

Pietro CAPURRO, Ph.D.

Curriculum Vitae

PERSONAL DATA

AGE AND DATE OF BIRTH: 30 years | 15th July 1993
LEGAL RESIDENCE: Via Filippo Casoni 4/19, 16143, Genova, Italy
CURRENT ADDRESS: 25 Rue de Nouveau Bassin, 68100, Mulhouse, France
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ORCID: [0000-0002-2705-9219](https://orcid.org/0000-0002-2705-9219)
CURRENT POSITION(S): *Postdoctoral researcher* at CNRS (Mulhouse)
Université de Haute Alsace / Université de Strasbourg
Laboratoire d'Innovation Moléculaire et Applications
Equipe Biomolécules, Synthèse et Méthodologie
Institut Donnet, 3bis Rue Werner
68093 Mulhouse Cedex, France

EDUCATION AND ACADEMIC APPOINTMENTS

<i>since</i> JULY 2023 <i>current</i>	Postdoctoral researcher , University of Genoa Supervisor: Dr. Nicolas BLANCHARD Research group: Equipe Biomolécules, Synthèse et Méthodologie @LIMA Working on the total synthesis of Myconolactone and its analogues.
<i>since</i> FEBRUARY 2022 <i>to</i> JANUARY 2023	Postdoctoral researcher , University of Genoa Supervisor: Prof. Dr. Andrea BASSO Research group: Profs. Banfi, Riva and Basso Worked on the development of new photoinduced multicomponent reactions and processes.
<i>from</i> NOVEMBER 2018 <i>to</i> OCTOBER 2021 (Defense: MARCH 2022)	Ph.D. cum laude , University of Genoa <i>in</i> SCIENCE AND TECHNOLOGY OF CHEMISTRY AND MATERIALS Thesis: " <i>Novel Photoredox and Photoinduced Approaches for Synthetic Applications</i> "(link) Supervisor: Prof. Dr. Andrea BASSO List of Courses and Schools Attended Research group: Profs. Banfi, Riva and Basso Worked on the development of a visible-light driven approach towards Ketene Multicomponent Reactions (K-MCRs), a mild and selective synthetic pathway towards natural analogues of natural products Eusynstyelamides and Anchinopeptolides, and a photoinduced radical functionalization protocol to incorporate solvent-derived moieties into olefins.
	Abroad Research Period (JANUARY - JULY 2021) <i>at</i> Institute of Chemical Research of Catalonia (ICIQ), Tarragona, Spain Supervisor: Prof. Dr. Paolo MELCHIORRE Research group: Prof. Paolo Melchiorre Group Worked on asymmetrical photo-organocatalysis with chiral iminium ions to achieve the enantioselective radical β -functionalization of enals and enones.

from JANUARY 2018 to OCTOBER 2018	Postgraduate Researcher , University of Genoa Supervisor: Prof. Dr. Andrea BASSO Research group: Profs. Banfi, Riva and Basso Worked on multi-gram scale syntheses of chiral molecules for AnalytiCon Discovery GmbH .
from SEPTEMBER 2015 to DECEMBER 2017	Master of Science, 110/110 cum laude , University of Genoa in CHEMICAL SCIENCES Organic chemistry Thesis: “ <i>Synthesis of α-amidosilylenolethers via Photoinduced Multicomponent Reactions and Their Synthetic Application</i> ” Supervisor: Prof. Dr. Andrea BASSO List of Exams Research group: Profs. Banfi, Riva and Basso Worked on the development of a novel UV-induced multicomponent reaction affording α -amidosilylenolethers and studied their reactivity.
from SEPTEMBER 2012 to OCTOBER 2015	Bachelor of Science, 110/110 cum laude , University of Genoa in CHEMISTRY AND CHEMICAL TECHNOLOGIES Thesis: “ <i>Synthesis and processing of Ugi reaction’s products for a combinatorial library</i> ” Supervisor: Prof. Dr. Andrea BASSO List of Exams Research group: Profs. Banfi, Riva and Basso Worked on multicomponent multi-gram scale synthesis of chiral molecules for AnalytiCon Discovery GmbH .
JULY 2012	High School Diploma Liceo Scientifico “G. D. Cassini”, Genoa Final Grade: 87/100

TEACHING EXPERIENCE

OCTOBER 2019 - JUNE 2020 MARCH 2022 - JUNE 2022	Teaching Tutor , University of Genoa Teaching tutor for first-year students in <i>Chemistry and Chemical Technologies</i> and <i>Biotechnologies</i> at the University of Genoa. Taught the students how to apply the theory to the exercises by solving illustrative problems and explaining the logical processes to get to the solution during dedicated lessons. Topics: General and Inorganic Chemistry, Organic Chemistry.
from MARCH 2018 to APRIL 2018	Work-related Learning Tutor , University of Genoa Organic Chemistry tutor for high school students within a work-related learning project. Introduced students to the fundamental concepts and methods of organic chemistry (liquid phase extraction, melting point, chirality and optical rotatory power) and followed them during the preparation of a final presentation on the topics covered during the laboratory experience.
OCTOBER - NOVEMBER 2019, 2020, 2021, 2022	Scientific Entertainer , Festival della Scienza Scientific entertainer at science exhibit Festival della Scienza . Introduced the visitors to several concept in chemistry (namely chirality, raw materials recycling and metal reactivity, the concept of mole, and chemical nomenclature during 2019, 2020, 2021 and 2022 editions respectively) and oversaw them during the contextual practical activity. Held online laboratories for schools in live streaming (during 2020 edition).

JOURNAL PUBLICATIONS

* corresponding author † shared authorship

AS CORRESPONDING AUTHOR

DECEMBER 2022	A Visible-light Driven Solventylation Strategy for Olefins Functionalization Capurro, P.*; Ricciardiello, V.; Lova, P.; Lambruschini, C.; Protti, S. and Basso, A.* <i>ACS Omega</i> , 2022, 7 (51), 48564–48571 (link)
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FIRST NAME PUBLICATIONS

- MARCH 2021 | Into the Blue: Ketene Multicomponent Reactions under Visible Light
Capurro, P.; Lambruschini, C.; Lova, P.; Moni, L. and Basso, A.*
The Journal of Organic Chemistry, 2021, 86 (8), 5845–5851 ([link](#))
- MARCH 2020 | An Unexpected Benzylic Oxidation in the Multicomponent Synthesis of Simplified Analogues of Anchinopeptolides and Eusynstyelamides
Capurro, P.; Bergamaschi, E.; Basso, A. and Moni, L.*
Chemistry of Heterocyclic Compounds, 2020, 56 (4), 467–472 ([link](#))
- SEPTEMBER 2018 | Multi-Gram Synthesis of Enantiopure 1,5-Disubstituted Tetrazoles Via Ugi-Azide 3-Component Reaction
Capurro, P.; Moni, L.; Galatini, A.; Mang, C. and Basso, A.*
Molecules, 2018, 23, 2578 ([link](#))
- JANUARY 2018 | Photoinduced Multicomponent Synthesis of α -Silyloxy Acrylamides, an Unexplored Class of Silyl Enol Ethers
Ibba, F.†; Capurro, P.†; Garbarino, S.; Anselmo, M.; Moni, L. and Basso, A.*
Organic Letters, 2018, 20 (4), 1098–1101 ([link](#))

OTHER PUBLICATIONS

- AUGUST 2019 | Stereoselective Synthesis of 3,5-Dihydroxypyrrolidin-2-ones through a Photoinduced Multicomponent Reaction followed by Dimerization
Bergamaschi, E.; Capurro, P.; Lambruschini, C.; Riva, R.; Moni, L. and Basso, A.*
European Journal of Organic Chemistry, 2019, 34, 5992–5997 ([link](#))

BOOK CHAPTERS

- NOVEMBER 2019 | Chemical Reactions for Building Small Molecules
Capurro, P. and Basso, A.*
in **Small Molecule Drug Discovery**, Trabocchi, A. and Lenci, E. (Editors)
Elsevier, 1st Ed. (2019), pp. 35-71, ISBN: 9780128183496 ([link](#))
- NOVEMBER 2020 | Recent applications of photochemistry on large-scale synthesis (2015–2019)
Basso, A.* and Capurro, P.
in **Photochemistry Vol. 48**, Protti, S. and Raviola, C. (Editors)
The Royal Society of Chemistry, 1st Ed. (2020), pp. 293-321, ISBN: 978-1-83916-140-7 ([link](#))

RELEVANT WORKING SKILLS

Organic synthesis

- Excellent knowledge of practical laboratory techniques (extraction, distillation, crystallization, precipitation, flash chromatography, qualitative and preparative TLC, titration)
- Ability to work on very small (0.05 mmol) and large (50 mmol) scale
- Good experience in working under inert conditions (Schlenck technique, freeze-pump-thaw protocol, low temperatures, glove box)
- Good experience in handling troublesome substances (diazomethane, isocyanides, organometallic species)
- Good knowledge on experimental organic photochemistry
- Experience in flow photochemistry with syringe pump setup
- Experience in ordinary laboratory maintenance and running

Analytical chemistry

- Very good command of NMR spectra interpretation for substances identification via monodimensional (^1H , ^{13}C , ^{19}F , NOESY, ROESY, TOCSY, DEPT) and bidimensional (COSY, HSQC, HMBC, NOESY-2D) experiments on several solvents and at different temperatures
- Experience with HPLC and UPC² with chiral stationary phases
- Experience with GC-MS, UV-VIS, FT-IR on organic molecules
- Experience with cyclic voltammetry (CV)

Research experience

- Deep knowledge of pivotal transformations in organic synthesis
- Primary focus on synthetic organic methodology
- Deep knowledge of modern organic photochemistry, with focus on direct photochemistry and photoredox catalysis and expertise in visible-light rearrangements, HAT, XAT, and radical reactivity
- Vast experience on multicomponent reactions (MCRs)
- Experience with asymmetric catalysis
- Experience with absolute actinometry
- Experience in molecular structure elucidation
- Experience and aptitude for journal articles and book chapters writing

Computer skills

- Good command of MS Office (PowerPoint, Excel, Word) and \LaTeX
- Vast experience with chemical drawing (ChemDraw), analysis (MestReNova) and citation (Mendeley, EndNote) software, and academic search engines (Reaxys, SciFinder) and databases (Scopus, Web of Science)
- Intermediate knowledge of object-oriented and general programming (C#, Java, php, HTML)
- Experience with Adobe Photoshop, Autodesk Fusion 360, OriginLab

Other skills

- Basic experience in 3D printing and laser cutting
- Experience with electronics (conceived and built *ad hoc* batch and flow photoreactors with high power LEDs)

Soft skills

- Good time management over own projects
- Experience with data presentation, evaluation and discussion in a constructively-critical environment
- Strong aptitude towards problem solving
- Patience, sensitiveness to team mates' needs
- Readiness in helping team members
- Attention to creating an inclusive and healthy work environment

CONFERENCE ACTIVITY

NOVEMBER 2022	Poster Contribution New Trends in Organic Synthesis - XXXVI Edition Title: "A Visible-light Driven Solventylation Strategy for Olefins Functionalization"
JUNE 2021	Oral Communication XLV "A. Corbella" International Summer School on Organic Synthesis (ISOS 2021) Title: "Into the Blue: Ketene Multicomponent Reactions under Visible Light"
NOVEMBER 2020	Oral Communication 1 st SCI Virtual Symposium of Young Organic Chemists (SCI-VISYOChem) Title: "An unexpected benzylic oxidation in the multicomponent synthesis of simplified analogues of Anchinopeptolides and Eusynstyelamides"
NOVEMBER 2019	Poster Contribution New Trends in Organic Synthesis - XXXIV Edition Title: "Synthesis of α -Amido Silyl Enol Ethers via Silylative Ketene 3-Component Reaction: Synthetic Applications in Organic and Natural Product Synthesis"
SEPTEMBER 2019	Poster Contribution XXXIX National Conference of the Organic Chemistry Division (Italian Society of Chemistry) - CDCO 2019 Title: "Synthesis of α -Amido Silyl Enol Ethers via Silylative Ketene 3-Component Reaction: Synthetic Applications in Organic and Natural Product Synthesis"
APRIL 2018	Oral Communication 9 th Italian-French Chemistry Days (IX Giornate Italo-Francesi di Chimica - GIFC 2018) Title: " α -Silyloxy Acrylamides: synthesis and reactivity"

LANGUAGES

ITALIAN:	Mothertongue
ENGLISH:	Speaking, reading and writing proficiency Voluntary translator for Egosoft GmbH since 2012 Italian Localisation Team member for <i>X: Rebirth</i> (2013) and <i>X4: Foundations</i> (2018)
FRENCH:	Basic knowledge
SPANISH:	Basic knowledge

MEMBERSHIPS

Since 2018	Member of <i>Italian Chemical Society (SCI)</i>
Since 2011	Member of <i>Yacht Club Italiano (YCI)</i>

CERTIFICATES AND ADDITIONAL INFOS

APRIL 2012	Driving License (A, B)
APRIL 2013	Boat License (no limitations)
MAY 2018	State Examination of Professional Abilitation as Chemist

DETAILED LIST OF COURSES, SCHOOLS AND EXAMINATIONS

Ph.D. in Science and Technology of Chemistry and Materials

TYPE	TITLE	PERIOD	CREDITS
Course	Perspectives on Bioinorganic Chemistry	March - June 2019	2
Course	Pharmaceutical Biotechnologies	March - July 2019	3
Course	Design and Synthesis of Protein-Kinase Inhibitors as Anticancer Agents	April - May 2019	2
Course	Organic Photochemistry	June - July 2020	2
Course	The Ideal Synthesis Nowadays: Lessons from the Synthetic Chemist Nature	April - May 2020	2
Course	Experimental Design in Modern Research	June 2020	3
Course	Electrochemistry Crash Course	June 2021	1
Course	Spectroscopic Methodologies for the Elucidation of Reaction Mechanisms	March 2021	1
School	VIII Ciamician Photochemistry School	June 2019	
School	XLV "A. Corbella" International Summer School on Organic Synthesis	June 2021	

M. Sc. in Chemical Sciences

EXAM	GRADE	CREDITS
English 2	qualified	4
Complements of Inorganic Chemistry	30	8
Physical Methods in Organic Chemistry	30 cum laude	8
Environmental Physical Chemistry	30	8
Basics in Optics	30	4
Environmental Analytical Chemistry	30	6
Organic Synthesis	30	6
Instrumental Analytical Chemistry	30	8
Organic Reactions Mechanisms	30 cum laude	4
Heterocyclic Chemistry	30	4
Complements of Organic Chemistry	30 cum laude	6
Organic Special Techniques and Syntheses	30	4
Organic Physical Chemistry	30	6
Chemistry of Natural Organic Substances	30 cum laude	4
Other Training Activities	qualified	2
Final Examination	30	38
	Total	120

B. Sc. in Chemistry and Chemical Technologies

EXAM	GRADE	CREDITS
English	qualified	4
General and Inorganic Chemistry	30 cum laude	13
Analytical Chemistry 1	30	7
Organic Chemistry 1	30	8
General Physics with Laboratory	28	12
Mathematical Institutions	30	14
Organic Chemistry 2	30 cum laude	12
Analytical Chemistry 2	30	14
Physical Chemistry 1 with Laboratory	30	11
Industrial Chemistry Principles	30 cum laude	6
Inorganic Chemistry 1 with Laboratory	30	11
Physical Chemistry 2	30	6
Biological Chemistry	30 cum laude	4
Inorganic Chemistry 2	30	5
Organic Chemistry 3	28	6
Physical Chemistry 3 with Laboratory	30	8
Fundamentals of Physiology and Pharmacology	30 cum laude	8
Analytical Chemistry 3	30 cum laude	5
Numerical Calculation and Programming	30	3
Radiochemistry	30 cum laude	4
Applied Organic Chemistry	30 cum laude	4
Bioorganic Chemistry	30	4
Training and Orientation Apprenticeship	qualified	8
	Total	180