Visiting Professor Program
Academic year 2020/2021

DEPARTMENT OF MOLECULAR BIOTECHNOLOGY AND HEALTH SCIENCES

TEACHING COMMITMENT: 12 hours

COURSE TITLE
Immuno-based Assays for Translational Medicine 1

TEACHING PERIOD
1st term

SCIENTIFIC AREA
Experimental medical science

LANGUAGE USED TO TEACH
English

The Degree Course is entirely taught in English

COURSE SUMMARY
The course illustrates:

- approaches for the immunological profiling of tumor microenvironment (isolation of circulating and/or tumor cell-released HLA-peptide complexes, antibody-antigen immunocomplexes and identification of HLA-bound and antibody-bound peptides by mass spectrometry);

- the identification of cancer biomarkers and therapeutic targets by harnessing the immune humoral and cellular response;

- novel immunotherapeutic strategies for cancer prevention.

LEARNING OBJECTIVES
Students will acquire an advanced level of knowledge on how a systems-based approach including immunomic, proteomic and genomic profiling of mouse models, human biospecimens, and cancer cells can be integrated to understand host anti- or pro-tumor responses and identify new diagnostic
markers for solid tumors. In the second part of the course, students will understand how the immunological profiling of the complex pro-tumorigenic milieu may uncover novel targets for the development of immunotherapeutic approaches and vaccines to be applied in cancer prevention and treatment.

**TUTORSHIP ACTIVITIES (IF APPLICABLE)**

**LAB ACTIVITIES (IF APPLICABLE)**

**OTHER ACTIVITIES (IF APPLICABLE)**
The Visiting Professor will give also seminars to PhD students and research fellows about the immunoproteomic approaches to dissect the immune response to tumors.

**VISITING PROFESSOR PROFILE DESCRIPTION**
The Visiting Professor candidate for this course module should meet the following requirements:

- Strong background in immunology and immune-based technologies, cancer biology and cancer prevention as demonstrated by high-impact scientific publications, participation at international meetings and coordination of research projects;

- At least four-year work experience in an English-speaking Academic Institution;

- Teaching experience is desirable but not mandatory.

**CONTACT PERSON AT THE DEPARTMENT**
Prof. Federica Cavallo
federica.cavallo@unito.it