

Curriculum vitae

EDUCATION and DEGREE

- 2002-Present Research Associate at the University of Milan.
- 2005-2007 Postdoctoral position at Danish National Research Foundation Center for Catalysis, Department of Chemistry, Aarhus University; subject of study: organocatalyzed enantioselective synthesis (prof. Karl Anker Jørgensen's research group)
- 1999-2001 Postdoctoral position at Department of Industrial and Organic Chemistry, University of Milan, Italy; subject of study: Stereoselective synthesis using organometallic complexes
- 1996-1999 Ph.D. in Chemistry Science at University of Milan, Italy; subject of study: Development of a New Class of Electrophilic Hydrazinocarbene Complexes: Synthesis and Utilization as d^2 Synthons in the Stereoselective Formation of Carbon-Carbon Bonds.
- 1995 Degree in Chemistry at Department of Industrial and Organic Chemistry, University of Milan, Italy. Title of the thesis: Chiral Fischer-type carbene complexes bearing amines with C_2 symmetry.

RESEARCH INTERESTS

Chemistry of hydrazines: applications in general organic synthesis, organometallic chemistry, medicinal chemistry and stereoselective synthesis. Develop and application of organocatalysts in enantioselective synthesis. Synthesis of nanoparticles designed for the selective delivery of drugs.

PUBLICATIONS

1. E. Licandro, S. Maiorana, A. Papagni, D. Perdicchia, M. Pryce, A. Tiripicchio, M. Lanfranchi, "New synthesis of Fischer-type hydrazino(alkyl) complexes. First X-ray

- characterisation of a chelate hydrazino derivative.”*J.C.S. Chem. Commun.* **1998**, 383-384.
2. E. Licandro, S. Maiorana, R., A. Papagni, D. Perdicchia, “Hydrazinolysis of Fischer-type oxacarbenes made efficient: a new and easy entry to alkyl and aryl hydrazinocarbene complexes.” *J.C.S. Chem. Commun.* **1999**, 925-926.
 3. S. Maiorana, A. Papagni, E. Licandro, D. Perdicchia, C. Baldoli, C. Graiff, A. Tiripicchio, “Synthesis of the first chiral phosphorous chelate aminophosphino-carbene complex and its applications in stereoselective addition reactions” *Inorganica Chimica Acta*, 296, **1999**, 236-245.
 4. E. Licandro, S. Maiorana, A. Papagni, L. Capella, D. Perdicchia, “Chiral nitrogen-stabilized Fischer carbene complexes: an efficient tool in the stereocontrolled elaboration of additional stereogenic centers”, *Pure Appl. Chem.*, 71, 8, **1999**, 1453-1461.
 5. C. Baldoli, P. Del Buttero, D. Perdicchia, T. Pilati, “Stereoselective synthesis of β -sultams using chiral tricarbonyl (η^6 -arene) chromium (0) complexes” *Tetrahedron*, 55, **1999**, 14089-14096.
 6. E. Licandro, S. Maiorana, C. Baldoli, L. Capella, D. Perdicchia, “Enantioselective synthesis of (R)-(-)-Baclofen using Fischer-type carbene anions” *Tetrahedron asymmetry*, 11, **2000**, 975-980.
 7. S. Maiorana, D. Perdicchia, B. Vandoni, “The carbon-metal double bond in organic synthesis”, Seminars in Organic Synthesis, Summer School "A. Corbella", 25th, Gargnano, Italy, 12-16 June **2000**, 139-164 (CAN 134: 207358).
 8. E. Licandro, S. Maiorana, C. Baldoli, B. Vandoni, D. Perdicchia, “Michael addition of nitromethane to chiral $\text{Cr}(\text{CO})_3$ complexes of ethyl cinnamate derivatives: stereoselective synthesis of (R)-(-)-baclofen”, *Tetrahedron asymmetry*, 11(9), **2000**, 2007-2014.
 9. E. Licandro, S. Maiorana, C. Baldoli, D. Perdicchia, C. Graiff, A. Tiripicchio, “Fischer-type alkyl(hydrazino)carbene complexes: new synthetic potential in comparison with aminocarbene complexes”, *Journal of Organometallic Chemistry*, 617-618 (0), **2001**, 399-411.
 10. E. Licandro, S. Maiorana, C. Baldoli, D. Perdicchia, B. Vandoni, P. Paravidino, “Synthesis of medium-sized *N*-heterocycles through RCM of Fischer-type hydrazino carbene complexes”, *Synlett*, 6, **2001**, 757-760.
 11. Dario Perdicchia, Emanuela Licandro, Stefano Maiorana, Barbara Vandoni, Clara

Baldoli, “ New Methodologies for the Oxidation of Fischer Carbene Complexes: Synthesis of Hydrazides ”, *Organic Letter*, 4 (5), **2002**, 827-830.

12. Papagni, Antonio; Maiorana, Stefano; Del Buttero, Paola; Perdicchia, Dario; Cariati, Franco; Cariati, Elena; Marcolli, Walter, “Synthesis and spectroscopic and NLO properties of "push-pull" structures incorporating the inductive electron-withdrawing pentafluorophenyl group”, *European Journal of Organic Chemistry*, 8, **2002**, 1380-1384.

13. Baldoli, Clara; Maiorana, Stefano; Licandro, Emanuela; Zinzalla, Giovanna; Perdicchia, Dario. “Synthesis of Chiral Chromium Tricarbonyl Labeled Thymine PNA Monomers via the Ugi Reaction.” *Organic Letters*, 4(24), **2002**, 4341-4344.

14. Maiorana, Stefano; Papagni, Antonio; Licandro, Emanuela; Annunziata, Rita; Paravidino, Piero; Perdicchia, Dario; Giannini, Clelia; Bencini, Marco; Clays, Koen; Persoons, Andre “A convenient procedure for the synthesis of tetrathia-[7]-helicene and the selective α -functionalization of its terminal thiophene ring” *Tetrahedron*, 59(34), **2003**, 6481-6488.

15. Stefano Maiorana, Emanuela Licandro, Dario Perdicchia, Clara Baldoli, Barbara Vandoni, Clelia Giannini, Michele Salmain, “Synthesis of the First Chiral PNA Monomer Labelled with a Fischer-type Carbene Complex”, *Journal of Molecular Catalysis*, **2003**, 204-205, 165-175.

16. Emanuela Licandro, Dario Perdicchia, Stefano Maiorana, Clara Baldoli, Clelia Giannini, Claudia Graiff, Antonio Tiripicchio, “High diastereoselective Michael and aldol additions of Fischer-type alkyl(hydrazino)carbene complexes: synthesis of new hydrazides” *Journal of Organometallic Chemistry*, **2003**, 684(1-2), 170-188.

17. Dario Perdicchia, Emanuela Licandro, Stefano Maiorana, Clara Baldoli, Clelia Giannini, “A New “One-Pot” Synthesis of Hydrazides by Reduction of Hydrazones” *Tetrahedron*, **2003**, 59(39), 7733-7742.

18. Emanuela Licandro, Dario Perdicchia, “N-Acylhydrazines:Future Perspectives Offered by New Synthesis and Chemistry” *European Journal of Organic Chemistry*, **2004**, 4, 665–675.

19. D. Perdicchia, “Critical Surveys Covering the Year 2003: Catalytic Aryl Amination Reactions”, Seminars in Organic Synthesis, Summer School "A. Corbella", 29th, Gargnano, Italy, 14-18 June **2004**, 313-329.

20. Emanuela Licandro, Stefano Maiorana, Alberto Bossi, Clara Bandoli, Dario Perdicchia “A novel and efficient approach to (Z)-1,2-(bis-benzodithienyl)ethene precursors of tetrathia[7]helicenes” *Synlett* **2005**, 7, 1137-1141.

21. Baldoli Clara; Cerea Paolangelo; Falciola Luigi; Giannini Clelia; Licandro Emanuela; Maiorana Stefano; Mussini Patrizia; Perdicchia Dario “The electrochemical activity of heteroatom-stabilized Fischer-type carbene complexes” *Journal of Organometallic Chemistry* **2005**, 690(24-25), 5777-5787
22. Sandro Cacchi, Giancarlo Fabrizi, Antonella Goggiamani, Dario Perdicchia, Emanuela Licandro, Stefano Maiorana “Synthesis of *N,N*-Dialkyl-*N'*-arylhydrazines via Palladium-Catalyzed *N*-Arylation by Using *N,N*-Dialkylhydrazines/2LiCl Adducts” *Organic Letters* **2005**, 7(8), 1497-1500.
23. Perdicchia Dario; Jorgensen Karl Anker “Asymmetric Aza-Michael Reactions Catalyzed by Cinchona Alkaloids” *Journal of Organic Chemistry* **2007**, 72(9), 3565-3568
24. Capuzzi Marinella; Perdicchia Dario; Joergensen Karl Anker “Highly enantioselective approach to geminal bisphosphonates by organocatalyzed Michael-type addition of β -ketoesters” *Chemistry-A European Journal*, **2008**, 14(1), 128-135.
25. Colonna Stefano, Dario Perdicchia, Ernesto Di Mauro “Enantioselective reactions catalyzed by synthetic enzymes. A model for chemical evolution” *Tetrahedron: asymmetry*, **2009**, 20(15), 1709-1714.
26. Colonna Stefano, Dario Perdicchia “Epoxidation of enones by nucleophilic oxidation” *Science of synthesis. Stereoselective synthesis. 1, Stereoselective reactions of carbon-carbon double bonds*. **Jan. 2011**.
27. Villafiorita-Monteoleone Francesca, Daita Valentina, Quarti Claudio, Perdicchia Dario, Del Buttero Paola, Scavia Guido, delZoppo Mirella, Botta Chiara “Light harvesting of CdSe/CdS quantum dots coated with β -cyclodextrin based host-guest species through resonant energy transfer from the guests” *RSC Advances*, **2014**, 4(55), 28886-28892.
28. Quarti Claudio, Villafiorita-Monteoleone Francesca, Botta Chiara, Daita Valentina, Perdicchia Dario, Del Buttero Paola, Del Zoppo Mirella “A spectroscopic study of the optical properties of a nitrobenzoxadiazole derivative in solution: The role of specific interactions” *Chemical Physics Letters*, **2014**, 610-611, 357-362.
29. Stella Borrelli, Daniele Cartelli, Francesco Secundo, Gaia Fumagalli, Michael S. Christodoulou, Ambra Borroni, Dario Perdicchia, Franco Dosio, Paola Milla, Graziella Cappelletti, Daniele Passarella “Self-Assembled Squalene-based Fluorescent Heteronanoparticles” *ChemPlusChem*, **2015**, 80(1), 47-49.

30. Fumagalli Gaia, Mazza Davide, Christodoulou Michael S., Damia Giovanna, Ricci Francesca, Perdicchia Dario, Stella Barbara, Dosio Franco, Sotiropoulou Panagiota A., Passarella Daniele “Cycloamine-Paclitaxel-Containing Nanoparticles: Internalization in Cells Detected by Confocal and Super-Resolution Microscopy” *ChemPlusChem*, **2015**, 80(9), 1380-1383.

31. Moriello Aniello Schiano, Luongo Livio, Guida Francesca, Christodoulou Michael S., Perdicchia Dario, Maione Sabatino, Passarella Daniele, Di Marzo Vincenzo, De Petrocellis Luciano “Chalcone Derivatives Activate and Desensitize the Transient Receptor Potential Ankyrin 1 Cation Channel, Subfamily A, Member 1 TRPA1 Ion Channel: Structure-Activity Relationships in vitro and Anti-Nociceptive and Anti-inflammatory Activity in vivo” *CNS & Neurological Disorders: Drug Targets*, **2016**, 15(8), 987-994.

32. Perdicchia Dario, Christodoulou Michael S., Fumagalli Gaia, Calogero Francesco, Marucci Cristina, Passarella Daniele “Enzymatic kinetic resolution of 2-piperidineethanol for the enantioselective targeted and diversity oriented synthesis” *International Journal of Molecular Sciences*, **2016**, 17(1), 17/1-17/15.

33. Fumagalli Gaia, Christodoulou Michael S., Riva Benedetta, Revuelta Inigo, Marucci Cristina, Collico Veronica, Prospero Davide, Riva Sergio, Perdicchia Dario, Bassanini Ivan, García-Argáez Aida, Dalla Via Lisa, Passarella Daniele “Self-assembled 4-(1,2-diphenylbut-1-en-1-yl)aniline based nanoparticles: podophyllotoxin and aloin as building blocks” *Organic & Biomolecular Chemistry*, **2017**, 15(5), 1106-1109.

34. Bonandi Elisa, Christodoulou Michael S., Fumagalli Gaia, Perdicchia Dario, Rastelli Giulio, Passarella Daniele “The 1,2,3-triazole ring as a bioisostere in medicinal chemistry” *Drug Discovery Today*, **2017**, 22(10), 1572-1581.

PATENTS

1) Italian patent n° MI2000A 000292, “Procedimento per la sintesi di idrazine e idrazidi”, E. Licandro, S. Maiorana, D. Perdicchia. (“Synthesis of hydrazines and hydrazides by reduction of hydrazones and azines” CAN 138:136710).

2) Italian patent n° MI2002A002771, “Nuovo metodo di arilazione di idrazine”, E. Licandro, S. Maiorana, D. Perdicchia, S. Cacchi, G. Fabrizi, A. Goggiamani. (“A new method of arylation of hydrazines”)