Curriculum Vitae et Studiorum & List of Publications of:

Stefano Marchesi, Ph.D.



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Gender: Male | Date of Birth: 23.08.1990 | Nationality: Italian

➢ Biography

Stefano Marchesi (S.M.) was born in Voghera (Pavia, Italy) on 23/08/1990.

He graduated with an upper secondary school/high school diploma as *Perito Industriale Capotecnico – Chimica* (vote: 82/100) from the I.T.I. "G. Omar" in Novara, Italy (04/07/2009).

He graduated with a bachelor's degree in *Materials Science-Chemistry* (L-27 class, CUN Area 03; SSD: CHIM/03, vote: 108/110) from the University of Piemonte Orientale - Department of Science and Technological Innovation in Alessandria, Italy (18/04/2013).

He obtained a 1st-level Master degree in *Materials for Energy and Environment* with top mark (SSD: CHIM/03, vote: 110/110 cum laude) from the University of Piemonte Orientale in collaboration with the Consorzio Università ed Impresa Vercelli (UNI.V.ER) in Vercelli, Italy (30/04/2014).

He worked at Nova Res s.r.l. (spin-off of University of Piemonte Orientale) in May 2014 with a coordinated and continuous collaboration contract (co.co.pro.), focusing his activities on the experimental research and development in the field of other natural sciences and engineering.

He graduated with a master's degree in *Chemical Science* (LM-54 class, CUN Area 03; SSD: CHIM/02-03, vote: 110/110) from the University of Piemonte Orientale - Department of Science and Technological Innovation in Alessandria, Italy (27/10/2016).

He graduated with the title of Doctor of Philosophy (Ph.D.) in *"Chemistry & Biology"* (XXXII cycle, curriculum: *"Chemical Methodologies for New Molecules and Nanomaterials"*, CUN Area 03, SSD: CHIM/02-

03 --- Chimica Fisica and Chimica Generale ed Inorganica) from the University of Piemonte Orientale - Department of Science and Technological Innovation in Alessandria, Italy (02/03/2020).

From November 2019 to August 2020 S.M. was the holder of a research scholarship under the project *"SATURNO - Scarti organici e Anidride carbonica Trasformati in carbURanti, fertilizzanti e prodotti chimici; applicazione concreta dell'ecoNOmia circolare"* at the University of Piemonte Orientale - Department of Science and Technological Innovation in Alessandria (Italy), focusing his research activities on the synthesis and characterization of materials with high-surface area for environmental applications.

From September 2020 to August 2021, S.M. was the holder of a research grant entitled *"Ottimizzazione della metodologia di preparazione di monoliti silicei per la rimozione di oli minerali da cellulosa e acque industriali di processi produttivi della carta"* under the project *"Utilizzo di silice mesoporosa organofunzionalizzata per la rimozione di idrocarburi di oli minerali da cellulosa e acque industriali di processi produttivi della carta"*(*) at University of Piemonte Orientale - Department of Science and Technological Innovation in Alessandria (Italy), in partnership with University of Bologna - Department of Agricultural and Food Sciences (Italy) and 4U s.r.l. (Italy). His research activity was focused on the optimization of the preparation, functionalization and physico-chemical characterization of high-surface silica monoliths for removal of hydrocarbons from cellulose and industrial waters of paper production processes.

From September 2021 to August 2022, S.M. was the holder of a research scholarship entitled "*Ottimizzazione di materiali porosi per applicazioni ambientali*" at University of Piemonte Orientale - Department of Science and Technological Innovation in Alessandria (Italy). His research activity was focused on the optimization of porous silica-based materials for environmental applications.

From September 2022 to February 2023, S.M. was the holder of a research scholarship entitled "*Sviluppo e caratterizzazione chimico-fisica di materiali porosi e lamellari per applicazioni ambientali*" at University of Piemonte Orientale - Department of Science and Technological Innovation in Alessandria (Italy). His research activity is focused on the preparation and physico-chemical characterization of functionalized porous silica-based solids (*i.e.* silica monoliths) and layered aluminosilicate (*i.e.* synthetic saponite clays) materials for environmental applications.

Since March 2023, S.M. is recruited as Technologist under a 36-month fixed-term full-time contract of employment for the project "*Nord Ovest Digitale E Sostenibile (NODES) - Spoke 2: Green Technologies And Sustainable Industry*", with place of work at University of Piemonte Orientale - Department of Science and Technological Innovation in Alessandria (Italy). His activity is focused on: *i*) support to the research activities related with organic materials, inorganic materials or organic-inorganic hybrids, deriving from exploitable fraction of agro-food chain; *ii*) support to the research activities improving inorganic fillers and additives for cementitious matrices; *iii*) support to the research activities for the determination of the ability to remove environmental pollutants of the materials developed within the project; *iv*) manage the research activities equipment above; *v*) monitoring and reporting about the project.

From 2020 to 2024, S.M. was part of the *"Re-paper – re-think the process"* team, set up under the previously cited project(*) between University of Piemonte Orientale - Department of Science and Technological Innovation (UPO-DiSIT, Alessandria, Italy) and Alma Mater Studiorum/University of Bologna - Department of Agri-Food Science and Technology (Unibo-DISTAL, Bologna, Italy); part of the team consisted of Prof. L. Marchese, Prof. C. Bisio, Prof. I. Braschi, Dr. E. Buscaroli and Dr. S. Marchesi. From 2021, S.M. is part of the research team working on the *"PerBiocid - Superfici autodecontaminanti con proprietà biocide: perossidi immobilizzati per spazi comuni più sicuri"* joint project between UPO-DiSIT (Alessandria, Italy), National Research Council of Italy - Istituto di Scienze e Tecnologie Chimiche "Giulio Natta" (CNR-SCITEC, Milano, Italy) and Ospedale Universitario "Luigi Sacco" (Milano, Italy); part of the team consists of Prof. C. Bisio, Dr. S. Marchesi, Dr. M. Guidotti and Dr. S. Econdi.

Since 2013, S.M. has focused most of his studies on the synthesis of molecular organosilicon compounds (silsesquioxanes and polyhedral oligomeric silsesquioxanes called POSS), porous silicas (MCM-41, SBA-15, silica monoliths), metal oxides and layered aluminosilicate materials with controlled chemical composition (synthetic cationic and anionic clays, such as saponites and hydrotalcites), and on their structural, morphological, spectroscopic, elemental, thermal and relaxometric characterization from a physico-chemical point-of-view, through a multidisciplinary & multi-technique approach. Large attention has been devoted to the functionalization of these systems with different entities (*e.g.*, introduction of transition metals and lanthanides as ions or in form of organometallic complexes, surface modification by grafting of specific organic groups or molecules,…), following several synthetic methodologies such as sol-gel, hydrothermal, intercalation and ion-exchange procedures to obtain multifunctional materials of interest for several applications. Presently, S.M. is involved in the study of novel advanced hybrid materials with luminescent, paramagnetic and/or catalytic properties suitable for a wide range of scientific and technological applications, *e.g.*, optical and paramagnetic devices, sensors, for catalysis and environmental remediation,…

- **Main Fields of Interest & Current Issues of Research**

  - Advanced multifunctional organic-inorganic hybrid particles and materials, particularly silicas, aluminosilicates (clays, zeolites,…), metal oxides, silsesquioxanes and polyhedral oligomeric silsesquioxanes (POSS), functionalized with transition metals and lanthanides in form of ions or as organometallic complexes.
  - Paramagnetic, luminescent/optical and catalytic complexes, nanoparticles and nanomaterials.
  - Functional particles and materials for energy and environmental purposes, such as for removal and destruction of toxic pollutants (*e.g.*, chemical warfare agents or CWAs, pesticides, mineral oils,…), for recovery and recycle of precious transition and lanthanide metals (*e.g.*, Gd^{3+}, La^{3+}, Lu^{3+}, Co^{2+}, Cu^{2+}, Ni^{2+},…), for development of new light-emitting devices, heterogeneous solid catalysts, porous and layered adsorbents and optical metal oxides,…
  - Coordination chemistry.
  - Synthesis and multidisciplinary & multi-technique physico-chemical characterization of different categories of multifunctional particles and materials (*i.e.*, hybrid nanoparticles, porous and layered materials with catalytic, paramagnetic and luminescent features,…) by means of several instrumental techniques of scientific investigation, including: X-ray Diffraction methods, X-ray Fluorescence Spectroscopy (XRF), IR, RAMAN and UV-Vis-NIR Spectroscopies, Spectrofluorimetry, Liquid- and Solid-state NMR Spectroscopy, ^{1}H-NMR Relaxometry, Scanning (SEM) and Transmission (TEM) Electron Microscopies, Thermogravimetric analyses, Elemental analyses (EDX, ICP-OES/MS, CHNS-O), Chromatography (TLC, HPLC-MS, GC-FID/MS), Mass Spectrometry, Tensiometry, Density analyses (Pycnometer), N_2 Physisorption analyses, High/low-pressure sorption analyser,…

- **Teaching and Professional Activities in University**

1. "UPO-Orientamento attivo nella transizione scuola-Università" – PNRR (M4C1-24), CUP C61I24000250006, a.s. 2024/25, seminari (Italy): 1) "Orientarsi nel mondo della chimica", DiSIT, Alessandria; 2) "Materiali per l'abbattimento delle sostanze chimiche", Campus Perrone, Novara; 3) "La chimica come alleato per la tutela dell'ambiente", DiSIT, Alessandria; 4) "Orientarsi nella chimica", Campus Perrone, Novara.
2. "UPO-Orientamento attivo nella transizione scuola-Università" – PNRR (M4C1-24), CUP C61I24000410006, a.s. 2022/23, seminario "Avviciniamoci insieme al mondo della ricerca!", Campus Perrone, Novara (Italy).
3. Bando Assegni Tutorato PNLS-POT (Piano Nazionale Lauree Scientifiche - Piani di Orientamento e Tutorato)

a.a. 2019-2020, Attività PLS Chimica – UPO Sede di Alessandria (Italy), corso "Chimica Generale e Inorganica" (I° Semestre).

4. Bando Assegni Attività di Tutorato a.a. 2019-2020, LT Chimica – UPO Sede di Alessandria (Italy), corso "Laboratorio di Chimica Generale e Inorganica" (I° Semestre).
5. Bando Assegni Attività di Tutorato a.a. 2018-2019, LT Chimica – UPO Sede di Alessandria (Italy), corso "Laboratorio di Chimica Inorganica" (II° Semestre).
6. Bando Assegni Attività di Didattica Integrativa a.a. 2018-2019, LT Scienza dei Materiali-Chimica – UPO Sede di Vercelli (Italy), corso "Chimica dei Materiali e Laboratorio" (I° Semestre).
7. Bando Assegni Attività di Tutorato a.a. 2018-2019, LT Scienza dei Materiali-Chimica – UPO Sede di Vercelli (Italy), corso "Chimica Generale e Laboratorio" (I° Semestre).
8. Bando Assegni Tutorato PLS (Piano Nazionale Lauree Scientifiche) a.a. 2017-2018, Attività di Supporto PN-PLS Area Scienze dei Materiali – UPO Sede di Vercelli (Italy).
9. Bando Assegni Attività di Tutorato a.a. 2017-2018, LT Chimica – UPO Sede di Alessandria (Italy), corso "Laboratorio di Chimica Inorganica" (II° Semestre).
10. Bando Assegni Attività di Supporto alla Didattica a.a. 2017-2018, LT Scienza dei Materiali-Chimica – UPO Sede di Vercelli (Italy), corso "Chimica dei Materiali e Laboratorio (I° Semestre).
11. Bando Assegni Tutorato PLS (Piano Nazionale Lauree Scientifiche) a.a. 2016-2017, Attività di Supporto PN-PLS Area Chimica – UPO Sede di Alessandria (Italy).

Since 2016, S.M. has been co-supervisor of several bachelor's and master's degree theses (≥ 27) of the *Chemistry* (L-27 class), *Materials Science* (L-27 class) and *Chemical Sciences* (LM-54 class) courses at the University of Piemonte Orientale (Alessandria and Vercelli).

- **Skills, Achievement and Awards**

  - **Native language:** Italian

    Other language(s): English

COMPREHENSION		SPEECH		WRITTEN PRODUCTION
Listening	Reading	Interaction	Oral Production	
B2	B2	B2	B2	B2

B1/B2 = intermediate user

  - **Communication skills**
    - Communication skills and presentation of results acquired through professional experience, especially in the scientific field.
    - Exhibition skills in relation to technological and scientific issues acquired at school and university, especially in the fields of chemistry and materials science.
    - Attitude to communicate clearly and precisely.

  - **Organizational and managerial skills**
    - Ability to organize work autonomously, defining priorities and taking responsibility.
    - Aptitude for teamwork and ability to co-ordinate work groups, achieved through the attendance of scientific laboratories during the school and university years and through professional experience.
    - Aptitude in planning and predisposition of work, to pursue established objectives and to respect deadlines.
    - Excellent collaborative and confrontational spirit, with predisposition to face any problems that arise.

- **Professional skills**
  - Mastery of a wide selection of synthetic methodologies and scientific instrumentations for analyses in the fields of chemistry and materials science (*e.g.*, spectroscopy, crystallography, microscopy, spectrometry, spectrofluorimetry, thermal analyses, elemental analyses, nuclear magnetic resonance and relaxometry techniques, tensiometry, density analyses, gas sorption analyses,...), achieved at school and university and through professional experiences.
  - Skills in R&D (Research and Development) and data analysis in the fields of chemistry and materials science.
  - Ability to identify and analyse problems (*problem solving*).

- **IT skills**

  - **ECDL (European Computer Driving Licence):**

  ECDL Certification (n° IT 898675) issued by AICA (Associazione Italiana per l'Informatica e il Calcolo Automatico) on 23/01/2006, consisting of the following exams:

  1) Concetti di base della IT (Basic concepts of IT)
  2) Uso del computer-Gestione dei file (Use of the computer-File management)
  3) Elaborazione testi (Word processing)
  4) Foglio elettronico (Spreadsheet)
  5) Database
  6) Presentazione (Presentation)
  7) Reti informatiche-Internet (Computer networks-Internet)

  Generic IT skills possessed: Knowledge and familiarity of different operating systems (*e.g.*, Windows, GNU/Linux, Android,…), various types of software (*e.g.*, Microsoft Office, Google Workspace, GIMP, Internet browsers like Google Chrome, Internet Explorer and Microsoft Edge, Opera, Firefox, Safari,…), several scientific software (*e.g.*, ChemDraw, Avogadro, MolDraw, CCDC Mercury & enCIFer, Vesta, Gaussian, MestReNova, OPUS, OriginLab, AsiQWin and 3Flex, QualX, Particules, Fityk, Zotero, Team Viewer,…) and of some programming/markup languages (C#/C++ and HTML).

- **Awards**

Premio di Iscrizione e Profitto (2nd Ed.) for students enrolled in the degree courses in Chemistry, Physics, Mathematics and applications, Materials Science-Chemistry at the University of Piemonte Orientale - (ex)Faculty of Sciences M.F.N. (Matematiche, Fisiche e Naturali) (now Department of Science and Technological Innovation, DiSIT) (a.a. 2010-2011).

➢ Membership of Professional Societies

S.M. is a member of the *Italian Chemical Society* (SCI), *Italian Discussion Group on Magnetic Resonance* (GIDRM), *Associazione Dottorandi e Dottori di Ricerca in Italia* (ADI), *UPO ALUMNI* (Associazione dei Laureati dell'Università del Piemonte Orientale) and *The Planetary Society*.

S.M. was also affiliated to the COST Action CA15209 "*Eurelax*" (European Network on NMR relaxometry, Working Groups WG2-Medical Applications).

- **Congresses, Schools & Courses and Scientific Missions**

Presently, S.M. participated to several national and international congresses with 6 oral presentations and 9 posters in the three years of Ph.D. and beyond, with 7 more posters and 20 more oral presentations by Prof. Chiara Bisio, Prof. Fabio Carniato, Prof. Enrico Boccaleri, Prof. Daniela Lalli, Dr. Matteo Guidotti and Dr. Stefano Econdi (plus few doctoral students/postdoc) containing scientific data from Ph.D. and ongoing research activities. Additionally, 3 more oral contributions by Prof. Fabio Carniato, Prof. Chiara Bisio and Prof. Enrico Boccaleri were presented in the 2014-2016 timeframe, containing scientific data from the research activities carried out in the Bachelor's, 1st-level Master's and Master's degrees internships.

1. *Porous materials for gas separation and ion exchange membranes: insights from NMR* - GIDRM DAY, GIDRM & University of Pisa & CNR-Istituto di Chimica dei Composti Organometallici (iCCOM), Pisa (Italy), 17/11/2025. Oral contribution by Prof. Fabio Carniato. Oral presentation: F. Carniato, S. Marchesi, C. Bisio and M. Botta. *Characterizing Ion Exchange and Adsorption Mechanisms of Paramagnetic Metal Ions in Layered and Porous Materials through ¹H NMR Relaxometry*.
2. *CHIMIND25 - XXIII Convegno Nazionale della Divisione di Chimica Industriale*, Italian Chemical Society (SCI), Pisa (Italy), 10-11/11/2025. Oral contribution by Dr. Matteo Guidotti. Oral presentation: M. Guidotti, S. Econdi, S. Nazarkulova, S. Marchesi, C. Bisio. *Upgrade of Kazakh natural bentonites for degradation and removal of highly hazardous phosphorus and sulfur pollutants from aqueous solutions.*
3. *SPS ARW Split 2025 - International Workshop on Advanced Technologies and Mobile Laboratories for Countering Chemical Threats*, NATO Science for Peace and Security Programme (SPS), Split (Croatia), 03-05/11/2025. Oral contribution by Dr. Matteo Guidotti. Oral presentation: M. Guidotti, S. Econdi, M. C. Ranghieri, S. Marchesi, C. Bisio. *Bridging the gap between labs and incident sites: pros and cons of advanced mobile CBRN laboratories.*
4. *ICOPHOS-5 - 5th International Conference on Phosphonate Chemistry, Science, and Technology*, University of Perugia, Perugia (Italy), 17-19/09/2025.
5. *XXI Congresso Nazionale della Divisione di Chimica dell'Ambiente e dei Beni Culturali*, SCI, Cremona (Italy), 10-13/09/2025. Oral contribution by Dr. Giorgio Celoria. Oral presentation: G. Celoria, F. Begni, G. Paul, S. Marchesi, C. Bisio and L. Marchese. *Silica-based adsorbents from rice husk for the removal of pollutants.*
6. *ISIC22 - 22nd edition of the International Symposium on Intercalation Compounds*, University Clermont Auvergne, Clermont-Ferrand (France), 06-10/07/2025. A) Poster: S. Marchesi, G. Celoria, S. Di Bonito, B. Graziani, M. C. Bruzzoniti, L. Marchese, L. Rivoira, C. Bisio. *Application of layered and porous materials of biogenic origin in the removal of heavy metals and organic pollutants from water*. B) Oral contribution: S. Marchesi, S. Econdi, G. Celoria, G. Paul, F. Carniato, L. Marchese, M. Guidotti, C. Bisio. *Preparation of novel synthetic saponite clays from agricultural rice husk and their application for the abatement of organophosphorus pesticides.*
7. *ICEC 2025 - International Conference on Environmental Catalysis*, European Research Institute of Catalysis (ERIC aisbl) & SCI Interdivisional Group of Catalysis (GIC) and Division of Industrial Chemistry (DCI), Isola delle Femmine (Italy), 02-05/06/2025. Oral contribution by Dr. Matteo Guidotti. Oral presentation: S. Econdi, N. Scotti, F. Bossola, S. Marchesi, C. Bisio, F. Carniato, M. Guidotti. *Zirconia-based inorganic oxide catalysts for the abatement of highly toxic agrochemicals and chemical warfare agent simulants.*
8. *Qubits 2025* (Scottsdale, USA & online), D-Wave Systems, Inc., 31/03-01/04/2025.
9. *Optical, Electron, and Scanning Probe Microscopy Workshop* (online), National Research Council of Italy (CNR), 06/11/2024.
10. *IWLNM 24 - 9th International Workshop on Layered & Nanostructured Materials*, University of Perugia & University of Piemonte Orientale (UPO), Perugia (Italy), 23-26/06/2024. A) Poster: S. Marchesi, G. Celoria, G. Paul, F. Carniato, L. Marchese, C. Bisio. *Synthesis and characterisation of new biogenically-derived synthetic saponite clays from the transformation of agricultural rice husks*. B) Oral contribution by Dr. Giorgio Celoria. Oral presentation: G. Celoria, S. Marchesi, F. Begni, G. Paul, L. Marchese and C. Bisio. *Optimization of porous and layered materials from natural matrices*. C) Oral contribution by Mr. Gioele Ancora. Oral presentation: G. Ancora, F. Morari, J. C. F. P. Brito, L. Marchese, C. Bisio and E.

Gianotti. *DTPA-Functionalized silica-based monoliths for the removal of metal ions from aqueous phase*. D) Oral contribution by Dr. Stefano Econdi. Oral presentation: S. Econdi, S. Marchesi, C. Bisio, E. Gargani, I. Cutino, G. S. Germinara, M. Guidotti. *Nanostructured layered materials functionalized with bio-active ingredients for sustainable pest control in agriculture*.

11. *FUSION24* (Science in Museum in London, UK & online), The Fusion Cluster, 18/06/2024.
12. *Qubits 2024* (Boston, USA & online), D-Wave Systems, Inc., 17-18/06/2024.
13. Workshop *Exploring diagnostic probes and procedures beyond Gd(III) for MRI applications*, NODES - Spoke 5 (flagship project INNDIANA), GIDRM & UPO, Alessandria (Italy), 31/05/2024.
14. *3rd SICC Series-CBRNE Conference 2023*, University of Rome "Tor Vergata" & Health Safety Environmental Research Association Rome (HESAR), Roma (Italy), 25-29/09/2023. Poster contribution by Prof. Chiara Bisio. Poster: C. Bisio, S. Marchesi, S. Econdi, F. Carniato, M. Guidotti. *Natural and Synthetic Clays: Versatile Tools against Highly Toxic Compounds.*
15. *AIZ 2023 – XVI Italina Congress of Zeolites Science and Technology*, Italian Zeolite Association (AIZ) & SCI-GIC, Salerno (Italy), 21-23/09/2023. Oral contribution by Prof. Chiara Bisio. Oral presentation: C. Bisio. *Porous and layered materials as active allies for environmental depollution and decontamination processes.*
16. *INORG2023 - XLIX Congresso Nazionale di Chimica Inorganica*, SCI, Perugia (Italia), 12-15/09/2023. Poster contribution by Prof. Enrico Boccaleri. Poster: E. Boccaleri, S. Marchesi, F. Carniato. *(Metal Containing) Polyhedral Silsesquioxanes: A Bridge Between Inorganic Molecules and Materials.*
17. *XLIX CNCF - 49th National Congress of Physical Chemistry*, SCI, Torino (Italy), 04-07/09/2023. Oral contribution by Prof. Chiara Bisio. Oral presentation: G. Ancora, S. Marchesi, F. Carniato, L. Marchese, C. Bisio. *Functionalized Silica-based Monoliths for the Removal of Metal Ions from Aqueous Phase*.
18. *IUPAC World Chemistry Congress 2023* (*52nd IUPAC General Assembly*, *49th IUPAC World Chemistry Congress*, *11th edition of CHAINS)*, Royal Netherlands Chemical Society (KNCV) & Dutch Research Council (NWO), The Hague (Netherlands), 18-25/08/2023. Oral contribution by Dr. Matteo Guidotti. Oral presentation: S. Econdi, R. Soave, S. Tomaselli, A. Caselli, C. Bisio, F. Carniato, S. Marchesi, M. Guidotti. *Sulfonic resins for catalytic abatemenof warfare agents*.
19. International Workshop *Catalysts for carbon neutrality and energy transition*, University of Genova & CNR-Istituto di Scienze e Tecnologie Chimiche "Giulio Natta" (SCITEC), Genova (Italy), 13/06/2023.
20. *ISICXXI – 21st Intercalation Symposium on Intercalation Compounds*, University of Lorraine, Nancy (France), 11-15/06/2023. Oral contribution by Prof. Chiara Bisio. Oral presentation: S. Marchesi, S. Econdi, G. Paul, F. Carniato, L. Marchese, M. Guidotti, C. Bisio. *Synthetic saponite clays as heterogeneous catalysts for liquid-phase treatment of hazardous organophosphorus nerve agents simulants*.
21. Accademia Nazionale dei Lincei (online & in presenza): a) *Materiali ed Economia Circolare*, 23-24/01/2023; b) *Cinetica Chimica alle Micro, Meso e Bioscale*, 27-28/03/2023; c) *Geodesy and Planetary Sciences: a Geodetic conference for Geodesy and Astronomy*, 13/05/2025; d) *Materie Prime Critiche per L'Energia,* 22-23/05/2025; e) *Meccanica Quantistica: da filosofia della natura a tecnologia del futuro*, 27/05/2025.
22. *Focus Sostenibilità: Acqua, Clima e Sostenibilità – Il valore della risorsa idrica per la transizione ecologica*, Gruppo AMAG S.p.A. di Alessandria & UPO Centro Interdipartimentale per la Sostenibilità 'UPO4Sustainability', Alessandria (Italy), 31/03/2023.
23. *NVIDIA GTC Keynote & Conference* (online), NVIDIA Corporation, 21-23/03/2023.
24. *Member Community Welcome Festival* (online), The Planetary Society, 18/03/2023.
25. *Qubits – Complexity to Clarity* (Miami Beach, USA & online), D-Wave Systems, Inc., 17-19/01/2023.
26. *HPCQC 2022 – 5th Edition High Performance Computing and Quantum Computing* (online & in presenza), CINECA, Casalecchio di Reno (Italy), 15/12/2022.
27. *ScIC10 'Science Is Cool' - Live @ CAST22*, *A Free Virtual Unconference For Cool Teachers* (online), Science is Cool (SCOOL), 10-11/11/2022.
28. *JetBrains .NET Days + GameDev Day Online 2022* (online), JetBrains s.r.o., 25-27/10/2022
29. *Microsoft Research Summit 2022* (online), Microsoft Corporation, 18-20/10/2022.
30. *26ª Conferenza Storia della Chimica RSC - History and Practice of Scientific Glassblowing From the Viewpoint of Glassblowers* (online), Historical Group of the Royal Society of Chemistry (RSC), Dr. Ayako Tani and John Liddell, 18/10/2022

31. *FUSION22* (Science Museum, London & online), The Fusion Cluster, 18/10/2022
32. *Keysight World: Innovate* (online), Keysight Technologies, 11-14/10/2022. Topics: *5G Private Networks and the Evolution to 6G*, *Building the Foundation for Quantum*, *Accelerating Development with Digital Twins and AI*, *Accelerating the Automotive Revolution*.
33. *General Aspects on Chemical Safety and Security in Laboratories*, CNR & Federchimica & Lamberti S.p.A., Milano and Albizzate (Italy), 20-22/09/2022.
34. *GIC 2022 - XXII National Congress on Catalysis*, SCI, Riccione (Italia), 11-14/09/2022. Poster contribution by Mr. Stefano Econdi. Poster: S. Econdi, M. Guidotti, R. Psaro, A. Caselli, S. Marchesi, F. Carniato, C. Bisio. *Sulfonic acid ion-exchange resins for the catalytic oxidative abatement of chemical warfare agents simulants*.
35. *IWLNM 22 - 8th International Workshop on Layered & Nanostructured Materials*, IMDEA Energy Institute & Universidad de Castilla-La Mancha, Toledo (Spain), 10-13/07/2022. Oral contribution by Prof. Chiara Bisio. Oral presentation: S. Marchesi, S. Econdi, F. Carniato, M. Guidotti, L. Marchese, C. Bisio. *Synthetic clays as heterogeneous catalysts for degradation of organophosphorus chemical warfare agents simulants*.
36. *XLVIII CNCF – 48th National Congress of Physical Chemistry*, SCI, Genova (Italy), 04-07/07/2022. Oral contribution by Prof. Chiara Bisio. Oral presentation: S. Marchesi, S. Econdi, F. Carniato, M. Guidotti, L. Marchese, C. Bisio. *Synthetic clays as heterogeneous catalysts for degradation of organophosphorus chemical warfare agents simulants*.
37. *Low-field NMR-MRI of Porous Media: Methods and Applications* - GIDRM DAY (online), GIDRM, 08/06/2022.
38. *2nd International Nanoscale Analytics Workshop* (Munich, Germany & online), neaspec, 18-21/05/2022
39. *5th International Conference for CBRNE Research & Innovation (CBRNE R&I)*, Lille (France), 03-06/05/2022. Oral contribution by Stefano Econdi. Oral presentation: S. Econdi, S. Marchesi, S. Nascimbene, F. Carniato, C. Bisio, M. Guidotti. *Heterogeneous catalysts for the liquid-phase degradation of simulants of organophosphorus chemical warfare agents.*
40. *Merck Young Chemist's Symposium 2021* (Rimini, Italy & online), SCI Giovani/Young Group & National Interuniversity Consortium of Materials Science and Technology (INSTM), 22-24/11/2021.
41. *Quantum Optics Conference* (online), attocube systems GmbH, 26/10/2021.
42. *GIF² meeting – Giornate Italiane di Fotochimica (GIF) del Gruppo Italiano di Fotochimica (GIF)* (online), SCI Gruppo Italiano di Fotochimica (GIF) and Gruppo Interdivisionale di Fotochimica (GIdF), 23-24/09/2021.
43. *XXVII Congresso Nazionale della Società Chimica Italiana* (online), SCI, 14-23/09/2021. A) Oral contribution by Mr. Stefano Econdi. Oral presentation: S. Econdi, M. Guidotti, S. Marchesi, S. Nascimbene, F. Carniato, C. Bisio. *Heterogeneous catalysts for the liquid-phase degradation of simulants of organophosphorus chemical warfare agents*; B) Oral presentation: S. Marchesi, S. Nascimbene, M. Guidotti, F. Carniato, C. Bisio. *The NMR relaxometry as a powerful tool to study the uptake of paramagnetic ions from water by synthetic saponite clays*.
44. *IUPAC World Chemistry Congress 2021 Virtual (51st IUPAC General Assembly, 48th World Chemistry Congress, 104th Canadian Chemistry Conference and Exhibition (CCCE))* (online), Canadian Society for Chemistry (CSC) & Canadian National Committee for IUPAC (CNC-IUPAC) & National Research Council Canada (NRC), 13-20/08/2021. Oral contribution by Mr. Stefano Econdi. Oral presentation: M. Guidotti, A. Caselli, R. Psaro, S. Econdi, C. Bisio, S. Marchesi, S. G. Germinara, E. Gargani. *Aldehyde-containing clays and zeolites: a sustainable approach in the control of olive fruit fly, Bactrocera oleae*.
45. *CBRNE R&I e-conference* (online), 18/05/2021.
46. *Tech2Biz 2021*, Galileo Visionary District/Scuola Italiana Design (SID) & Lean Experience Factory, Padova and San Vito al Tagliamento (Italy), 11-17/04/2021.
47. *Conference on achievements and perspectives of NMR relaxometry + 5th Working Group Meeting + 5th Management Committee Meeting* (online), COST Action: CA15209 - European Network on NMR Relaxometry, 15-18/03/2021.
48. Virtual GIDRM Workshop *Metamaterials and Metasurfaces in Magnetic Resonance: From Theory to Applications* (online), GIDRM, 30/11/2020.
49. *ScIC4 'Science Is Cool' Virtual Unconference* (online), Science is Cool (SCOOL), 24/10/2020.
50. *XLVII Congresso della Divisione di Chimica Inorganica della Società Chimica Italiana*, SCI, Bari (Italy), 09-12/09/2019. Oral contribution by Dr. Daniela Lalli. Oral presentation: D. Lalli, S. Marchesi, F. Carniato, C. Bisio, L. Tei, L. Marchese, M. Botta. *Synthesis and characterization of saponite clays intercalated with paramagnetic chelates*.
51. *CIS 2019 - Chemistry Meets Industry and Society: A Creative Showcase Conference*, SCI & European Chemical Society (EuChemS) & Federchimica & Farmindustria & INSTM & Italian Association of Science and Technology

of Macromolecules (AIM), Salerno (Italy), 28-30/08/2019. A) Oral presentation: S. Marchesi, E. L. Appiani, F. Carniato, M. Guidotti, C. Bisio. *Bi-functional Eu(III) and Nb(V)-containing Saponite Clays for the Optical Detection and Catalytic Abatement of Chemical Warfare Agents*. B) Poster: S. Marchesi, F. Carniato, M. Botta, L. Marchese, M. Guidotti, C. Bisio. *Extraction of Lanthanide Ions from Aqueous Solutions with Synthetic Saponite Clays*.

52. *20th International Symposium on Intercalation Compounds (ISIC)*, University of Campinas & Brazilian Materials Research Society (SBPMat), Campinas (Brasil), 02-06/06/2019. A-B) Oral and poster contributions by Prof. Chiara Bisio. Oral presentation: "S. Marchesi, F. Carniato, G. Gatti, M. Botta, L. Marchese, M. Guidotti, C. Bisio. *Extraction of Lanthanide Ions from Aqueous Solutions with Synthetic Saponite Clays"*. Poster: S. Marchesi, F. Carniato, M. Botta, L. Marchese, C. Bisio. *Development of Novel Functionalized Synthetic Saponite Clays containing Ln(III) Ions*.
53. *Standing at the Crossroads: 40 Years of MR Contrast Agents*, Campus Plaine de Nimy-Centre Vésale-La Fontaine, Mons/Bergen (Belgium), 09-10/05/2019. Poster: S. Marchesi, F. Carniato, C. Bisio, L. Marchese, M. Botta. *Relaxometric properties of saponites bearing Ln^{3+} ions in the inorganic framework*.
54. *2nd Workshop of Nuclear Magnetic Resonance Relaxometry + 3rd Working Group Meeting,* COST Action: CA15209 - European Network on NMR Relaxometry, Prague (Czech Republic), 04-07/02/2019. Poster: S. Marchesi, F. Carniato, C. Bisio, L. Marchese, M. Botta. *Relaxometric properties of saponites bearing Ln^{3+} ions in the inorganic framework*.
55. *MEYCS 2018 – 18th Merck-Elsevier Young Chemist Symposium 2018*, SCI Giovani/Young Group, Rimini (Italy), 19-21/11/2018. Flash presentation + Poster: S. Marchesi, F. Carniato, M. Guidotti, C. Bisio. *Sequestration of Lanthanide Ions from Aqueous Solutions with Synthetic Saponite Clays*.
56. *7th International Workshop on Layered Materials (IWLM)*, Polish Zeolite Association (PZA) & Jagiellonian University & Nicolaus Copernicus University, Kraków-Tomaszowice (Poland), 09-13/09/2018. A-B) Oral and poster contributions by Prof. Chiara Bisio. Oral presentation: S. Marchesi, F. Carniato, M. Botta, L. Marchese, C. Bisio. *On the physico-chemical properties of a novel class of saponite clays containing lanthanide ions in framework position*. Poster: *Extraction of Lanthanides from Aqueous Solutions with Saponite Clays*.
57. *AIM 2018 - Advanced Inorganic Materials: Green and Unconventional Synthesis Approaches and Functional Assessment*, CNR & University of Padova, Padova (Italy), 05-07/09/2018. Oral presentation: S. Marchesi, F. Carniato, C. Bisio, M. Botta, L. Marchese. *On the physico-chemical properties of a novel class of saponite clays containing lanthanide ions in framework position*.
58. *Giornate Italo-Francesi di Chimica 2018*, SCI & Société Chimique de France (SCF), Genova (Italy), 16-18/04/2018. Poster: S. Marchesi, F. Carniato, C. Bisio. *Extraction of Lanthanides from Aqueous Solutions with Saponite Clays*.
59. *Conference on NMR Relaxometry and Related Methods*, COST Action: CA15209 - European Network on NMR Relaxometry, Torino (Italy), 29-31/01/2018. Oral presentation: S. Marchesi, F. Carniato, C. Bisio, L. Tei, L. Marchese, M. Botta. *^{1}H NMR relaxometric study of novel optical/paramagnetic layered saponite functionalized with Gd(III) and Eu(III) metal ions*.
60. *XLVI National Congress on Magnetic Resonance,* GIDRM, Fisciano (Salerno, Italy), 26-29/09/ 2017. Poster: S. Marchesi, F. Carniato, C. Bisio, L. Tei, M. Botta, L. Marchese. *^{1}H NMR Relaxometric Study of The Intercalation of Gd(III) Complexes into Synthetic Saponites*.
61. *ISIC19 - International Symposium on Intercalation Compounds*, University of Perugia & UPO, Assisi (Perugia, Italy), 28/05-01/06/2017. Poster: S. Marchesi, F. Carniato, C. Bisio, L. Tei, M. Botta, L. Marchese. *Development of Oxidic Materials with Paramagnetic Properties based on Synthetic Saponites and Gadolinium Complexes*.
62. *XLIV Congresso Nazionale di Chimica Inorganica*, SCI, Padova (Italy), 14-17/09/2016. Oral contribution by Dr. Fabio Carniato. Oral presentation: F. Carniato, C. Bisio, S. Marchesi, L .Tei, L. Marchese and M. Botta. *Intercalation of gadolinium chelates into synthetic saponite: a new strategy to prepare paramagnetic cationic clays*.
63. *VI International Workshop on Layered Materials (IWLM)*, Academy of Sciences of the Czech Republic, Kutná Hora (Czech Republic), 5-9/09/2016. Oral contribution by Dr. Chiara Bisio. Oral presentation: S. Marchesi, F. Carniato, L .Tei, C. Bisio, L. Marchese and M. Botta. *Intercalation of Gd(III) chelates into synthetic saponite: a new strategy to prepare paramagnetic cationic clays*.
64. *IX Workshop Italiano Sol-Gel*, University of Parma, Parma (Italy) 17-18/06/2014. Oral contribution by Prof. Enrico Boccaleri. Oral presentation: F. Carniato, E. Boccaleri, S. Marchesi. *Metal-containing POSS as multifunctional nanostructured hybrid materials*.

Presently, S.M. participated to several national and international scientific schools and courses, particularly in the three years of Ph.D. (a.y. 2016-2019) and beyond.

1. Online Training Course for *Utenti Nicolet 2025 Spettroscopia FTIR*, Thermo Fisher Scientific Inc., 10/09/2025.
2. *Introduction to Quantum Computing* (online), D-Wave Systems, Inc., 14/05/2025.
3. *GIC-EFCATS 2025 PhD Winter School*, University of L'Aquila & SCI-GIC & European Federation of Catalysis Societies (EFCATS), L'Aquila (Italy), 27-31/01/2025. Poster contribution by Dr. Stefano Econdi. Poster: S. Econdi, M. Guidotti, C. Bisio, F. Carniato, S. Marchesi. *Heterogeneous Catalytic Systems As Versatile Tools For The Safe And Sustainable Decontamination Of Hazardous Chemical Agents*.
4. *InoMat2024 PhD Winter School on Inorganic Materials – Synthesis, Characterization and Sustainability*, Universities of Padova and Torino & SCI-Division of Inorganic Chemistry, Bressanone (Italy), 15-18/01/2024. Poster contribution by Mr. Gioele Ancora. Poster: G. Ancora, S. Marchesi, F. Carniato and C. Bisio. *DTPA-functionalized silica-based monoliths for the removal of transition and lanthanide ions from aqueous phase*.
5. Training Course in *Formazione Specifica in Tema di Sicurezza – Rischio Medio*, UPO- Department of Science and Technological Innovation (DiSIT), Alessandria (Italy), 03/2024.
6. Training Course in *Sicurezza e Salute nei Luoghi di Lavoro - Formazione Generale*, UPO-DiSIT, Alessandria (Italy), 03/2024.
7. *CAS SciFinder^n Discovery Platform* training sessions (online), CAS (a division of American Chemical Society, ACS): 24/10/2023, *A computational scientist's introduction to CAS SciFinder Discovery Platform!*
8. *School of Physical Chemistry 2023 "Frontiers in Materials Physical Chemistry: Nanostructures and Nanomaterials"*, Verbania (Italy), 19-23/06/2023.
9. Training Courses for Personale Tecnico-Amministrativo e Bibliotecario (PTAB) of UPO, 2023-*ongoing*: 1) Formazione obbligatoria in tema di "GDPR" (II ed. 14/04/2023); 2) Sessione Training laboratori polo Alessandria (26/04/2023); 3) Formazione obbligatoria in tema di "Amministrazione e Trasparenza" (I ed. 11/05/2023); 4) Progetto FP "Competenze digitali per la PA" (c.d. Syllabus) (06-09/2023); 5) Modello di accreditamento periodico ANVUR/AVA3 per le sedi universitarie e i corsi di studio: novità e strumenti di implementazione (I ed. 25/09/2023); 6) Formazione gratuita ACCREDIA "Approfondimento su materiali di riferimento" (10/04/2024); 7) Formazione obbligatoria in tema di "Whistleblowing" sulla piattaforma on-line "Whistleblowing Intelligente" a cura di Tecnolink s.r.l. (02/12/2024); 8) Formazione generale in tema di "Mini corso di formazione sugli istituti contrattuali previsti dal nuovo CCNL" (20/12/2004); 9) "Piattaforma D.I.R.: Presentazione Piano Strategico 2024-2030 e PIAO 2025-2027" (06/03/2025); 10) Formazione di livello generale in tema di "Conflitto di interessi in ambito universitario" (07/04/2025); 11) Modulo Formativo 2024/2025 in tema "Le molestie sul luogo di lavoro e di studio. Dal riconoscimento al contrasto, alla risposta operativa", Consigliera di Fiducia (11/04/2025); 12) Progetto FP "Competenze digitali per la PA" (c.d. Syllabus) (04-07/2025); 13) Corso di formazione generale in tema "La Valutazione dei Comportamenti Organizzativi In UPO: Aspetti Introduttivi", SAA-School of Management & UPO (26/05/2025); 14) Incontri di accompagnamento all'assestamento organizzativo, UPO Direzione Generale (18/06/2025); 15) Webinar "Apprendimento Esperienziale in STEM+: Strategie Pratiche per un Insegnamento Efficace", MyJoVE Europe Inc.; 16) Presentazione del Sistema di Misurazione e Valutazione delle Performance (SMVP) 2026-2028 (14/11/2025).
10. *Google Skillshop - Digital Training* courses (online), Google LLC, 2022-*ongoing*.
11. *Multidisciplinary CAS SciFinder^n Training Online Sessions* (online), CAS (a division of ACS), 18/10/2022-03/11/2022. Topics: a) *Green Synthesis*; b) *Agro and Food*; c) *Energy Storage and Conductive Materials*; d) *Nanoparticles*; e) *Membranes*; f) *Paints, Pigments and Coatings*; g) *Novità su CAS SciFinder-n Q3.*
12. *IBM Summer Camp SkillsBuild 2.0* (online), International Business Machines Corporation (IBM), 25/08/2022-29/09/2022. Topics: a) *Quantum Computing*; b) *Artificial Intelligence*; c) *Design Thinking*; d) *Agile Methodology*; e) *Cloud Computing*; f) *Cybersecurity*.
13. Online Expert Course of *Space Advocacy 101*, The Planetary Society, 08/2022.
14. *Multidisciplinary CAS SciFinder^n Training Online Sessions* (online), CAS (a division of ACS), 19/05/2022-02/06/2022. Topics: a) *Physics*; b) *Materials*.
15. *CHESS 2022 - Conventional And High-Energy Spectroscopies For Inorganic, Organic And Biomolecular Surfaces And Interfaces* (online), INSTM, 21-25/02/2022.
16. Online Training Course in *UPO Risponde – Nuove Modalità di Comunicazione*, UPO-DiSIT, Alessandria (Italy),

05/2021.

17. *International School of Chemistry "Chemistry for Everyday Life"* (online), iCCOM & University of Camerino & SCI & INSTM, Camerino (Italy), 01-06/09/2020.
18. Online Expert Course of *Asteroid Defense 101*, The Planetary Society, 08/2020.
19. Online Training course in *COVID-19 - prevenzione e news*, UPO-DiSIT, Alessandria (Italy), 05/2020.
20. Training Course in *Formazione Tutor*, UPO-DiSIT, Alessandria (Italy), 10/2019.
21. *VIII Ciamician Photochemistry School, From Fundamentals to Applications*, University of Bologna & SCI-GIF & SCI-GIdF, Bologna (Italy), 10-14/06/2019.
22. *Scuola Nazionale di Risonanza Magnetica Nucleare -Corso Avanzato*, GIDRM, Torino (Italy), 09-13/07/2018.
23. *Scuola Nazionale di Risonanza Magnetica Nucleare -Corso Base*, GIDRM, Torino (Italy), 10-14/07/2017.
24. Massive Open Online Course (MOOC) in *Nuclear Magnetic Resonance (NMR), a Compass to Nanoworld*, University of Lille & Centre national de la recherche scientifique (CNRS) (France)**,** 20/02-17/04/2017.
25. Ph.D. courses at UPO-DiSIT, Alessandria (Italy), 2019: 1) *Gas adsorption in nanoporous materials: experimental and theoretical techniques, applications*, 1 CFU, 02/2019; 2) *Introduction to Molecular Imaging Techniques*, 1 CFU, 02/2019; 3) *Advanced Microscopy for nano- and bio-technologies*, Dr.ssa Ivana Miletto, 1.5 CFU, 04-05/2019 and 04-05/2018.
26. Training Course in *Formazione Specifica in Tema di Sicurezza nei Laboratori Chimici e Biologici*, UPO-DiSIT, Alessandria (Italy), 05/2016.
27. Training Course in *Sicurezza e Salute nei Luoghi di Lavoro - Formazione Generale*, UPO-DiSIT, Alessandria (Italy), 05/2016.
28. Course of Excellence 'CineForum Sportivo', I.T.I. "G. Omar", Novara (Italy), a.s. 2006-2007.
29. Course of European Computer Driving Licence (ECDL), I.T.I. "G. Omar", Novara (Italy), 2005-2006.
30. Course of Primo Soccorso per Alunni Scuola Media Inferiore, Valle Lomellina (Italy), a.s. 2002-2003.
31. Course of Scherma Scuola, Zeme and Valle Lomellina (Italy), 2000.

Presently, S.M. participated in national (Italy) and foreign scientific missions in the three years of Ph.D. (a.y. 2016-2019) and beyond.

1. NODES project: 1) General Assembly, Hub Ecosistema NODES, c/o University of Pavia - Aula Magna, P.zza Leonardo Da Vinci, Pavia (Italy), 13/02/2024; 2) Meeting RM4, University of Pavia - Dipartimento di Chimica, Viale Taramelli 12, Pavia (Italy), 26/02/2024; 3) General Assembly, Hub Ecosistema NODES, Villa San Remigio, Verbania (Italy), 16/07/2024; 4) Meeting RM4, University of Torino - Dipartimento di Chimica, Via Pietro Giuria 7, Torino (Italy), 09/09/2024.
2. CNR-SCITEC, Via Alfonso Corti 12 Milano (Italy), 21/05/2024 and 25/07/2024.
3. Reno De Medici S.p.A. - Stabilimento di Santa Giustina, Frazione Campo a Santa Giustina (Belluno, Italy), 09/08/2022-10/08/2022.
4. LUCENSE SCaRL, Traversa prima di Via della Chiesa di Sorbano del Giudice n. 231 a Lucca (Italy), 23/01/2022-29/01/2022.
5. Alma Mater Studiorum/University of Bologna - Department of Agri-Food Science and Technology, Viale Giuseppe Fanin 40-50 Bologna (Italy), 29/11/2021-03/12/2021.
6. CNR-Istituto di Scienze e Tecnologie Molecolari (ISTM), Via C. Golgi 19 Milano (Italy), 18-22/02/2019. Title: *"Catalytic analyses on synthetic Ln(III)-saponite clays"*. Under supervision of Dr. Matteo Guidotti.
7. University of Warmia and Mazury - Department of Mathematics and Computer Science, Sloneczna 54 10-710 Olsztyn (Poland), Short Term Scientific Missions of COST Action CA15209 "Eurelax", 22-28/04/2018. Title: *High field FFC NMR experiments on nanosized paramagnetic systems*. Under supervision of Prof. Danuta Kruk and Dr. Evrum Umut.

- **Scientific Publications and Editorial Activity**

Presently, S.M. is author of 25+ original publications on international scientific journals, published in *New Journal of Chemistry*, *Dalton Transaction*, *ChemPlusChem*, *RSC Advances*, *Chemistry – A European Journal*, *Inorganic Chemistry*, *Applied Sciences*, *Processes*, *IOBC-WPRS Bulletin*, *Inorganics*, *Materials*,

ChemMedChem, *The European Physical Journal Plus*, *Heliyon*, *Applied Catalysis A: General* and *Springer Nature*.

Since 2021, S.M. peer-reviewed 41 manuscripts for *Materials Chemistry and Physics*, *Molecules*, *Materials*, *Pharmaceutics*, *Crystals*, *Coatings*, *Sustainability*, *International Journal of Molecular Sciences*, *Biomimetics*, *Processes*, *Metals*, *Magnetochemistry*, *Catalyst*, *Sensors*, *Big Data and Cognitive Computing*, *Polymers* and *Biology* journals and 1 book for *CRC Press/Taylor & Francis* publishing company.

From August to December 2022, S.M. participated as Guest Editor of the Special Issue *"Advances in Green Organic Synthesis"* for MDPI *Processes*. From September 2023 to July 2024, S.M. participated as Guest Editor of the Special Issue *"Advances in Luminescent Materials and Coatings"* for MDPI *Coatings*. Since June 2024, S.M. has been participating as Guest Editor of the Special Issue *"Breaking New Ground: Recent Progress in Clayey Materials"* for MDPI *Materials*. Since March 2023, S.M. is Review Editor (now Community Reviewer, since July 2025) in the Editorial Board of Inorganic Chemistry (specialty section of *Frontiers in Chemistry*) for Frontiers Media SA.

Published Articles:

1) S. Econdi, S. Marchesi, C. Bisio and M. Guidotti. Chapter *"Dual-Use Chemicals"* in *"Spectrum of Dual-Use Technologies – Unforeseen Risks Versus Returns"* Book (DUT 2025), *Information Systems Engineering and Management* (*ISEM*) book series – *Volume 66*, *Springer Nature* **2026**, Springer Nature Switzerland AG, **ISBN**: 978-3-032-00201-3, 978-3-032-00202-0 (eBook), **ISSN**: 3004-958X, 3004-9598 (electronic), pp 63-109. Chapter: https://doi.org/10.1007/978-3-032-00202-0_3; Book: https://doi.org/10.1007/978-3-032-00202-0
2) K. Tiara, A. Soualah, C. Bisio, S. Marchesi, V. Pappalardo, S. Econdi, M. Guidotti. *"Tuning iron loading and specific surface area in iron-containing clays for the oxidative photodegradation of 4-nitrophenol". Applied Catalysis A: General* **2025**, *707*, 120522. Special Issue in honour of Prof. Luca Lietti on his 65th birthday. https://doi.org/10.1016/j.apcata.2025.120522
3) G. Celoria, F. Begni, G. Paul, S. Marchesi, E. Boccaleri, C. Bisio and L. Marchese. *"Nanosized MCM-41 silica from rice husk and its application for the removal or organic dyes from water"*, *RSC Adv* **2025**, *15*, 2545-553. https://doi.org/10.1039/D4RA07152B
4) S. Marchesi, S. Econdi, G. Paul, F. Carniato, L. Marchese, M. Guidotti and C. Bisio. *"Nb(V)-containing saponite: a versatile clay for the catalytic degradation of the hazardous organophosphorus pesticide paraoxon under very mild conditions". Heliyon* **2024**, *10(21)*, e39898. https://doi.org/10.1016/j.heliyon.2024.e39898
5) S. Econdi, A. Caselli, S. Marchesi, F. Carniato, C. Bisio, M. Guidotti. *"Catalysis and decontamination: a versatile tool in the safe and sustainable degradation of chemical warfare agents"*, *The European Physical Journal Plus* **2024**, *139*, 782 (Mini-review). https://doi.org/10.1140/epjp/s13360-024-05582-5
6) M. Capozza, G. Digilio, M. Gagliardi, L. Tei, S. Marchesi, E. Terreno and R. Stefania. *"Silicon phthalocyanines functionalized with axial substituents targeting PSMA: synthesis and preliminary assessment of their potential for PhotoDynamic Therapy of prostate cancer"*. *ChemMedChem* **2024**, e202400218, 1-10. https://doi.org/10.1002/cmdc.202400218
7) S. Econdi, C. Bisio, F. Carniato, S. Marchesi, G. Paul, E. Gargani, I. Cutino, A. Caselli and M. Guidotti. *"Aldehyde-containing clays: a sustainable approach against the olive tree pest, Bactrocera oleae"*, *Dalton Trans.* **2024**, *53*, 9995-10006. https://doi.org/10.1039/D4DT00705K
8) G. Ancora, S. Marchesi, M. Botta, L. Marchese, F. Carniato and C. Bisio. *"Silica-based monoliths functionalized with DTPA for the removal of transition and lanthanide ions from aqueous solutions"*, *Dalton Trans.* **2024**, *53*, 7801-7811. https://doi.org/10.1039/D4DT00388H

9) S. Marchesi, S. Econdi, M. Ranghieri, L. Marchese, M. Guidotti and C. Bisio. *"La chimica come alleato per la difesa da sostanze a elevata tossicità"*, Extracampus n° 1 **2023**, p. 43-45, University of Piemonte Orientale (UPO). https://mediacentre.uniupo.it/it/pubblicazioni/extracampus-12023
10) S. Marchesi, C. Bisio, F. Carniato and E. Boccaleri. *"Incorporation of Antimony Ions in Heptaisobutyl Polyhedral Oligomeric Silsesquioxanes"*, *Inorganics* **2023**, *11(11)*, 426-437. Special Issue *"10th Anniversary of Inorganics: Inorganic Materials"*. https://doi.org/10.3390/inorganics11110426
11) S. Marchesi*, I. Miletto*, C. Bisio, E. Gianotti, L. Marchese and F. Carniato. *"Eu^{3+} and Tb^{3+} @ PSQ: Dual Luminescent Polyhedral Oligomeric Polysilsesquioxanes"*, *Materials* **2022**, *15(22)*, 7996-8009 (*corresponding authors). Special Issue *"Structural and Optical Studies of Eu^{3+} Doped Materials" (Materials Physics)*. https://doi.org/10.3390/ma15227996
12) M. Guidotti, A. Caselli, R. Psaro, S. Econdi, C. Bisio, S. Marchesi, S. G. Germinara and E. Gargani. *"Aldehyde-containing clays and zeolites: a sustainable approach in the control of olive fruit fly, Bactrocera oleae"*, *IOBC-WPRS Bulletin* **2022**, *158*, 12-13. International Organisation for Biological and Integrated Control (IOBC) - West Palaearctic Regional Section (WPRS); Working Group "Integrated Protection of Olive Crops"; Proceedings of the 9th Meeting at Lisboa (Portugal) 26-29 October, 2021; Edited by: Ana Cristina Ramos, José Alberto Pereira, Paula Baptista; **ISBN** 978-92-9067-344-6 [XVIII + 113 pp.]. https://iobc-wprs.org/product/aldehyde-containing-clays-and-zeolites-a-sustainable-approach-in-the-control-of-olive-fruit-fly-bactrocera-oleae/
13) S. Marchesi, G. Paul, M. Guidotti, S. Econdi, C. Bisio and F. Carniato. *"Impregnation of synthetic saponites with aldehydes: a green approach in the intercalation of bioactive principles"*, *Inorganics* **2022**, *10(10)*, 159-172. https://doi.org/10.3390/inorganics10100159
14) S. Marchesi, C. Bisio and F. Carniato. *"Synthesis of novel luminescent double-decker silsesquioxanes based on partially condensed TetraSilanolPhenyl POSS and Tb^{3+}/Eu^{3+} lanthanide ions"*, *Processes* **2022**, *10(4)*, 758-772. Special Issue "*Development of Innovative Micro and Mesoporous Materials"* (*Materials Processes*). https://doi.org/10.3390/pr10040758
15) S. Marchesi*, S. Nascimbene*, M. Guidotti, C. Bisio and F. Carniato. *"Application of NMR relaxometry for the real-time monitoring of the removal of metal ions from water by synthetic clays"*, *Dalton Trans.* **2022**, *51*, 4502-4509 (*co-first authors). https://doi.org/10.1039/D1DT04344G
16) S. Marchesi, C. Bisio and F. Carniato. *"Enhancement of the luminescence properties of Eu(III)-containing paramagnetic Gd(III)-synthetic saponite clays"*, *Appl. Sci.* **2021**, *11(19)*, 8903-8914. Special Issue *"Advances in Magnetic Nanomaterials and Nanostructures"* (*Nanotechnology and Applied Nanosciences*). https://doi.org/10.3390/app11198903
17) S. Marchesi, C. Bisio, D. Lalli, L. Marchese, C. Platas-Iglesias and F. Carniato. *"Bifunctional Paramagnetic and Luminescent Clays Obtained by Incorporation of Gd^{3+} and Eu^{3+} Ions in the Saponite Framework"*, *Inorg. Chem.* **2021**, *60*, 14, 10749-10756. https://doi.org/10.1021/acs.inorgchem.1c01455
18) S. Marchesi, M. Guidotti, L. Marchese, C. Evangelisti, F. Carniato and C. Bisio. *"Bifunctional europium(III) and niobium(V)-containing Saponite Clays for the Simultaneous Optical Detection and Catalytic Oxidative Abatement of Blister Chemical Warfare Agents"*, *Chem-Eur J.* **2021**, 27(14), 4723-4730. https://doi.org/10.1002/chem.202005454
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2) C. Bisio, G. Celoria, L. Marchese, S. Marchesi, M. C. Bruzzoniti, B. Graziani, L. Rivoira. *"Rice husk-derived mesoporous silicas for the simultaneous removal of organic pollutants and metals from water"*, **2025**, in preparation.
3) S. Marchesi, C. Cassino, C. Bisio, L. Marchese and G. Paul, *"Incorporation of Tin(IV) centres in the inorganic framework of synthetic saponite clay"*, *Materials* **2025**, in preparation.
4) S. Nazarkulovaa, S. Econdi, S. Marchesi, C. Bisio, M. Burkitbayev and Matteo Guidotti. *"Fe-containing natural bentonites for the catalytic decontamination of highly hazardous phosphorus and sulfur pollutants"*, **2025**, in preparation
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6) S. Marchesi, V. Miglio and C. Bisio. *"Purification of Rhodamine B-contaminated water using adsorbent materials: a simple example of water decontamination"*, **2025**, in preparation.

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1) "Recycle and reuse light-emitting diode waste quartz sand and stone sludge as amine functional group grafted MCM-41 material", *Materials Chemistry and Physics,* 07/2021.

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30) "Electrophoretic Deposition of Bioactive Glass Coatings for Bone Implant Applications: A Review", *Coatings*, 07/2024.
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37) "Machine learning based classification of sulfide mineral spectral emission in high temperature processes", *Big Data and Cognitive Computing*, 04/2025.
38) "Polyhedral oligosiloxanes silsesquioxanes (POSS) for transparent cover plate coatings: Material Properties and Application", *Polymers*, 08/2025.
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41) "Watching Alkaline Phosphatase Catalysis Through Its Vibrational Fingerprint", *Biology*, 12/2025.

Reviewer Activity - Books:

1) H. C. A. Murthy, V. Subramaniam, M. Sillanpaa, B. Ruthramurthy, G. Hedge. "Multifunctional Inorganic Nanomaterials - Synthesis, Properties and Applications", Emerging Materials and Technologies Book Series, *CRC Press/Taylor & Francis*, 09/2023.

Guest and Review Editor(s) Activity:

1) Guest Editor for MDPI *Processes*, Special Issue *"Advances in Green Organic Synthesis"*, starting in August 2022. https://www.mdpi.com/journal/processes/special_issues/green_organic_synthesis
2) Review Editor in the Editorial Board of *Inorganic Chemistry* (specialty section of *Frontiers in Chemistry*) for Frontiers Media SA, starting in March 2023. Community Reviewer from July 2025.
3) Guest Editor for MDPI *Coatings*, Special Issue *"Advances in Luminescent Materials and Coatings"*, starting in September 2023. https://www.mdpi.com/journal/coatings/special_issues/luminescent_materials_coatings.
4) Guest Editor for MDPI *Materials*, Special Issue *"Breaking New Ground: Recent Progress in Clayey Materials"*, starting in June 2024. https://www.mdpi.com/journal/materials/special_issues/AXZ8560U3H

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