

CV of Simona Boninelli

Position: Level III Researcher and Technologist
Institute for Microelectronics and Microsystems, Italian Research National Council (IMM-CNR)
Catania, Italy

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

WORK EXPERIENCE

2004-2005	Research grant at MATIS INFM, 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-INFM, 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/
2020	Project evaluator of a proposal in the framework of Programma Operativo Regionale (Regional program), Budget ≈1M€.
2011-2021	Responsible of the Scanning Electron Microscope laboratory
2011 to today	Professorship and tutor of Master Degrees, PhD and Post Docs in Material Science
2016 to today	Co-chair and organiser of International Conferences: International conference on nanostructures and nanomaterials self-assembly (NANOSEA), EMRS and the First ST Microelectronics –IMM Joint Workshop
2018 to today	Organizer of Sharper European Research Nights

EDUCATION AND TRAINING

2001	Master in Physics (110/110), University of Catania, Italy
2001-2004	PhD. in Physics (cum laude) University of Catania, Italy.

RESEARCH ACTIVITY

S. Boninelli (S.B.physicist, 48 years-old), is Staff Scientist at IMM since 2009 and is specialized in **Electron Microscopy** applied to nanostructures and thin films. 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.

Nowadays, she is member of Beyondnano group (<http://www.beyondnano.it/simona-boninelli>).

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. In 2016 and 2018 was **general co-chair of NANOSEA** conference (www.nanosea2016.imm.cnr.it/), in 2017 and 2019 was **main and co-organizer of symposia R and P of the EMRS**. Currently, she is actively involved in the organization of the **European Research Night**. She is strongly involved in EU projects as member and referee, coordinator for the Italian side of the **bilateral Programs For Scientific Cooperation (PICS)** project with France, directly involved in the Italian-Canadian bilateral project funded by the Ministry of Foreign Affairs and International Cooperation and **ESTEEM3 – Enabling Science and Technology through European Electron Microscopy**, which aims at providing access to the leading European state-of-the-art electron microscopy research infrastructures.

She is usually involved in **several training projects and teaching lectures** to form experts in electron microscopy. In the last years she has been principal organizer of outreach activities devoted to **promote STEM** to young students with the aim to reduce the gap between research and civil society.

Her **track record** counts: h-index =25, 2570 citations (Updated ISI WEB 2022, June 20th)

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)

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
- 2020: Scientific Committee Member of NANOSEA in Rome postponed to 2021 for Covid19 pandemia.

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 Tecnologia 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 reseach for different targhet audience” course, 15h
- 2015: Attendees in the hands-on “Bridge the Research-Innovation Gap” 2 days workshop
- 2018-2019-2020 Organizer of the “Euopen Reseach 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)