

Curriculum Vitae

Morena Nocchetti graduated in Chemistry in 1994 at the University of Perugia, Italy with an experimental thesis "Synthesis and exfoliation of lamellar anionic clays. Intercalation and interstratification reactions". She obtained the PhD in Chemistry (1995-1998) in January 1999 at the University of Perugia, with an experimental thesis titled "Intercalation chemistry in synthetic anionic clays and lamellar phosphates". From 1999 to 2005 she has been a research agreement concerning the "Synthesis, properties and application of inorganic and organo-inorganic solid with low dimensionality". From 2005 to 2015 she has been Researcher in "General and inorganic chemistry" at the Department of Pharmaceutical Sciences at the University of Perugia. Since 2015 she is an Associate Professor at the same Department where she teaches "General Chemistry" and "Analytical Chemistry".

She is author of:

- 152 publications on international journals peer review at high impact factor.
- 4 book chapters on invitation of the Editor (Title: "Layered Double Hydroxides and their intercalation compounds in Photochemistry and Medicinal Chemistry"; "Hydrotalcites in Nanobiocomposites"; "LDH in physical, chemical, bio-chemical and life sciences"; "Metal phosphonates as supports for nanoparticles and relevant applications").
- 1 book as Editor; title: "Progress in Layered Double Hydroxides, From Synthesis to New Applications", World Scientific, Publishing, 2022.
- 3 patents.

The number of citations at the present date (12/05/2026) is: 6634; h index: 46 (source: www.scopus.com).

She took part in more than 115 National and International Conferences with original contributions.

Invitations from the Scientific Committees:

- 1) 20th ISIC (International Symposium Intercalation Compounds) (2-6 June 2019, Campinas - Brasil) Plenary on "Advances of Zirconium Phosphate and Phosphonate Chemistry for new Applications.
- 2) SERMACS 2022 (Southeastern Regional Meeting of the American Chemical Society) (19-22 October 2022, San Juan - Puerto Rico) Communication on: "LDH-based composites as multifunctional materials".
- 3) 50° Congresso della Divisione di Chimica Inorganica della Società Chimica Italiana (9-12 September 2025, Naples, Italy) Keynote on: "Layered Double Hydroxides: Preparation, modification strategies, and applications".
- 4) Workshop "Biopolymers MeetMetals: Interdisciplinary Approaches for Biomedicine and Catalysis" (12th September 2025, Naples, Italy) Plenary on: "Inorganic supports for silver-based nanoparticles: a platform for multifunctional biomaterials".

She is in the Editorial board of:

- Materials (MPDI) IF = 3.2
- Phosphorus, Sulfur, and Silicon and the Related Elements (Taylor & Francis) IF=1.6

She has been a member of the committee of the International Conference:

- member of organizing committee of 3rd edition of the annual Workshop of the multidisciplinary network SeS Redox and Catalysis (WSeS-3) - Perugia (Italy) 2014.
- chair of 19th International Symposium on Intercalation Compounds (ISIC) - Assisi (Italy) 2017.
- member of organizing committee of 49° Congresso Nazionale di Chimica Inorganica, XLIX Italian Conference of Inorganic Chemistry - Perugia (Italy) 2023.
- member of organizing committee of 9th International Workshop of Layered & Nanostructured Materials - Perugia (Italy) 2024.
- member of organizing committee of 5th International Conference on Phosphonate Chemistry, Science, and Technology - ICOPHOS-5 - Perugia (Italy) 2025.

She is member of the scientific board of the International Symposium on Intercalation Compounds.

She is member of the Excellence Centre "Innovative Nanostructured Materials for Chemical, Physical and Medical Applications" (CEMIN); the Consorzio Interuniversitario Reattività Chimica e catalisi (CIRCC).; and is Affiliated researcher of the National Interuniversity Consortium for Materials Science and Technology (INSTM).

Research Interests

The scientific activity involves the preparation, structural characterization and study on the reactivity of materials having different dimensionality (0D, 2D, 3D). She has particular skills in layered double hydroxides (LDH), zirconium phosphate and phosphonates (ZrP), and Hydroxyapatites (HA). Moreover, she gained competence in the functionalization of materials with species having specific properties as chromophores, drugs and metallic nanoparticles and in the preparation of polymeric composites. These hybrids have applications in many technologically important fields such as catalysis, photocatalysis, cultural heritage and biomedicine.

Main research topics:

- Design and synthesis of LDH with different compositions in terms of type and the relative amount of metal ions.
- Intercalation process and surface modification of LDH with active species (biological active species, light-responsive species, etc.)
- Synthesis of heterostructure by combination of LDH with nanomaterials with zero, one and three-dimensionality (as metallic nanoparticles, Halloysite, HA)
- Design and synthesis of ZrP with different dimensionality by using proper phosphonic acids.
- Correlation between the structure and reactivity of different ZrP.
- Functionalization, via ion-exchange, of ZrP with metal cations or metallic nanoparticles having catalytic or/and antimicrobial properties.
- Synthesis of HA doped with therapeutic cations and application as biomaterial, also in form of scaffolds.
- Preparation of polymeric composites loaded with modified LDH or ZrP for targeted applications (biomedical, cultural heritage, food packing).

Contacts

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