



Direzione Ricerca,  
Innovazione e  
Internazionalizzazione

**UNIVERSITÀ  
DI TORINO**

**ID**

**VP\_013\_BIOTEC**

## **Visiting Professor Program Academic Year 2025/2026**

**TEACHING COMMITMENT:** 16 hours

**COURSE TITLE**

**Molecular Immunology of Innate Lymphoid Cells**

**TEACHING PERIOD**

II semester

**SCIENTIFIC AREA**

General Pathology - Immunology

**LANGUAGE USED TO TEACH**

English

**COURSE SUMMARY**

Innate Lymphoid Cells (ILCs) are tissue-resident immune cells that lack antigen receptors but respond to cytokines and local stimuli. They produce factors that shape the tissue microenvironment, influencing immune responses, mucosal integrity, microbiome interactions, metabolism, smooth muscle contraction, and parasite expulsion.

ILCs are categorized into three groups based on their transcription factors and cytokine profiles, functionally mirroring Th1, Th2, and Th17 cells. NK cells, part of Group 1 ILCs, are unique in recognizing stressed, transformed, or missing-self and play a central role in immune surveillance.

This course will focus on NK cells, covering their localization, receptor diversity, genetic variability, cellular education, and functional roles in physiology and pathology.

## **LEARNING OBJECTIVES**

Students will acquire an advanced level of knowledge on how ILCs perform their functions, the most important molecular pathways used by ILC, and the importance of ILC response in medicine, with a particular focus on NK cells.

## **OTHER ACTIVITIES BESIDE THE COURSE**

The Visiting Professor will also contribute to the academic and research environment through the following activities:

Specialized Seminars: Delivering focused seminars for PhD students (Molecular Medicine course) and research fellows on topics such as NK

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## **VISITING PROFESSOR PROFILE**

The ideal candidate for the Visiting Professor position should meet the following requirements:

- A strong background in immunology and immune-based technologies, with specific expertise in the field of Innate Lymphoid Cells (ILCs) and Natural Killer (NK) cells, as evidenced by high-impact scientific publications, participation in international conferences, and leadership in research projects.
- A minimum of ten years of professional experience in an English-speaking academic institution.
- Teaching experience is preferred but not mandatory.

## **CONTACT REFERENT**

Federica Cavallo

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