

# Miran

## Baričić

### Contact

Address:

Phone:

Email:

Personal

### Languages

### Current position

**PhD student in Université Paris Cité** – dec-2021 (ongoing).

**Project title:** "LEgo NANoparticles or how COLloidal chemistry may be applied to produce inorganic granular heteronanostructures: a first step toward advanced magnetic material processing" (LENACOL).

### Education

**Bachelor's Degree in Chemistry** – from oct-2015 to dec-2018 at Università degli Studi di Genova, 110/110, *cum laude* (average grades 28.6/30).

**Thesis:** *Synthesis of Perovskitic Nanomaterials for Optoelectronic and Photovoltaic Applications.*

Activity in cooperation with Istituto Italiano di Tecnologia (IIT).  $\text{Mn}^{2+}$  doped  $\text{Cs}_2\text{AgBi}_x\text{In}_y\text{X}_6$  (X = Cl; Br) semiconductive nanoparticles were prepared providing a structural, morphological, and optical characterization. Activity under the supervision of Pr. A. Saccone and Pr. L. Manna.

**Master's Degree in Solid State Chemistry** – from oct-2018 to apr 2021 at Università degli Studi di Genova; 110/110, *cum laude* (average grades 29.4/30).

**Thesis:** *Exchange Coupled Magnetic Nanocomposites*

Project in cooperation (Erasmus+) with Uppsala University focused on the investigation of magnetic and morpho structural properties of  $\text{MFe}_2\text{O}_4$  (M = Co, Zn, Ni, Fe) nanoparticle prepared by High Temperature Decomposition (HTD). Particles were later used for seed mediated synthesis of magnetic nanocomposites made of  $\text{MFe}_2\text{O}_4$  and Sr-hexaferrite to study the magnetic coupling between the phases. Particular attention was given to magnetic characterization. Project under the supervision of Pr. D. Peddis (Genova) and Pr. R. Mathieu (Uppsala).

**Master Level Diploma in Sciences and Technologies for Environmental Sustainability** – from mar-2018 to jul-2020 at Scuola Superiore IANUA (Università degli Studi di Genova).

Excellence program reserved to best students, consisting in additional lectures and exams focused on the environmental sustainability in several fields (chemistry, materials, engineering, industrial design, healthcare, etc.).

**Summer School on Circular Economy** – 2019, Hafen City University (Hamburg).

Lectures and seminars concerning circular economy and project development proposing solutions to improve recycling strategies of electric and electronic waste in the Osdorfer Born neighborhood in Hamburg (best project winner).

**Online Summer School on Electric and Magnetic Field-assisted Processing of Inorganic Materials** – 2020, Fields Matter (Jülich).

Lectures concerning inorganic materials defect chemistry, magnetic field manipulation and electric current-assisted processing.

**School of Physical Chemistry** – 2023, Verbania

## Experiences

---

**Research assistant** – From may-2021 to sep-2021 at Università degli Studi di Genova.

Focused on the synthesis of magnetic nanoparticles meant to be used for several projects, including the work subsequently done in Uppsala Universitet. Activity under the supervision of Pr. Peddis.

**Research assistant** – From oct-2021 to nov-2021 at Uppsala Universitet.

The activity was financed by the Lerici foundation, and consists in synthesizing cobalt ferrite nanoparticles to be used as seeds in the synthesis of cobalt ferrite-strontium hexaferrite nanocomposites, by the application of Thermal Decomposition synthesis, ligand exchange procedures and Sol-Gel synthesis, plus a further structural and magnetic characterization. The project was under the supervision of Pr. Mathieu and Pr. Peddis.

## Publications and scientific achievements

---

- Baričić et al. (2024), *Chemical engineering of cationic distribution in spinel ferrites nanoparticles: the effect on the magnetic properties*, PCCP
- Maltoni, Baričić et al. (2023), *Tunable particle-agglomeration and magnetic coupling in bi-magnetic nanocomposites*, PCCP
- Omelyanchik, Baričić et al. (2020). *Green Synthesis of Co-Zn Spinel Ferrite Nanoparticles : Magnetic and Intrinsic Antimicrobial Properties. Materials*, 4, 1–13
- Oral contribution to conferences
  - XLVIII Congresso Nazionale di Chimica Fisica (CNCF, 2022, Genova)
  - VI 3Nano (2022, Roma)
  - XI International Conference on Fine Particle Magnetism (ICFPM, 2023, Yokohama)
  - XLIX Congresso Nazionale di Chimica Fisica (CNCF, 2023, Torino)
- Poster contribution to conferences
  - VII Italian Conference of Magnetism (Magnet, 2021, online)
  - XXVII National Congress of Società Chimica Italiana (2021, online)
  - XIII Joint European Magnetic Symposia (JEMS, 2023, Madrid)

## Science Outreach

---

- Chemistry outreach lab for children (11-14 y.o.) organized by Porto Petroli Genova.
- Cooperated with Iglesias Science Festival making free-hand illustrations of a story designed to explain fuel cells technology.
- Participated to orientation program for high school students, presenting magnetic nanoparticle research topic with a lesson.
- Cooperated with UniTE for science outreaching to elder people.
- Participated to Pint of Science (Paris) in May 2023
- Quora writer for science outreach since 2018.

## Other interests

---

- Passion for free hand drawing, which I practice since I was a child.