Silvia Spagnoli

Date of birth: 14/09/1999 | **Nationality:** Italian | **Gender:** Female | **Phone number:** (+39) 3298407663 (Mobile) | **Email address:** silvia.spagnoli99@gmail.com | **Email address:** silvia.spagnoli3@unibo.it | **Address:** via Giacomo Lauri Volpi, 11, 43126, Parma, Italy (Home) | **Address:** via Piero Gobetti 101, ISOF-CNR, 40129, Bologna, Italy (Work)

WORK EXPERIENCE

PHD STUDENT – ALMA MATER STUDIORUM - UNIVERSITÀ DI BOLOGNA – 01/11/2025 – Current – BOLOGNA, ITALY

Doctoral Candidate within "MonaLisa" (doctoral network funded by the Horizon Europe Marie Skłodowska-Curie Actions (MSCA)). The research activities focus on the optimization of light-driven supramolecular pumps based on photoinduced energy ratchet mechanisms and the integration of molecular switches, machines and motors in polymer-based systems.
The projects forsees the expertise in:

- Organic synthesis of photoswitches and supramolecular assemblies.
- Spectroscopy (absorption and emission)
- Photochemical studies (quantum yield determination, photokinetics)
- Supramolecular complexation characterization (thermodynamics and kinetics).

PHD STUDENT – UNIVERSITY OF BORDEAUX – 15/11/2023 – 30/09/2025 – BORDEAUX, FRANCE

Doctoral Candidate within Multi-component Soft Materials Advanced Research Training Network (doctoral network funded by the Horizon Europe Marie Skłodowska-Curie Actions (MSCA)).The research project focuses on the use of photochemistry for the study and characterization of multi-component soft materials, such as gels, mixed gels with surfactants or polymers. In particular, photoresponsive supramolecular soft materials are investigated to understand the mechanisms of photocontrolled hierarchical self-assembly and gelation, using both fluorescence microscopy and bulk photochemical techniques.
The expertises acquired are:

- Organic synthesis of Low Molecular-Weight Gelator precursors, under inert atmosphere and dry conditions;
- Sample preparation for microscopy, in dark, dry and inert atmosphere;
- fluorescence and confocal fluorescence microscopy;
- FLIM (Fluorescence Lifetime Imaging);
- Microscopy image analysis;
- Spectroscopy (absorption and emission);
- Photochemical quantum yield determination by absorption spectra;
- Basics of Python for coding and simulation;
- Basics of IgorPro for data treatment.

Training courses attended: From research to publication (6 h), Molecular Photonics (20 h), MultiSMART School of Gels (8 h), MultiSMART School on Characterisation of MultiMats using Optical Methods (31 h), Public speaking in a professional context (6 h), Python: Basics to data manipulation (17.3 h), Ethique de la recherche (MOOC) (12 h), Research Integrity in Scientific Professions (MOOC) (15 h), French Courses for PhD Students (34 h).

DOCTORAL SCHOOL TEACHER – MULTISMART DN – 16/01/2025 – 17/01/2025 – BORDEAUX, FRANCE

Teaching class on 'Photochemistry' (1,5 hours) and organization of doctoral winter school within the MSCA DN MultiSMART (School: Characterisation of MultiMats using Optical Methods).

SUPRAMOLECULAR CHEMIST – INSTITUT CHARLES SADRON (ICS) - CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE (CNRS) – 01/03/2023 – 31/07/2023 – STRASBOURG, FRANCE

Curricular Master's internship performed in the laboratories of the Self-assembled Molecular Systems (SAMS) group of Nicolas Giuseppone. The research activity included the synthesis and characterization of functional polymers to perform supramolecular interactions and motion (molecular machines) under light stimulus. The expertises acquired are:

- Organic synthesis: condensation reactions, nucleophilic substitutions, work in dry conditions under inert gases and with dry solvents, purification techniques (column chromatography, precipitation in anti-solvent, dialysis, distillation with Kugelrohr apparatus), use of rotavapor, vacuum line and dry solvents machine;
- Characterization techniques: NMR, UPLC, DLS (autonomous use), TEM, AFM (with techincal support).
- Daily laboratoy activity: expermental planning, peer to peer discussion with other members of the group, bibliografic research, results reporting in clear and detailed way.

INORGANIC CHEMIST – UNIVERSITÀ DEGLI STUDI DI PARMA – 06/2021 – 09/2021 – PARMA, ITALY

Curricular bachelor's internship performed in the laboratories of the Inorganic Department. I learned some ligands and coordination compounds synthesis, mainly reactions at reflux. Characterization of the synthesized compounds was performed with analytical techniques, such as NMR, ATR FT-IR spectroscopy, melting point apparatus (autonomous use), elemental analysis and mass spectrometry (with technical support). Other skills acquired during the internship: relating with colleagues in the laboratory; reporting results; apply safety rules of the laboratory.

THEATRE HOSTESS – TEATRO REGIO OF PARMA – 01/10/2019 – 30/11/2019 – PARMA, ITALY

During this two-months job employement I was welcoming the audience at the Opera Theatre of the city, during the most important event of the year (Festival Verdi). Here I learned and improved my capabilities in how to interact with the customers/public in a formal environment, as well as how to relation with colleagues and team work.

PUBLICATIONS

2025
Unraveling the Light-Induced Self-Assembly Mechanism of a Fluorescent Molecular Gelator

Oral communication

Authors: S. Spagnoli, C. De Vet, L. Gartzia-Rivero, C. Davies, G. Raffy, A. Del Guerzo | **Journal Name**: 2025 Annual Meeting of the Photochemistry, Photophysics and Photosciences Subdivision (SP2P)

2025
Shedding Light on the Self-Assembly of a Fluorescent Molecular Gelator

Poster presentation

Authors: S. Spagnoli, C. De Vet, L. Gartzia-Rivero, C. Davies, G. Raffy, A. Del Guerzo | **Journal Name**: 27th Day of the Chemical Sciences Doctoral School (Bordeaux)

2024
Autocatalysis in Light-Triggered Self-Assembly of a Low-Molecular-Weigth Gelator

Poster presentation

Authors: S. Spagnoli, C. De Vet, L. Gartzia-Rivero, C. Davies, G. Raffy, A. Del Guerzo | **Journal Name**: 29th PhotoIUPAC Symposium on Photochemistry.

2025
Mechanistic Insights on the Photoinduced Self-Assembly of a Fluorescent Molecular Gelator

Oral communication

Journal Name: Annual Student Conference, Institut d'Optique d'Aquitaine

CONFERENCES AND SEMINARS

19/05/2025 – 21/05/2025 Toulouse (FR)
2025 Annual Meeting of the Photochemistry, Photophysics and Photosciences Subdivision (SP2P)

Oral communication: Unraveling the Light-Induced Self-Assembly Mechanism of a Fluorescent Molecular Gelator

26/02/2025 Bordeaux (FR)
Annual Student Conference

Oral communication: Mechanistic Insights on the Photoinduced Self-Assembly of a Fluorescent Molecular Gelator

14/07/2024 – 19/07/2024 Valencia (ES)
29th PhotoIUPAC Symposium on Photochemistry

Poster communication: Autocatalysis in Light-Triggered Self-Assembly of a Low-Molecular-Weight Gelator

International seminars within MultiSMART DN

Triannual oral presentations to report the progresses of the doctoral reserach project to the Consortium.

Seminars with the local research group

Biannual oral presentations to report the progresses of the doctoral reserach project (English language).

NETWORKS AND MEMBERSHIPS

2023 – 30/09/2025 Bordeaux
MultiSMART: Multi-component Soft Materials Advanced Research Training Network

Doctoral network funded by the Horizon Europe Marie Skłodowska-Curie Actions (MSCA).

Link https://multismart.ism.u-bordeaux.fr/

2024 – CURRENT Roma
Gruppo Italiano di Fotochimica (GIF)

Free, apolitical, non-profit association that brings together those working in the field of photochemistry in universities, research centres and industry.

Link https://sites.google.com/site/gruppoitalianodifotochimica/home

EDUCATION AND TRAINING

10/12/2025 – 10/12/2025 Strasbourg, France
WORKSHOP ON RESEARCH INTEGRITY, PUBLISHING AND OPEN SCIENCE University of Strasbourg

23/06/2025 – 27/06/2025 Glasgow, United Kingdom
MULTISMART MODELLING SCHOOL University of Strathclyde

Website http://tuttlelab.com/multismart-modelling-school-2025/

Bordeaux, France
WORKSHOP: PUBLIC OUTREACH, IMPACT, PUBLISHING AND NETWORKING University of York

16/01/2025 – 17/01/2025 Bordeaux, France
SCHOOL: CHARACTERISATION OF MULTIMATS USING OPTICAL METHODS University of Bordeaux

13/03/2024 – 15/03/2024 Castellón de la Plana, Spain
MULTISMART SCHOOL OF GELS Universitat Jaume I

Website https://sites.google.com/uji.es/multismartschoolofgels/home

09/2021 – 09/2023 Bologna, Italy
MASTER'S DEGREE IN PHOTOCHEMISTRY AND MOLECULAR MATERIALS (LM54) University of Bologna

- Theoretical background of photochemistry and photopysics.
- theoretical formation in the following topics: ADVANCED SUPRAMOLECULAR CHEMISTRY, BIOMATERIALS, FUNCTIONAL POLYMERIC MATERIALS, LASER AND COMPUTATIONAL METHODOLOGIES, MATERIALS ORGANIC CHEMISTRY WITH LABORATORY, MOLECULAR ELECTROCHEMISTRY, NANOMEDICINE, POLYMERIC MATERIALS FOR LIFE SCIENCE, PROPERTIES OF MOLECULAR MATERIALS (Modelling and Processes in the Condensed Phase).
- Practical formation: photochemistry and photophysics (use of spectrophotometer for characterization, titrations, use of spectrofluorimeter, apparatus for photochemical reactions based on Hg lamp), computational chemistry (running of calculations for electronic states characterization, molecular dynamics, molecular simulations of photoreactions), materials organic chemistry (synthesis of fluorescent dyes for OLED devices, liquid-liquid extraction, TLC analysis, NMR analysis, silica column chromatography).

Website https://corsi.unibo.it/2cycle/PhotochemistryMolecularMaterials/index.html | **Field of study** Chemistry |

Final grade 110/110 cum laude | **Thesis** A light triggered polymeric pump

09/2018 – 10/2021 Parma, Italy
BACHELOR'S DEGREE IN CHEMISTRY (L27) Università degli Studi di Parma

- chemistry from theory to laboratory applications: general chemistry, organic chemistry, analytical chemistry, inorganic chemistry, polymer chemistry.

Website www.unipr.it | **Field of study** Chemistry | **Final grade** 110/110 cum laude |

Thesis Synthesis and characterization of coordination complexes of copper and nickel as potential antitumoral agents.

2013 – 2018 Parma, Italy
HIGH SCHOOL DIPLOMA Liceo Scientifico "Giacomo Ulivi"

Field of study Natural sciences, mathematics and statistics | **Final grade** 97/100

SKILLS

Microsoft Office (Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Microsoft Teams) | Google meet, Microsoft powerpoint | Google Maps, GPS Tracking | Python Language - Basic knowledge | Good knowledge of TinkerCAD | knowledge of presentation platforms (PowerPoint, Prezi, Canva) | NI LabVIEW 2019 | Mendeley Citation Management

Social Media

Instagram | Facebook | YOUTUBE | Facebook and LinkedIn Business

Chemistry softwares

HCImageLive | Topspin (Bruker NMR data analysis) | ChemDraw professional | Gaussian (fundamentals) | MestreNova | Igor Pro from WaveMetrics | SymPhoTime 32 and 64 | ImageJ | MarvinSketch

LANGUAGE SKILLS

Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1
SPANISH	B2	B2	B1	B1	B1
FRENCH	B2	B2	B1	B2	B1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

VOLUNTEERING

2015 – 2017 Parma
Educator

For three summers in a row, I helped in organizing the summer camp of my town, focusing on educating children (age between 6 and 13) and prepare activities for them. In addition, I improved my coordination capability with the other educators, and I learned on management of facilities and resources.

DRIVING LICENCE

Driving Licence: B

HOBBIES AND INTERESTS

Reading and practice of music (classical guitar)

Tennis

Travelling

Hiking and camping

Handcrafts

ORGANISATIONAL SKILLS

Weekly experimental planning

Respect of deadlines and targets

Work in team