



**CURRICULUM VITAE
SCIENTIFIC AND TEACHING ACTIVITY**

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Personal informations, education and professional positions

Born in Brescia (Italy) on the 10th December 1967 (age: 54). Nationality: Italian. Languages spoken Italian (fluent), English (fluent), French (good knowledge).

Education

1993-1996 **Ph.D. in Chemistry**, School of Chemistry, **University of Birmingham**, Birmingham, UK. Doctoral Advisor: **Prof. Sir J. Fraser Stoddart** (Nobel Prize in Chemistry 2016). Thesis Title: *Chiral Molecular Assemblies and Supramolecular Arrays*. Research topics: supramolecular chemistry, chirality, functional nanoscale assemblies, organic synthesis. The PhD fellowship was funded by the pharmaceutical company Glaxo Wellcome, and for the last 8 months by research funds in the availability of Prof. Stoddart.

1986-1992 **MSc (Laurea) in Chemistry** (top marks), Department of Organic Chemistry, **University of Pavia**, Pavia, Italy. Final year experimental Project (Thesis) Title: *Solvent Effect in the Retro-Diels Alder Reaction*. Supervisor: **Prof. G. Desimoni**. Research topics: physical organic chemistry, organic synthesis.

Professional Positions

2022-today **Full Professor**, Scientific Sector: CHIM/06 Organic Chemistry, Department of Chemistry, **University of Pavia**, Pavia, Italy

2015-2021 **Associate Professor**, Scientific Sector: CHIM/06 Organic Chemistry, Department of Chemistry, **University of Pavia**, Pavia, Italy

2003-2015 **Tenured Assistant Professor**, Scientific Sector: CHIM/06 Organic Chemistry, Department of Organic Chemistry and then (since 2010) Department of Chemistry, **University of Pavia**, Pavia, Italy

2000-2003 **Assistant Professor**, Scientific Sector: CHIM/06 Organic Chemistry, Department of Organic Chemistry, **University of Pavia**, Pavia, Italy

1997-1999 **Postdoctoral Fellow** in the group of **Prof. Jean J. M. Fréchet** at the **University of California, Berkeley**, Berkeley, USA. Research topics: design, synthesis and investigation of functional macromolecules for advanced microlithography; polymer synthesis and characterization, organic synthesis. The postdoctoral fellowship was funded by US research funds in the availability of Prof. Fréchet.

1992-1993 **Short postgraduate fellowship** awarded by the University of Pavia for a six months research period abroad. The candidate carried out research in the group of Dr M H Abraham at **University College London**, UK. Research topic: physical organic chemistry.

Visiting professorships

2004-2005 One-year sabbatical stay as a visiting scientist in the group of **Prof. Stefan Matile**, Department of Organic Chemistry, **University of Geneva**, Geneva, Switzerland. Research topics: molecular recognition and sensing with synthetic multifunctional pores. The stay was supported by research funds in the availability of Prof. Matile.

2/2011 One month visiting professorship in the group of **Prof. Linda Shimizu**, Department of Chemistry and Biochemistry, **University of South Carolina**, Columbia, USA. The short stay was funded by the award of a Journal Travel Grant for International Authors of the Royal Society of Chemistry. Research topics: chiral macrocycles.

7-8/2019 Two months visiting professorship in the group of **Prof. Timothy M. Swager** at the **Massachusetts Institute of Technology**, Boston, USA. The short stay was funded by the award of a fellowship within

the Pavia-Boston Program (2019) of the University of Pavia. Research topics: conjugated organic materials.

Scientific achievements track record and proof of independent leadership

Synopsis of career development

The candidate obtained his first degree from the University of Pavia in march 1992, and spent six months (10/1992-4/1993) in the group of M. H. Abraham (University College London, UK), after the award of a six months postgraduate fellowship by the University of Pavia specifically designed for research abroad. These first two research experiences were essentially in the field of physical organic chemistry. He then moved to Birmingham, UK, for the next 3 and a half years to work in the group of Prof. Sir J. F. Stoddart, Nobel Prize in Chemistry 2016, and he obtained his PhD in Chemistry in December 1996 from the University of Birmingham (officially awarded in June 1997). During his PhD work, the candidate synthesized several interlocked molecular systems (catenanes) and artificial supramolecular receptors capable of enantioselective recognition towards pharmaceutically relevant compounds. The candidate managed, for the first time, to introduce efficiently in Stoddart's interlocked systems elements of chirality (either axial or planar chirality). During his PhD research period the candidate was involved, on the topic of supramolecular chiral systems, with a great collaboration with the group of Prof. E. W. Meijer in Eindhoven. The candidate's application for a postdoc in the group of J. M. J. Fréchet was accepted in 1996, and he spent three years of postdoctoral research at the University of California, Berkeley, USA, (1997–1999). During that period, the candidate got in touch with the world of macromolecules and developed chemistry in the area of functional polymers for nanoscale applications such as micro- and nanolithography. His research efforts were rewarded with several high-profile publications, and with an in-depth knowledge of polymer science.

The candidate joined the faculty at the former Department of the Organic Chemistry at the University of Pavia in January 2000. He received tenure at the end of 2003, he was promoted to Associate Professor in 2015 and to Full Professor in January 2022. He has been a visiting professor at the University of Geneva (in the group of Prof. S. Matile, one year, 2005), the University of South Carolina (Prof. L. Shimizu, one month, 2011), Massachusetts Institute of Technology (prof. T. Swager, two months, 2019).

The research activities developed in the last 20 years in Pavia, for the vast majority carried out as the principal investigator, can be summarized in three different yet intertwining sectors: **a) chiral nanostructures for (chiral)optical sensing; b) controlled polymer synthesis for functional applications; c) π -conjugated organic materials.**

a) Chiral nanostructures for (chiral)optical sensing. The collaboration with the group of prof. Matile has brought to the synthesis and the development of complex chiral nanosystems, capable of orthogonal and specific sensing, through enzyme-mediated mechanisms of generation of optical signals. The candidate's group has used binaphthyl-based derivatives, which are both robust sources of chirality and chromophores, as molecular modules for the realization of nanostructures. In order to obtain suitable chiral molecular modules, innovative synthetic procedures were developed in the candidate's group. The incorporation of binaphthyl-based derivatives into covalent structures has brought to very interesting and unexpected results, giving access to recognition and optical sensing of C₆₀, and of the use of CD (Circular Dichroism) spectroscopy for the monitoring of the conformations of macrocycles. The evolution of such systems into chiroptical sensing has its roots in the recognition and CD sensing of a metal cation, continued in a collaborative effort with the enantioselective recognition of chiral dicarboxylates and evolved into more sophisticated systems of truly chiroptical sensing; in these publications, using the characteristic CD signature of the enantiopure binaphthyl chromophore, it has been highlighted how the CD signalling of the analyte can be orthogonal with respect to other spectroscopic techniques. Such key concept was the basis of the proposal for a recent award received by the candidate (Gutenberg Chair). The synthesis of covalent cyclic structures was also directed to the 3D supramolecular assembly of chiral nanotubes and supramolecular polymers. The overall scientific activity on chiral systems was recognized internationally with the invitation for the candidate to write two very prestigious reviews on different aspects of emerging chiral materials.

b) Controlled polymer synthesis for functional applications. The candidate's group developed cyclopolymerizations for the synthesis of functional macromolecules, controlling the three-dimensional macromolecular structure and regulating the sequence of monomers. The efficient cyclopolymerization of styrene-like difunctional monomers has

been thoroughly investigated by the candidate's group, also in combination with modern techniques for controlled/living free radical polymerization, to give large aromatic cyclic structures included in the polymeric backbone. The work on cyclopolymerization has brought the candidate to publish a prestigious, recent review. Efforts have been directed also in other areas, such as the synthesis of macromolecular scaffolds for solution phase synthesis, for which styrene-type polymeric materials have been developed to be used in combination with enzymatic catalysis. More recently, through a collaborative effort, a facile synthetic protocol has been developed for the functionalization of three-dimensional polymeric scaffolds (hydrogels) through "click chemistry" reactions.

c) π -Conjugated organic materials. An innovative series of "push-pull" conjugated organic chromophores has been synthesized and studied, with electron-withdrawing units capable of being further polarized by means of supramolecular complexation, with extremely interesting properties from the point of view of the emissive properties in the solid state (AIE properties) and electro-optics in solution, and for the multiple detection sensing of lanthanides. The innovative synthesis of cyclopandienes, which can be monomeric precursors to conjugated polymers through controlled ROMP processes, has brought the candidate's group into the area of organic photovoltaics, and it was the key for attracting the interest of a big national company (ENI), with which a great collaboration has been developed since 2013. In this area, a view to the sustainability and scalability of the synthesis of semiconductor polymers is necessary for an effective technology transfer in the new generation photovoltaic field. Innovative monomers have been developed by rapid annulation procedures through the combination of direct arylations/aldol condensations. The results generated an international patent. This area of research has recently found substantial support in the form of a PRIN grant, and it is still strongly developing in collaboration with ENI, with exciting results (not yet published) in terms of OPV cells efficiencies from the sustainable and scalable monomers and polymers developed in the candidate's group in Pavia.

Main scientific current collaborators. Luca Beverina (University of Milano Bicocca) for green approaches to organic semiconductors, Tim Swager (MIT) for π -conjugated materials, Riccardo Po (ENI) and Gabriele Bianchi (ENI) for organic photovoltaics, Marcello Notari (ENI) for green and supramolecular polymers as viscosity modifiers, Chiara Botta (CNR Milan) for photophysical characterization of conjugated materials and Aggregation Induced Emission materials, Giuseppe Mattioli (CNR Rome) for computational studies, Luigi Mariucci (CNR Rome) for characterization of conjugated materials for OFET, Giulia Grancini (UNIPV) for HTL materials and non-fullerene acceptors in perovskites, Daniele Dondi and Ferdinando Auricchio (UNIPV) for 3D printing, David Amabilino (University of Nottingham) for chiral nanostructures and OPV, Dominique Armspach (University of Strasbourg) for chiroptical receptors based on modified cyclodextrins, Gianmarco Griffini (Milan Polytechnic) for luminescent solar concentrators, Chuanlai Xu (Jiangnan University) for chiral nanostructures for sensing, Nadia Camaioni (CNR Bologna) for OPV, Eliana Quartarone (UNIPV) for self-healing materials, Valeria Amendola (UNIPV) for supramolecular cages and chiroptical sensors.

2.2 Bibliometric indexes (as of 23/3/2022)

Total publications: **135**

Publications with impact factor: **118**

Other publications/proceedings: **11**

Book chapters: **5**

Patent: **1**

Publications as corresponding author: **78**

Publications as single author: **4**

Reviews: **15**

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ResearcherID: [H-5628-2011](https://orcid.org/0000-0002-8273-3798)

Google Scholar: <https://scholar.google.it/citations?user=Suxj-fkAAAAJ&hl=it>

Total citations: **3218** (google scholar), **2828** (scopus), **2828** (web of science)

H index: **39** (google scholar), **37** (scopus), **37** (web of science)

i-10 index: **81** (google scholar)

Since 2017 (google scholar)

Citazioni totali: **1406**

H index: **22**

i10-index: **45**

Research Publications in brief: *Nature Mater.* (1), *Adv. Mater* (1), *JACS* (3), *Adv. Optical Mater.* (1), *ACS Appl. Mater. Interfaces* (1), *Chem. Mater.* (2), *J. Mater. Chem. C* (3), *Chem. Commun.* (4), *Org. Lett.* (2), etc.

Awards

Awards and prizes given to the candidate

1) Recipient of a 2020 Gutenberg Chair, University of Strasbourg (France)([link](#))

Gutenberg Chairs are organized by the local authorities of the French "Alsace" region on the suggestion of the Cercle Gutenberg upon external reviewing. The duration of the Chair can be up to two years and its recipients receive the following: a) The Gutenberg Prize, worth 10.000 Euro, given personally, to facilitate the Chair recipient to settle in Strasbourg when needed; and b) specific financial help of 50.000 Euro attributed to the host institution and reserved entirely for the execution of their research project. The candidate will develop a research project entitled: "Development of Chiroptical Sensors Derived from Cyclodextrins for the Analysis of Hydrophobic and Amphiphilic Organic Pollutants in Water" in collaboration with Professor Dominique Armspach of the University of Strasbourg. The prize was highlighted by the University of Pavia news website ([link](#)) and by the National Interuniversity Consortium of Materials Science and Technology (INSTM) (newsletter no.1/2020)

2) Recipient of the Fondo di Finanziamento Attività Base di Ricerca (FFABR MIUR 2018)

The unrestricted research grant (3.000 Euro) was awarded to the top 25% associate professors in each scientific sector in Italy in 2018, after a selection procedure based exclusively on bibliometric indexes (impact factor of publications, citations, number of authors).

3) Fellow of the Royal Society of Chemistry (2017-)

Election to Fellow of the Royal Society of Chemistry in 2017. Eligibility for Fellow status applies to applicants who are Members of the Royal Society of Chemistry (MRSC), with a minimum of 5 years professional experience. The procedure involves nomination and peer reviewing. Candidates must have made an outstanding contribution to the advancement of the chemical sciences. See also section 13.

4) Journals Grant for International Authors of the Royal Society of Chemistry (2011)

The award is given by the Royal Society of Chemistry to authors of RSC publications who have been distinguished themselves as corresponding authors. The procedure involves peer reviewing. It is to allow international authors to visit other countries in order to collaborate in research, exchange research ideas and results, and to give or receive special expertise and training. The candidate spent a period of research at the University of South Carolina, USA.

Awards related to publications of the candidate

Publications highlighted

1) *Crystengcomm* **2020**, 22, 7782-7785, highlighted as editor's choice in the special issue *Halogen Bonding*

2) *J. Am. Chem. Soc.* **2017**, 139, 8788-8791 included in the 2018 *JACS Young Investigators Virtual Issue*. The candidate is corresponding author.

3) *Faraday Discuss.* **2017**, 196, 143-161 highlighted in *Chem. Commun.* **2017**, 53, 3158-3164. The candidate is corresponding author.

4) *Org. Biomol. Chem.* **2015**, 13, 3593-3601. Highlighted as "Organic Biomolecular Chemistry Hot Paper 2015". Web of Science "Highly cited paper" in 2015. The candidate is corresponding author.

5) *J. Phys. Chem. C* **2015**, 119, 19228-19235. Included in the "Elettra Highlights 2015-2016 booklet".

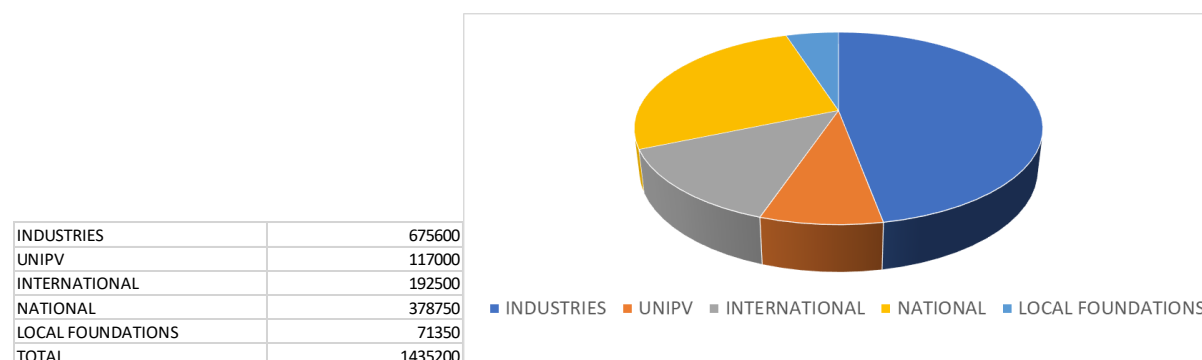
- 6) *J. Phys. Chem. C* **2013**, *51*, 27161-27166. Highlighted by: "Noteworthy Chemistry", an electronic newsweekly by the American Chemical Society.
- 7) *Phys. Chem. Chem. Phys.* **2011**, *13*, 18005-18014. Highlighted by: "Noteworthy Chemistry", an electronic newsweekly by the American Chemical Society.
- 8) *Org. Biomol. Chem.* **2011**, *9*, 5018-5020 Highlighted as: "Top 10 downloaded article" in July 2011. The candidate is corresponding author.
- 9) *Nature Mat.* **2007**, *6*, 577-580. Commented by: J.J. Lavigne, *Nature Mat.* **2007**, *6*, 548-549

Publications featured as Covers of the journal issue

- a) *Chem. Commun.* **2022**, *58*, 3897-3900 (Back cover). Corresponding author.
- a) *Adv. Mater.* **2020**, 1908021 (Frontispiece). Corresponding author.
- b) *Polym. Chem.* **2020**, *11*, 5582-5589 (Cover). Corresponding author.
- c) *Chem. Commun.* **2016**, *52*, 11492-11495 (Cover). Corresponding author.
- d) *Org. Biomol. Chem.* **2011**, *9*, 5018-5020 (Cover). Corresponding author.
- e) *Org. Biomol. Chem.* **2010**, *8*, 1807-1815 (Inside Cover). Corresponding author.
- f) *CrystEngComm* **2008**, *10*, 1132-1136 (Inside Cover).
- g) *Curr. Org. Synth.* **2007**, *4*, 59-80 (Permanent Cover from 2007 to 2014). Corresponding author.
- h) *Adv. Funct. Mat.* **2006**, *16*, 169-179 (Cover).
- i) *Eur. J. Org. Chem.* **2002**, 3385-3392 (Cover). Corresponding author.
- l) *J. Polym. Sci. A: Polym. Chem.* **1999**, *37*, 1225-1236 (Cover).

2.4 Research grants received by the candidate as Principal Investigator

The candidate has received funding from competitive, peer reviewed calls from international institutions, including two projects funded by the European Commission, for a total of **193 kEuro**. The candidate has been the PI of the local units of 3 PRIN projects and of 6 other national research projects, for a total of over **370 kEuro**. Alongside with competitive research grants and institutional UNIPV funding, the PI also attracted over **600 kEuro** from industrial funding. Most of the industrial funding has been given on research contracts and has allowed the creation of fellowships for young scientists. Most of the industrial grants come from a strong collaboration with ENI (over **490 kEuro** granted to the candidate), including funding for four full PhD positions (two starting October 2020). The overall total funding received by the candidate as the PI amount to over **1,43 Meuro**, considering also the direct internal support given by the University of Pavia under various forms, amounting to a total of **117 kEuro**.



2.5 Invited seminars/scientific presentations at congresses.

33 invited talks at national and international meetings, and at US and European institutions, amongst which: 1 keynote lecture (*Supramol 2015*, XII National Congress of Supramolecular Chemistry), and invited talks to Namur (Belgium), Eindhoven (Holland), South Carolina (USA), Miami (USA), Geneva (Switzerland), Jerusalem (Israel).

Additionally, the candidate has been coauthor of ca. 50 poster presentations to scientific meetings, and the candidate has been coauthor of ca. 10 invited talks given by his research collaborators.

2.6 Membership of the Editorial Board of scientific publications

- 1) *Materials* (MDPI) 2021-present. Impact factor of the journal: **3,62**
- 2) *Nanomanufacturing* (MDPI) 2020-present. Impact factor della rivista: **pending**
 - a) *International Journal of Molecular Sciences (MDPI)*, 2018-presente. Impact factor della rivista: **5,92**
 - b) *Journal of Chemistry (Hindawi)*, 2012-presente. Impact factor della rivista: **2,51**
 - c) *AIMS Materials Science*, 2017- 2019
 - d) *Mediterranean Journal of Chemistry*, 2011-presente
 - e) *The Open Condensed Matter Physics Journal (Bentham Open)*, 2008-2011
 - f) *Quantum Biosystems*, 2007-2011
- a) Nanomanufacturing (MDPI) 2020-present
 - a) *International Journal of Molecular Sciences (MDPI)*, 2018-present. Impact Factor of the journal: **4,56**
 - b) *Journal of Chemistry (Hindawi)*, 2012-present. Impact Factor of the journal: **1,79**
 - c) *AIMS Materials Science*, 2017- 2019
 - d) *Mediterranean Journal of Chemistry*, 2011-present
 - e) *The Open Condensed Matter Physics Journal (Bentham Open)*, 2008-2011
 - f) *Quantum Biosystems*, 2007-2011

2.7 Refereeing activity.

-For scientific journals (ca. 50 papers per year):

publications of all major publishers: Springer Nature (*Nature Chem.*), RSC (including *Chem. Commun.*, *Nanoscale*, *Chem. Soc. Rev.*, *Polym. Chem.*), Wiley (*Angew. Chem. Int. Ed.*, *Adv. Mater.*, *Eur. J. Org. Chem.*, *Chem. Eur. J.*, *Small*), ACS (*J. Am. Chem. Soc.*, *Macromolecules*, *J. Org. Chem.*), Elsevier, Bentham. For a certified record of refereeing, see [link](#)

-For scientific agencies:

- ANVUR, Italy (VQR 2004-2010, VQR 2011-2014; PON Dottorati Innovativi 2018; Accreditamento Iniziale AVA 2019 and 2020)
- MIUR, Italy (FIRB Futuro in Ricerca 2010 e Preselezione 2012; PRIN 2012; FARE 2016);
- European Research Agency (European Commission). During the HORIZON 2020 framework: Marie Curie actions (IF 2014-2018); Independent Observer Progress Evaluation Project RISE (2017); Progress Evaluator Project FET-Open (2020). During the FP7 framework: Marie Curie actions (IOF, IIF, IEF) 2013
- EEA Grants (2018-2020), Romania
- other grants (Romania)
- Research Foundation Flanders (FWO) (2015-2018), Belgium
- La Caixa Foundation (2018), Spain
- Regione Campania (2018), Italy
- University of Marseille (2017), France
- KU Leuven (2015-2017), Belgium
- Portuguese Foundation for Science and Technology (2012 and 2013), Portugal
- Faculty of Arts and Sciences, American University of Beirut (2009), Lebanon

Track record of research supervision

3.1 Supervision of research collaborators.

Supervision of MSc students (34), postgraduate students (12), PhD students (4), postdocs (4), visiting PhD students (1) and visiting professors (2). The list, relevant funding informations, thesis titles can be found in section 9.

3.2 Awards to research collaborators supervised by the candidate

- a) Andrea Nitti, one of the 10 finalists for the “Primo Levi” prize (2017) of the Young Chemists Section of the Italian Chemical Society, as the author of one of the best 10 publications in the Chemical Sciences
- b) Peshawa Osw, Thieme Chemistry Poster Prize, poster presented at the 20th IUPAC International Symposium on Organometallic Chemistry Directed Towards Organic Synthesis, Heidelberg, Germany, 21-25 July 2019

3.3 Fellowship awarded to group members on external funding

- a) Carmine Coluccini (6 months, 2007, Sovvenzione Globale Ingenio, Regione Lombardia)
- b) Stefano Colombo (6 months, 2007-2008, Fondo Sociale Europeo, Regione Lombardia)
- c) Claudio Cornaggia (5 months, 2008, Fondo Sociale Europeo, Regione Lombardia)
- d) Arvind Sharma (2/2009-1/2010: INDIA-MIUR fellowship)

Teaching activity

The candidate was involved in teaching at the PhD level giving a 2 hours course entitled: *Organic Photovoltaics*, within the course *New Frontiers in Photovoltaics: Materials and Technologies* organized by Giulia Grancini (2020-2021).

The candidate has taught (2002-present) several courses at the BSc and MSc level: Organic Chemistry, Macromolecular Chemistry and Industrial Organic Chemistry for Chemistry, Engineering, and Biotechnology degrees.

2002-2004	Industrial Organic Chemistry (BSc in Chemistry, 6 credits)
2006-2009	Industrial Organic Chemistry (BSc in Chemistry, 6 credits)
2011-2017	Industrial Organic Chemistry (BSc in Chemistry, 6 credits)
2010-present	Organic Chemistry (MSc in Bioengineering, 3 credits)
2012-present	Polymers for Biotechnologies (MSc in Advanced Biotechnologies, 6 credits)
2015-present	Chemistry and Technology of Polymers (MSc in Chemistry, 6 credits)

Student satisfaction index (recent data).

- a) Industrial Organic Chemistry (BSc in Chemistry, 6 credits): **8,73/10** (a.a.2016-2017).
 - b) Organic Chemistry (MSc in Bioengineering, 3 credits): **7,70/10** (a.a.2016-2017)
 - c) Polymers for Biotechnologies (MSc in Advanced Biotechnologies, 6 credits): **9,50/10** (a.a.2016-2017)
 - d) Chemistry and Technology of Polymers (MSc in Chemistry, 6 credits) **9,18/10** (a.a.2016-2017)
- More data are reported in section 12

Institutional activity and service to the department

- 1) Member of the “Collegio Docenti” of the PhD School of Chemical and Pharmaceutical Sciences of the University of Pavia (2013-2018).
- 2) Member of the “Collegio Docenti” of the PhD School of Chemical and Pharmaceutical Sciences and Industrial Innovation of the University of Pavia (2016-present).
- 3) Delegate in the working group (4 professors) for the preparation of the proposal for the Departments of Excellence (MIUR call 2017)
- 4) Coordinator of the MSc course in Industrial Biotechnologies (10/2013-12/2013)
- 5) Representative of the Department of Chemistry in CIRSIS (Centro Interdipartimentale di Studi e Ricerche sui Sistemi di Istruzione Superiore) of the University of Pavia (2010-present)
- 6) Coordinator of the SOBANE project, related to safety in working environment (2010-2013): the project consisted in a specific training for the coordinator, and in periodic meetings with representatives of all working figures within the section of Organic Chemistry of the Department

7) Member of several internal committees (including Giunta del Dipartimento, 3 years) within the former Department of Organic Chemistry (up to 2010)

8) Qualified candidate for GEV composition 2015- 2019.(Delibera ANVUR n°13523/7/2020)

Other relevant activities

Membership of national chemical societies

Member of the Royal Society of Chemistry (2000-present)

Member of the Italian Chemical Society (2005-present)

Member of the American Chemical Society (until 2016)

Participation to PhD examining committees

PhD examinations (in presence)

1) Miriam Crespo, 2/2009, Dipartimento di Chimica Inorganica ed Analitica, University of Cagliari

2) Paolo Brazzo, Department of Science and Technology of Materials, University of Milano Bicocca, 3/2018

3) Giovanni Fortunato (POLIMI), 1/2021

PhD external examiner (remotely)

1) Martina Nardi (Department of Chemistry, University of Roma la Sapienza) 11/2018;

2) Alessandro Sanzone, (Department of Science and Technology of Materials, University of Milano Bicocca) 11/2018

3) Mauro Adiel Calascibetta , (Department of Science and Technology of Materials, University of Milano Bicocca) 1/2021

Organization of conferences and journal special issues

1) 23/11/2009: Organization of the one day symposium, "Le giornate di Chimica Organica 2009", Department of Organic Chemistry, University of Pavia. The theme of the symposium was: "Functional Organic Nanomaterials". The following scientists accepted my invitation to give a lecture: Prof. J. M. J. Fréchet (University of California, Berkeley), Prof. Maurizio Prato (Università di Trieste); Prof. Giuseppe Resnati (Politecnico di Milano), Prof. Stefan Matile (University of Geneva)

2) Organization of several seminars within the Department of Chemistry, amongst which: David Amabilino (Nottigham), Linda Shimizu (University of North Carolina), Ken Shimizu (University of North Carolina), Kelly Velonia (University of Crete), Davide Bonifazi (University of Namur), Amitav Sanyal (Bogazici University, Istanbul)

3) Guest editor for the special issue of International Journal of Molecular Sciences (MDPI) entitled: "*Synthesis, Processing and Applications of Conjugated Oligomers and Polymers*" ([link](#));

Participation to renowned conferences

1) Participation to a Gordon Research Conference (*Supramolecules & Assemblies, Chemistry of*; Colby College, June 2009)

2) Participation (invited) to the Royal Society of Chemistry Faraday Discussion Aggregation Induced Emission (November 2016, Guangzhou, China)

7 Complete list of publications

The asterisk denotes corresponding author(s).

135. *Sustainable Synthetic Approach to the Indaceno[1,2-b:5,6-b']dithiophene (IDT) Core through Cascade Cyclization–Deprotection Reactions*, G. Forti, A. Nitti, G. Bianchi, R. Po, **D. Pasini,*** *Chemistry* **2022**, *4*, 206-215.
134. *Chiroptical sensing of perrhenate in aqueous media by a chiral organic cage*, G. Preda, R. Mobili, S. La Cognata, L. Toma, **D. Pasini,*** V. Amendola,* *Chem. Commun.* **2022**, *58*, 3897-3900. **(Back cover)**
133. *Large polarization of push–pull “Cruciforms” via coordination with lanthanide ions*, S. Benedini, Y. Zheng, A. Nitti, M. M. A. Mazza, D. Dondi, F. M. Raymo, **D. Pasini,*** *New J. Chem.* **2022**, *46*, 221-227 .
132. *On the Savéant's Concerted/Stepwise Model. The Electroreduction of Halogenated Naphthalene Derivatives as a Case Study*, A. Stefani, W. Giurlani, M. Bonechi, A. Marchetti, G. Preda, **D. Pasini**, M. Innocenti, C. Fontanesi,* *ChemElectroChem* **2021**, *8*, 4337-4344 .
131. *Blue Light Driven Free-Radical Polymerization using Arylazo Sulfones as Initiators*, A. Nitti, A. Martinelli, F. Batteux, S. Protti, M. Fagnoni,* **D. Pasini,*** *Polym. Chem.* **2021**, *12*, 5747-5751.
130. *Triptycene derivatives as chiral probes for studying the molecular enantio-recognition on sub-2 μ m particle cellulose tris(3,5-dimethylphenylcarbamate) chiral stationary phase*, A. Rossetti, G. Preda, C. Villani, M. Pierini, **D. Pasini**, R. Cirilli,* *Chirality* **2021**, in press.
129. *Biocompatible graft copolymers from bacterial poly(γ -glutamic acid) and poly(lactic acid)*, C. L. Zaccaria, V. Cedrati, A. Nitti, E. Chiesa, A. Martinez de Ilarduya, M. Garcia-Alvarez, M. Meli, G. Colombo, **D. Pasini,*** *Polym. Chem.* **2021**, *12*, 3784-3793
128. *Clickable 2,2-bis(hydroxymethyl)propionic acid-derived AB₂ monomers: Hyperbranched polyesters through the CuAAC cycloaddition (click) reaction*, A. Pacini, A. Nitti, G. Sangiovanni, M. Vitale, **D. Pasini,*** *J. Polym. Sci.* **2021**, *59*, 2014-2022.
127. *Anthrathiophene-based organic semiconductors through regiodirected double annulations*, A. Nitti, G. Forti, G. Bianchi, C. Botta, F. Tinti, M. Gazzano, N. Camaioni, R. Po, **D. Pasini,*** *J. Mater. Chem. C* **2021**, *9*, 9302-9308.
126. *A Donor Polymer with a Good Compromise between Efficiency and Sustainability for Organic Solar Cells*, M. Penconi, G. Bianchi, A. Nitti, A. Savoini, C. Carbonera, **D. Pasini**, R. Po,* S. Luzzati,* *Adv. Energy Sustainability Res.* **2021**, 2100069.
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37. *Fullerene Ylidene Malonates Supramolecular Triads*, G. Garlaschelli I. Messina, **D. Pasini**,* P. P. Righetti, *Eur. J. Org. Chem.* **2002**, 3385-3392 (Cover).
36. *A soluble polymer-bound Evans' chiral auxiliary: synthesis, characterization and use in cycloaddition reactions*, G. Desimoni, G. Faita,* A. Galbiati, **D. Pasini**,* P. Quadrelli, F. Rancati, *Tetrahedron: Asymmetry* **2002**, 13, 333-337.
35. *Malonate Crown Ethers as Building Blocks for Novel D- π -A Chromophores*, **D. Pasini**, P. P. Righetti,* V. Rossi, *Org. Lett.* **2002**, 4, 23-26.
34. *Micro lithographic Assessment of a Novel Family of Transparent and Etch Resistant Chemically Amplified 193 nm Resists Based on Cyclopolymers*, J.M. Klopp, **D. Pasini**, J.M.J. Fréchet,* C.G. Willson, J.D. Byers, *Chem. Mater.* **2001**, 13, 4147-4153.
33. *Design, Synthesis, and Characterization of Carbon-Rich Cyclopolymers for 193nm Microlithography*, **D. Pasini**, J.M. Klopp, J.M.J. Fréchet,* *Chem. Mater.* **2001**, 13, 4136-4146.
32. *Novel Design of Carbon-Rich Polymers for 193 nm Microlithography: Adamantane-Containing Cyclopolymers*, **D. Pasini**, E. Low, J. M. J. Fréchet,* *Adv. Mater.* **2000**, 12, 347-351.
31. *Novel organic resists for nanoscale imaging: from chemically amplified cycloaliphatic resists to dendrimer monolayers*, **D. Pasini**, Q.J. Niu, R.P. Meagley, D.C. Tully, A.R. Trimble, and J.M.J. Fréchet,* *J. Photopol. Sci. Technol.* **1999**, 12, 405-416.
30. *Unique Polymers Via Radical Diene Cyclization: Poly(spironorbornanes) and Their Application to 193 nm Microlithography*, R. P. Meagley, **D. Pasini**, L. Y. Park, J. M. J. Fréchet,* *Chem. Commun.* **1999**, 1587-1588.
29. *Design of Photoresists with Reduced Environmental Impact. 2. Water-soluble Resists Based on Photocrosslinking of Poly(2-isopropenyl-2-oxazoline)*, J. M. Havard, M. Yoshida, **D. Pasini**, N. Vladimirov, J. M. J. Fréchet,* D. R. Medeiros, K. Patterson, S. Yamada, C. G. Willson, J. D. Byers, *J. Polym. Sci. Pol. Chem.*, **1999**, 37, 1225-1236 (Cover).
28. *Molecular Meccano, 51. - Diastereoselective Self-Assembly of [2]Catenanes*, P. R. Ashton, A. Heiss, **D. Pasini**, F. M. Raymo, A. N. Shipway, J. F. Stoddart,* N. Spencer, *Eur. J. Org. Chem.* **1999**, 995-1004.
27. *Molecular Meccano, 38. - Enantioselective Differentiation in the Self-Assembly of [2]Pseudorotaxanes*, M. Asakawa, H. M. Janssen, E. W. Meijer,* **D. Pasini**, J. F. Stoddart,* *Eur. J. Org. Chem.* **1998**, 983-986.
26. *Cyclophanes and [2]Catenanes as Ligands for Transition Metal Complexes. Synthesis, Structure, Absorption Spectra, and Excited State and Electrochemical Properties*, P. R. Ashton, V. Balzani,* A. Credi, O. Kocian, **D. Pasini**, L. Prodi, N. Spencer, J. F. Stoddart,* M. S. Tolley, M. Venturi, A. J. P. White, D. J. Williams,* *Chem. Eur. J.* **1998**, 4, 590-607.
- Commented by: *Chemtracts* **1999**, 12, 322-329
25. *Self-Assembly of Catenanes and Cyclophanes Possessing Elements of Planar Chirality*, P.R. Ashton, S. E. Boyd, S. Menzer, **D. Pasini**, F. M. Raymo, N. Spencer, J.F. Stoddart,* A. J. P. White, D. J. Williams,* P.G. Wyatt, *Chem. Eur. J.* **1998**, 4, 299-310.

24. *Constitutionally-Asymmetric and Chiral [2]Pseudorotaxanes*, M. Asakawa, P. R. Ashton, W. Hayes, H. M. Janssen, E. W. Meijer,* S. Menzer, **D. Pasini**, J. F. Stoddart,* A. J. P. White, D. J. Williams,* *J. Am. Chem. Soc.* **1998**, *120*, 920-931.
23. *Molecular and Supramolecular Synthesis with Dibenzofuran-Containing Systems*, M. Asakawa, P. R. Ashton, C. L. Brown, M. C. T. Fyfe, S. Menzer, **D. Pasini**, C. Scheuer, N. Spencer, J. F. Stoddart,* A. J. P. White, D. J. Williams, *Chem. Eur. J.* **1997**, *3*, 1136-1150.
22. *Axially-Chiral Catenanes and π -Electron Deficient Receptors*, M. Asakawa, P.R. Ashton, S. E. Boyd, C. L. Brown, S. Menzer, **D. Pasini**, J.F. Stoddart,* M. S. Tolley, A. J. P. White, D. J. Williams, P. G. Wyatt, *Chem. Eur. J.* **1997**, *3*, 463-481.
21. *Enantioselective Recognition of Amino Acids by Axially-Chiral π -Electron Deficient Receptors*, M. Asakawa, C. L. Brown, **D. Pasini**, J.F. Stoddart,* P.G. Wyatt, *J. Org. Chem.* **1996**, *61*, 7234-7235.
20. *Chromatography of Mechanically-Interlocked Molecular Compounds*, M. Asakawa, **D. Pasini**, F. M. Raymo, J. F. Stoddart,* *Anal. Chem.* **1996**, *68*, 3879-3881.
19. *Self-Assembling Catenanes and Rotaxanes*, **D. Pasini**, F. M. Raymo, J. F. Stoddart,* *Gazz. Chim. It.* **1995**, *125*, 431-443.
18. *Solvent Effect as the Result of Frontier Molecular Orbital Interaction. VII. The Retro-Diels-Alder Reaction*, G. Desimoni,* G. Faita, **D. Pasini**, P. P. Righetti, *Tetrahedron* **1992**, *48*, 1667-1674.

Patents:

17. *Anthradithiophene derivatives, process for the preparation thereof and polymers that contain them*, G. Bianchi, D. Pasini, A. Nitti (Assignee Eni SpA, Italy). Patent no. **WO 2019175367**. Granted: Sep 19, 2019

Web of Science® Indexed Proceedings:

16. *Graft copolymers from poly (γ -glutamic acid): Innovative macromolecular scaffolds for additive manufacturing from renewable natural resources*, C. L. Zaccaria, V. Cedrati, A. Pacini, A. Nitti, **D. Pasini**,* *Advanced Materials and Processes for RF and THz Applications (IMWS-AMP), 2017 IEEE MTT-S International Microwave Workshop Series on. Date of Conference: 20-22 Sept. 2017*. DOI: 10.1109/IMWS-AMP.2017.8247415
15. *Lithographic Evaluation of a Novel Family of Carbon-Rich Cyclopolymers for 193 nm Microlithography*, J.M. Klopp, **D. Pasini**, J.M.J. Fréchet,* J.D. Byers *Proc. SPIE* **2000**, 3999, 23-31.
14. *Cyclopolymerization in the Design of Resist Materials*, J. M. J. Fréchet,* **D. Pasini**, E. Low, R. Meagley, J. Niu, *Polym. Mat. Sci. Eng.* **1999**, *80*, 487-488.
13. *Carbon-Rich Cyclopolymers: Their Synthesis, Etch Resistance, and Application to 193 nm Microlithography*, **D. Pasini**, E. Low, R. P. Meagley, J. M. J. Fréchet,* C. G. Willson, J. D. Byers, *Proc. SPIE* **1999**, 3678, 94-101.

12. *Positive and Negative Tone Water Processable Photoresists: A Progress Report*, S. Yamada, D. Medeiros, K. Patterson, W.-L. K. Jen, T. Rager, Q. Lin, C. Lenci, J. D. Byers, J. M. Havard, **D. Pasini**, J. M. J. Fréchet,* C. G. Willson *Proc. SPIE* **1998**, 3333, 245-253.
11. *The Design and Study of Water-Soluble Positive- and Negative-Tone Imaging Materials*, J. M. Havard, **D. Pasini**, J. M. J. Fréchet,* D. Medeiros, S. Yamada, K. Patterson, C. G. Willson *Proc. SPIE* **1998**, 3333, 111-121.
10. *Design of a Positive-Tone Water Soluble Resist*, J. M. Havard, **D. Pasini**, J. M. J. Fréchet,* C. G. Willson, *Polym. Mat. Sci. Eng.* **1997**, 77, 424-425.
9. *Design of a Positive-Tone Water Soluble Resist*, J. M. Havard, J. M. J. Fréchet,* **D. Pasini**, B. Mar, S. Yamada, D. Medeiros, C. G. Willson, *Proc. SPIE* **1997**, 3049, 437-447.

Book chapters:

8. *Chiral acenes - synthesis and applications*, A. Nitti,* G. Preda, **D. Pasini**,* in *Chiral Building Blocks in Asymmetric Synthesis*. Wojaczynska, E.; Wojaczynski, S. (Eds.): Wiley, 2022, In press.
7. *Push-Pull AIEgens*, A. Nitti,* **D. Pasini**,* in *Handbook of Aggregation-Induced Emission - Volume 3*, Chapter 22;, B. Z. and Tang, Y., Eds.; Wiley, **2021**, In press.
6. *Design and Preliminary Studies of Environmentally Enhanced Water-Castable, Water-Developable Positive Tone Resists: Model and Feasibility Studies*, J. M. Havard, **D. Pasini**, J. M. J. Fréchet,* D. Medeiros, S. Yamada, C. G. Willson *ACS Symp. Ser.* **1998**, 706 (Micro and Nanopatterning Polymers); Ito, H.; Reichmanis, E.; Nalamasu, O.; Ueno, T. Eds.; pp. 262-275.
5. *Linear vs. Crosslinked Macromolecules as Supports for Biocatalyzed Transformations: Recent Developments*, **D. Pasini**,* *Inorganic Biochemistry: Research Progress*, Hughes, J. G. and Robinson, A. J. Eds.; Nova Science Publishers, **2008**: pp. 1-10.
4. *Click Chemistry and Macrocycles*, **D. Pasini**,* in "*Click Reactions in Organic Synthesis*", S. Chandrasekaran, Ed.; Wiley, **2016**, pp. 287-307.

Refereed Papers without Impact factor:

3. *Acentric Nanostructured Assembly as a Strategy for the Design of Organic Electrooptic Materials*, C. Coluccini, **D. Pasini**,* *Open Condensed Matter Physics Journal* **2008**, 1, 7-12 (Invited Editorial Board Member Contribution).
2. *Counting at the Nanoscale: Molecules performing Simple Logic Operations*, **D. Pasini**,* *Quantum Biosystems* **2007**, 1, 74-79 (Invited Editorial Board Member Contribution).

Divulgative Papers without Impact factor:

1. *Black gold in state-of-the-art photovoltaics*, Andrea Nitti, **Dario Pasini**, *About Oil*, ENI magazine, published online 17/6/2015.

8 List of invited seminars/oral presentations

- 34) Invited strasbourg
- 33) 14/8/2019 *Chiral, Polymeric and Conjugated Organic Materials*, Swager group seminar series, Department of chemistry, Massachusetts Institute of Technology, Boston, USA
- 32) 22/8/2018 *Chiroptical Sensing and Chiral Nanostructures from Binaphthyl-Based Molecular Modules*, Xu group seminar series, Jangnan University - Wuxi – China
- 31) 27/6/2017 *From Chiral Catenanes to Chiral Nanostructures, Polymers and Conjugated Materials*, A Golden Age for Chemistry A celebration of the Stoddart's group Golden Jubilee, Nottingham, UK
- 30) 18/11/2016 *Structure-Activity Relationships for the Solid State Emission of a New Family of "Push-Pull" π -Extended Chromophores*, Faraday Discussions, Guangzhou, China.
- 29) 29/9/2015 *Chiroptical Sensing and Chiral Nanostructures from Binaphthyl-Based Molecular Modules*, Keynote Lecture, XII Congresso Nazionale di Chimica Supramolecolare, Messina, Italy.
- 28) 11/6/2015 *Biomateriali Micro e Nanostrutturati per l'Ingegneria Tissutale derivati da un Polimero Batterico Emergente*, Final Meeting INSTM-Regione Lombardia 2013-2015, one of the six selected Projects for the final presentation.
- 27) 19/6/2014 *Chiroptical Sensing and Chiral Nanostructures from Binaphthyl-Based Molecular Modules*, CHIRITALY, Pisa, Italy.
- 26) 27/6/2013 *Macromolecular and Macrocyclic Architectures as Functional Materials*, Consiglio Nazionale delle Ricerche, Istituto di Struttura della Materia, Roma, Italy.
- 25) 15/3/2013 *Poli(γ -glutammato): bioproduzione di un polimero ecocompatibile e sua derivatizzazione in materiali per il packaging attivo di alimenti (GAMMA-PGA)*, Final Meeting INSTM-Regione Lombardia 2010-2012 Projects
- 24) 15/11/2012 *"Push-pull" π -extended chromophores with coordinative ends: supramolecular polarization, sensing and aggregation-induced emission*, ISMAC Workshop 2012 dedicated to Alberto Bolognesi, ISMAC-CNR, Milano, Italy
- 23) 13/1/2012 *Novel Macrocyclic and Polymeric Architectures: Towards Functional Nanomaterials*, Dipartimento di Chimica Organica e Biologica, University of Messina, Italy (host: G. Gattuso)
- 22) 3/2/2011 *Novel Macrocyclic and Polymeric Architectures: Towards Functional Nanomaterials*, Department of Chemistry and Biochemistry, University of South Carolina, U.S.A (host: L. Shimizu)
- 21) 24/11/2010 *Novel Macrocyclic and Polymeric Architectures: Towards Functional Nanomaterials*, Institute for Complex Molecular Systems, Eindhoven University of Technology, Netherlands (host: E. W. Meijer)
- 20) 5/5/2010 *Cyclic Organic Molecules and Polymers: Towards Functional Nanomaterials*, Department of Chemistry, University of Namur, Belgium (host: D. Bonifazi)
- 19) 8/12/2009 *Cyclic Organic Molecules and Polymers: Towards Functional Nanomaterials*, Department of Chemistry, University of Miami, U.S.A. (host: F. M. Raymo)
- 18) 8/7/2009 *Cyclopolymerization as a Tool for the Synthesis of Functional Macromolecular Materials*, 13th International IUPAC Conference on Polymers and Organic Chemistry, Montreal, Canada.
- 17) 3/6/2009 *Styrene-Based Copolymers as Soluble Platforms for the Biocatalytic Transformation of Organic Substrates with Immobilized Enzymes*, Active Pharmaceutical Ingredients from Bioprocesses: from research to industrial and regulatory issues (APIB09, 1st International Symposium and Advanced Course), University of Pavia, Pavia, Italy.
- 16) 27/3/2009 *Cyclic Organic Molecules and Polymers: Towards Functional Nanomaterials*, Le giornate di Chimica Organica, Department of Organic Chemistry, University of Pavia, Pavia, Italy.
- 15) 27/11/2007 *Cyclopolymerization as a Tool for the Synthesis of Functional Materials*, Department of Chemistry, Bogazici University, Istanbul, Turkey (host: D. Avci)
- 14) 23/2/2007 *Novel Macrocyclic and Polymeric Architectures: Towards Functional Supramolecular Materials?*, CNR-INFN Nanostructures and Biosystems at Interfaces, Modena, Italy (host: L. Berti)
- 13) 17/6/2005 *Bioorganic Chemistry of Rigid-Rod Molecules*, NRP 47 final meeting, Murten, Switzerland.
- 12) 5/5/2005 *Optically-active macrocycles as sensors and as precursors for helical tubular structures*, PRIN workshop, University of Bologna, Italy (host: D. Braga)

- 11) 6/2/2004 *Supramolecular and Macromolecular Architectures via Lanthanide Ion Complexation and Cyclopolymerizations*, University of Geneva, Switzerland (host: S. Matile)
- 10) 10/9/2002 *Novel Macromolecular and Supramolecular Architectures via a Cyclopolymerization Approach*, Euresco Conference on High Performance Fibers, Bad Herrenalb, Germany.
- 9) 14/11/2000 *Nuovi Polimeri per Litografia a 193 nm*, Department of Organic Chemistry Research Seminars, University of Pavia, Italy.
- 8) 31/10/2000 *Novel Polymer Architectures for Advanced Microlithography*, Department of Organic Chemistry, Hebrew University of Jerusalem, Jerusalem, Israel (host: I. Willner)
- 7) 14/9/1999 *Carbon Rich Cyclopolymers for 193 nm Microlithography*, Resist Advisory Group Meeting, SEMATECH, Austin, Texas, USA.
- 6) 15/3/1999 *Carbon-Rich Cyclopolymers: Their Synthesis, Etch Resistance, and Application to 193 nm Microlithography*, SPIE's 24th International Symposium on Microlithography, Santa Clara, California, USA.
- 5) 21/8/1997 *Water-Soluble Water-Processable Resists*, Semiconductor Research Corporation Progress Review, University of California at Berkeley, Berkeley, California, USA.
- 4) 17/1/1997 *Sistemi Supramolecolari Chirali*, Istituto di Chimica delle Macromolecole, Consiglio Nazionale delle Ricerche, Milano, Italy (host: G. Audisio)
- 3) 30/4/1996 *Chiral Supramolecular Assemblies*, School of Chemistry Research Seminar, University of Birmingham.
- 2) 20/11/1994 *Towards Axially-Chiral π -Electron Deficient Supramolecular Receptors*, Glaxo Medicinal Chemistry Symposium Organized by the Medicinal Chemistry 2 Section, Glaxo Research and Development Centre, Greenford, London.

Outreach/Expert talks:

- 1) 27/1/2015 *Testimonianza di un valutatore di progetti Marie Curie (FP7 – IEF -2013; H2020 - IF - 2014)*, INFO DAY: Opportunità per ricercatori, Università dell'Insubria, Varese.

9 Research collaborators

Visiting Professors

- 1) Prof. Douglas Vander Griend (Calvin College, Grand Rapids, MI- USA): 9/2009-2/2010, self-supporting
- 2) Dr. Mohamed Yahia (Helwan University, Cairo, Egypt): 1/2017-3/2017, CICOPS fellowship

Postdoctoral fellows

- 1) Marina Ricci (technician of the Department of Organic Chemistry, part time research in the group, 2003)
- 2) Carmine Coluccini (5/2006-8/2009: cofunding MIUR-Ateneo 5/06-6/07, Sovvenzione Globale Ingenio 7/07-12/07, CARIPO Funds, 1/2008-8/2009)
- 3) Arvind Sharma (2/2009-1/2010: INDIA-MIUR fellowship)
- 4) Marco Caricato (11/2010-12/2012: 11/10-10/11 UNIPV fellowship; 11/11-10/12: ALMAMATER 50%- INSTM 50%; 11/12-12/12: INSTM-Regione Lombardia)
- 5) Aurora Pacini (3/2016-9/2017: IVM contract 3/2016-2/2017; INSTM-Regione Lombardia 3/2017-9/2017)
- 6) Andrea Nitti (11/2016-now: UNIPV postdoctoral fellowship type A; INSTM fellowship; PRIN fellowship)

PhD Students

- 1) Marco Caricato (2007-2010, MIUR fellowship). Thesis title: *Macro cicli Chirali per il Sensing e l'Assemblaggio di Nanostrutture*
- 2) Andrea Nitti (2013-2016; ENI fellowship). Thesis title: *Innovative Macromolecular Systems for Organic Photovoltaic Applications*
- 3) Giacomo Forti (2018-2021; ENI fellowship).
- 4) Giovanni Preda (2018-2021: various funds).
- 5) Angelo Martinelli (2020-2023: ENI fellowship)
- 6) Raffaele Antonio Carfora (2020-2023: ENI fellowship)
- 7) Charlotte Fornaciari (2020-2023: INPS fellowship)

Visiting PhD Students

- 1) Peshawa Osw (cosupervised with M. N. Abdullah), Salahaddin University-Erbil (Iraq) (3/2018-9/2019: self-supporting)

Postgraduate students with short-term fellowships

- 1) Federica Spiaggia (3 months, 2003, Fondo Ateneo di Ricerca);
- 2) Alberto Moletti (6 months, 2005, PRIN);
- 3) Antonio Castelluccio (8 months, 2006, PRIN);
- 4) Seda Edizer (3 months, visiting from Turkey, 2007, self-supporting);
- 5) Stefano Colombo (6 months, 2007-2008, Fondo Sociale Europeo);
- 6) Claudio Cornaggia (5 months, 2008, Fondo Sociale Europeo).
- 7) Giovanni Borghese (7 months, 2010, INSTM-Regione Lombardia)
- 8) Nerea Jordana Leza (12 months, 2014-2015, NPT contract,)
- 9) Ameneh Arabi (8 months, visiting from Iran, 11/2015-6/2016, self-supporting)
- 10) Louis Onuigbo (9 months, 10/2017-6/2018, INSTM-Regione Lombardia)
- 11) Stefano Piacentini (6 months, 1/2019-6/2019; 1/2019-5/2019, self-supporting. 6-2019, INSTM)
- 12) Matteo Catenazzi (10-11/2019: INSTM fellowship; 12/2019-now: ENI OdL fellowship)

MSc (ca. 9 months research internship) The asterisk denotes undergraduates who are coauthors of scientific publications. If not otherwise indicated, the students were enrolled for the MSc degree program in Chemistry. The cosupervisor, if present, is indicated in parenthesis

- 1) Valerio Rossi (2001, with P. Righetti, Thesis title: *Primi Studi di Polimeri con Potenziali Proprietà Ottiche Non Lineari da Macro cicli a Carattere "Push-Pull"*)*
- 2) Enrique Blazquez (2002, ERASMUS, with P. Mustarelli: *Sintesi di Nuovi Ciclopolimeri come Materiali per Batterie al Litio*)*
- 3) Emanuela Cagnoni (2002, with P. Righetti: *Ciclopolimeri a Base di Malonati Corona Semplici e Funzionalizzati*)*
- 4) Federica Spiaggia (2003, with L. Garlaschelli: *Nuovi Addotti Fullerenici Supramolecolari Dimerici e Polimerici*)*
- 5) Barbara Veronesi (2004, did not graduate but completed her internship)*
- 6) Ilaria Pianetti (Chemical and Pharmaceutical Technologies; 2003, with M. Pregnotato: *Idrolisi Enzimatica di Esteri Supportati su Polimeri Solubili a Base Stirenica*)*
- 7) Marco Filippini (Chemical and Pharmaceutical Technologies; 2006, con M. Pregnotato: *Idrolisi mediante PGA Immobilizzata di Ligandi Esterici su Fase Solida Stirenica*)*
- 8) Alberto Moletti (2005, with A. Taglietti: *Dispositivi Molecolari Basati sul BINOL*)*
- 9) Ivet Kosta (2004, ERASMUS, with P. Mustarelli: *Nuovi Approcci a Polimeri Reticolati di Tipo Supramolecolare e a Polimeri per Celle a Combustibile*)
- 10) Marco Parachini (2004, with P. Righetti: *Ciclopolimeri e Ciclocopolimeri come Leganti per la Complessazione di Metalli Lantanidici*)*
- 11) Luca Genovesi (2008: *Sintesi ed Applicazioni di Polimeri Biodegradabili*)
- 12) Alessandro Olmo (2010: *Applicazioni della "Click Chemistry" nella Sintesi di Macro cicli Chirali*)*
- 13) Alberto Bugana (2010: *Sintesi di PPV Modificati con Unità Aromatiche Elettron Ricche ed Elettron Povere Alternanti*)*
- 14) Matteo Montanari (2010: *Approcci Sintetici Innovativi per la Preparazione di Paraciclofandieni*)*
- 15) Nerea Jordana Leza (2011, ERASMUS, with Marco Caricato: *Macro cicli Chirali per il Sensing e l'Assemblaggio di Nanostrutture*)*
- 16) Silvia Diez-Gonzales (2012, ERASMUS, with Marco Caricato: *Macro cicli Chirali per il Sensing e l'Assemblaggio di Nanostrutture*)*
- 17) Aurora Pacini (2012, with Marco Caricato: *γ-PGA e Polilattico: Funzionalizzazione di Polimeri Naturali per Bioplastiche Ecosostenibili*)*
- 18) Federico Debattista (2013: *Sintesi di Polimeri PPV con Unità Alternanti Donor-Acceptor*)*
- 19) Idoia Arandia Ariño (2013, ERASMUS, 4 months, with Marco Caricato: *Macro cicli Chirali per il Sensing e l'Assemblaggio di Nanostrutture*)*
- 20) Luca Beria (2013, ERASMUS, with Amitav Sanyal, Bogazici University—Turkey: *Chemical Modification of Natural and Artificial Polymers for the Synthesis of Functional Biomaterials and Hydrogels*)*
- 21) Marco Agnes (2014, with David Amabilino, ICMAB Barcelona—Spain: *Synthesis of BINOL-Based Building Blocks for Selective Complexation and Chiral Macrocyclic Formation*)*
- 22) Sara Benedini (2014: *Sintesi di Cromofori "Push-Pull" come "Aggregation-Induced Emissive Materials" e per il Sensing di Lantanidi*)*
- 23) Fabio Invernizzi (2014, with Andrea Nitti: *Sintesi di [2.2]paraciclofani e [2.2]paraciclofandieni via Pummerer rearrangement e sulfur extrusion*)*
- 24) Nicolò Ferri (2014: *Sintesi e Ciclopolimerizzazione di Monomeri Stirenici Difunzionali*)*
- 25) Valeria Cedrati (2015: *Sintesi di Derivati e Copolimeri Graft dell'Acido Poli-γ-Glutammico mediante Click Chemistry*)*

- 26) Marco Signorile (2016, with Andrea Nitti: *Sintesi di Sistemi Molecolari π -Coniugati tramite Reazioni di Arilazione Diretta Intramolecolare*)*
- 27) Erica Maggioni (Chemical and Pharmaceutical Technologies; 2016, with Ida Genta: *Studi Preformativi Preliminari per la Realizzazione di un Idrogelo Termosensibile Destinato ad una Somministrazione Intra-articolare*)
- 28) Luis De Verastegui (2016-2017, ERASMUS, 10 months, with Andrea Nitti: *Synthesis of Innovative Anthradithiophene Monomers and AIE Chromophores for Clean Energy Applications*)
- 29) Cristiana Ludovica Zaccaria (Advanced Biotechnologies, 2018: *Synthesis and Biocompatibility of Graft Derivatives from Poly(γ -Glutamic Acid)*)*
- 30) Giuseppe Calcagno (2018, with Andrea Nitti: *Synthesis of a Library of π -Extended Organic Compounds via a Cascade Cross Aldol-Direct Arylation Approach*)*
- 31) Matteo Catenazzi (2019: *Sistemi Policiclici π -Coniugati tramite Arilazione Diretta per il Fotovoltaico Organico*)
- 32) Samuele Colombi (2020: *Sintesi e caratterizzazione di polimeri con capacità di self-healing per batterie Li-ione*)*
- 33) Eliana Manobianco (Advanced Biotechnologies, 2020: *Sintesi di poli-amminoacidi via Ring-Opening Polymerization di N-carbossi anidridi*)
- 34) Charlotte Fornaciari (Advanced Biotechnologies, 2020: *Sintesi di omopolimeri e copolimeri random mediante Ring Opening Polymerization di N-carbossianidridi di α -amminoacidi*)
- 35)
- 36)

BSc students (Thesis is only a written discussion of a research topic), ca. 25 students. The following students carried out a lab stage of 3-4 weeks: a) Annamaria Bertasa, 2003; b) Michele Petenzi, 2007;* c) Alberto Bugana, 2007; d) Guido Barzanò, 2014; e)Valeria Cedrati, 2014; f) Luca Crivelli, 2017; g) Eugenio Roà, 2018.

10 Research support as Principal Investigator

Net amounts of grants, excluding cofunding

International grants

1) Title: *Solving treatment of wastewater sewage sludge with new HTL technology to produce hydrocarbons, asphalts and fertilizers*. Project acronym: LIFE FREEDOM

Source: European Commission - LIFE 2019 Call for proposals for LIFE ACTION GRANTS

Dates: 10/2020 -9/2024 (estimated)

Total budget for UNIPV: 246.258 Euro. Amount destined to the candidate as the P.I. for the organic chemistry WPs: 50.000 Euro (estimated)

2) Title: *Development of Chiroptical Sensors Derived from Cyclodextrins for the Analysis of Hydrophobic and Amphiphilic Organic Pollutants in Water*

Source: Cercle Gutenberg - Alsace region (France)

Dates: 3/2020-2/2022

Amount: 60.000 Euro

3) Title: *Chiral soft organic nanostructures based on triptycenes*

Source: European Commission - EUSMI - European Soft Matter Infrastructure. The title proposal submitted by the candidate was funded upon external reviewing. The research contract allowed an EUSMI participating industry (the Dutch company SYMO-CHEM) to be paid to perform the synthesis of speciality chemicals of interest of the candidate's research group.

Dates: 10/2020-7/2021

Amount: 50 working days (27.500 Euro)

4) Title: *π -Conjugated Monomers for OPVs*

Source: European Commission - EUSMI - European Soft Matter Infrastructure. The title proposal submitted by the candidate was funded upon external reviewing. The research contract allowed an EUSMI participating industry (the Dutch company SYMO-CHEM) to be paid to perform the synthesis of speciality chemicals of interest of the candidate's research group.

Dates: 5/2018-3/2019

Amount: 100 working days (55.000 Euro)

Total international grants: **192,5 kEuro**

National grants

1) Title: *Circular Economy for Water and Energy - C4WE*

Source: Regione Lombardia

Durata: 02/2020 – 07/2022

Total budget for UNIPV: 2.000.000 Euro. Amount destined to the candidate as the P.I. for the subtask WP2.1.2 (polymeric membrane optimization): 31.000 Euro

2) Title: *Environmentally Compatible Silyl-Modified Polymers (ECOSiMP)* (including a PhD fellowship)

Source: INPS (PhD fellowships on sustainable development), proposal funded in collaboration with New Polyurethane Technologies s.r.l.

Durata: 10/2020-9/2023

Amount: 67.700 Euro

3) Title: *Boosting Sustainability in Organic Electronics: the Key Role of Functional Surfactants as Reaction Media and Dispersing Agents (BOOSTER)*

Source: PRIN (projects of Relevant National Interest) MIUR. Unit Coordinator for UNIPV. National Coordinator: Luca Beverina

Dates: 5/2019-4/2021

Amount: 121.000 Euro

4) Title: *Fondo di Finanziamento Attività di Ricerca di Base*

Source: MIUR

Dates: 2018

Amount: 3.000 Euro

5) Title: *Nuovi Materiali e Tecnologie per Stampa 3D Stereolitografica (STEREO3D)*

Source: INSTM – Regione Lombardia

Dates: 10/2016-9/2018

Amount: 14.000 Euro (Organic Chemistry Unit Coordinator)

6) Title: *Biomateriali Micro e Nanostrutturati per l'Ingegneria Tissutale derivati da un Polimero Batterico Emergente (PGGABIOMAT)*

Source: INSTM – Regione Lombardia

Dates: 5/2013-4/2015

Amount: 45.000 Euro (Project Coordinator)

7) Title: *Chiroptical Sensing and Chiral Nanostructures with BINOL-based Molecular Modules*

Source: PRIN (projects of Relevant National Interest) MIUR. Unit Coordinator for UNIPV. National Coordinator: Roberto Purrello

Dates: 10/2011-10/2013

Amount: 22.000 Euro

8) Title: *Poli(γ -glutammato): bioproduzione di un polimero ecocompatibile e sua derivatizzazione in materiali per il packaging attivo di alimenti (GAMMA-PGA)*

Source: INSTM – Regione Lombardia

Dates: 3/2010-2/2012

Amount: 28.750 Euro (Project Coordinator)

9) Title: *Supramolecular Assembly of Helical Structures from Optically-Active Macrocycles*

Source: PRIN (projects of Relevant National Interest) MIUR. Unit Coordinator for UNIPV. National Coordinator: Dario Braga

Dates: 11/2004-10/2006

Amount: 46.300 Euro

Total national grants: **378,75 kEuro**

From Foundations:

1) Title: *Poli(γ -glutammato) (gamma-PGA): un materiale biocompatibile e biodegradabile per l'immobilizzazione di molecole biologicamente attive*

Source: Fondazione Alma Mater Ticinensis

Dates: 5/2010-4/2012

Amount: 13.750 Euro (Unit Coordinator)

2) Title: *Self-Assembled Nanostructured Materials: A Strategy for the Control of Electrooptic Properties*

Source: Fondazione CARIPO (Unit Coordinator), Project coordinator: Prof. Giuseppe Resnati (POLIMI)

Dates: 9/2007-8/2009

Amount: 57.600 Euro

Total foundations: **71,35 kEuro**

University of Pavia

1) Title: *Organic Electronics* (Nitti)

Source: UNIPV cofunded postdoctoral fellowship type A

Dates: 12/2016-11/2018

Amount: 43.000 Euro

2) Title: *Polymer chemistry (New materials for 3D Stereolithography)* (Yahia)

Source: UNIPV CICOPS fellowship

Dates: 1/2017-3/2017

Amount: 4.000 Euro

3) Title: *Macrocicli Chirali per il Sensing e l'Assemblaggio di Nanostrutture* (Caricato)

Source: UNIPV MIUR PhD fellowship

Dates: 11/2007-10/2010

Amount: 50.000 Euro

4) Title: *Chiral nanostructures* (Coluccini)

Source: UNIPV cofund 1 year postdoctoral fellowship

Dates: 7/2006-6/2007

Amount: 10.000 Euro

5) Title: *Organic Materials*

Fondo di Ateneo per la ricerca, University of Pavia

Dates: annually renewed (2001-2009)

Total Amount: ca. 10.000 Euro

Total UNIPV: **117 kEuro**

Industrial contracts

1) Title: *Second Generation Supramolecular Polymers as Drag Reducers*

Source: Ordine di Lavoro ENI through UNIPV framework

Dates: 2/2022-7/2022

Amount: 30.000 Euro

2) Title: *Novel Supramolecular Polymers as Drag Reducers*

Source: Ordine di Lavoro ENI through UNIPV framework

Dates: 7/2021-12/2021

Amount: 30.000 Euro

3) Title: *Soft 3D Printable Actuators* (including a PhD fellowship)

Source: ENI through UNIPV framework

Duration: 10/2020-9/2023

Amount: 90.000 Euro

4) Title: *Innovative Viscosity Modifiers for Energy Efficient Lubricants* (including a PhD fellowship)

Source: ENI through UNIPV framework

Dates: 10/2020-9/2023

Amount: 90.000 Euro

5) Title: *Sintesi di materiali organici originali per applicazioni optoelettroniche*

Source: Ordine di Lavoro ENI through UNIPV framework

Dates: 11/2019-10/2020

Amount: 62.515 Euro

6) Title: *studio e caratterizzazione di siliconi innovativi ed additivi per la formulazione di paste coloranti adatte a sistemi poliuretanic*

Source: MARBO S.p.A.

Dates: 5/2019-4/2021

Amount: 40.000 Euro

7) Title: *Materiali organici innovativi per applicazioni nel fotovoltaico* (including a PhD fellowship)

Source: ENI Corporate University

Dates: 10/2018-9/2021

Amount: 90.000 Euro

8) Title: *Sintesi e fornitura di macrocampione antraditiofenico ADT di-acido*

Source: Ordine di Lavoro ENI through INSTM framework

Dates: 3/2019-6/2019

Amount: 25.000 Euro

9) Title: *sintesi e fornitura di macrocampione di monomero antraditiofenico ADT*

Source: Ordine di Lavoro ENI through INSTM framework

Dates: 1/2019-3/2019

Amount: 28.000 Euro

10) Title: *Sintesi e fornitura di macrocampione di monomero antraditiofenico ADT*

Source: Ordine di Lavoro ENI through INSTM framework

Dates: 1/2018-4/2018

Amount: 5.600 Euro

11) Title: *Sintesi e fornitura di macrocampioni di monomero bitiofenico DTB*

Source: Ordine di Lavoro ENI through INSTM framework

Dates: 9/2017-12/2017

Amount: 5.750 Euro

12) Title: *Studio e caratterizzazione di siliconi innovativi ed additivi per la formulazione di paste coloranti adatte a sistemi poliuretanic*

Source: MARBO S.p.A.

Dates: 4/2018-3/2019

Amount: 20.000 Euro

13) Title: *studio e caratterizzazione di siliconi innovativi ed additivi per la formulazione di paste coloranti adatte a sistemi poliuretanic*

Source: MARBO S.P.A.

Dates: 10/2016-9/2017

Amount: 20.000 Euro

14) Title: *Sintesi di poliesteri iper-ramificati per prodotti vernicianti*

Source: IVM Chemicals S.r.l. through INSTM

Dates: 3/2016-2/2017

Amount: 40.000 Euro

15) Title: *Formulazione Innovativa per Somministrazione Intraarticolare*

Source: Rottapharm S.p.A.

Dates: 12/2015-8/2016

Amount: 9.750 Euro (Subcontractor)

16) Title: *Analisi e deformulazione di specifiche composizioni assemblate*

Source: MARBO S.P.A.

Dates: 1/2015-1/2016

Amount: 20.000 Euro

17) Title: *Sistemi Macromolecolari Innovativi per il Fotovoltaico Organico Polimerico (including a PhD fellowship)*

Source: ENI Corporate University

Dates: 11/2013-10/2016

Amount: 70.000 Euro

18) Title: *Sintesi di Prepolimeri a Bassa Polidispersità come Componenti Macromolecolari Innovativi per Adesivi a Base Silanica*

Source: New Polyurethane Technologies s.r.l. through INSTM

Dates: 4/2014-3/2015

Amount: 29.000 Euro

Total Industries: **705,6 kEuro**