GIORDANO LESMA

Giordano Lesma is Associated Professor at the Faculty of Sciences and Technologies of the Milan State University. He teaches the courses of "Laboratory of Organic Chemistry" and "Instrumental Chemical Analysis" for the students of the Degree in Chemistry, and modules for the students of the Chemical Sciences PhD course.

Graduated in 1977 *cum Laude* at the Institute of Organic Chemistry of the Milan State University, he has been carrying out his research activity at the ex-Department of Organic and Industrial Chemistry, now Department of Chemistry, of the same University.

The research activity, supported by more than 100 publications on international journals (h-index 17), by many participations to international congresses and by two patents, was devoted, and is still related, to many areas of organic and bioorganic chemistry. In particular it concerns:

- biomimetic and non-biomimetic syntheses, structural and functional elaboration of nitrogen containing pharmacologically relevant natural products (monomeric and dimeric antitumor indole alkaloids, colchicinoids and isoquinolines).
- enzymatic production of chiral synthons and their application in enantioselective total synthesis of pharmacologically active natural products (monomeric and dimeric indole alkaloids, piperidine-, quinolizidine-, indolizidine- and pirrolizidine alkaloids and their analogues).
- development of new synthetic methodologies (design and synthesis of chiral, nitrogen containing ligands useful for enantioselective transformations, organocatalysis and solid phase synthesis).
- design and synthesis of peptidomimetics acting as reverse turns, as tools for studying or modulating receptor activation or inhibition.
- isolation and characterization of secondary metabolites from vegetal sources

Some of the mentioned research activities were carried out in collaboration with relevant pharmaceutical international companies which are active in the field of medicinal chemistry, such as Sanofi-Aventis, Indena SpA and Miat SpA.

Selected publications

1. Lesma, G.; Sacchetti, A.; Silvani, A. (**2010**) Total synthesis of 275A lehmizidine frog skin alkaloid (or of its enantiomer). *Tetrahedron: Asymm.* 21, 2329-2333.
2. Sacchetti, A.; Silvani, A.; Lesma, G.; Pilati, T. (**2011**) Phe-Ala-Based Diazaspirocyclic Lactam as Nucleator of Type II' β-Turn. *J. Org. Chem.* 76, 833-839.
3. Lesma, G.; Cecchi, R.; Crippa, S.; Giovanelli, P.; Meneghetti, F.; Musolino, M.; Sacchetti, A.; Silvani, A.(**2012**) Ugi 4-CR/Pictet-Spengler Reaction as a Short Route to Tryptophan-derived Peptidomimetics. *Org. Biomol. Chem.* 10, 9004-9012.
4. Airaghi, F.; Fiorati, F.; Lesma, G.; Musolino, M.; Sacchetti, A.; Silvani, A. (**2013**) The diketopiperazine fused tetrahydro-β-carboline scaffold as a model peptidomimetic with an unusual α-turn secondary structure. *Beilstein J. Org. Chem. 9*, 147-154.
5. Lesma, G.; Sacchetti, A.; Bai, R.; Basso, G.; Bortolozzi, R.; Hamel, E.; Silvani, A.; Vaiana, N.; Viola, G. (**2014**) Hemiasterlin analogues incorporating an aromatic, and heterocyclic type C-terminus: design, synthesis and biological evaluation. *Molecular Diversity* DOI 10.1007/s11030-014-9507-9