCATION AND WORK EXPERIENCE

- 2001: **Master in Physics** (110/110), University of Catania, Italy
- 2001-2004: **PhD. in Physics** (cum laude) University of Catania, Italy.
- 2004-2005: **Research grant** at MATIS INFN, 3 months, Catania, Italy
- 2005-2006: **Postdoc fellowship** at CEMES-CNRS, Toulouse, France
- 2006: **Research grant** (3 months) at Physics Department of University of Catania, Italy
- 2006-2008: **Postdoc fellowship** at MATIS CNR-INFN, Catania, Italy
- 2008-2009: **Team Leader** at Italian Institute of Technology, Genoa, Italy, Nanochemistry Facility, Electron Microscopy Group
- From 2009 to today: **Permanent Researcher** at IMM-CNR, Catania
- July 2015: **Invited Researcher** at Cemes-CNRS, Toulouse (France) in the context of the project NEXT, Reference: NEXT tenders - April 2015, <http://www.next-toulouse.fr/>

RESEARCH ACTIVITY

S. Boninelli (S.B.physicist, 49 years-old), is **Staff Scientist** at **IMM** since 2009 and is specialized in **Electron Microscopy** applied to **nanostuctures**. S.B. spent two years as a **post-doc at CEMES-CNRS** (Toulouse, France) and two years as **Group Leader at the Italian Institute of Technology (IIT)** in Genova, where contributed to the realization of a TEM laboratory equipped with two SEMs and two TEMs. In 2007, she received the Young Researcher Award from Accademia Gioenia of Catania.

Her **research activity** is mainly devoted to the comprehension of the structural properties of extended defects in **Si, Ge, and SiC based nanomaterials** and their correlation with the optical and electrical properties for application in **photonics and microelectronics**. She presented several **invited talks** at international conferences, was general **co-chair of international conferences** and, currently, she is actively involved in the **organization of the European Researcher Night and Quantum Weeks**. She is strongly involved in **EU projects and PNNR Ecosistemi dell'Innovazione "Samothrace"** and as **member and referee, coordinator** for the Italian side of the **bilateral Programs for Scientific Cooperation (PICS)** project with France and directly involved in the Italian-Canadian bilateral project funded by the Ministry of Foreign Affairs and International Cooperation. She responsible of work package 8 "Materials for Energy" in the **EU project "ESTEEM3"** for the IMM-CNR and for the "quota Sud" (South share) in the **PNNR Ecosistemi dell'Innovazione project "Rome technopole"**.

She has been involved in several training projects to form **expert in electron microscopy** and is invited by national and international universities to **deliver lectures on this topic**.

Her **track record** counts:109 scientific papers, 4 chapters of books, editor of 3 volumes, h-index =26, 2570 citations.

Other professional positions in the different domains of R&I

REFEREE

- From 2008 to today: **Referee** of different international **scientific journals** such as Journal of Applied of Physics, Microscopy and Microanalysis, Applied Surface Science, Beilstein Journal of Nanotechnology.
- 2012: **Expert review of proposal** submitted to the Center for Nanophase Materials Sciences, that is a national user facility at Oak Ridge National Laboratory in the USA sponsored by the United States Department of Energy's Office of Basic Energy Sciences

- From 2011 to today: Member of the **scientific committee** to select candidates for post-doc positions at the Institute of Microelectronics and Microsystems
- 2012-2013: Member of the **technical committee** engaged to evaluate the acceptance test of the “Mask Aligner System” and the “Aberration Corrected Transmission Electron Microscope”, at the IMM-CNR, Catania
- 2020: **Project evaluator** of a proposal in the framework of Programma Operativo Regionale (Regional program), Budget \approx 1M€.

CONFERENCE ORGANIZATION

- 2015: **Scientific Committee Member** of Symposium H of European Materials Research Society (**EMRS**) Conference 2015 Spring Meeting, 11-15 May 2015, Lille, France, (www.european-mrs.com/2015-spring-symposium-h-european-materials-research-society)
- 2016: **General chair** of “6th International conference on nanostructures and nanomaterials self-assembly (**NANOSEA**)” 3-8 July, Giardini Naxos (ME), Italy (www.nanosea2016.imm.cnr.it/)
- 2017: **Main organizer** of symposium R of the **EMRS** Conference, Spring Meeting, Strasbourg (France), (www.european-mrs.com/nanoparticles-dielectric-matrix-synthesis-device-applications-photonics-electronics-and-bio-sensing)
- 2018: **General chair** of “7th International conference **NANOSEA**” Carqueiranne, French Riviera, (www.imm.cnr.it/events/international-conference-nanostructures-and-nanomaterials-self-assembly-2018-7th-edition)
- 2018: **Co-chair** of the 1th **Joint Workshop** STMicroelectronics- IMM CNR: “Electron Microscopy - A bridge between research and industry”, Catania, September 24th (<https://www.ct.imm.cnr.it/?q=events/1st-joint-workshop-stmicroelectronics-imm-cnr-%E2%80%9CElectron-microscopy-bridge-between-research>)
- 2019: **Co-organizer** of symposium P of the **EMRS** Conference Spring Meeting, Strasbourg (France), (www.european-mrs.com/dielectric-nanocomposites-energy-environment-and-health-fundamental-devices-emrs)
- 2018-2021: Member of **Board of Delegates** of **EMRS**

TEACHING AND TUTORING ACTIVITY

- 2013: **Lecturer** “Microscopy techniques for the characterization of thin films”, 30 hours (h), devoted to **post graduated students (PGs)**. Project: “Electronics on plastics for smart disposable”, Catania Ricerche Consortium, Italy
- 2013: **Lecturer** “Scanning and Transmission Electron Microscopy”, Project: “New photovoltaics technologies for smart systems integrated in buildings”, 20 h, devoted to PGs, Physics Dept., Catania Univ.
- 2013-2014: **Training Activity** “Determination of the morphology of nanostructured materials by Transmission Electron Microscopy”. Project: New photovoltaics technologies for smart systems integrated in buildings 85 h devoted to PGs, Physics Dept., Catania Univ.
- 2013: **Lecturer**: “Electronics bands and energy levels”, 4 h, devoted to PGs at the Physics Dept., Catania Univ. 2014: **Lecturer**: “Structural and morphological characterization techniques for nanostructured materials: SEM and TEM”, 12 h devoted to PGs, Project: “Technologies for the Energy and the energy Efficiency”, Physics Dept., Catania Univ.
- 2012-2014: **Lecturer and Training activity** “Theoretical and practical course on Transmission Electron Microscopy at atomic resolution”, 87 h + 180h, devoted PGs, Project “FOTM@Beyond-nano”, IMM-CNR, Catania
- 2014-2015: **Lecturer** “Materials and Nanostructures laboratory”, 60 h, Master Degree in Physics, Catania Univ.
- 2017: **Lecturer** “Transmission Electron Microscopy: from conventional to advanced investigation of materials, at the nanoscale and beyond”, 5h, XXIV Escuela Internacional de Verano en Ciencia y Tecnología de Materiales, IMRE, Universidad de La Habana, Cuba.

- 2018-2019: **Lecturer** “Materials and Nanostructures laboratory”, 66 h, Master Degree in Physics, Catania Univ.
- 2018-2019: **Lecturer** “Introduction to Transmission Electron Microscopy”, 9h, Bachelor Degree in Physics, University of Rome Tor Vergata
- 2015 to today: **Tutor** of 5 Master Thesis and a PhD Thesis in Physics at the University of Catania, Scientific responsible of 3 Post Doc students and a Post Graduated student

AWARD

- 2007: Young Researcher Award “Contributi allo sviluppo della nanoscienza e/o delle nanotecnologie”, Accademia Gioenia, Catania, Italy

OUTREACH DIVULGATION

- 2013: **Attendees** at the “Communication about research for different target audience” course, 15h
- 2015: **Attendees** in the hands-on “Bridge the Research-Innovation Gap” 2 days workshop
- 2018-2019-2020-2021 **Organizer** of the “European Research Night” for IMM-CNR Institute. Project: SHARPER (Sharing Researchers’ Passion for Evolving and Responsibilities)

Below, my interviews for a broader dissemination:

Italian press:

<http://automazione-plus.it/brochure/ao/406/160/>

<http://automazione-plus.it/brochure/ao/401/files/assets/basic-html/page-122.html#>

Italian broadcasting:

<http://www.raiscuola.rai.it/articoli-programma-puntate/memex-i-luoghi-della-scienza-pt-24-catania/39315/default.aspx> (minute 00:30:00)

<https://www.youtube.com/watch?v=ULsdwoJ14p4> (minute 14:00)

Signature

Done at Catania (Italy) on 2023, April 17th

Name and surname: Simona Boninelli

Signature: 