Direzione Ricerca,
Innovazione e
Internazionalizzazione

UNIVERSITÀ
DI TORINO

ID

VP_023_CHIM

Visiting Professor Program
Academic Year 2025/2026

TEACHING COMMITMENT: **24 hours**

COURSE TITLE

Applied Organic Chemistry - Synthesis and Applications of Fluoro-Organic Molecules.

TEACHING PERIOD

II semester

SCIENTIFIC AREA

Applied Organic Chemistry

LANGUAGE USED TO TEACH

Italian

COURSE SUMMARY

The course will deal with the application aspects of the knowledge of organic chemistry. Rrecent development of fluoro-organic chemistry will open a new perspective for applied organic chemistry. The introduction of highly fluorinated functional group in organic molecules (organic dyes, pharmaceuticals, crop protection agents, just to cite a few) is a hot topic in modern organic industrial chemistry. The course will examine this class of materials from a synthetic (briefly) and from the applicative point of view. A small section of the course will be on the review of patent literature relevant to the teaching material.

LEARNING OBJECTIVES

The student will be exposed to the practical application of novel fluoro-organic chemistry in the field of material (organic dyes), pharmaceuticals and crop protection agents. Discussion on the benefit

of these new approaches to the industrial process with respect to older approaches will implement the critical thinking of the student. For example, the student will be able to judge if and when the introduction of a fluorinated motif will enhance and improve the properties of the molecules in 2 questions (pharmaceuticals, crop protection agents). The Discussion of the patent literature will give the student an important tool to evaluate how feasible an industrial process could be based on current patent protections.

OTHER ACTIVITIES BESIDE THE COURSE

Seminars for PhD students in Chemical and Materials Sciences could also be offered during the visit. Joint research with interested colleagues of the chemistry department would also be fostered.

VISITING PROFESSOR PROFILE

Expertise in organic chemistry especially devoted towards small molecular functionalization in the field of biomedical and pharmaceutical applications and industry. In particular: organofluorine synthetic reactions, nucleoside-based drug design, biologically active small molecules with antibiotics, antifungal or antiparasitic activity.

CONTACT REFERENT

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