



## **Simona Carlomagno**

### **PRESENT POSITION**

*Assistant Professor of Histology (BIO/17)  
Department of Medicine (DAME), University of Udine*

### **Personal Information**

Birthplace: Genova, Italy  
Citizenship: Italian  
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### **Education and Training**

- *April 2019*  
Basic course on animal testing for the implementation of procedures on animals in compliance with Legislative Decree 26/2014 at the Animal Facility of the Policlinico San Martino-IST, Genova, Italy
- *March 2009*  
PhD in "Clinical and Experimental Immunology" with final thesis entitled: "Natural Killer cells in the innate response" at the University of Genoa (supervisor: Prof. Alessandro Moretta)
- *March 2003*  
Degree in Biological Sciences, 110/110 cum laude, at the University of Genoa, Italy

### **Work Experience**

- *From October 2022 to present*  
Assistant Professor, art. 24, comma 3, lett. b) Italian Law 30.12.2010, n. 240  
Department of Medicine (DAME), Laboratory of Histology and Electron Microscopy, University of Udine
- *From November 2020 to October 2022*  
Research Technician, Department of Experimental Medicine, University of Genoa, Italy
- *From February 2019 to October 2020*  
Recipient of a postdoc Research Fellowship for a project entitled "Checkpoint inhibitors regulate anti-tumor responses by human NK cells" in the Laboratory of Molecular Immunology, Department of Experimental Medicine, University of Genoa, Italy
- *From 2018 to 2021*  
Collaboration agreement with *Sandhill Therapeutics Inc* (Dallas, Texas, USA)

• *From February 2015 to January 2019*

Recipient of a Research Fellowship awarded by the University of Genova for a project entitled "Role of KIR3DS1 in anti-tumor and anti-viral NK cell response", Laboratory of Molecular Immunology, Department of Experimental Medicine, University of Genoa, Italy

• *From January 2013 to December 2014*

Recipient of a Research Fellowship awarded by the University of Genova for a project entitled "Role of activating KIRs in NK cell mediated alloreactivity", Laboratory of Molecular Immunology, Department of Experimental Medicine, University of Genoa, Italy

• *From January 2010 to December 2012*

Recipient of a three-year fellowship awarded by FIRC "Fondazione Italiana per la Ricerca sul Cancro" for a project entitled "Role of activating KIRs in alloreactive NK response", Laboratory of Molecular Immunology, Department of Experimental Medicine, University of Genoa, Italy

• *From January 2009 to December 2009*

Recipient of a Fellowship awarded by Institute G. Gaslini (Genova, Italy) for a project entitled: "New diagnostic approaches as molecular basis for the development of innovative therapies in the treatment of hematologic malignancies"

• *From January 2006 to December 2008*

PhD in Clinical and Experimental Immunology, Laboratory of Molecular Immunology, Department of Experimental Medicine, University of Genoa, Italy.

• *From January 2003 to December 2005*

Recipient of a Fellowship awarded by Fondazione Compagnia San Paolo in the Laboratory of Molecular Immunology, Department of Experimental Medicine, University of Genoa, Italy.

## Teaching track

• *Academic Year 2022-2023*

Lecturer in "Histology" as part of the Integrated Course of "Morpho-functional bases of the human body" in the Bachelor Degree Course in Nursing, University of Udine.

Teaching support activities in Histology, during the Degree in Medicine and Surgery, University of Udine.

• *Academic Years 2005-2020*

Teaching support activities in Histology, during the Degree in Medicine and Surgery, University of Genova.

• *Academic Years from 2015-2016 to 2019-2020*

Contract Professor of "Histology" as part of the Integrated Course of "Anatomy and Histology" in the Bachelor Degree Course in Movement, Sport and Health Sciences, University of Genoa.

• *Academic Years from 2012-2013 to 2014-2015*

Contract Professor of "Histology" as part of the Integrated Course of "Anatomy and Histology" in the Bachelor Degree Courses in Physiotherapy and Nursing, University of Genova (Pietra Ligure and Savona campus).

• *Academic Years from 2009-2010 to 2011-2012*

Contract Professor of "Histology" as part of the Integrated Course of "Anatomy and Histology" in the Bachelor Degree Course in Physiotherapy, University of Genova (Pietra Ligure campus).

Tutoring of 2 students in carrying out research activities in preparation of theses for the achievement of the Bachelor Degree in Biotechnology at the University of Genova. Co-supervisor for a student of the Degree Course in Biotechnology,

University of Genoa, in the preparation of the thesis entitled "Multiparametric characterization of flow cytometry of NK cells in patients with diffuse large cell lymphoma undergoing therapy with CAR-CD19 T cells".

## Research activities

Since 2001 I have participated in studies aimed at understanding the activity of NK cells in physiological and pathological conditions, helping to define important molecular mechanisms that regulate the activity of these lymphocytes especially against tumors and virus-infected cells. Among the main results achieved, I contributed to identify a new function of KIR receptors: the ability of the KIR3DL2 receptor to shuttle CpG-DNA from the cell surface to the endosomes in NK cells (Plenary Paper in the journal Blood in 2010, recognition which is attributed to studies which stand out for their originality and exceptional scientific importance) and I played a fundamental role to develop an innovative and efficient, feeder-free culture method for expansion of peripheral blood-derived NK cells genetically modified with CAR constructs (NK-CAR) to eliminate CD19pos leukemic blasts (Leukemia 2020).

Currently, in order to identify increasingly innovative and effective immunotherapeutic approaches against neoplasms, I am engaged in the characterization of NK cells in the blood of patients affected by lymphoma receiving CAR-T therapy and in the infiltrate of solid tumors of different histological origin.

My scientific contribution is documented by **35** publications in international journals

The bibliometric indices relating to the citations of my publications (updated as of 09-07-2023) are:

Citations 3561, h-index 26, i10-index 34 (Google Scholar)

Citations 2511, h-index 23 (Scopus)

Citations 2399, h-index 23 (ISI Web of Knowledge)

IF TOT (2022): 322,237

The complete list of publications is available on IRIS

As a co-investigator I participate/have participated in the following research projects founded on a competitive basis:

2018 – present

Foundation for Cancer Research in Italy (AIRC) - AIRC - 5x1000

*Immunity in Cancer Spreading and Metastasis (ISM)*

2018 - 2021

Foundation for Cancer Research in Italy (AIRC) – AIRC IG 2017

*Checkpoint inhibitors regulate anti-tumor responses by human NK cells*

2017-2018

Foundation for Cancer Research in Italy (AIRC) - AIRC 5x1000 2016 Extension Program

*Innate immunity in cancer (IIC). Molecular targeting and cellular therapy*

2015 - 2017

Foundation for Cancer Research in Italy (AIRC) - AIRC IG 2014

*Human Natural Killer Cells in cancer*

2014

University Project 2014, University of Genoa

“Identification of a new marker for early diagnosis and innovative therapeutic approaches in human ovarian cancer”

2011-2015

Foundation for Cancer Research in Italy (AIRC) - AIRC 5x1000 2010

*Innate immunity in cancer (IIC). Molecular targeting and cellular therapy*

## Qualifications and Awards

May 2023

"Immune Profiling Grant" Award, Standar Bio Tools Inc. awarded following a competitive evaluation

January 2022

National Scientific Qualification (ASN) for the position of Associate Professor in Histology

November 2003

National scientific Qualification to practice as a Biologist

## Editorial and Reviewer activities

Guest Editor for the Special Issue entitled " Cancer Immune Escape and Immunotherapy" on journal *Vaccines* (ISSN 2076-393X)

Review Editor in "NK and Innate Lymphoid Cell Biology" section, *Frontiers in Immunology* journal

Reviewer for different international scientific journals (*Stem Cell Translational Medicine, Frontiers Oncology, Immunology Letters, Human Immunology, PLOS one, Immunotherapy*).

## Meetings

• Wurtzburg, DE, 20-23 Giugno 2023

"Organizing tissue homeostasis and immunity NK & ILC"

Poster presentation: "Dissection of the heterogeneity of peripheral blood and tumor-associated NK cell subsets in PDAC patients"

• Paestum, IT, 28-31 Maggio 2019

Conferenza Nazionale di Citometria. Aggiornamenti e innovazioni della citometria nelle applicazioni cliniche e di ricerca.

*Invited speaker*. Title of presentation: "Chimeric Antigen Receptor-modified peripheral blood Natural Killer cells: a new allogeneic adoptive immunotherapy strategy for the treatment of B-cell Lymphoblastic Leukemia"

• Milano, IT, 16-18 Maggio 2019

5th International Conference of translational medicine on pathogenesis and therapy of immunomediated diseases

Poster presentation: "KIR3DS1-mediated recognition of HLA-B\*51: Modulation of KIR3DS1 Responsiveness by Self HLA-B Allotypes and Effect on NK Cell Licensing"

• Camogli, IT, 25-27 Ottobre 2018

"KIR Workshop 2018"

*Oral Presentation*: "KIR3DS1-Mediated Recognition of HLA-B\*51: Modulation of KIR3DS1 Responsiveness by Self HLA-B Allotypes and Effect on NK Cell Licensing"

• Chania, EL, 18-23 Giugno 2018

15th International Conference on Innate Immunity in memory of Alessandro Moretta

Poster presentation: "Peripheral Blood derived CAR.CD19 NK cells: a tool to strengthen anti-leukemia response"

• Roma, IT, 23 Febbraio 2018

Scientific Session "Collegio dei docenti di Istologia ed Embriologia"

*Oral Presentation*: "Peripheral Blood derived CAR-NK cells: a strategy to provide a off-the shelf allogeneic cell population for the treatment of refractory malignancies"

• Vienna, AT, 6-9 Settembre 2015

4th European Congress of Immunology

Poster presentation: "Uptake of CCR7 by KIR2DS4<sup>+</sup> NK cell is induced upon recognition of certain HLA-C alleles"

• Glasgow, UK, 5-8 Settembre 2012

3rd European Congress of Immunology

Poster presentation: "Natural Killer cells expressing the KIR2DS1 activating receptor efficiently kill T cell blasts and dendritic cells: implications in haploidentical HSCT"

• Berlin, DE, 13-16 Settembre 2009

2nd European Congress of Immunology

Poster presentation: "Heterogeneity of TLR3 mRNA transcripts and responsiveness to poly(I:C) in human NK cells derived from different donors"

• Genova, IT, 20-25 Settembre 2008

2nd Gaslini Advanced Course in Basic and Applied Immunology

*Oral presentation:* "Heterogeneity of TLR3 mRNA transcripts and responsiveness to poly(I:C) in human NK cells derived from different donors"

• Paris, FR, 6-9 Settembre 2006

Joint Meeting of European National Societies of Immunology, 16th European Congress of Immunology

Poster Presentation: "The tryptophan catabolite L-Kynurenine affects human NK cell function"

## Committees

2023

Member of Histology and Embryology Lecturers Committee

2021-2022

Member of "Web Committee" for the innovation of university website for the Department of Experimental Medicine, University of Genova

Member of the evaluation committees for the courses of Histology at the medical-pharmaceutical school of the University of Genoa (Degrees in Nursing, Physiotherapy, and all other Healthcare Profs, Movement, Sport and Health Sciences) for the academic years in which the activity of contract professor was carried out

## Altro

Mother tongue: Italian

Other known languages: English

*I authorize the processing of my personal data pursuant to art. 13 Legislative Decree 30 June 2003 n°196 – "Code regarding the protection of personal data" and art. 13 GDPR 679/16 – "European Regulation on the Protection of Personal Data"*

September 8<sup>th</sup>, 2023

Simona Carlomagno