

## CURRICULUM VITAE PROF. ENRICO MARCANTONI

Professore Ordinario di Chimica Organica    Tel: +39 0737 402255  
Scuola di Scienze e Tecnologie                Fax: +39 0737 402297  
Sezione di Chimica                                E-mail: [enrico.marcantoni@unicam.it](mailto:enrico.marcantoni@unicam.it)  
Università di Camerino                          web: <http://www.chimica.unicam.it/marcantoni>  
Via S. Agostino 1  
I-62032 Camerino (MC).

Enrico Marcantoni was born in Recanati, Italy in 1963. He obtained the Degree in Chemistry from the University of Camerino in 1987. In 1989 he became research assistant at the same University. In 1994/1995 he served as a research collaborator at the group of Prof. Meyers (Colorado State University, Fort Collins, Colorado, USA), working on total synthesis of chiral complex molecules having biological activity by exploiting the oxazolinic chemistry. In 2000 he was promoted to Associate Professor at the University of Camerino, and since December 2004 he has been Full Professor of Organic Chemistry at Faculty of Sciences and Technologies of the same institution. The Prof. Marcantoni from academic year 1995/1996 has held various teaching positions still holds in Organic Chemistry at the School of Science and Technology, University of Camerino. In the academic year 2011/2012 covers teaching of Organic Chemistry 2 and Chemistry and technology of Materials for the Degree Course in Chemistry (Class L-27). He also held the Mass Spectrometry Module teaching of Physical Methods in Chemistry for the Master Degree in Chemistry and Advanced Chemical Methodologies (Class LM-54). In the latter he also holds the Industrial and Advanced Synthesis of Biologically Active Compounds Course always in the Master Degree in Chemistry and Advanced Chemical Methodologies (Class LM-54). In the academic year 2017/2018 he taught the course of Organic Chemistry to undergraduate students majored in Biotechnology of the School of Life Science, Jilin Agricultural University, Changchun, China.

In 1990 he was awarded by Federchimica for his thesis work on new heterogeneous phase organic reactions. In 1999 he was the recipient of the "Ciamician" Medal by the Organic Chemical Division of the Italian Chemical Society, for his contribution as a young scientist in recognition of the significant contribution made to the development of organocerium reagent chemistry in organic synthesis by identifying simple and innovative methods both for chemo-, regio- and stereoselective formation of carbon-carbon and carbon-nitrogen bonds, both for chemo- and regioselective of carbon-oxygen bonds. He is currently member of Italian Chemical Society and American Chemical Society. In 2004/2009 he has been the PhD coordinator for Chemical Science Course and continues to be a member of the Chemical Sciences Graduate Committee of the School of Advanced Studies at the University of Camerino. From 2011/2013 has been a member of the Organizing Committee of the 'Attilio Corbella' Summer School on Organic Synthesis of the Organic Chemistry Division of Italian Chemical Society. In the 2016 he was the recipient of the G.I.C.O. Senior Award by the Interdivisional Group of Organometallic Chemistry of the Italian Chemical Society. He is currently member of Italian Chemical Society and American Chemical Society.



## Important moments of the research and teaching of Prof. Enrico Marcantoni

- Prof. Marcantoni has held from the academic 1995/96 and still holds several teaching positions in organic chemistry for the School of Science and Technology of the University of Camerino.
- He has provided and still provides assistance to students for completing thesis work of Master Degree in Chemistry (to date around 75 students) and supervisor PhD Course in Chemical Sciences of the University of Camerino (to date 34 PhDs).
- Prof. Marcantoni was invited to hold communications abroad both at conferences and directly through contacts with researchers from universities and industries.
- By several years he take part in the scientific collaborations with industrials such as ICA, Elantas Europe, Fratelli Guzzini, Delta-Plados, Eurosuole, GoldenPlast, Producta, Bocchiotti to acquire know-how to develop the production of new materials with significant use of plastics of recovery.
- Prof. Enrico Marcantoni has activated and continues to activate scientific collaborations with pharmaceutical companies such as Pfizer, Boehringer-Ingelheim, and Dompé.

The scientific interests of Prof. Enrico Marcantoni aims to develop innovative, efficient, and environmentally responsible methods for the production of small molecules utilized at the interface of biology and materials. At this time, his efforts focus of new on the development of efficient and selective chemical reactions promoted by Lewis acids for the creation of new heterocyclic molecules. His research has led to a series of outstanding contributions in the use of Lewis acids in processes that are difficult or even impossible in their absence. In particular, the studies concern the application of Lewis acid activators in organic reactions, and significant portion of the work is devoted to find methods for preparing new carbon-carbon, nitrogen-carbon and oxygen-carbon bonds under mild conditions and to provide the opportunity to prepare functionalized molecules. Given that the relationship between biological activity and stereochemical structure, in these last years, the utility of these new organic reactions is currently being investigated in the discovery and development of new synthetic methodologies and their applications to synthesis of architecturally complex natural products or model compounds having pharmacological importance, both in terms of knowledge and therapeutic attitudes, able to act selectively on a specific pharmacological target. The second field of interest is the synthesis of small organic molecules as useful organic agents in the preparation of polymers with well-defined compositions, architectures, and functionalities. Nowadays, the development of technologies that support a circular economy raises questions about how to recycle nanocomposites. Nanoparticles have strong tendency to agglomerate, especially during the recycling process, and the interest of research is the synthesis of appropriate organic agents to prevent NPs agglomeration. In this context, innovative synthetic tools will be developed with the aim of minimizing both waste production and energy consumption in polymeric materials. Finally, the scientific interest of Prof. Marcantoni's group is devoted to the study of new synthetic processes, especially catalytic processes, which can reduce by-products, wastes, and emission, and they can be defined as sustainable.

The results of research in these sectors have been the subject of publications in peer-reviewed scientific journals and one patent with an international character.



## Scientific publications last five years of Prof. Enrico Marcantoni

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- 3) Properzi, R.; Marcantoni, E.: Construction of Heterocyclic Structures by Trivalent Cerium Salts Promoted Bond Forming Reactions. *Chem. Soc. Res.* **2014**, 43, 779-791.
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- 10) Marcantoni, E.; Petrini, M.: Recent Developments in the Stereoselective Synthesis of Nitrogen Containing Heterocycles Using N-Acylimines as Reactive Substrates. *Adv. Synth. Catal.* **2016**, 358, 3657-3682.
- 11) Catalani, E.; Proietti Serafini, F.; Zecchini, F.; Picchietti, S.; Fausto, A. M.; Marcantoni, E.; Buonanno, F.; Ortenzi, C.; Perrotta, C.; Cervia, D.: Natural products from aquatic eukaryotic microorganism for cancer therapy: perspectives on anti-tumour properties of ciliate bioactive molecules. *Pharmacological Research* **2016**, 113, 409-420.
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Prof. Enrico Marcantoni