

Marco Rossi – short CV (updated on 26/01/2025)



Sapienza University of Rome
Dept. of Basic and Applied Sciences for Engineering (SBAI)
Research Center of Nanotechnology for Engineering (CNIS)

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Personal Data

Date of birth: 8 August 1961 in Rome (Italy), married
Work languages: Italian, English
Scientific degrees: Master's Degree (5-years) in *Electronic Engineering* (1987, Sapienza University of Rome)
PhD in *Electromagnetism and Electrophysical Sciences* (1987, Sapienza University of Rome)

Current academic positions and commitments

- Full professor of *Experimental Physics of Matter and Applications* at Sapienza University of Rome (since 2020)
- Member of the board of the PhD Course in *Mathematical Models for Engineering, Electromagnetism and Nanosciences* (since 2012), formerly PhD course in “Electromagnetism” of Sapienza (since 2007)
- Member of the executive board of the Research Center of Nanotechnology for Engineering of Sapienza, CNIS (since its foundation in 2007)
- PI of EMINA (Electron Microscopy and NANoscopies) Lab (since 2005)
- Teaching courses: *General Physics* for the first cycle degrees in Industrial Engineering (since 1991)
Microscopies and Nanocharacterization techniques for the second cycle degree (Laurea Magistrale) in Engineering Nanotechnology (since 2007)

Previous academic positions and commitments

- 2021-2022 Rectress Delegate for Industrial PhDs
- 2016-2022: Director of the MS Program in Nanotechnology Engineering @ Sapienza University of Rome
- 2016: Coordinator of the ‘Commissione Monitoraggio’, Faculty of Civil and Industrial Engineering.
- Dec 2013: Qualified for the position of Full Professor in Experimental Physics of matter (SC 02/B1).
- 2005-2020: Associate Professor of Experimental Physics, Department of Fundamental and Applied Sciences for Engineering (formerly Dept. of Energetics) of Sapienza.
- 1991- 2004: Researcher at Sapienza, Department of Energetics, and temporary Professor of General Physics (1994-2004) at the faculty of Engineering.

Other main appointments and commitments

- 2022 - current • Within the framework of the Projects supported by EU Next Generation funds, he is the Coordinator of Sapienza (financed with an amount of about 4.1 Meuro), in the Project "Infrastructure for Energy Transition and Circular Economy @ EuroNanoLab" (iENTRANCE@ENL), financed for a total of 75.2 Meuro.
- March 2020 - August 2024 • Project Coordinator for the European project *CHALLENGES*, funded by European Commission as part of Horizon2020 (approved in the framework of the call H2020-NMBP-TO-IND-2019), for a total financial support of 4.691.567,50 € (of which 340.843,75 € for the partner UNISAP). Sapienza University of Rome, together with 13 partners located all over Europe, have joined this project whose main purpose has been to develop multipurpose nano-optical techniques and metrological protocols for real-time characterization using plasmonic enhanced Raman, IR and PL signals, capable to enable an increase of speed, sensitivity, spectral range with full cleanroom compatibility within different production environments, to improve devices performance, quality and reliability. *CHALLENGES* has been focused on development and demonstration of such technology on three relevant application contexts: Semiconductor Industry, Si Photovoltaics and 2D Materials.
- 2018 - 2022 • PI and President of Technical Committee of the infrastructure ATOM (Advanced Tomography and Microscopies) funded by Regione Lazio (call “Infrastrutture Aperte per la Ricerca”) with a financial support of 2.525.771,16

€ and supported by Sapienza with a co-funding of 1.383.364,07 23 €, for a total project cost of 3.909.135,23. The realization of the project ended in the 2022 with the aim to make innovative instrumental platforms available to companies with applications to the bio-medical, micro- and nano-electronics and cultural heritage sectors

- June 2018 • Founder of the start-up company Nanoshare 4.0 Srl, granted by Lazio Region - call "Pre-Seed", POR FESR LAZIO 2014 – 2020 with the aim of developing and marketing instrumentation inherent to the development of new nanostructured materials to be used as electrodes in advanced batteries
- 2016-2018 • Associate Researcher at the Institute NANOTEC-CNR
- 2015 - current: Founder of the Nanoitaly Association (Vice-president from 2015 to 2020).
- 2010-current • Founder of the spin-off company Nanoshare Srl and Member of its Administrative Board (from 2010 to 2017) as PI of the project "STOR-AGE Realization of an innovative system for Hydrogen storage by hybrid nanocomposites materials embedded in conductive polymeric matrices" finalized to the creation of a start-up company for technology transfer. Call based on art. 11, D.M. n. 593, 8/8/2000. Project approved (Prog. 13/8) and supported by MIUR (Italian Ministry of Education, University and Research) with a financial support of 437 k€.

Scientific skills and research Interests

NANOSCIENCE and NANOTECHNOLOGY / Synthesis of nanoparticles and nanomaterials. Nanoparticles and their interactions with biological systems. Carbon based nanomaterials, including carbon nanotubes, nanodiamonds and graphene- based systems.

MATERIAL SCIENCE / Laser-solid state interactions. Laser annealing. Thin films. Laser ablation.

MULTISCALE and MULTIFUNCTIONAL CHARACTERIZATIONS / Electron Microscopies (TEM, SEM, STEM) and related techniques (EDX, EBL, FIB, etc). / Electron Diffraction (SAED, RHEED, PED). / Scanning Probe Microscopies and related methodologies. / Raman Spectroscopy

Since 1998, the research activity has primarily focused on challenges in nanoscience and nanotechnology, with particular emphasis on the structural and functional analysis of advanced materials synthesized through innovative techniques. This work has included extensive use of scanning probe microscopies, leading to the development and implementation of novel methodologies for mechanical and elastic characterization.

In recent years, a significant portion of the research has shifted toward pioneering new methodologies and strategies for imaging soft matter, ranging from polymers to bacteria. This approach integrates the synergistic use of electron microscopy, diffraction techniques, and scanning probe microscopies, complemented by related spectroscopic methods.

Bibliometric Data

More than 230 scientific papers in international peer-reviewed journals and books (more than 180 of which indexed on WoS and/or Scopus archives) with an overall impact factor of more than 400, ***h-index=38 (combining WoS and Scopus) and 42 (combining also Google Scholar)***; more than 5500 citations (on WoS and Scopus) and more than 6500 on Google Scholar, I10-index=135 (Google Scholar). Two patents on Carbon-based materials.

Main editorial activities and commitments

He has been the Founding Editor-in-Chief of the *Journal of Experimental and Theoretical Analyses* since 2023. He serves on the editorial boards of multiple renowned journals, including the *Journal of Nanotechnology* and the *Journal of Nanomaterials*, and has reviewed manuscripts for over 60 international scientific journals, such as *Advanced Functional Materials*, *Carbon*, and *Nanotechnology*. Additionally, Dr. Rossi has edited two books, numerous proceedings, and special issues focusing on nanotechnology and material sciences. He has been actively involved in conference organization, chairing all editions of *NanoInnovation* (www.nanoinnovation.eu) since its inception in 2016 and contributing to various scientific committees for other international conferences.

On-line personal profiles and codes

- **ORCID:** 0000-0001-7603-1805
- **ResearcherID (WoS):** G-1689-2012
- **SCOPUS Author ID:** 55819540100
- **RESEARCHGATE:** <https://www.researchgate.net/profile/MarcoRossi5>
- **GOOGLE SCHOLAR:** scholar.google.it/citations?user=gQULpSEAAAAJ&hl=it
- **LINKEDIN:** <https://www.linkedin.com/in/marco-rossi-sapienza-nanoinnovation/>