

CURRICULUM VITAE

Assunta Marrocchi, PhD

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Education

1995-1998 - PhD in Chemical Sciences at the University of Perugia (Italy), working on a research project dealing with the design, synthesis, and characterization of helically-shaped polycyclic aromatics.

1993 - Degree in Chemistry at the University of Perugia, Italy, with a diploma work dealing with high-pressure organic synthesis.

Academic Appointments

2015-to date: Associate Professor at the Department of Chemistry, Biology and Biotechnology of the University of Perugia (Italy).

2002-2015: Assistant Professor at the Department of Chemistry, Biology and Biotechnology of the University of Perugia (Italy).

1998-2002: Research Fellow at the Department of Chemistry of University of Perugia (Italy) working mainly on the synthesis and characterization of (chiral) helically-shaped polycyclic aromatics.

1994-1995: Grant Holder at the Department of Chemistry of University of Perugia (Italy).

Main research interests

(1) Biomass sustainable conversion into high added value chemicals and materials (2) Design, sustainable synthesis, and characterization of advanced organic materials for electronics and photonics. (3) Design, synthesis, and characterization of heterogeneous catalysts. (4) Development of bio-based additives for the inhibition of salt crystal growth in porous media and their application in Built Heritage Conservation.

Major Visiting Appointments

2017: Visiting Lecturer at the University of Malta, Faculty for the Built Environment, Department of Built Heritage, within *Erasmus+ Program -Staff Mobility for Teaching Assignment*

2008: Visiting Scientist at Northwestern University (Department of Chemistry, the Materials Research Center, and the Argonne-Northwestern Solar Energy Center), Evanston, IL (USA), working with the research group of Prof. Tobin J. Marks and Prof. Antonio Facchetti. The joint research project focused on the design, synthesis, characterization of π -conjugated semiconducting materials, and their implementation in organic field-effect transistors and solar cells.

2001: Visiting Scientist at the Radboud Universiteit Nijmegen, The Netherlands (Prof. Dr. Hans W. Scheeren group). The research project focused on high-pressure Diels-Alder reaction for the synthesis of natural products.

1998: Visiting PhD student at Technische Universität Braunschweig, Germany, joining the research group of Prof. Dr. Henning Hopf. *Research project:* Development of new methods for the synthesis of helically shaped cyclophanes.

1994: Visiting Scholar at the Radboud Universiteit Nijmegen, The Netherlands (Prof. Dr. Hans W. Scheeren group). *Research project:* High-Pressure Diels-Alder reaction as a new method toward the synthesis of steroidal molecules

Main Collaborations

Prof. Choongik Kim, Sogang University (Seoul, Republic of Korea) (<https://sites.google.com/site/ckimlab/ww>); Prof. Antonio Facchetti, Northwestern University (IL) & Flexterra Inc. (IL), USA (<http://faculty.wcas.northwestern.edu/~afa912/>); Prof. Fabrizio Sarasini, University of Rome Sapienza (I) (<http://dicma.ing.uniroma1.it/node/6036>); Dr Maria Paola Bracciale, University of Rome Sapienza (I) (<https://orcid.org/0000-0002-3863-1188>); Prof. Maria Laura

Santarelli, University of Rome Sapienza (I) (<http://dicma.ing.uniroma1.it/en/node/5774>) Prof. JoAnn Cassar, University of Malta (Malta) (<https://www.um.edu.mt/profile/joanncassar>); Prof. Ombretta Marconi, University of Perugia (I) (https://scholar.google.com/citations?hl=it&user=vLY94hoAAAAJ&view_op=list_works&sortby=pubdate); Dr Michele Sisani (PROLABIN & TEFARM srl, <http://www.prolabintefarm.com/>)

Main Teaching Experiences

A.Y. 2019/2020-present. Lecturer of “Polymer Chemistry”, University of Perugia (Italy)

A.Y. 2017/2018-present. Lecturer of “REACH and CLP Regulations and Evaluation of Chemical Risk”, University of Perugia (Italy)

A.Y. 2016/2017-present. Lecturer of “Eco- Bio-compatible Synthetic Processes”, University of Perugia (Italy)

A.Y. 2016/2017-present. Lecturer of “Chemical Processes for Biomass Valorization”, University of Perugia (Italy)

Research supervision of Bachelor/Master students and PhD students in Chemistry, Chemical Sciences, Molecular and Industrial Biotechnology, Biotechnology, Science and Technology for the Conservation and the Restoration of Cultural Heritage, Civil Protection Activities.

- Invited lecturer at *LUMOMAT PhD Summer School 2023* (Angers, France) (“Introducing organic electronics: key materials, processes and devices”; “Processing high-performing organic electronics from green solvents – Key challenges, strategies, and tools”)
- Invited lecturer at *International Nathiagali Summer College 2021* (Pakistan); <https://www.ncp.edu.pk/insc/>. (“Green solvent processable organic electronic devices”).
- Invited lecturer at “Winter School on Biotechnologies” 5th ed. -WSB2019 (“From bio-waste to wealth using green chemistry: engineering a more sustainable society”) and 2nd ed.-WSB2016 (“Developing a Green/ Sustainable Chemistry: definition of chemical processes to exploit biomasses”)

- Teaching Assignments in the frame of PhD accredited Schools (University of Perugia):
 - “Safety in the laboratory and biotechnologies”, PhD School in Biotechnology
 - “Chemical Risk” PhD School in Chemical and Pharmaceutical Sciences (2014) and in Chemical Sciences, **2016-2020**
 - **2015**: “Biocompatible Materials”, PhD School in Chemical Sciences
- PhD Dissertation Defense Committee Member for National/International PhD Schools
- Teaching assignment, Fondazione ITS Umbria - Innovazione Tecnologia e Sviluppo (<http://www.itsumbria.it/>). Unit: “Process technologies: mixing and chemical-physical separations” (**2016**)
- Teachers training: The National Plan for Science degrees (PLS), **2021** (“Biorefineries & Sustainable Development”)
- Orienteering for schools: #UniPgOrienta Express **2022** (“Plastics & bioplastics”)

Invited seminars (*selected*)

- **2016**: Open Lecture “Salt weathering of building stones: causes & remedies”, La Valletta, Malta (07-01-2016, Fortress Builder Museum)
- **2015**: Technische Universität Braunschweig (D), „Organic Materials’ Synthesis for Optoelectronic Device Fabrication and Testing“.
- **2015, 2016**: University of Rome Sapienza. Subject: Organic semiconductors in device applications.

- **2014:** University of Rome Tor Vergata (C.H.O.S.E.). Subject: Synthetic Strategies and Processing to new molecular semiconducting materials.

Awards/Services

- Member of the Committee of the Responsibles of the Departments for Sustainability
- Delegate of the Head of the Department of Chemistry Biology and Biotechnology (University of Perugia) for safety in the workplaces
- Member of the Parithetical Committee for Didactic Activities, DCBB (2020-)
- Academic Coordinator for extra-Erasmus Bilateral Agreements with the University of Malta
- Academic Coordinator for Erasmus+ Bilateral Agreements with the University of Malta (Prof. JoAnn Cassar, ISCED Code: 0531) and with the Sogang University Seoul, Republic of Korea (Prof. Choongik Kim, ISCED Code: 05)
- Third Finalist at the contest Intellectual Property Award 2019 (PCT Int. Appl. (2017), WO 2017125388 A1 20170727), launched by the Italian Ministry of the Economic Development (MISE) and UIBM (<http://www.uibm.gov.it/index.php/inglese>)
- **2019-2021:** Member of the Directive Committee of the local section of the Italian Chemical Society

Editorial & Reviewing activities

- **2022:** Editor of “Sustainable Strategies in Organic Electronics”, Woodhead Publishing Series in *Electronic and Optical Materials*. Elsevier, 2022. ISBN: 9780128231470
- **2020 –** Member of the Editorial Board of *Scientific Reports* (Nature Publishing) and *Molecules* (MDPI Publishing)
- **2019 –** Review Board, Polymers Journal (MDPI Publisher)/ CH
- Scientific Evaluator of Research Project proposals for Italian MUR , Latvian Science Council (<http://www.lzp.gov.lv/index.php?mylang=english>) and Polish National Science Centre (<http://www.ncn.gov.pl>) – ERC sectors: Organic chemistry (PE5_17), Polymer chemistry (PE5_15).
- International Journals reviewed for Royal Society of Chemistry, Wiley, American Chemical Society, Elsevier, Thieme, Nature Publishing, MDPI Journals, as well as PhD Thesis External Reviewer.
- External reviewer of PhD Thesis

Memberships of Scientific Societies

- **1993 –** Member of the Italian Chemical Society

Conferences/Schools Organization

- **2023:** Co-Organizer of the STiBNite PhD School - Proposal ID 956923; Perugia (Italy).
- **2021:** Co-Organizer of the Workshop “Managing the paradigm shift to sustainable conservation. An integrated approach in Built Heritage research”, Malta, April 29-30
- **2018:** Co-Organizer of the 1st Summer School H-CCAT Project (H2020, <http://h-ccat.eu/>), Perugia (Italy); Project reference 720996
- **2009:** Co-organizer of the Conference “Tecnologia fotovoltaica Organica ed Ibrida: stato dell’arte e prospettive”, Perugia (Italy)
- Organizzazione di: XXVI Convegno Interregionale Tosco Umbro Marchigiano Abruzzese (TUMA 2007), Assisi (PG) 26-28 settembre 2007
- **1997:** Co-Organizer of the II National Conference “I Rifiuti in uno Sviluppo Sostenibile”, Perugia (Italy)

Selected Funded Projects (National/International)

- Financial resources assigned by Next Generation Europe funds (National Recovery and Resilience Plan, NRRP) (made available with Ministerial Decree 02-03-2023, n. 118 for a three-years PhD scholarship on green-related topics ("Green and circular strategies for biowaste valorization" – RECREATE).
- PRIN National Interest Research Program (MUR): "Towards green core components for the hydrogen economy" – GreenCore (2023-2025. PI for UNIPG)
- BIOTHEREP: Hybrid biochemical and thermochemical conversion of slaughterhouse biowaste for Renewable Energy production (LEAP-RE call for AU-EU Collaborative Research & Innovation Projects on Renewable Energy: <https://www.leap-re.eu/2023/04/03/10-new-projects-selected-for-funding-via-the-leap-re-second-call-for-proposals/> 2023-2025. PI for UNIPG)
- Financial resources assigned by Next Generation Europe funds (National Recovery and Resilience Plan, NRRP) (made available with Ministerial Decree 09-04-2022, n. 351 for a three-years PhD scholarship on green-related topics ("Innovative and sustainable processes and products for biowaste valorization in the circular economy framework").
- PRIN National Interest Research Program (MUR): A Flexible antibody-drug conjugate Approach for Innovative antiviral Therapy (FAITH) (**2020**; ongoing. Registry n. 20207CNBE4_002) (Team Member)
- Financial resources assigned by ESF REACT-EU funds (PON "Ricerca e Innovazione" programme 2014-2021) made available with Ministerial Decree 10 August 2021, n. 1061 for a three-years PhD scholarship on green-related topics ("Biosolvents").
- MSCA-ITN-2020 STIBNITE, Tailored materials for Sustainable Technologies: programming functional molecular components through Boron-Nitrogen doping, **2020**-ongoing (Team Member). Proposal ID 956923 (2020-2024; <https://stibnite.univie.ac.at/>).
- Project Grant awarded by the Internationalisation Partnership & Awards Scheme Plus (IPAS+) 2019 through the Malta Council of Science and Technology (Co-applicant)
- Project grant awarded by University of Perugia, Fondo di Ateneo per la Ricerca di Base, 2019 (Principal Investigator)
- H-CCAT Solid Catalysts for activation of aromatic C-H bonds, Call: H2020-NMBP-**2016**-two-stage; project reference 720996 (Team Member)
- Project grant awarded by University of Perugia, Fondo di Ateneo per la Ricerca di Base, 2015 (Principal Investigator)
- Fondazione Cassa di Risparmio di Perugia: "Manipolazione di biomassa lignocellulosica per la produzione di additive per biocarburanti" (**2016**, Team Member) Codice Progetto: 2016.0060.021 RICERCA SCIENTIFICA E TECNOLOGICA.
- Israel-Italy Joint Innovation Program for Scientific & Technological Cooperation in R&D: "Employment of the automatic cyclic continuous-flow reactor technology for the clean large-scale fabrication of organic solar cells" (**2012**); (Team Member)

Other Notes

- Lead-Author/Co-Author of over 120 JCR papers, including invited papers; 5 book chapters with ISBN and DOI, two issued patents and two filed patent applications.
- Lead-Author/Co-Author of over 130 presentations at National/International Conferences, including invited lectures.
- **2023** - : Member of the Academic Board for National PhD School in Catalysis
- **2022-present**: Member of the Steering Committee of the Project VITALITY, funded by the European Union -NextGenerationEU under the Italian Ministry of University and Research (MUR) National Innovation Ecosystem grant ECS00000041.
- **2018**: National Habilitation as Full Professor in "Organic Chemistry" (SSD CHIM/06) and in "Chemical Foundations of Technologies" (SSD CHIM/07)
- **2017**: Grant awarded by MIUR in the frame of "Finanziamento Annuale Individuale delle Attività Base di Ricerca (FFABR 2017)"
- **2016-present**: Member of the Academic Board for Biotechnology PhD School

- Co-Scientific Responsible for the Interuniversity Cooperative Agreement between Università degli Studi di Perugia and The Hebrew University of Jerusalem dal 22-03-**2016-present**)
- **2013-present**: Scientific Responsible for Memorandum of Understanding for Collaboration on Education and Research with the Department of Chemical and Biomolecular Engineering, Sogang University (KR)
- Scientific responsible for: (1) Collaboration Agreement with University of Malta, University of Rome Sapienza, Studio Restauri Formica s.r.l. (<http://www.restauriformica.it/>); (2) Research Contract with SIMEG s.r.l. (<http://www.simegmarmi.com/>), STEDIL s.r.l. (<http://www.stedilsrl.com/>), CBC Conservazione Beni Culturali.
- Personnel involved for: (1) Convenzione STERLING (03/05/2021)- Progetto "Studio e sviluppo di una via sintetica per un nuovo principio attivo inalatorio non presente in azienda e ottimizzazione dei processi sintetici della pipeline respiratoria aziendale in ottica Green"; (2) Incarico STERLING (02/02/2021)- Progetto "Studio e sviluppo a livello sperimentale di nuovi processi sintetici al fine di ottenere la molecola "Umeclidinium Bromide" e/o i suoi intermedi e di individuare sintesi innovative e sostenibili in termini ambientali (Green Chemistry); (3) Contratto di ricerca Soc. BRACCO Spa (01/05/2021) Progetto "Iodurazione in continuo di intermedi utili alla sintesi di mezzi di contrasto per raggi X con particolare attenzione all'uso di sistemi redox sostenibili"