INTERNATIONAL STUDY PROGRAM
UNIVERSITY OF TORINO

UNIVERSITÀ DEGLI STUDI DI TORINO

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TM20_DIP_CHI

Teach Mob – Visiting Professors
Academic year 2016/2017

1st Term
COURSE TITLE **Organic Chemistry II**
Scientific area **Organic Chemistry**
Department of Chemistry
Language used to teach: English
Teaching Commitment: 24 hours
Course summary Chemoselectivity: selective reactions and protection. Reducing agents, reduction of carbonyl groups, catalytic hydrogenation, getting rid of functional groups, dissolving metal reduction, oxidizing agents This course will also present some recent trends in organic chemistry, with an emphasis on the application of N-heterocyclic carbene catalysis and photoredox catalysis to the synthesis of complex molecules. These concepts will be explored in terms of catalyst design, reactivity modes, stereochemical outcomes, and synthetic application.
Learning objectives At the conclusion of this course the students will be able to design some target oriented synthesis with special emphasis to the use of homogeneous catalysis. Understand the design and synthesis of NHC catalysts. Design appropriate NHC catalysts for specific applications. Understand the reactivity of each class of NHC catalyst and predict reaction outcomes and product stereochemistry. Understand the reactivity of common photoredox catalysts. Predict reaction outcomes from photoredox catalysed processes.
Tutorship activities
Lab activities
Other activities besides the course: i.e. seminars and conferences addressed to PhD students and research fellows, dissemination conferences The candidate Visiting Professor will present a series of up to 3 research seminars based on recent results from his laboratory in the area of reaction design and development that enables synthetic organic chemistry.

Visiting Professor Profile
Strong grounding in synthetic organic chemistry with special focus on target synthesis of new potentially bioactive molecules derived from rational design, and of natural compounds. Experience in the design & synthesis of complex organic molecules coupled with a solid knowledge of modern synthetic approaches, modern separation methodologies and spectroscopic identification techniques (NMR, IR, MS, CD). Ability in enantioselective synthesis of target compounds. Expertise on the application of N-heterocyclic carbene catalysis and photoredox catalysis to the synthesis of complex molecules with emphasis on catalyst design,

reactivity modes, stereochemical outcomes, and synthetic application.

Contact person at the Department
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