

CURRICULUM VITAE Prof. Dr. Laura Orian
Education, teaching and educational activities only

- Birthdate: 31/10/1971
- Birthplace: Venice (Italy)
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- Marital status: married with **Paolo**, one son **Pietro**.
- **Associate Professor** at Dip. di Scienze Chimiche (DiSC)
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EDUCATION and TRAINING

- **National Scientific Habilitation as Full Professor** (03/B1 Chimica organica) since 8/11/2025
- *Peer observation* 10/4/2025 Digital certificate of participation to peer observation activities in AA 2024-25 UNIPD (Italy)
- ARQUS SUMMER SCHOOL *Active Learning in Action: Engaging Students Through AI* 2-4/7/2025 Ofir (Portugal)
- *Faculty Development Trainer* 34 hours-course 21/6- 30/11 2024 UNIPD (Italy)
- **National Scientific Habilitation as Full Professor** (03/B1 Fondamenti delle scienze chimiche e sistemi inorganici) since 6/11/2024
- *Change Management 4 Change Agents* course 20-21/1/2023 Castelfranco Veneto UNIPD (Italy)
- *Communicating and teaching in English* 30 hours-course 5/4-19/5/2022 UNIPD (Italy)
- *Virtual exchange* course 9-10,13-14/9/2021 UNICollaboration UNIPD (Italy).
- *Change agent* 40 hours-course 2021, UNIPD (Italy).
- *MOOC: Online teaching (T4L 1.0)* First semester AA2020-21, UNIPD (Italy).
- *Advanced Innovative Teaching and Learning in Higher Education* 2020, 18/9-28/9/2020, UNIPD (Italy).
- *Innovative Teaching and Learning in Higher Education* 2020, 29/6-3/7/2020, UNIPD (Italy).





- **National Scientific Habilitation as Full Professor** (03/A2 Modelli e metodologie per le scienze chimiche) since 5/4/2018
- **PhD in Chemical Sciences** (15/02/2001), Dip. Chimica Fisica, UNIPD (Italy). Thesis: *Director dynamics and rheology of nematic liquid crystals* (in English language). Supervisors: Prof. P. L. Nordio, Prof. G. J. Moro.
- **Habilitation as Chemist** (II Sess. 1997).
- **Master degree in Chemistry** (3/7/1997), Dip. Chimica Fisica, UNIPD (Italy). Thesis: *Un modello teorico per il trasferimento elettronico in solventi polari*. Supervisor: Prof. P.L. Nordio. Score: 110/110 *cum laude*.
- High School Diploma: Maturità Classica (1990), Venice (Italy). Score: 60/60

LANGUAGES

Italian native speaker.

English: fluent (written and spoken).

Portuguese: good level of comprehension and basic conversation.

German: good (written and spoken); certification B1 at Goethe Institut, Padova (Italy).

ACADEMIC POSITION, VISITING SCIENTIST AND RESEARCH CONTRACTS

- *Scheduled in 6-17 February 2026 – financially supported by UNIPD (bilateral agreement)*

Visiting Scientist Universidade Federal de Santa Catarina, Florianopolis (Brasil). Host scientist: Prof. Dr. Antonio Luiz Braga.

- *3 March 2024 -12 March 2024*

Visiting Scientist Universidade Federal de Santa Catarina, Florianopolis (Brasil). Host scientist: Prof. Dr. Antonio Luiz Braga.

- *14 December 2023- 16 December 2023*

Visiting Scientist University of Giessen, Giessen (Germany). Host scientist: Prof. Dr. Nicole Graulich.

- *15 September 2019- 26 September 2019*

Visiting Scientist European Union HPC Europa Program, Afdeling Theoretische Chemie, Scheikundig Laboratorium der Vrije Universiteit and SARA Supercomputing Center, Amsterdam (The Netherlands). **Research Project:** BATMAN (Boosting hydrogen Atom Transfer through Modeling the Antioxidant properties of Neuropsychiatric drugs), in collaboration with Prof. Dr. F. M. Bickelhaupt.

- 12 July 2019-22 July 2019

Visiting Scientist Universidade Federal Santa Maria, Santa Maria (Brasil). Host scientist: Prof. Dr. Joao Batista Teixeira da Rocha.

- 1 November 2016-

Associate Professor of Physical Chemistry DiSC UNIPD (Italy).

-10 April 2010-24 April 2010

Visiting Scientist European Union HPC Europa Program, Afdeling Theoretische Chemie, Scheikundig Laboratorium der Vrije Universiteit and SARA Supercomputing Center, Amsterdam (The Netherlands). **Research Project:** Ring slippage and catalytic activity of RhCp and RhInd fragments, in collaboration with Prof. Dr. F. M. Bickelhaupt.

-4 November 2009-10 June 2010, 16 August 2011-9 September 2011, 29 July 2013-11 September 2013, 18 August 2014- 5 September 2014, 3 May 2021- 4 June 2021.

Maternity and parental leave.

-1 July 2008-15 August 2008

Visiting Scientist European Union HPC Europa Program, Afdeling Theoretische Chemie, Scheikundig Laboratorium der Vrije Universiteit and SARA Supercomputing Center, Amsterdam (The Netherlands). **Research Project:** Insights on some controversial issues of the catalytic mechanism of [NiFe]hydrogenases through multi-level DFT calculations, in collaboration with Prof. Dr. F. M. Bickelhaupt.

-1 October 2006-31 October 2016

Assistant and Aggregate Professor of Physical Chemistry DiSC UNIPD (Italy).

-1 May 2006-31 July 2006

Visiting Scientist European Union HPC Europa Program, Afdeling Theoretische Chemie, Scheikundig Laboratorium der Vrije Universiteit and SARA Supercomputing Center, Amsterdam (The Netherlands). **Research Project:** Relativistic DFT computational study of the mechanisms of alkynes cyclotrimerization catalysed by half-sandwich Rh(I) complexes, in collaboration with Prof. Dr. F. M. Bickelhaupt.

– 1 April 2004- 31 March 2006

Senior Post-Doctoral grant DiSC UNIPD (Italy). **Research Project:** Computational study of the effects of the electronic communication in *hetero*-polymetallic complexes of transition metals with unsaturated polycyclic ligands. Referent: Prof. A. Ceccon.

– 1 September 2002- 31 March 2004

Post-Doctoral grant DiSC UNIPD (Italy). **Research Project:** Computational and Near Infrared study of the structural and electronic properties of *homo*- and *hetero*-bimetallic complexes of rhodium, iridium, iron, chromium and ruthenium with unsaturated polycyclic ligands, for the design of new catalysts and/or molecular switches. Referent: Prof. A. Ceccon.

• 1 March 2002- 31 August 2002

Post-Doctoral grant CIT, Katholieke Universiteit Leuven (Belgio). **Research Project:** Rheo-optical characterisation of immiscible polymer blends containing lyotropic liquid crystalline polymers. Referents: Prof. Jan Mewis, Prof. Paula Moldenaers.

- 15 February 2001-28 February 2002

Post-doctoral grant, European Union TMR Research Contract ERB-FMRX-C797-0121, Dep. de Ciência dos Materiais, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Lisboa (Portogallo). **Research Project:** Theoretical modelling of rheological behaviours observed by ^2H NMR in liquid crystal polymers; computational hydrodynamic treatment of *aligning* and *tumbling* liquid crystal polymers in complex geometries. Referent: Prof. Assis Farinha Martins

- 17 November 1999-16 January 2000

Post-graduate grant, European Union TMR Research Contract ERB-FMRX-C797-0121, Dep. De Ciência dos Materiais, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Lisboa (Portogallo). **Research Project:** Pulsed ^2H NMR on lyotropic samples (PBLG/m-cresol) in Couette geometry; theoretical description of the rheological behaviour of nematic liquid crystal polymers based on augmented hydrodynamic equations. Referent: Prof. Assis Farinha Martins.

TEACHING ACTIVITY

If before 2006, the teaching activity must be considered as supporting teaching activity; AA2022-23 plan is included. Entries in red are associated to responsibility of the course.

- **Laboratory of Physical Chemistry**, Degree in Industrial Chemistry, UNIPD (Italy), AA 2003-2004, AA 2004-2005 and AA 2006-2007 (lab: 60 hours). CHIM/02
- **Physical Chemistry**, Degree in Food Science and Technology, UNIPD (Italy), AA 2003-2004, AA 2004-2005 and AA 2005-2006. CHIM/02
- **Physical Chemistry 2 (Mod. B)**, Degree in Chemistry, UNIPD (Italy) AA 2008-2009 (class: 8 hours, lab: 48 hours). CHIM/02
- **Prevention and security in the laboratory**, Degree in Chemistry, UNIPD (Italy), AA 2007-2008 (class: 8 hours, lab: 32 hours). CHIM/03
- **Physical Chemistry 3**, Degree in Chemistry, UNIPD (Italy), AA 2008-2009 (class: 2 hours, lab: 28 hours), AA 2010-2011 (class: 4 hours, lab: 70 hours), AA 2011-2012 (class: 8 hours, lab: 36 hours), AA 2012-2013 (class: 8 hours, lab: 36 hours) and AA 2013-2014 (class: 4 hours, lab: 48 hours). CHIM/02
- **Physical Chemistry (part of the Chemistry course)**, Degree in Molecular Biology, UNIPD (Italy), AA 2011-2012 (class: 24 hours, ex: 8 hours), AA 2012-2013 (class: 24 hours, ex: 8 hours) and AA 2013-2014 (class: 24 hours, ex: 8 hours). CHIM/02
- **Physical Chemistry (part of the Chemistry 1 course)**, Degree in Biotechnologies, UNIPD (Italy), AA 2014-2015 (class: 32 hours), AA 2015-2016 (class: 32 hours), AA 2016-2017 (class: 32 hours), AA 2017-2018 (class: 32 hours), AA 2018-2019 (class: 32 hours), AA 2019-2020 (class: 32 hours), AA 2020-2021 (class: 32 hours), AA 2021-2022 (class: 32 hours) and AA 2022-2023 (class: 32 hours) CHIM/02
- **General chemistry and Stoichiometry (part of the Chemistry 1 course)**, Degree in Biotechnologies, UNIPD (Italy), AA 2016-2017 (class: 32 hours, ex: 16 hours), AA 2017-2018 (class: 32 hours, ex: 16 hours), AA 2018-2019 (class: 32 hours, ex: 16 hours), AA 2019-2020 (class: 32 hours, ex: 16 hours), AA 2020-2021 (class: 32 hours, ex: 16 hours), AA 2021-2022 (class: 32 hours, ex: 16 hours), AA 2022-2023 (class: 32 hours, ex: 16 hours) and AA 2023-2024 (class: 32 hours, ex: 16 hours) CHIM/03
- **Computational chemistry**, Degree in Chemistry, UNIPD (Italy), AA 2012-2013 (class: 8 hours), AA 2013-2014 (class: 8 hours), AA 2014-2015 (class: 32 hours), AA 2015-2016 (class: 32 hours), AA 2016-2017 (class: 32 hours), AA 2017-2018 (class: 40 hours), AA

2018-2019 (class: 32 hours), AA 2019-2020 (class: 32 hours), AA 2020-2021 (class: 32 hours), AA 2021-22 (class: 40 hours), AA 2022-23 (class: 32 hours), AA 2023-24 (class: 42 hours), AA 2024-25 (class: 42 hours) and AA 2025-26 (class: 42 hours) CHIM/02 – CHIM/03 – CHIM/06

- **Physical Chemistry (part of Chemistry and chemistry lab teaching course), PAS (Percorsi abilitanti speciali in Scienze naturali, chimica e geografia, microbiologia), UNIPD (Italy),** AA 2013-2014 (class: 10 hours), AA 2014-2015 (class: 10 hours) and AA 2015-2016 (class: 10 hours). CHIM/02
- **Physical Chemistry (part of Chemistry and chemistry lab teaching course), TFA (Tirocinio Formativo Attivo in Scienze naturali, chimica e geografia, microbiologia), UNIPD (Italy),** AA 2014-2015 (class: 10 hours). CHIM/02
- **Didactics of Chemistry, Master Degree in Chemistry, UNIPD (Italy)** AA 2021-2022 (class: 8 hours), AA 2022-2023 (class: 8 hours), AA 2023-2024 (class: 8 hours), AA 2024-2025 (class: 18 hours) and AA 2025-2026 (class: 18 hours) CHIM/01 – CHIM/02 – CHIM/03 – CHIM/06
- **Materials design and selection for circular economy, Master Degree in Sustainable Chemistry and Technologies for Circular Economy, UNIPD (Italy),** AA 2022-2023 (class: 8 hours, computing lab: 12 hours), AA 2023-2024 (class: 8 hours, computing lab: 12 hours) and AA 2024-2025 and AA 2025-2026 (class: 8 hours, computing lab: 12 hours) CHIM/02 – CHIM/03 – IMAT-01
- **Physical Chemistry (part of the General and Inorganic Chemistry and Physical Chemistry course), Degree in Sciences and Technologies for the Environment, UNIPD (Italy),** AA 2024-2025 and AA 2025-2026 (class: 32 hours). CHIM/02
- **Didactics of chemistry** Education offer (60CFU) to graduates for the habilitation to teach at Secondary School level:
Class A34 Chemical Sciences and Technologies Principles of chemistry teaching: Physical Chemistry and ICT UNIPD AA 2023-2024 (class: 6 hours; lab: 6 hours)
Class A50 Natural, chemical and biological sciences Principles of chemistry teaching: Physical Chemistry and ICT UNIPD AA 2023-2024 (class: 6 hours; lab: 6 hours)
Class A28 Mathematics and Sciences Principles of chemistry teaching: Physical Chemistry and ICT UNIPD AA 2023-2024 (class: 6 hours; lab: 6 hours)
Class A34 Chemical Sciences and Technologies Principles of chemistry teaching: Physical Chemistry and ICT UNIPD AA 2024-2025 (class: 12 hours; lab: 6 hours)
 CHIM/01 – CHIM/02 – CHIM/03 – CHIM/06

-Tutor at Amsterdam Density Functional (ADF) workshop, CINECA, 16/04/2008.

LO organized with Dr. D. Frezzato and Prof. G. J. Moro the **course for the PhD School in Molecular Sciences** *Molecular Fluctuations and kinetic processes* in AA 2012-2013, AA 2015-2016, AA 2017-2018 and AA 2019-2020.

LO organized with Dr. D. Frezzato the **course for the PhD School in Molecular Sciences** *Fluctuations, kinetic processes and single molecule experiments* in AA 2021-2022, AA 2023-2024 (re-scheduled for September 2025 due to low number of participants) and AA 2024-2025

- Teaching in courses for university staff:

- 1) Corso Teaching4Learning Base Spring 2022 New Faculty 18/6/2022 Monteortone (PD)
- 2) Corso Teaching4Learning Base Autumn 2022 New Faculty 23-24/9/2022 Monteortone (PD)
- 3) Corso Teaching4Learning Base Winter 2023 New Faculty 26-27/1/2024 Monteortone (PD)

- 4) Corso Teaching4Learning Change Agents 2025 17/1/2025 Abano Terme (PD) What is a change agent?
- 5) Corso Teaching4Learning Change Agents 2025 19/2/2025 Online Workshop on peer observation
- 6) Corso Teaching4Learning T4L 1 Summer Edition 27-28/6/2025 Workshop on Microteaching Corte Benedettina Legnaro (PD)
- 7) Corso Teaching4Learning T4L 1 Autumn Edition 26-27/9/2025 Workshop on Microteaching Corte Benedettina Legnaro (PD)
- 8) Corso Teaching4Learning T4L HerIT4Future scheduled for 18-21/2/2026 Buenos Aires (Argentina)

- **Microcredentials EEC: Environment, Economy and Climate Issue an interdisciplinary perspective** AA 2024-25 Teachers: Marta Castellini, Marco Fantin, Silvia Gross, Anna Mazzi, Laura Orian, Anna Stoppato, in preparation.

STUDENT MENTORSHIP AND EVALUATION

-Supervisor of Bachelor students (**24 students**) (Degree in Chemistry or Industrial Chemistry, UNIPD)

- Marco Bortoli *Reattività di selenosolfuri. Un modello DFT per comprendere l'attività enzimatica delle GPx* AA 2011-2012
- Marco Dalla Tiezza *Sintesi in silico della 2-metilpiridina: elementi per il design di catalizzatori eteroaromatici di Rh(I)* AA 2014-2015
- Tobia Cavalli *Difenilditellururi: evidenze strutturali da calcoli DFT* AA 2013-2014
- Amir Al Naber *Calcolo di parametri di AMBER force field per difenildicalcogenuri* AA 2013-2014
- Cecilia Muraro *Calculations of the ¹²⁵Te NMR chemical shift of diphenyl ditelluride* AA 2017-2018
- Matteo Bruschi *Ossidazione in silico di organodicalcogenuri biomimetici di glutatione perossidasi: un approccio ASA-EDA* AA 2016-2017
- Pier Paolo Poier *Elementi di seconda quantizzazione* AA 2013-2014
- Anna Rodighiero *Potere antiossidante dello zolpidem: utilizzo di metodi computazionali per valutare l'attività di ROS scavenging* AA 2020-2021
- Francesco Pranovi *Proprietà antiossidanti della delfinidina* AA 2019-2020
- Gennj Brotto *Stress ossidativo a livello molecolare: meccanismi di controllo delle reazioni radicaliche* AA 2018-2019
- Davide Zeppilli *Il legame calcogeno-azoto in enzimi, peptidi e farmaci antiossidanti: un'analisi quantomeccanica* AA 2019-2020
- Giorgia Azzolin *Parametrizzazione di un campo di forza di tipo AMBER per studi tossicologici di metilmercurio in selenoproteine bersaglio* AA 2019-2020
- Matteo Flaibani *Effetto della temperatura sul chemical shift NMR di ⁷⁷Se: uno studio combinato di dinamica molecolare e quantomeccanica* AA 2019-2020
- Lucia Peraro *In silico antioxidant potential of newly designed selenoquercetines* AA 2020-2021
- Simone Zucchelli *Meccanismo di eliminazione in calcogenossidi: uno studio computazionale per comprendere la biochimica di selenoproteine* AA 2020-2021
- Alexandru Dron *In silico rational design of potent antioxidants: the case of sesamol derivatives* AA 2020-2021

- Francesco Lambertini *In silico bonding analysis of organodichalcogenides in different oxidation states* AA 2021-2022
- Nicola Pompermaier *In silico radical scavenging potential of ginkgolides* AA 2021-2022
- Isabel Maguolo *Descrizione in silico dell'attività dell'enzima MerB attraverso modelli molecolari* AA 2021-2022
- Giacomo Toniolo *In silico prediction of the antioxidant potential of molecules of pharmaceutical interest: the case of nimesulide*. AA 2022-2023 (current)
- Anna Tecchio *1,3-Dimethylimidazoline-2-thione (or 2-selenone) and its derivatives: in silico mechanistic insight on chalcogen-X₂ (X=Cl, Br, I) bonding* AA 2022-2023
- Matteo Filippi *Topologia molecolare e attività di scavenging di radicali: uno studio computazionale sistematico su fenoli e polifenoli* AA 2022-2023
- Andrea Trovato *Model reactions of biological interest involving chalcogens* AA 2024-2025
- Alessia Palma *Amedeo Avogadro: rivoluzione politica e rivoluzione molecolare* AA 2024-2025

-Supervisor of Master students (**15 students**) (Degree in Chemistry or Industrial Chemistry, UNIPD (Italy))

- Marco Bortoli *In silico design of antioxidant systems: insights from the reactivity of small organochalcogenides* AA 2014-2015
- Marco Dalla Tiezza *Slippage span model in metal-mediated [2+2+2] alkyne/nitrile cycloadditions: a theoretical structure-reactivity study for rational catalyst design* AA 2016-2017
- Cecilia Muraro *Machine learning assisted study of the radical scavenging activity of biologically relevant compounds and drugs* AA 2018-2019
- Andrea Madabeni *Methylmercury toxicity and target selenoproteins: theoretical insights from molecular models* AA 2019-2020
- Gennj Brotto *Chemical bonding in zinc fingers: from molecular models to protein complexes* AA 2021-2022 For personal reasons, the student abandoned the master degree course before completing several exams and defending the thesis.
- Matteo Flaibani *Glutathione peroxidase and hydroperoxides: designing in silico approaches to case-studies* AA 2021-2022
- Davide Zeppilli *Reactivity of zinc fingers in oxidizing environments: insight from molecular models through activation strain analysis* AA 2021-2022
- Simone Zucchelli *Pi Arene Chalcogen bonding – Modelling and ANalysis (PAC-MAN)* AA 2022-2023
- Anna Rodighiero *Valuable chemicals from lignin: model molecular studies for C-C oxidative bond cleavage of diols promoted by vanadium catalysts*. AA 2022-2023
- Alessandro Rubbi *Glutathione peroxidase-like activity of functionalised tellurides: insight into oxidation mechanisms through activation strain analysis* AA 2022-2023
- Nicola Pompermaier *Group 12 metal - chalcogen bonding: in silico molecular mechanisms of detoxification and bioinspired catalytic action* AA 2023-2024
- Francesco Lambertini *Selenylation mechanisms: two cases from medicinal chemistry and toxicology* AA 2023-2024
- Michele Nuciari *Computer-aided chemistry teaching and learning: primary and secondary bonds* AA 2024-2025
- Matteo Filippi *TPO inhibitors and their selenoderivatives: mechanistic insight on their activity using multiscale models* AA 2024-2025
- Alessandro Acquaroli *Nucleophilic substitutions at cyclic dichalcogenides* AA 2024-2025 (current)

-Co-supervisor of Master students (**3 students**) (Degree in Chemistry or Industrial Chemistry, UNIPD (Italy))

- Stefano Racioppi *Indagine computazionale su complessi di Cu catalizzatori nelle polimerizzazioni radicaliche controllate* AA 2014-2015
- Susanna Ciuti *Study of dipolar interactions by electron paramagnetic resonance (EPR) spectroscopy combined to triplet state spin labels: a comparison between techniques* AA 2017-2018
- Maria Giulia Dal Farra *A theoretical study of double electron-electron resonance (DEER) spectroscopy on radical-triplet state model systems* AA 2014-2015

-Supervisor of Bachelor students (**11 students**) (Degree in Biotechnologies, UNIPD (Italy))

- Elena Vialetto *Designing GPx mimics: in silico and experimental reactivity of organoselenides with H₂O₂* AA 2014-2015
- Marco Prevedello *In silico ⁷⁷Se NMR as a tool to investigate antioxidant GPx mimics* AA 2014-2015
- Giovanni Faggin *Calcolo di parametri di AMBER force field per deidroalanina* AA 2016-2017
- Michela Dall'Angelo *Parametrizzazione di un campo di forza di tipo AMBER per una cisteina ossidata* AA 2016-2017
- Melissa Biancotto *Aspetti chimici e importanza biologica del selenio* AA 2016-2017
- Beatrice Genova *AMBER force field per lo studio di intermedi ossidati del sito attivo della GPx* AA 2017-2018
- Anna Aldinio-Colbachini *In silico design of antioxidant GPx molecular mimics with ROS scavenging properties* AA 2018-2019
- Abir Hammami *Studi di degradazione forzata di un principio attivo farmaceutico* AA 2022-2023
- Giacomo Grolla *Engineering the antioxidant activity of natural substances: how small molecules can protect biological systems from oxidative stress* AA 2022-2023
- Veronica Pedergrana *Effetti del calcolgeno in sistemi fenolici per studi di meccanismi antiossidanti di Hydrogen Atom Transfer (HAT)* AA 2023-2024
- Alberto Naselli *Costruzione di database su potere antiossidante di molecole organiche per applicazioni di tipo machine learning* AA 2023-2024

-Supervisor of PhD students (**9 PhD students**) of the Doctoral Course of Molecular Sciences, UNIPD (Italy)

- Marco Bortoli *The role of selenium in glutathione peroxidase: insights from molecular modeling* AA 2018-2019
- Marco Dalla Tiezza *A quantitative Kohn-Sham approach to elementary redox reactions in artificial, bioinspired and biological catalysis* AA 2020-2021
- Andrea Madabeni, *A theoretical mechanistic journey into organoselenium (bio)chemistry: from elementary molecular models to catalysis* AA 2023-2024
- Shah Masood Ahmed *Filling the structure-reactivity gap: in silico approaches to rationalize the design of molecular catalysts* AA 2019-2020
- Steven Eelco Beutick *Exploring Bioconjugation and Bioorthogonal Strategies via Computational Chemistry* AA 2024-2025
- Davide Zeppilli Project: *In Silico Perustration of Elementary Radical Reactions: from Antioxidant Activity to Ferroptosis Inhibition* AA 2025 –2026

- Alessandro Rubbi Project: *IN silico molecular and TRanslational modeling of OVarian canCER: chemical-clinical Solutions (INTROVERSO)* 2024-
- Lea De Jong Project: *Shifting paradigms of S_NI and E1 reactions: a quantum chemical investigation* 2024-
- Matteo Filippi Project: *Selenium Metal bonding: in silico Analyses on the Road to Therapy (SMART)* 2025-

-Co-supervisor of PhD students (**3 PhD students**)

- Folorunsho Bright Oimage, PhD candidate at Universidade Federal de Santa Maria (Santa Maria, Brasil), 2019-2023, Thesis title: *In silico and in vitro studies of organoselenium compounds interaction with M^{pro} and PL^{pro} from SAR-CoV-2* PhD defense date: February 24th 2023.
- Simone Zucchelli, PhD candidate at Università degli Studi di Trieste (Italy), 2023-current, Project: *A rational journey towards the in silico description and prediction of metal-organic cages* PhD defense date: to be scheduled in 2027.
- Chiara Slaviero, PhD candidate at Università degli Studi di Padova (Italy), 2024-current Project: *Synthesis and modelling of organic cages as chiral confined spaces for catalytic applications* PhD defense date: to be scheduled in 2028.

-Supervisor of pre- and post-doctoral/graduate students (**6 fellows**), UNIPD (Italy)

- Post-doc Andrea Madabeni (Italy) October 2023- September 2024
- Pre-doc Joao Martins (Portugal) October- December 2013
- Pre-doc Francesco Zaccaria (Italy) January-July 2014
- Post-doc Lando Peter Wolters (The Netherlands) September 2014- January 2016
- Post-doc Marco Bortoli (Italy) 2020-2021
- Pre-doc Pablo A. Nogara (Brasil) September 2019 - February 2020

- Supervisor of Erasmus students

- Miss Flavie Soulage University of Toulouse (France) 1/3-31/7 2023. Topic: *In silico prediction of the antioxidant potential of molecules of pharmaceutical interest: the case of vortioxetine.*
- Miss Luisa Laura Ciezarek University of Giessen (Germany) 24/1-31/3/2023 Topic: *Modeling organic carbazolyl derivatives for application in photocatalysis: ground state, oxidation state and excited state properties*

-Supervisor of Fulbright research fellows

- Miss Nothando Victoria Khumalo Pre-doctoral student UCLA (USA) 1/10/2023-31/7/2024 Topic: *Multiscale modeling of catalytic sites of thiol-based proteins.*

-Supervisor of final projects of TFA/PAS (**7 students**) for the habilitation of teachers for the Secondary School, UNIPD (Italy). TFA: Rosanna Pradal (2014-15), Enrico Toscano (2014-15), Francesco Di Mario (2014-15), Roberta Frasson (2014-2015). PAS: Marco Vedovato (2014-2015), Silvia Mosconi (2014-2015), Laura Besco (2015-2016)

- Scientific host of Prof. Dr. Juliano Braun de Azeredo (Universidade Federal do Pampa, Brasil) Secondment schedule: 28/2-31/5/2025 Topic: Síntese e avaliações *in silico* e de degradação de derivados sulfurados da fluoxetina. Funded by CHAMADA MCI - MOBILITY CONFAP ITALY 2023.

- Member of numerous committees of Bachelor and Master degree (Degrees in Chemistry, Industrial Chemistry, Sustainable Chemistry and Technologies for Circular Economy, Degree in Biotechnologies and PhD in Molecular Sciences UNIPD).
- President of Master degree final Committee (Degrees in Chemistry, Industrial Chemistry, Sustainable Chemistry and Technologies for Circular Economy)
- President of a PhD internal committee (Cycle XXXVI) for the PhD School in Molecular Sciences UNIPD.
- President of a PhD internal committee (Cycle XL) for the PhD School in Molecular Sciences UNIPD

- 1) Member of PhD defense committee for Theoretical Chemistry at **VU (Amsterdam, The Netherlands)**, April 30th 2020. PhD candidate: Enrico Margiotta. Thesis title: *Molecular Modelling of Adenosine Receptors and Halogen bonds*.
- 2) Member of PhD reading and defense committee for Theoretical Chemistry at **VU (Amsterdam, The Netherlands)**, February 15th 2022. PhD candidate: Pascal Vermeeren. Thesis title: *(Astro)Chemistry: From Molecules to Reactions*
- 3) Member of PhD reading committee at **Università di Perugia (Perugia, Italy)** 2020. PhD candidate: Francesca Mangiavacchi. Thesis title: *Organoselenium compounds as biomimetic catalysts and redox modulators*.
- 4) Member of PhD defense committee for Theoretical Chemistry at **VU (Amsterdam, The Netherlands)** and Member of PhD reading committee for Theoretical Chemistry at **Stellenbosch University (Stellenbosch, South Africa)**, October 16th 2023. PhD candidate: Bryan Moloto. Thesis title: *Fundamental Palladium Catalyzed Oxidative Addition Reactions*
- 5) Member of PhD defense committee at **DSMN Università di Ca-Foscari (Venezia, Italy)** May 15th 2024. PhD candidates: Kossivi Jean D'Arc Pacome Andele (Thesis title: *Human mature adipocytes used as reservoir for paclitaxel delivery in ovarian cancer*) and Enrico Amedeo Cavarzerani (Thesis title: *Exploring the therapeutic potential of Pin1 inhibition in High-Grade Serous Ovarian Cancer using innovative in-vitro models*)
- 6) Member of PhD defense committee at **DCCI Università di Pisa (Pisa, Italy)** July 30th 2024. PhD candidate: Maria Antonietta Carpentieri. Thesis title: *Development of didactic sequences for introducing the UV-Vis Spectroscopy at high school level and first introductory undergraduate courses*
- 7) Member of PhD reading committee at **Università di Perugia (Perugia, Italy)** 2024. PhD candidate: Cecilia Scimmi. Thesis title: *Selenium Catalyzed Oxidation Of Olive Mill Waste-Waters And Lignin: From Model Compounds To Biomasses*
- 8) Member of PhD defense committee at **Università di Milano Bicocca (Milano, Italy)** February 17th 2025. PhD candidate: Alessandro Bonardi Thesis title: *Modeling bioluminescent systems with hybrid QM/MM approaches*

- Member of the committee for National Habilitation as Chemist (Esame di stato I e II sessione) in 2018.
- Member of the committee China Scholarship Council (CSC) – PhD School in Molecular Sciences 38° ciclo
- President of the Committee for the final examination of the Education offer (60CFU) to graduates for the habilitation to teach at Secondary School level: **Class A034 AA2023-24**
- President of the Committee for the final examination of the Education offer (30CFU) to graduates for the habilitation to teach at Secondary School level: **Class A034 AA2024-25**
- President of the Committee for the final examination of the Education offer (60CFU) to graduates for the habilitation to teach at Secondary School level: **Class A034 AA2024-25**

LO's PRIZES AND ACHIEVEMENTS

- **Premio ESU di Venezia 2025** April 6th 2025, Venice. Awarded to LO and Prof. S. Paganelli (UNIVE)

LO's STUDENTS' PRIZES AND ACHIEVEMENTS

- **PhD grant awarded to Francesco Lambertini** Università degli Studi di Trieste Dip. Ingegneria e Architettura Supervisor: Prof. Paola Posocco (2025-2028) Declined for personal reasons.
- **PhD grant awarded to Simone Zucchelli** Università degli Studi di Trieste Dip. Ingegneria e Architettura Supervisor: Prof. Paola Posocco (2023-2026)
- **BEST POSTER PRIZE awarded by EuChemS** European Conference on Computational and Theoretical Chemistry (EuChemS CompChem 2023) 27-31/08/2023 Thessaloniki (Greece) **Poster:** "Role of the chalcogen in the reduction mechanism of chalcogenoxides by thiols and selenols" A. Madabeni, L. Orian
- **BEST POSTER PRIZE awarded by Royal Society of Chemistry** 15th International Conference on the Chemistry of Selenium and Tellurium (ICCST-15) Florianopolis (Brasil) 28/11–2/12/2022 **Poster:** "Diphenyl diselenide and SARS-CoV-2: mechanisms of inhibition of main protease (Mpro) and papain-like protease (Plpro) F. B. Omaye, A. Madabeni, A. R. Tucci, P. A. Nogara, M. Bortoli, A. dos Santos Rosa, V. N. Ferreira, J. B. T. Rocha, M. Dias Miranda, L. Orian
- **PhD grant awarded to Matteo Flaibani** Università degli Studi di Trieste Dip. Ingegneria e Architettura Supervisor: Prof. Paola Posocco (2022-2025)
- **Dr. Shah Masood Ahmad** Lecturer at Gomal University, Pakistan.
- **BEST POSTER PRIZE awarded by Chemistry Europe – European Journal of Organic Chemistry** CBOND2022 20-22/09/2022 Amsterdam (The Netherlands) Online conference. **Poster:** "Systematic computational scrutiny of the chalcogenoxide elimination panorama" A. Madabeni, S. Zucchelli, P. A. Nogara, J. B. T. Rocha, L. Orian
- **Horizon Europe MSCA Individual Fellowship Grant awarded to Dr. Marco Bortoli** with the Project RATIO (Rationally-designed Turbo reagents for Innovative Organometallics), August 3rd 2022. Currently at Department of Chemistry and Hylleraas Centre for Quantum Molecular Sciences, University of Oslo, Norway.

PROJECTS AND GRANTS

- **Progetto di Miglioramento della Didattica 2024 GreenDISC (Green Design of Innovative Solutions for Chemistry)** granted by UNIPD; PI for Task 2 (Creation of a learning community) 16 months Budget 23 kEuro
- **PI Progetto di Miglioramento della Didattica 2023 ELISIR (Enhanced Learning Space In a chemistry Room)** granted by UNIPD; 16 months. Budget 55 KEuro
- **Progetto di Miglioramento della Didattica 2022 FT-IR IN LAB (FT-IR Innovative Learning Abilities)** granted by UNIPD; PI for Linea Docenti 16 months Budget 50kEuro
- **Progetto Didattica Innovativa 2021 VIRTUAL (Visualizzare e Insegnare la chimica attraverso la Rappresentazione Tridimensionale in aUIA e in Laboratorio)** granted by UNIPD; PI for a MOOC (Massive Open Online Course) 16 months
- **PI Progetto formazione insegnanti** Title: MC⁴ Molecole al Computer: Calcoli per la Chimica in Classe granted by UNIPD (2018) 12+12 months Budget ~40 KEuro
- **Piano Lauree Scientifiche Chimica UNIPD 2015-** current. Budget: ~20kEuro /year

EDITORIAL ACTIVITY

-BOOK *Cosa significa davvero studiare chimica all'Università?* Eds. V. Domenici, A. Maggio, L. Orian, Alpha Test (2024) ISBN 978-88-6938-330-4.

-BOOK *Insegnare chimica con passione!* Eds. L. Orian, M. Gobbo, G. Villani, Padova University Press (2023) ISBN 978-88-6938-330-4

-Member of the Scientific Board of *Collana di epistemologia e didattica delle discipline* (Padova University Press), 2020- present

-Reviewer of language and scientific contents of the book **SperimentiAMO la chimica Schede pratiche con esperimenti di chimica sugli alimenti** by Maristella Cestaro e Cristina Rubini, printed in the framework of PLS 2015-18. (2018)

EVALUATOR ACTIVITY

9) Member of Commissione di Ateneo Selezione per il conferimento di assegni per lo svolgimento di attività di ricerca (tipo B) nell'ambito del progetto Università Responsabile - UniRe: Crédit Agricole Italia spa and San Paolo Intesa UNIPD (2025)

8) Member of Commissione di Ateneo Selezione Bando Summer Schools 2025, Shaping a World Class University UNIPD (2024)

7) Member of Commissione di Ateneo Monitoraggio Progetti di miglioramento della Didattica 2023 UNIPD (2024)

6) Member of the External Assessment Team for Degree in Chemical and Biological Sciences (NCE/24/2300159) for A3ES - Agência de Avaliação e Acreditação do Ensino Superior, Lisboa, Portugal (2024)

5) Member of Commissione di Ateneo Valutazione Progetti di miglioramento della Didattica UNIPD (2024)

4) Member of Commissione di Ateneo Valutazione Progetti Innovativi degli Studenti e delle Studentesse UNIPD (2023)

3) Member of Commissione di Ateneo Valutazione Progetti di miglioramento della Didattica UNIPD (2023)

2) Member of Commissione UNIPD Blended Intensive Program NICE (ARI) Ed 2023 UNIPD (2023)

1) Member of Commissione di Ateneo Valutazione Progetti di miglioramento della Didattica UNIPD (2022)

INSTITUTIONAL ACTIVITIES

Department

12) Referent for CCS integrato Chimica in Commissione Orientamento e Tutorato Scuola di Scienze UNIPD, October 2025 – current

11) Member of GAV Consiglio di Corso di Studi integrato Chimica DiSC UNIPD, October 2025 - current

- 10) **Vice-president Commissione didattica Consiglio di Corso di Studi integrato Chimica DiSC UNIPD**, October 2025 - current
- 9) **Member Collegio Docenti del Dottorato di ricerca di interesse nazionale in Catalisi** (since 2025 **Dottorato di ricerca di interesse nazionale in Catalisi & Energy**) 2023-current
- 8) **Coordinator Commissione Lauree e Tirocini Master Course Sustainable Chemistry & Technologies for Circular Economy**, Università degli Studi di Padova, November 2022 - current
- 7) **Member of Commissione Didattica**, Bachelor degree in Biotechnologies, Università di Padova, 2020- 2024
- 6) **Member of Commissione Tutorato e Orientamento**, Bachelor degree in Biotechnologies, UNIPD, 2015- 2024.
- 5) **Member of Commissione Didattica**, as referent for PLS Chimica, DiSC UNIPD, 2015-2021
- 4) **Member of Commissione Divulgazione scientifica**, DiSC UNIPD, 2013-2019.
- 3) **Member Collegio Docenti della Scuola di Dottorato in Scienze Molecolari**, DiSC UNIPD, 2017-current.
- 2) **Member Commissione Terza Missione e Divulgazione Scientifica del Dipartimento di Scienze Chimiche**, DiSC UNIPD, 2019-current
- 1) **Coordinator of Piano nazionale Lauree Scientifiche (PLS)- Chimica DiSC UNIPD**, 2015-current (average yearly budget: 25 Keuro).

University

- 3) **Referent for Education Innovation Working Group in Coimbra Group** Università degli Studi di Padova, May 2023- current
- 2) **Change agent** enrolled by Università degli Studi di Padova as **change agent** at DiSC, to promote the development of projects related to innovative teaching and involve colleagues to explore modern learning practices, April 2021-current
- 1) **Member of the Teaching4Learning community** <https://www.unipd.it/teaching4learning> UNIPD AA 2021-22- current

ACTIVITIES WITH THE SCHOOLS AND SCIENTIFIC DIVULGATION

As **Coordinator of Piano nazionale Lauree Scientifiche (PLS) - Chimica DiSC UNIPD**, 2015-current, L.O. has organized and chaired these meetings and courses (only the most relevant are listed):

- 1) **Insegnare chimica con passione!** Giornata di formazione per insegnanti di discipline chimiche nella scuola primaria e secondaria Ed. 5 8/9/2017 Dip. Scienze Chimiche Università di Padova.
- 2) **Insegnare chimica con passione!** Giornata di formazione per insegnanti di discipline chimiche nella scuola primaria e secondaria Ed. 6 7/9/2018 Dip. Scienze Chimiche Università di Padova.
- 3) **Insegnare chimica con passione!** Giornata di formazione per insegnanti di discipline chimiche nella scuola primaria e secondaria Ed. 7 6/9/2019 Dip. Scienze Chimiche Università di Padova.
- 4) **Insegnare chimica con passione!** Giornata di formazione per insegnanti di discipline chimiche nella scuola primaria e secondaria Ed. 8 4/9/2020 Organized online.
- 5) **Insegnare chimica con passione!** Giornata di formazione per insegnanti di discipline chimiche nella scuola primaria e secondaria Ed. 9 3/9/2021 Organized online.
- 6) **Insegnare chimica con passione!** Giornata di formazione per insegnanti di discipline chimiche nella scuola primaria e secondaria Ed. 10 2/9/2022 Organized in dual mode.
- 7) **Insegnare chimica con passione!** Giornata di formazione per insegnanti di discipline chimiche nella scuola primaria e secondaria Ed. 11 8/9/2023 Organized in dual mode.
- 8) **CINEMA e SCIENZA (PLS 2015-18)** Show ‘I magi chimici’ at Teatro Don Bosco, Padova, 2017.

- 9) **La scienza al cinema** (PLS 2015-18 extended) 29/2/2020 **Smetto quando voglio Masterclass** Multisala Pio X Padova. This event was fully organized but did not take place due to Covid-19 pandemic.
- 10) **Mettiamoci in gioco...** Lab for the chemistry teachers of the secondary school finalized at the production of the board game 'Chemical quest', 24/9/2016, DiSC UNIPD. This game was developed also as software and delivered in 25 secondary schools of Veneto region. In 2017-2018, a project was developed in collaboration with six secondary school teachers of the Veneto region and two colleagues of the Dip. Psicologia generale UNIPD (Prof. B. Carretti and Prof. C. Meneghetti) to assess the potential of Chemical quest in improving knowledge and increasing interest in the class. The results were presented at AIRIPA (Associazione Italiana per la Ricerca e l'Intervento nella Psicopatologia dell'Apprendimento) XXVII Congresso Nazionale, 28-29/9/2018, Arezzo (Italy).
- 11) **MC⁴ (Molecole al Computer: Calcoli per la Chimica in Classe)** Laboratory for the chemistry teachers of the secondary school, 27/9/2018, DiSC UNIPD.
- 12) Multidisciplinary (Mathematics, Geosciences, Chemistry) stage for the students of the secondary school (third and fourth year) **Le simmetrie** 20-30/6/2016 Dip. Matematica, Geoscienze and DiSC UNIPD.
- 13) Multidisciplinary (Mathematics, Geosciences, Chemistry) stage for the students of the secondary school (third and fourth year) **Le simmetrie 2Ed** 19/6-4/7/2017 Dip. Matematica, Geoscienze and DiSC UNIPD.
- 14) Multidisciplinary (Mathematics, Geosciences, Chemistry) stage for the students of the secondary school (third and fourth year) **Le simmetrie 3 Ed** 18/6-5/7/2018 Dip. Matematica, Geoscienze and DiSC UNIPD.
- 15) Multidisciplinary (Mathematics, Geosciences, Chemistry, Physics, Statistics, Biology, Materials Science, Computer Sciences, Natural Sciences) stage for the students of the secondary school (third and fourth year) **I colori della natura 1 Ed** 28/6-9/7/2021 Fiore di Botta and all the departments, UNIPD.
- 16) **Un pomeriggio con la tavola periodica** A day to celebrate the end of the International year of the 150th anniversary of the periodic table 28/12/2019 Conference for the chemistry teachers of the secondary school. DiSC UNIPD.
- 17) **Una scienza amica per una buona alimentazione** Multidisciplinary (Chemistry, Biology and Biotechnologies) course for the chemistry teachers of the secondary school 7/4, 21/4, 5/5 and 9/5 2017 Dip. Biologia and DiSC UNIPD.
- 18) **La chimica in cucina tra scienze e tradizione** course for the chemistry teachers of the secondary school 4/5 and 18/5 2018 DiSC UNIPD.
- 19) **La chimica in cucina tra scienze e tradizione 2 Ed** course for the chemistry teachers of the secondary school 10/5 and 17/5 2019 DiSC UNIPD.
- 20) **La chimica in cucina tra scienze e tradizione 3 Ed** course for the chemistry teachers of the secondary school 21/4/2023 DiSC UNIPD.
- 21) **La chimica in cucina tra scienze e tradizione 4 Ed Pane e vino** Course for the chemistry teachers of the secondary school April 12th 2024 (Corte Benedettina, Legnaro) and April 19 2024 (DiSC UNIPD).
- 22) **Elementi chimici ... facciamoci un selfie!** Lab for the students of the secondary school <https://pls.scienze.unipd.it/tavolaperiodica/TavolPeriodica.html> DiSC UNIPD 2019.
- 23) **Chemical Flashmob** Lab for the students from the secondary school DiSC UNIPD 2021.
- 24) Multidisciplinary (Mathematics, Chemistry, Physics, Statistics, Biology, Materials Science, Computer Sciences, Natural Sciences) stage for the students from the secondary school (third and fourth year) **I colori della natura 2 Ed** 1-4/7 and 8-11/7 2024 in all the departments, UNIPD.
- 25) **Insegnare chimica con passione!** Giornata di formazione per insegnanti di discipline chimiche nella scuola primaria e secondaria Ed. 12 13/9/2024 Organized in dual mode.

- 26) **Leggiamoci un libro!** Activity involving 9 classes of secondary schools and their chemistry teachers consisting in the distributed reading of the book and final presentation by the students and joint preparation of a critical analysis. The book is *L'interpretazione chimica del vivente Fondamenti sistemici delle scienze della vita* G. Villani (Ed. CLUEB, 2022) October 2024 – April 2025. Final meeting: April 14th 2025 with **220** students and teachers at IIS Scalcerle (Padova)
- 27) **EPISTO in classe** Activity involving volunteer teachers from the secondary school willing to adopt the historical-epistemological approach and tutored by an expert in the field. October 2024 – April 2025
- 28) **La chimica in cucina tra scienze e tradizione 5 Ed** *Pe fa' la vita meno amara I profumi della tavola* Course for the chemistry teachers of the secondary school scheduled for April 4th 2025 (DiSC UNIPD) and April 11th 2025 (Corte Benedettina, Legnaro).
- 29) **SU e ZO per I PONTI! Ed 45** April 6th 2025 *Chimica tra calli e campielli veneziani!* Organization: Laura Orian (DiSC, UNIPD) and Stefano Paganelli (DSMN, UNIVE) with **190** students from the secondary school.
- 30) **CINEMA e SCIENZA** (PLS 2021-23) Show 'I magi chimici' at Liceo Artistico Statale Amedeo Modigliani, Padova, May 31st 2025 with **370** students from the secondary school.
- 31) **Insegnare chimica con passione!** Giornata di formazione per insegnanti di discipline chimiche nella scuola primaria e secondaria Ed. 13 5/9/2025 Organized in dual mode.
- 32) **Leggiamoci un libro! Ed. 2** Activity involving 9 classes of secondary schools and their chemistry teachers consisting in the distributed reading of the book and final presentation by the students and joint preparation of a critical analysis. The book is *Amedeo Avogadro Una politica per la scienza* M. Ciardi (Ed. Carocci, 2006) October 2025 – May 2026. Final meeting: May 11th 2026 with **160** students and teachers at IIS Scalcerle (Padova)
- 33) **Circle Time Digital Story Telling** Activity involving **12 chemistry teachers** from the secondary schools consisting in preparing digital short videos to illustrate their stories as scientists and as teachers. The facilitators are Prof. Burcu Simsek and Prof. Laura Orian November 27th 2025 (session in Padova) and November 28th 2025 (session in Verona); online meetings scheduled in Feb-Apr 2026.
- 34) **A Christmas present with Eva Munter** A video about the (chemistry) scientific discoveries occurred in the Christmas time has been planned and recorded by Eva Munter; it will be distributed to the schools participating to PLS Chimica with UNIPD right before Christmas Holidays 2025. The aim is to promote STEM (particularly chemistry) culture and attract the interest of secondary school students toward Chemistry.
- 35) **Formule per il futuro Il primo convegno studentesco di chimica e orientamento** A real conference organized by the PhD students at Bo Palace (Archivio antico) in Padova, with participants and speakers from the secondary schools. Organization: Laura Orian (DiSC, UNIPD) and Stefano Paganelli (DSMN, UNIVE). April 17th 2026 Padova, Italy.

- **Non è magia è scienza (NEMES)** Member of the organizing committee, DiSC UNIPD, 2018
- **Non è magia è chimica (NEMEC)** Member of the organizing committee, DiSC UNIPD, 2012-2017
- **Premio Nazionale di Divulgazione Scientifica** Member of the evaluation committee, 2015-current. In 2017 and 2019 LO was invited to be part of 'giuria di sala' during the final evaluation.
- **Scientific consultant** for a MIUR project of the School of music of Padova 'Chemical Free (?)' for chemistry divulgation through classic modern music (2014).
- **PLANCK! Magazine**, Ed. Cleup, Padova Member of the scientific committee, 2013-current.
- **Chemistry games for Venetoneight-** La notte europea dei ricercatori Organizer, 2013-2020. The game activity has been suspended in 2020 due to Covid 19 pandemic.
- **Piano nazionale Lauree Scientifiche (PLS)- Chimica** Participant as lecturer in the secondary schools and teacher in a PLS lab 'Il laboratorio chimico virtuale: reazioni ed esperimenti al computer', 2013-2019.

- **KIDS University** Organizer of the lab for kids of the primary school ‘Vi presento Daria, signorina aria, e altre storie’, UNIPD, 2018-2020
- Science4all La festa della scienza** Organizer of the lab for kids of the primary school ‘Vi presento Daria, signorina aria, e altre storie’, UNIPD, 28/9/2022.
- Science4all La festa della scienza** Organizer of the lab for kids of the primary school ‘Vi presento Daria, signorina aria, e altre storie’, UNIPD, 17/11/2023.
- Science4all La festa della scienza** Organizer of the game for the citizenship ‘Chemical Quest’, UNIPD, 29/9/2023.
- Science4all La festa della scienza** Organizer of the lab for kids of the primary school ‘Vi presento Daria, signorina aria, e altre storie’, UNIPD, 22/11/2024.
- Science4all La festa della scienza** Organizer of the game for the citizens ‘Chemical Quest’, UNIPD, 29/9/2024.
- Science4all La festa della scienza** Organizer of the game for the citizens ‘Chemical Quest’, UNIPD, 27-28/9/2025.
- Science4all La festa della scienza** Organizer of the lab for kids of the primary school ‘Vi presento Daria, signorina aria, e altre storie’, UNIPD, 21/11/2025.
- **DROP-IN chimica** Member of the organizing committee with ConChimica, PLS and Federchimica Online national meeting with students of the bachelor courses in Chemistry to prevent drop-out, 26/3/2025 h 15:00.

ORAL COMMUNICATIONS

- 12) Congresso Gruppo tematico Epistemologia e Storia della Chimica della Società Chimica Italiana Bertinoro (Italy) 8-8/12/2025. **Oral:** “*Un laboratorio di lettura per capire la chimica*”, L. Orian, V. Domenici
- 11) Congresso della Divisione didattica della Società Chimica Italiana Bertinoro (Italy) 7-8/12/2025. **Oral:** “*Peer observation per il miglioramento della qualità della didattica: l’esperienza dell’Università di Padova e potenzialità per la didattica della chimica*”, L. Orian, C. Agnini, A. Buratto, C. Papetti, H. Poser, G. Licini, E. Bolisani, G. Ferrari, P. Mezzalana, M. De Rossi
- 10) Workshop *New teaching & learning methodologies in STEM* organized by the STEM working group of the Coimbra Group, 14/11/2024, Padova (Italy). **Oral:** “*Computing in class for chemistry teaching and learning*”, L. Orian
- 9) Lecture and computational chemistry lab activities **Oral:** “*Per un ‘Meccano’ chimico*”, U. Cosentino, L. Orian, M. Venanzi Scuole Segre e Del Re (Divisione Didattica della Società Chimica Italiana) Monteortone (PD), 10-13/11/2024
- 8) XXVIII Congresso Nazionale della Società Chimica Italiana, 26-30/8/2024, Milano (Italy). **Oral:** “*Computing in class for chemistry teaching and learning*”, L. Orian, L. Lieber, N. Graulich, G. Licini
- 7) Coimbra Group International Meeting 5-7/6/2024, Turku (Finland) **Oral:** “*Piano Lauree Scientifiche (PLS) Chimica Working with secondary school teachers*”, L. Orian
- 6) Convegno GEO-CRUI 1-3/2/2023, Bari (Italy). **Round table:** “*Insegnare chimica con passione!*”, L. Orian, M. Gobbo, G. Villani.
- 5) Workshop: L’insegnamento della didattica della chimica in Italia. 2-4/9/2022 Bertinoro (FC). **Presentation:** “*Il corso di Didattica della chimica a Padova*”, L. Orian.
- 4) Job&Orienta Rafforzamento della formazione ICT nell’ambito dei percorsi per le competenze trasversali e l’orientamento. **Oral:** “*Il progetto MC⁴*”, L. Orian 26/11/2021 Verona (Italy)
- 3) Convegno GEO-CRUI 15-17/6/2020, Napoli (Italy) (participation via ZOOM due to COVID-19 pandemic). **Round table:** “*@ (AT - Approach to learning for Teaching)*”,

- M. Bortoli, L. Orian, M. Cestaro, A. De Togni, L. Gianni, E. Lion, L. Giuffreda, R. Predonzan, R. Romualdi
- 2) Promoting STEM towards pupils, students and society, 13/12/2018, Poitiers (France)
Oral: *PLS: the Italian experience*, L. Orian.
 - 1) XXVI Congresso Nazionale della Società Chimica Italiana, 10-14/9/2017, Paestum (Italy). **Oral:** *“Interdisciplinarietà, co-progettazione ed altro ancora nel PLS: verso un’efficace sincronizzazione tra la scuola secondaria e l’università”*, L. Orian, C. Ferrante.

and upon invitation:

- 8). **Invited lecture Percorso CHANGE AGENT ALMA Education Hub Scheduled for March 18th 2026 Online webinar *Laboratori Virtuali: innovare ed integrare l’esperienza pratica* L. Orian, Giulia Licini.**
- 7) **Invited talk Convegno Orientamento formative e sviluppo professionale del docente Job & Orienta** Palazzina convegni di Verona Fiere, Verona, Italy 27-28/11/2025 *Re(l)azioni chimiche tra scuola e università: la valorizzazione degli insegnanti* L. Orian
- 6). **Invited talk CICAP Fest Orientare al futuro: chimica, didattica e pensiero critico** Palazzo Bo Aula E Padova, Italy 15/11/2025 *Valorizzazione degli insegnanti per un orientamento efficace* L. Orian
- 5) **Invited Presentation Incontro congiunto ConChimica - PLS 19-20 June 2025 Università La Sapienza Roma** *La formazione insegnanti in Veneto* L. Orian
- 4) **Invited Talk Consolidamento di iNEST – iNEST-to-IMPACT 20 February 2025 Orto Botanico Università degli Studi di Padova** *Re(l)azioni chimiche tra scuola e università.* L. Orian
- 3) **Invited talk** Università degli Studi di Padova, Palazzo del Bo’, Padova, Italy. 1st March 2024. L. Orian *I corsi per docenti nella piattaforma S.O.F.I.A.: l’esperienza del PLS Chimica.*
- 2) **Invited webinar** Digital week 11-15 September 2023 Università degli Studi di Padova, Padova, Italy. 15th September 2023 L. Orian *Molecular mechanisms of poisoning. The case of methylmercury.*
- 1) **Invited presentation** Didattica attiva all’Università: esperienze d’uso di Wooclap Palazzo del Bo, Padova 4/11/2022 L. Orian *Wooclap and Chemistry.*

Seminars, activities and courses in the schools

- 1) IIS Pacinotti di Mestre (VE) 2015 Il laboratorio chimico virtuale: reazioni ed esperimenti al computer.
- 2) IIS Levi Ponti di Mirano (VE) 2016 Il laboratorio chimico virtuale: reazioni ed esperimenti al computer.
- 3) IIS G. A. Remondini di Bassano del Grappa (VI) 2016 Il laboratorio chimico virtuale: reazioni ed esperimenti al computer.
- 4) Liceo Scientifico Don Bosco di Padova 2017 La tavola periodica e Chemical Quest.
- 5) ISSS Verdi di Valdobbiadene (TV) 2017 Il laboratorio chimico virtuale: reazioni ed esperimenti al computer.
- 6) Liceo Galilei di Selvazzano (PD) 2017 Il laboratorio chimico virtuale: reazioni ed esperimenti al computer.
- 7) IIS Ferraris Fermi di Verona 2017 Il laboratorio chimico virtuale: reazioni ed esperimenti al computer.

- 8) Liceo Scientifico Cornaro di Padova 2018 Simmetrie in matematica e in chimica.
- 9) IIS Ferraris Fermi di Verona 2018 Il selenio: un oligoelemento con un ruolo fondamentale in biologia
- 10) Scuola Primaria Don Bosco di Padova 2019 L'energia e le fonti rinnovabili.
- 11) Liceo Scientifico Fermi di Padova 2019 Il laboratorio chimico virtuale: reazioni ed esperimenti al computer.
- 12) Corso di orientamento PNRR 'Il potere antiossidante delle antocianidine: un'attività computazionale *salutare in classe*', 6 hours 15 and 18/1/2024, AA 2023-24 Liceo Scientifico Curiel di Padova (sede di Via Pierobon 3, Padova).
- 13) Corso di orientamento PNRR 'Come si misurano in matematica le simmetrie? Applicazioni al mondo della chimica' in collaborazione con il Prof. Riccardo Colpi del Dipartimento di Matematica UNIPD, Parte 2: 'Simmetria molecolare', 3 hours 15/3/2024 AA 2023-24 Liceo Lucrezio Caro di Cittadella (Pd).
- 14) Corso di orientamento PNRR 'Il potere antiossidante delle antocianidine: un'attività computazionale *salutare in classe*', 6 hours 18/12/2024 and 8/1/2025, AA 2024-25 IIS Scalcerle di Padova.
- 15) Corso di formazione insegnanti PNRR 'Avogadro e Pymol: utilizzo in classe per l'apprendimento della chimica', 10 hours March 26th, April 2nd and April 16th 2025. IIS De Pretto di Schio (VI).
- 16) I Lincei per la scuola Biochimica e Biologia molecolare: sfide e opportunità per la chimica teorica. Esempi specifici' 2 hours scheduled for 26 February 2026 Scuola Normale Superiore di Pisa, Pisa (Italy)
- 17) Corso di orientamento PNRR 'Il potere antiossidante delle sostanze naturali: origini molecolari, calcolo e miti da sfatare', 3 hours scheduled for 4/2/2026, AA 2025-26 ITI Fermi di Treviso.
- 18) Corso di orientamento PNRR 'Il potere antiossidante delle sostanze naturali: origini molecolari, calcolo e miti da sfatare', 3 hours scheduled for 3/2/2026, AA 2025-26 Liceo Berto di Mogliano Veneto (TV).

PUBLICATIONS

- 1) L. Lieber, N. Graulich, G. Licini, L. Orian *Exploring the Synergy of Cognitive Dissonance and Computational Chemistry – A Task Design for Supporting Learning in Organic Chemistry* J. Chem. Edu. **102**, 1129-1137 (2025)
- 2) S. Bernardini, L. Bucciol, C. V. Caia, M. P. Colleselli, F. Dal Molin, L. De Lorenzo, A. De Togni, M. C. Finatti, L. Giuffreda, M. Granella, A. Iannone, F. Martignago, E. Paschetta, F. Stazi, V. Domenici, L. Orian *L'Interpretazione chimica del vivente di Giovanni Villani: un progetto di lettura critica distribuita con le scuole secondarie di secondo grado* Chimica nella Scuola **4**, 23-31 (2025)+
- 3) L. Orian, C. Tino, G. Licini *Il miglioramento della didattica e la formazione docenti a Padova* Chimica nella Scuola **4**, 33-43 (2025)
- 4) E. Aquilini, M. Chioccioli, R. Lombardo, L. Orian, A. Testoni, G. Villani, V. Villani *La nascita e il valore del gruppo di 'Epistemologia e Storia della Chimica' della Società Chimica Italiana* Chimica nella Scuola **4**, 86-89 (2024)

- 5) A. De Togni, L. Giuffreda, L. Orian *Insegnare chimica con passione tra i banchi di scuola Chimica nella Scuola* **1**(1), 89-99 (2024)
- 6) M. Bortoli, A. Balasso, G. Carta, M. Cestaro, V. Colla, A. De Togni, G. Gallani, C. Giacometti, L. Gianni, L. Giuffreda, M. Granella, M. Iarabek, E. Lion, G. Mazzi, C. Migale, S. Milan, P. Molesini, M. Moretto, R. Predonzan, O. Priolisi, R. Romualdi, C. Rubini, S. Scarfi, E. Tobaldini, M. Dalla Tiezza, E. Nale, M. Bellanda, G. Kennedy, G. Sella, A. Lanza, L. Orian *Chemical Quest: general knowledge and popular culture quizzes about the elements in a board game for the class Chem. Teach. Int.* **5**, 471-480 (2024)
- 7) 117. M. Bortoli, L. Orian *Antioxidant potential of anthocyanidins: a healthy computational activity for high school and undergraduate students J. Chem. Educ.* **100**, 2591-2600 (2023)
- 8) M. Bortoli, L. Orian *Computer and chemistry: facilitating the learning process of the infrared spectra of water and carbon dioxide. Excellence and Innovation in Learning and Teaching* 10.3280/exioa2-2023oa16829 (2023).
- 9) **BOOK CHAPTER** L. Orian, M. Gobbo, G. Villani *Insegnare chimica con passione!* in *Strategie per lo sviluppo della qualità nella didattica universitaria* a cura di Marisa Michelini, Loredana Perla Pensa MultiMedia Editore 2023.
- 10) **BOOK CHAPTER** L. Orian, G. Licini *L'insegnante e il digitale pp. 738-741* in *Strategie per lo sviluppo della qualità nella didattica universitaria* a cura di Marisa Michelini, Loredana Perla Pensa MultiMedia Editore 2023.
- 11) **BOOK CHAPTER** M. Gobbo, L. Orian, P. C. Rivoltella *Il laboratorio sperimentale e virtuale come ambiente di apprendimento* in *I tanti volti della chimica. Percorsi innovativi per insegnarla e comprenderla*. A cura di E. Aquilini, E. Ghibaudi, M. Venturi, G. Villani CLUEB (Bologna) 2024. **EAN:** 9788849157970 **ISBN:** 978-88-491-5797-0
- 12) **BOOK CHAPTER** M. Bortoli, L. Orian, M. Cestaro, A. De Togni, L. Gianni, E. Lion, L. Giuffreda, R. Predonzan, R. Romualdi *@(AT – Approach to learning for Teaching)* 537-544 in *Professione insegnante Quali strategie per la formazione? Tomo 1* A cura di A. De Vivo, M. Michelini, M. Striano Guida Editori 2022
- 13) **BOOK CHAPTER** M. Bortoli, M. Cestaro, A. De Togni, L. Gianni, E. Lion, L. Giuffreda, R. Predonzan, R. Romualdi, L. Orian *Molecole al Computer: Calcoli per la Chimica in Classe* in *Insegnare chimica con passione!*, Cap. 5, pp 69-80. Ed. L. Orian, M. Gobbo, G. Villani, Padova University Press (2023)
- 14) L. Orian, C. Tubaro *La tavola periodica degli elementi*. Versione da parete. PICCIN Editore (2019).
- 15) L. Orian, C. Tubaro *La tavola periodica degli elementi*. Supplemento alla 4 Edizione italiana (11 Edizione inglese) di *CHIMICA GENERALE Principi ed applicazioni moderne* R. H. Petrucci, F. G. Herring, J. D. Madura, C. Bissonnette, PICCIN Editore (2018).
- 16) L. Orian, C. Tubaro *La tavola periodica degli elementi*. PICCIN Editore (2018).

SCIENTIFIC MEETINGS ORGANIZATION

- **Member of the scientific committee** XVII Scuola Nazionale di Ricerca Educativa e Didattica Chimica “Ulterico Segre” Centro Interuniversitario di Bertinoro, CEUB, (FC), December 6th-7th 2025
- **Member of the scientific committee** Congresso della Divisione di Didattica SCI 2025 Centro Interuniversitario di Bertinoro, CEUB, (FC), December 7th-8th 2025
- **Member of the scientific committee** Congresso del Gruppo Tematico Epistemologia e Storia della Chimica SCI 2025 Centro Interuniversitario di Bertinoro, CEUB, (FC), December 8th-9th 2025

- **Member of the scientific committee** ECCS 2025 3rd Electronic Conference on Catalysis Sciences Section: Computational Catalysis Online 23-25/4/2025
- **Member of the organizing committee** Scuole nazionali di Didattica della chimica Segre e Del Re (Divisione Didattica della Società Chimica Italiana) Monteortone (PD), 10-13/11/2024

SCIENTIFIC MEMBERSHIPS AND AFFILIATIONS

- **Member of ALMA Education Hub** (2025-current)
- **Member of Direttivo of Società Chimica Italiana Gruppo Interdivisionale di Epistemologia e Storia della Chimica** (2024-current)
- **Member of Direttivo of Società Chimica Italiana Sezione Veneto** (2023-current)
- **Member of Società Chimica Italiana** (*Divisione di Chimica fisica, Divisione di Didattica della Chimica e Gruppo Interdivisionale di Epistemologia e Storia della Chimica*)
- **Member of the European Digital Education Hub** June 2023 - current

PATENTS

2013- SIAE (Società italiana autori ed editori) registration of a software game for scientific divulgation based on the periodic table 'L'OCA CHIMICA' (this is the form of patent for games) L. Orian, G. Saielli, G. Sella, R. Signorini 00863-D008135, registered on 20/9/2013, 100% Università degli Studi di Padova). This registration was renewed in 2023.

COVERS, BLOGS, OTHER

- **BLOG and INTERVIEW by UNICOLLABORATION** Integrating Virtual Exchange into STEM subjects A success story from the University of Padova 25th September 2025 <https://unicollaboration.org/index.php/2025/09/25/integrating-virtual-exchange-into-stem-subjects>
- Video about Teaching4learning presented at CRUI event 'Aule senza confini: nuovi orizzonti della didattica universitaria' 22 November 2024.
- Podcast *Acordos de cooperação e mobilidades académicas Itália – Brasil* March 2024 Interview to promote student mobility Brasil-Italy. With Prof. Ferdinando Fava (Delegato UNIPD per l'America Latina), Prof. Stefano Mammi (Head of DiSC UNIPD) and Alessandro Rubbi (PhD student in Molecular Sciences at UNIPD)
- Podcast *Insegnare chimica con passione!* 24 April 2024 Padova University Press, Italy
- L. Orian, C. Peggion Project showcase Virtual Exchange 'English for Chemistry' Newsletter ARI Università degli Studi di Padova 2023.
- The following papers describe the toxicity of methylmercury from the source to the target selenoproteins through simplified models *in silico*:
 - A. A. Madabeni, M. Bortoli, P. A. Nogara, J. B. T. Rocha, L. Orian *Effect of methylmercury binding on the peroxide reduction potential of cysteine and selenocysteine* *Inorg. Chem.* **60**, 4646-4656 (2021)
 - B. A. Madabeni, M. Dalla Tiezza, M. Bortoli, F. B. Omage, P. A. Nogara, J. B. T. Rocha, L. Orian *Chalcogen-mercury bond formation and disruption in model Rabenstein's reactions: a computational analysis* *J. Comp. Chem.* **41** (23), 2045-2054 (2020)
 - C. P. A. Nogara, A. Madabeni, M. Bortoli, J. B. T. Rocha, L. Orian *Methylmercury can facilitate the formation of dehydroalanine in selenoenzymes: insight from DFT molecular modeling* *Chem. res. Tox.* **34**, 1655-1663 (2021).

They have been cited and shortly summarized in the Highlights section of SCM (Software for Chemistry & Materials) website [Investigating the mechanisms for methylmercury poisoning - Software for Chemistry & Materials Software for Chemistry & Materials \(scm.com\)](http://Investigating%20the%20mechanisms%20for%20methylmercury%20poisoning%20-%20Software%20for%20Chemistry%20%26amp;%20Materials%20Software%20for%20Chemistry%20%26amp;%20Materials%20(scm.com)) (31 May 2021)

BOOKS



Padova, November 21st 2025

Stefano Cioia