

Mattia Gaboardi, Ph.D.

✉ mattia.gaboardi@uniroma2.it

🌐 SCOPUS

🌐 LinkedIn

🌐 Researchgate

🌐 ORCID

Nationality: Italian

Current Address: Department of Physics & INFN;
Univ. of Rome Tor Vergata,
Via della Ricerca Scientifica 1 – 00133, Rome (Italy).



Work Experience

- since Sep 2024 **Researcher** in Applied Physics (FIS/07) at the Department of Physics, Univ. of Rome Tor Vergata and INFN (Italy). Instrument scientist at the ISIS@MACH ITALIA Research Infrastructure.
- May 2024 **Visiting Researcher** at RIKEN Center of Advanced Photonics, Wako, Saitama (Japan). Applications of Compact Accelerator-based Neutron Sources (CANS)
- Jan 2023 - Aug 2024 **IKUR R&D Fellow** at the *Quantum Beams & Sustainable Materials group, Materials Physics Center*, CSIC-UPV/EHU, Donostia/San Sebastián (Spain). Study of the thermo-physical properties of materials for energy-conversion and storage by means of neutron & light scattering techniques and applications of CANS.
- since Jan 2023 **External Collaborator (visiting)**, for the *Center for Colloid & Surface Science - CSGI* (Neutron & X-ray Scattering Techniques for Soft Matter) & Università di Pavia (Pavia H₂Lab, Chemistry Department).
- 2018 – 2022 **Beamline Scientist** at the *Elettra Synchrotron* light source, Trieste (Italy), on the *high-resolution powder diffraction beamline (MCX)*. *In situ* and *operando* structural investigation of materials. Over 30 experiments carried out in collaboration with international research groups and development of own research-line on high-entropy ceramics, hybrid perovskites, and thermal storage materials.
- 2016 – 2018 **Marie Skłodowska-Curie Fellow**, at the *Rutherford-Appleton Laboratory* (RAL) of the Science & Technology Facilities Council (STFC, now UKR&I), Didcot (Oxfordshire, UK). P.I. of the project *Advanced fullerene-based materials for hydrogen storage* within the Molecular Spectroscopy Group.
- Jan–Feb 2016 **Visiting Researcher** at the School of Chemistry (University of New South Wales), Sydney (Australia). Study of alkali fullerides for H₂-storage and metal decorated graphenes in Li/Na batteries.
- 2014 – 2016 **Post-doc Researcher**, at the *Carbon-NanoLab*, Department of Physics, University of Parma (Italy). Study of carbon nanostructures (fullerides/graphene) for energy storage (within the framework of the project Cariplo #20130592).
- Jan–Feb 2015 **Visiting Researcher** at the School of Chemistry (University of New South Wales), Sydney (Australia). Intercalated carbon nanostructures for H₂/NH₃-storage and as negative electrode in Li/Na batteries.

Education

- 11-13 Apr 2018 ■ **JANA2006 Workshop at RAL**, Rutherford-Appleton Laboratory, Didcot, UK.
- 12-14 Nov 2014 ■ **Hands-on course on the Pair Distribution Function method**, ALBA Synchrotron, Cerdanyola del Vallès, Barcelona, Spain).
- 7 Mar 2014 ■ **Ph.D. degree in Physics**, University of Parma, Italy.
thesis: *Hydrogen Storage in Alkali-Cluster Intercalated Fullerenes*.
- Jan–Feb 2013 ■ **Visiting Student** at the School of Chemistry (University of New South Wales), Sydney (Australia).
- 05-10 Feb 2012 ■ **Italian School of Magnetism**, Department of Physics, University of Pavia (Italy).
- 05-16 Sept 2011 ■ **XI School on Synchrotron Radiation: Fundamentals, Methods and Applications**, Duino (Trieste), Italy.
- 26 Nov 2010 ■ **M.Sc. in Materials Science & Technology**, University of Parma, Italy (110/110, *cum laude*).
Titolo tesi: *Synthesis and Characterization of Magnetic Nanoparticles*.
- 13 Nov 2008 ■ **B.Sc. in Materials Science & Technology**, University of Parma, Italy.

Invited Lectures

- 29, May 2024 ■ *The IKUR strategy. Exploring opportunities in compact neutron sources for materials studies for the Basque Country.* **RIKEN Center for Advanced Photonics**, Wako, Saitama, Japan.
- 14–19, Apr 2024 ■ *Short and long-range order in compositionally complex transition metal diborides.* **UHTC-VI: Materials for Extreme Environment Applications**, Giardini Naxos, Messina (IT).
- 28 Apr 2023 ■ *Long range order and local disorder in entropy-boosted ceramics.* **1st International Cro-CerS Conference 2023**, Dubrovnik (Croatia).
- 07 Lug 2022 ■ *Investigation of energy related materials at Synchrotron light sources.* **Department of Mathematics, Physics, and Natural Sciences, University of Rome – Tor Vergata** (Italy).
- 21-24 Giu 2022 ■ **ASC Invited Scholar** at the *Advanced Spectroscopy in Chemistry Master Summer School*, Jagiellonian University, Kraków (Poland). Invited Lecture ("X-ray powder diffraction methods at synchrotron light sources").
- 08-10 Giu 2022 ■ *Activation of order-disorder dynamics in clusterized Buckybowls.* **Centre Européen de Calcul Atomique et Moléculaire (CECAM)**, Zaragoza (Spain), for the Workshop *Current challenges in materials for thermal energy storage*.
- 16-20 Lug 2018 ■ *Suppression of the long-range order in polycyclic aromatic hydrocarbons.* At the neutron scattering conference **QENS/WINS2018**, Hong Kong (P. R. China).
- 27 Mar 2015 ■ *Hydrogen Storage in Carbon Nanostructures.* **Lappeenranta University of Technology**, Lappeenranta (Finland).
- 25 Set 2014 ■ *Muon spin relaxation reveals the hydrogen storage mechanism in light alkali metal fullerenes* at the **NMI3-II/FP7 General Assembly**, Zaragoza (Spain).

Publications [[LINK](#)]