



UNIVERSITÀ DEGLI STUDI DI TORINO

ID

TIC01\_DIP\_BIO

## ***Teaching for International Courses– Visiting Professors Academic year 2017/2018***

<b>2nd term</b>
<b>COURSE TITLE</b> Advanced Molecular Biology – Module “Regulatory genomics”
<b>Scientific area</b> Molecular Biology
<b>Department of Life Sciences and Systems Biology</b>
<b>English-taught degree course</b> Master in Cellular and Molecular Biology
<b>Language used to teach</b> English
<b>Teaching Commitment: 24 hours</b>
<b>Course summary</b> Students will acquire an advanced level of knowledge on the activity of genes and genomes and the mechanisms of genome regulation at the transcriptional and post-transcriptional level, in the contexts of development, differentiation, cellular homeostasis and cancer. In the first part of the course Students will understand how the modern global methods (microarrays, Next Generation Sequencing, epigenomics, protein-DNA, protein-RNA, proteomics), make it possible to understand the organization and control of most evolved genomes.
<b>Learning objectives</b> Specific objectives of this integrated module are: Making the point on the evolution of Molecular Biology since the advent of high throughput sequencing technologies made it possible to study regulatory events at the genome-wide level. Understanding the more recent advances in Molecular Biology, including the importance of epigenetic control of genome activity, the role of cellular signaling in gene regulation and the establishment and maintenance of genomic control regions as primary factors of cell differentiation and homeostasis. Introduction to the understanding of molecular biology at the systems level.
<b>Tutorship activities</b>
<b>Lab activities</b>
<b>Other activities besides the course: i.e. seminars and conferences addressed to PhD students and research fellows, dissemination conferences</b>

<b>Visiting Professor Profile</b> The Visiting Professor candidate for this course module should have the following features: <ul style="list-style-type: none"><li>- A period of work of at least 5 years in English-speaking Academic Institutions in countries such as UK, Canada, US (English first language).</li><li>- A record of high-impact scientific publications in the field of Molecular Biology, Genetics or Cell Biology</li><li>- Scientific interest in the mechanisms of transcriptional regulation, epigenomics or signaling pathways leading to genome regulation, is preferred.</li></ul>
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Contact person at the Department

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