

Offerta Formativa Dottorato in Scienze Chimiche

The aim of the PhD in Chemical Sciences at the University of Tor Vergata is to provide a solid and up-dated background knowledge to outstanding students, who will be the next-generation researchers in Chemistry and related fields.

Parallel to the research, an educational activity is carried out during our PhD program. Attendance to monographic Courses on advanced topics of Chemistry is mandatory for the first-year students. Each year the subject of the courses changes together with the teaching staff, according to the specific interests and competences of each Professor. Visiting Professors in our Department of Chemical Sciences and Technologies are requested to provide courses for the PhD Program as well. Attendance to seminars held in the Department and in the Faculty are mandatory for all PhD students in Chemical Sciences during all the PhD.

In year 2018 – 2019 the following courses were delivered:

1) “Molecular Modeling” by Dr. Ester Chiessi (RTDI) 8 hours (1 CFU)

This Course has the aim to present the basis of the static and dynamic molecular modeling at atomistic level, highlighting some applications on chemically relevant systems reported in the literature and stressing the role of molecular simulations in comparison with experimental findings; to use data bank repositories for molecular graphics; filing a proposal to obtain computer time in a large supercomputing facility such as CINECA.

2) “Practical electrochemistry” by Professor Karl Kadish 24 hours (3CFU)

The basis of the main methodologies in electrochemistry (pulsed and differential polarography, coulometry, linear and cyclic voltammetry, spectroelectrochemistry) are highlighted with particular references to the related experimental issues.

3) “Microscopy” by Dr. Sara Bobone (RTDA)

After illustrating the main components of a bright field microscope, new methodologies of an “old” science are highlighted in this Course, with particular reference to super-resolution microscopy and other technics such as fluorescence correlation spectroscopy applied to microscopy.

4) “Sustainable Chemistry” by Prof. Pierluca Galloni

This Course is organized in two main parts. In the first one the components and processes needed to carry out in a “green” way a chemical synthesis is highlighted; in the second part the focus is addressed on the exploitation of biomasses with the use of “biorefineries” and other biotechnology processes.

In 2018-2019 in our Department were held more than twenty seminars attended by our PhD students