



## Curriculum Vitae Europass

(redatto ai fini della pubblicazione  
ai sensi dell'art. 4 del Codice in materia di protezione dei dati personali e  
dell'art. 26 del D. Lgs. 14 marzo 2013, n.33)

### PERSONAL INFORMATION

Name/Surname **Cristina Capuano**  
mail [cristina.capuano@unicamillus.org](mailto:cristina.capuano@unicamillus.org)

### PROFESSIONAL EXPERIENCE

From-to	<b>01-10-2022-present</b>
Institution	Departmental Faculty of Medicine and Surgery UniCamillus-Saint Camillus International University Of Health Sciences
Position	Associate Professor SC 06/A2-General Pathology, Clinical Pathology SSD MED/04-General Pathology
From-to	<b>2020-2022</b>
Institution	Department of Experimental Medicine-Sapienza University of Rome
Position	Post-Doctoral Research Fellow: Assegnista di Ricerca cat. B-tipologia II (art. 22 L. 240/2010)- SSD MED/04
Activity	Project: "Unraveling phenotypic and functional heterogeneity of human memory NK cells". Supervisor: Prof. Ricciarda Galandrini
From-to	<b>2019-present</b>
Institution	Ministry of University and Research
Position	Abilitazione Scientifica Nazionale al ruolo di Professore di II Fascia SC 06/A2, SSD MED/04 Patologia Generale e Patologia Clinica (validità dal 9-9-2019 al 9-9-2030)
From-to	<b>2015-2020</b>
Institution	Department of Experimental Medicine-Sapienza University of Rome
Position	Research Fellow- Ricercatore universitario t.d. A (art. 24 c.3-a L.240/10), SSD MED/04, per chiamata diretta (D.D. n° 1350) a seguito dell'ammissione al finanziamento Bando SIR2014 (2015-2018). Rinnovo contrattuale di durata biennale su co-finanziamento di Ateneo contestualmente alla proroga progettuale accordata dal MIUR (MIUR.AOODPFSR.REGISTRO DECRETI.0000160.01-02-2018) (2018-2020).
Activity	Project: "Analysis of cellular and molecular mechanism underlying NK cell hyporesponsiveness induced by therapeutic antibodies: role for a sustained CD16 aggregation"

From-to **2011-2015**  
Institution Department of Experimental Medicine-Sapienza University of Rome  
Position Post-Doctoral Research Fellow: Assegnista di Ricerca cat. A-tipologia II (art.51 comma 6 L.449/97)- SSD MED/04  
Activity Project: "Analysis of molecular signals involved in the functional regulation of cytolitic machinery". Supervisor: Prof. Ricciarda Galandrini.

From-to **2010-2011**  
Institution Institut Pasteur-Fondazione Cenci-Bolognetti  
Position Post-Doctoral Research Fellow  
Activity Project: "Ruolo del metabolismo fosfoinositidico nella regolazione funzionale del macchinario citotossico". Supervisor: Prof. Ricciarda Galandrini

## II-OTHER APPOINTMENTS

From-to **2022-present**  
Institution Departmental Faculty of Medicine and Surgery  
Position UniCamillus- Saint Camillus International University Of Health Sciences  
Member of the Teaching Committee- Degree Course Dentistry and Dental Prosthetics  
Member of the ECS Approval Commission- Degree Course Medicine and Surgery- Dentistry and Dental Prosthetics

From-to  
Institution **2021-present**  
Position Frontiers in Immunology (IF 7.561)  
Editorial Board member as Review Editor in:  
-Cytokines and Soluble Mediators in Immunity-  
<https://www.frontiersin.org/journals/immunology/sections/cytokines-and-soluble-mediators-in-immunity#editorial-board>  
- NK and Innate Lymphoid Cell Biology  
<https://loop.frontiersin.org/people/83933/overview>

Year **2020**  
Institution Sapienza University-Faculty of Pharmacy and Medicine-course C-ASL LATINA L/SNT3  
Position Member of the Graduation Thesis Committee Degree

From-to **2019-2020**  
Institution Faculty of Medicine and Dentistry -Sapienza University of Rome  
Position Member of Faculty Committee for Monitoring of Interdepartmental Research Activities ; Fundraising

## EDUCATION AND TRAINING

From-to **2019-present**  
Post-graduate studies Enrolled (attendance) in the specialty course in Patologia Clinica e Biochimica Clinica, Non-medical Healthcare Area- [SPEC-Ordin. 2016] (29358)

Institution	Sapienza University of Rome
From-to	<b>2016-2017</b>
Post-graduate studies Institution	Higher Education Course in Pedagogy and Medical Didactics (20 CFU) Sapienza University of Rome
Date	<b>February, 15 2010</b>
Post-graduate studies Institution	PhD in Immunological Sciences Sapienza University of Rome – Department of Experimental Medicine Thesis title: Regulatory signals of cytolytic secretory pathway: looking for a role of phosphatidylinositol-4,5- biphosphate in SNARE system functional compartmentalization Supervisor: Prof. Ricciarda Galandrini
From-to	<b>2005-2006</b>
Post-graduate studies Institution	I level Master in “Biotechnological Applications and Controls” Sapienza University of Rome - Department of Cellular and Developmental Biology
Year	<b>November, 22 2005</b>
University graduation Institution	Degree in Biological Science- (ORD. 1997 ante DM 509/99) Sapienza University of Rome Score: 104/110 Thesis title: Studio del ruolo del CD38 nel modulare la migrazione e la sopravvivenza delle cellule dendritiche monocitarie umane e sua rilevanza nella risposta immune adattativa. Supervisor: Prof. Enza Piccolella (Department of Cellular and Developmental Biology) Co-supervisor: Dr. Clara M. Ausiello (Department of Infectious, Parasitic, and Immune-mediated Diseases; Anti-infectious Immunity Unit-Istituto Superiore di Sanità)
Year	<b>1997</b>
Licensure Institution	High School Graduation- Score 56/50 Liceo Classico Socrate, Roma

## SKILLS AND COMPETENCES

LANGUAGE	<b>ITALIAN</b>
OTHER LANGUAGE	<b>ENGLISH</b>

## TECHNICAL SKILLS AND COMPETENCE

Primary cell cultures, genetic manipulation of primary cells, confocal microscopy analysis, cytofluorimetric analysis, molecular analysis and biochemical approaches including subcellular fractionation and raft isolation, immunoblot analysis, kinase assay, thin layer chromatography analysis.

## RESEARCH ACTIVITY

My research activity has been mainly conducted in the field of Natural Immunity focused on the study of the cellular and molecular mechanisms underlying Natural Killer (NK) cell antitumor effector functions.

### 2022-present: Analysis of antibody-dependent NK cell effector function modulation in vaccine settings.

The study demonstrates a persistent downmodulation of CD16 levels and Ab-dependent NK functions following SARS-CoV-2 heterologous vaccination, highlighting the impact of host-related genetic and environmental factors in modulating Fc-dependent NK cell functions post-vaccination. The results obtained contribute to characterizing the role of NK cells in vaccinal responses and are reported in the following scientific publication: Capuano et al, Front Immunol 2023 (IF 7.3)

#### Ongoing studies:

- Characterization of Ab-dependent NK functions in vaccine-induced protection in immunocompromised subjects
- Analysis of the functional profile of memory NK cell subsets in ITP patients aimed at evaluating the molecular signature that may dictate the crosstalk of memory NK cells with Dendritic Cells and T cells.
- *Ex vivo* characterization of the phenotypic and functional profile of memory NK cells in patients with Diffuse Large B Cell Lymphoma undergoing rituximab-based chemotherapy regimen treatment.

### 2017-2022: Analysis of Natural killer cell-mediated memory immune response: in vitro and in vivo role of auto(antibody) in the shaping of memory NK cell compartment.

My studies demonstrated the unique capability of tumor-targeting anti-CD20 therapeutic monoclonal antibody (mAb) to induce the selective *in vitro* expansion of memory NK cell population, they also evidenced that CD16 affinity ligation conditions using rituximab or next-generation glyco-engineered anti-CD20 mAb, obinutuzumab, qualitatively impacts memory NK cell responsiveness, revealing a substantial dichotomy (proliferation vs activation) downstream CD16 receptor. In-depth analysis of the phenotypical and functional heterogeneity of memory NK cells highlighted a main role for antibodies in the shaping of memory NK cell compartment identifying a highly specialized NKG2C+CD57+ subset, endowed with enhanced CD16-dependent functional capabilities, whose abundance *in vivo* is associated to anti-CMV antibody levels in healthy seropositive donors and is significantly higher in patients affected by Immune Thrombocytopenia (ITP), an autoimmune disease where anti-platelet autoantibodies play a major role. Such results provide the rationale for the exploitation of memory NK cells in adoptive anticancer therapy and contribute to the understanding the mechanisms affecting the establishment and maintenance of memory NK cell pool; they are reported in the following article: Capuano et al, Front Immunol 2018 (IF 4.71); Capuano et al, J Immunol Res 2019 (IF 3.32); Capuano et al, Biomedicines 2022 (IF 6.081).

#### Ongoing studies:

- Analysis of functional profile of memory NK cell subsets in ITP patients aimed at evaluating the molecular signature that may dictate the crosstalk of memory NK cells with Dendritic Cells and T cells.
- *Ex vivo* characterization of the phenotypic and functional profile of memory NK cells in patients with Diffuse Large B Cell Lymphoma undergoing to rituximab-based

chemo-immunotherapy regimen treatment.

**2012-2020:** Analysis of the interplay between NK cells and tumor-targeting anti-CD20 therapeutic monoclonal antibodies (mAbs)

My studies were focused on the understanding the mechanisms of NK cell resistance to anti-tumor activity of therapeutic monoclonal antibodies. In “anti-CD20-experienced” NK cells, from healthy donors or from B-Chronic Lymphocytic Leukemia patients, my studies identified an inhibitory signaling pathway mediated by the tyrosine phosphatase Shp-1 that contributes to the resistance to rituximab immunotherapy and evidenced the capability of the glyco-engineered anti-CD20 mAb, obinutuzumab, endowed with higher binding affinity for CD16, to overcome such resistance, enhancing the killing of mAb opsonized tumor cells. My studies also evidenced a critical role of PI3K/mTOR axis and miR-155 up regulation of the amplified IFN $\gamma$  response observed in obinutuzumab-experienced NK cells. Such results, which provide new insights in NK cell plasticity in therapeutic settings, are reported in the following article: Capuano et al, Cancer Res 2015 (IF 8.55); Capuano et al, Oncoimmunology 2017 (IF 5.50); Capuano et al, Cancer Immunol Immunother 2020 (IF 6.96).

**2006-2012:** Analysis of the role of phosphoinositide-dependent metabolism in the regulation of NK cell cytolytic machinery.

My studies demonstrated a non-redundant role of the lipid kinase phosphatidylinositol4phosphate-5kinase (PIP5K)-dependent signals in the regulation of the secretory phase of the cytolytic process, evidencing the selective involvement of PIP5K $\gamma$  isoform in the control of endocytic trafficking and Munc13-4 cytolytic machinery component compartmentalization. Such results, that contribute to a better comprehension of the molecular mechanisms underlying the cytotoxic function, are reported in the following articles: Micucci\*, Capuano\* et al, Blood 2008 \*Equal Contribution (IF 10.4); Capuano et al, Blood 2012 (9.06); Galandrini et al, Front Immunol 2013 (IF 6.42); Tuosto et al, Cell Mol Life Sci 2015 (IF 5.69)

**FUNDINGS**

**2022-2023**

Program: Sapienza University- Bando di Ateneo per la Ricerca Scientifica-Progetti di Avvio alla Ricerca.

Title: Signaling mechanisms underlying the enhanced antibody responsiveness in memory NK cells (AR22218167C4AB98)

Grant value: 2250,00 euro

Role: Principal Investigator

**2021-2022**

Program: Sapienza University- Bando di Ateneo per la Ricerca Scientifica-Progetti di Avvio alla Ricerca.

Title: Characterization of the perturbed memory NK cell pool in autoantibody-driven autoimmune disease (AR22117A5D7746AD)

Grant value: 2000,00 euro

Role: Principal Investigator

**2015-2018**

Program: SIR2014 (Scientific Independence of young Researcher) by Italian Ministry of Education, University and Research (MIUR).

Title: Analysis of cellular and molecular mechanism underlying NK cell

hyporesponsiveness induced by therapeutic antibodies: role for a sustained CD16 aggregation (RBSI14022M)  
Grant value: 299000,00 euro  
Role: Principal Investigator

#### **2013-2014**

Program: Sapienza University- Bando di Ateneo per la Ricerca Scientifica-Progetti di Avvio alla Ricerca.

Title: Analysis of cellular and molecular mechanisms underlying Natural Killer cell hyporesponsiveness upon therapeutic antibody-opsonized target interaction (C26N13ZLLN)

Grant value: 3000,00 euro

Role: Principal Investigator

#### **2012-2013**

Program: Sapienza University- Bando di Ateneo per la Ricerca Scientifica-Progetti di Avvio alla Ricerca.

Title: Unraveling the impact of IL-4 supplied by tumor microenvironment on breast cancer stem cell biology (C26N123SCJ)

Grant value: 1500,00 euro

Role: Principal Investigator

#### **SOCIETY MEMBERSHIPS**

**2007-present:** Italian Society of Immunology, Clinical Immunology and Allergology (SIICA).

**2013-present:** Society for Natural Immunity (SNI)

#### **PARTICIPATION IN NATIONAL AND INTERNATIONAL COLLABORATIVE STUDIES**

**2021-present:** Study coordinated by Dr. M. Ardolino (Assistant Professor at Department of Biochemistry, Microbiology and Immunology, University of Ottawa, Canada) aimed at identifying new small molecule drugs for cancer immunotherapy able to potentiate Natural Killer cell anticancer activity.

**2020-2021:** Study coordinated by Prof. M. Cippitelli (Department of Molecular Medicine, Sapienza University) aimed at evaluating the role of neddylation' inhibitor MLN4924/Pevonedistat in promoting Natural Killer cell recognition and killing of Multiple Myeloma cells via a finely tuning of NKG2D-activating ligands expression. The results, that support a synergistic cooperation between neddylation' inhibition and immunomodulatory drugs (IMiDs) in inducing the upregulation of NKG2D ligands, are reported in the following article: Petillo et al, Cell Death Dis. 2021;12(9):836. (IF 8.46)

**2020-2021:** Study coordinated by Prof. C. Fionda (Department of Molecular Medicine, Sapienza University) aimed at evaluating the role of E3 ubiquitin ligase Cereblon in regulating Natural Killer cell migration and killing via Rho GTPase activation. The results, that evidence the molecular mechanisms intervening in the NK cell cytoskeletal remodelling following chemokine activation and describe the Cereblon-mediated stimulatory effect of immunomodulatory drug Lenalidomide on NK cells, are reported in the followed article: Fionda et al, Eur J Immunol. 2021. doi: 10.1002/eji.202149269 (IF 5.53)

**2020-2021:** Study coordinated by Prof. G. Sciumè (Department of Molecular Medicine, Sapienza University) aimed at dissecting phenotypical and functional heterogeneity of hepatic Innate Lymphoid Cells (ILC)1 Natural Killer cells. Such results, that identified a liver enriched GzmA+CD160+ ILC1 population as a distinct

differentiation state of ILC1 endowed with upregulated cytotoxic and IFN $\gamma$  producing potential, are reported in the following article: Di Censo et al, Eur J Immunol. 2021. doi: 10.1002/eji.202149209 (IF 5.53)

**2019-2020:** Study coordinated by Dr. Macchia I and Urbani F (Istituto Superiore di Sanità, Rome, Italy) aimed at setting and validating the Standard Operating Procedure (SOP) for immuno-phenotype, acquisition and cytofluorimetric analysis of whole blood samples. Results are reported in the following article: Macchia et al, J Immunol Res. 2020:2698258.eCollection 2020 (IF 4.81)

**2013-2014:** Study coordinated by Prof. G. Scala (University of Catanzaro) and Dr. F.M. Tuccillo (IRCSS, Napoli) aimed at characterizing the antitumor properties of the monoclonal antibody UN1 targeting the tumor-specific isoform of sialo-glycosylated protein CD43. The results, which support the therapeutic role of monoclonal antibodies towards cancer-associated peptide mimotopes, are reported in the following article: Tuccillo et al, Mol Cancer Ther. 2014;13(3):752-762. (IF 5.68)

**2012-2015:** Study coordinated by Prof. L. Tuosto (Department of Biology and Biotechnology "Charles Darwin"-Sapienza University) aimed at analyzing the role of PIP5K $\alpha$  in CD4 $^+$  T lymphocyte responses following CD28 aggregation. The results are reported in the following articles: Muscolini et al, J. Immunol. 2013;190:5279-5286 (IF 5.36); Muscolini et al, J Immunol. 2015;194(3):1323-1333 (IF 4.98); Kunkl et al, Front Immunol. 2017;8:502. (IF 5.51)

**2011-2015:** Study coordinated by Prof. R. Paolini (Department of Molecular Medicine, Sapienza University), aimed at evaluating the impact of endocytic trafficking of NKG2D receptor on the killing ability of Natural Killer cells in multiple myeloma setting. The results, that provide new insights on cancer immunoevasion mechanisms, are reported in the following articles: Molfetta et al, Eur J Immunol. 2014;44(9):2761-2770 (IF 4.03); Quatrini et al, Sci Signal. 2015; 8(400):ra108 (IF 7.35); Molfetta et al, Trends Immunol. 2016;pii: S1471-4906(16)30119-3 (IF 13.28).

## AWARDS AND HONORS

**2020:** The following article Capuano C. et al, Cancer Immunol Immunother. 2020 doi: 10.1007/s00262-020-02482-2 has been selected as featured article for cover figure of Cancer Immunology, Immunotherapy, Volume 69, issue 4, April 2020

**2008:** The following article Micucci\*, Capuano\* et al, Blood 2008;111:4165, \*Equal contribution (IF 10.47) has been featured by Prof. M. Colonna, (Washington University School of Medicine, St. Louise) in Blood 2008 111:3916; doi: <https://doi.org/10.1182/blood-2008-01-131516>

**2013:** Travel Grant assigned by SIICA scientific committee for the selected abstract: C. Capuano, M. Romanelli, C. Pighi, R. Molfetta, R. Paolini, A. Santoni and R. Galandrini. "CD16 aggregation induced by therapeutic antibody-opsonized targets impairs cytotoxic responses in human NK cells". 15th International Congress Of Immunology in Milan, August 22-27, 2013.

**2009:** Travel Grant assigned by EFIS scientific committee for the selected abstract: C. Capuano, R. Paolini, A. Santoni and R. Galandrini. "PI5K $\gamma$ -dependent PIP2 pool plays a key role in Munc13-4 priming factor compartmentalization". 2nd European Congress of Immunology, Berlin, Germany, September 13-16, 2009.

## PARTICIPATION TO EDITORIAL ACTIVITY

### 2020-present

-Reviewer for: Cells (IF 6.6), Cancers (IF 6.63) MDPI journal

-Research Topic Editor: Modulation of Antibody-Mediated Effector Functions in Natural Killer Cells: Protective and Detrimental Effects in Infectious Diseases

<https://www.frontiersin.org/research-topics/53870/modulation-of-antibody-mediated-effector-functions-in-natural-killer-cells-protective-and-detrimental-effects-in-infectious-diseases>

**PUBLICATIONS**  
(Impact Factor reference  
JCR Clarivate-year of  
publication and 2020)

1. **Capuano C**, De Federicis D, Ciuti D, Turriziani O, Angeloni A, Anastasi E, Giannini G, Belardinilli F, Molfetta R, Alvaro D, Palmieri G, Galandrini R. Impact of SARS-CoV-2 vaccination on FcγRIIIA/CD16 dynamics in Natural Killer cells: relevance for antibody-dependent functions. *Front Immunol.* 2023;14:1285203. doi: 10.3389/fimmu.2023.1285203. eCollection 2023  
IF JCR-year of publication and JCR-2022: 7.3  
Cod. Id. ISI: WOS:001112893900001
2. Novelli L, Barbati C, **Capuano C**, Recalchi S, Ceccarelli F, Vomero M, Alessandri C, Morrone S, Conti F. KLRG1 is reduced on NK cells in SLE patients, inversely correlates with disease activity and is modulated by hydroxychloroquine in vitro. *Lupus.* 2023;32(4):549-559. doi: 10.1177/09612033231160979.  
IF JCR-year of publication and JCR-2022: 2.6
3. Milito ND, Zingoni A, Stabile H, Soriani A, **Capuano C**, Cippitelli M, Gismondi A, Santoni A, Paolini R, Molfetta R. NKG2D engagement on human NK cells leads to DNAM-1 hypo-responsiveness through different converging mechanisms. *Eur J Immunol.* 2023;53(2):e2250198. doi:10.1002/eji.202250198.  
IF JCR-year of publication and JCR-2022: 5.4  
Scopus id 2-s2.0-85144022477  
Cod. Id. ISI: WOS:000896903500001
4. **Capuano C**, Pighi C, Battella S, Pulcinelli F, Santoro C, Ferretti A, Turriziani O, De Federicis D, Fionda C, Sciumè G, Galandrini R, Palmieri G. (Auto)Antibody Responses Shape Memory NK Cell Pool Size and Composition. *Biomedicines.*2022;10(3):625. doi: 10.3390/biomedicines10030625.  
IF JCR-year of publication 6.081 JCR-2020: 6.081  
Scopus id: 2-s2.0-85126562052
5. Grimaldi A, Pietropaolo G, Stabile H, Kosta A, **Capuano C**, Gismondi A, Santoni A, Sciumè G, Fionda C. The Regulatory Activity of Noncoding RNAs in ILCs. *Cells.* 2021;10(10):2742. doi: 10.3390/cells10102742.  
IF JCR-year of publication and JCR-2020: 6.6  
Scopus id: 2-s2.0-85117047944  
Cod. Id. ISI: WOS:000713993900001
6. Petillo S, **Capuano C**, Molfetta R, Fionda C, Pighi C, Antonangeli F, Zingoni A, Soriani A, Petrucci MT, Galandrini R, Paolini R, Santoni A, Cippitelli M. Immunomodulatory effect of NEDD8-activating enzyme inhibition in Multiple Myeloma: upregulation of NKG2DL and sensitization to Natural Killer cells recognition. *Cell Death Dis.* 2021;12(9):836. doi: 10.1038/s41419-021-04104-w  
IF JCR-year of publication and JCR-2020: 8.46  
Scopus id: 2-s2.0-85114613727  
Cod. Id. ISI: WOS:000693034400003
7. Fionda C, Stabile H, Molfetta R, Kosta A, Peruzzi G, Ruggeri S, Zingoni A, **Capuano C**, Soriani A, Paolini R, Gismondi A, Cippitelli M, Santoni A. Cereblon



regulates NK cell cytotoxicity and migration via Rac1 activation. *Eur J Immunol*. 2021. doi: 10.1002/eji.202149269.

IF JCR-year of publication and JCR-2020: 5.53

Cod. Id. Scopus: 2-s2.0-85114996665

Cod. Id. ISI :WOS:000696906500001

8. Di Censo C, Marotel M, Mattiola I, Muller L, Scarno G, Pietropaolo G, Peruzzi G, Laffranchi M, Mazej J, Hasim MS, Asif S, Russo E, Tomaipitnca L, Stabile H, Lee SH, Vian L, Gadina M, Gismondi A, Shih Hy, Mikami Y, **Capuano C**, Bernardini G, Bonelli M, Sozzani S, Diefenbach A, Ardolino M, Santoni A, Sciumè G. Granzyme A and CD160 expression delineates ILC1 with graded functions in the mouse liver. *Eur J Immunol*. 2021. doi: 10.1002/eji.202149209.

IF JCR-year of publication and JCR-2020: 5.53

Cod. Id. Scopus: 2-s2.0-85112838779

Cod. Id. ISI WOS:000686281600001

9. **Capuano C**, Pighi C, Battella C, De Federicis D, Galandrini R, Palmieri G. Harnessing CD16-mediated NK cell functions to enhance therapeutic efficacy of tumor-targeting mAbs. *Cancers*. 2021; 13 (10):2500. doi: 10.3390/cancers13102500.

IF JCR-year of publication and JCR-2020: 6.63

Cod. Id. Scopus: 2-s2.0-85106043011

Cod. Id. ISI: WOS:000654677000001

10. **Capuano C**, Pighi C, Maggio R, Battella S, Morrone S, Palmieri G, Santoni A, Klein C, Galandrini R. CD16 pre-ligation by defucosylated tumor-targeting mAb sensitizes human NK cells to  $\gamma$ c cytokine stimulation via PI3K/mTOR axis. *Cancer Immunol Immunother*. 2020;69(4):501-512. doi: 10.1007/s00262-020-02482-2.

IF JCR-year of publication and JCR-2020: 6.96

Cod. Id. Scopus 2-s2.0-85078036347

Cod. Id. ISI WOS:000507680600001

11. Macchia I, La Sorsa V, Ruspantini I, Sanchez M, Tirelli V, Carollo M, Fedele G, Leone P, Schiavoni G, Buccione C, Rizza P, Nisticò P, Palermo B, Morrone S, Stabile H, Rughetti A, Nuti M, Zizzari IG, Fionda C, Maggio R, **Capuano C**, Quintarelli C, Sinibaldi M, Agrati C, Casetti R, Roza Gonzalez A, Iacobone F, Gismondi A, Belardelli F, Biffoni M, Urbani F. Multicentre Harmonisation of a Six-Colour Flow Cytometry Panel for Naïve/Memory T Cell Immunomonitoring. *J Immunol Res*. 2020;2698258. doi: 10.1155/2020/2698258. eCollection 2020.

IF JCR-year of publication and JCR-2020: 4.81

Cod. Id. Scopus 2-s2.0-85083702092

Cod. Id. ISI WOS:000524295000001

12. Battella S, Oliva S, Franchitti L, La Scaleia R, Soriani A, Isoldi S, **Capuano C**, Pighi C, Morrone S, Galandrini R, Santoni A, Palmieri G. Fine tuning of the DNAM-1/TIGIT/ligand axis in mucosal T cells and its dysregulation in pediatric inflammatory bowel diseases (IBD). *Mucosal Immunol*. 2019;12(6):1358-1369. doi: 10.1038/s41385-019-0208-7.

IF JCR-year of publication: 7.35 - JCR-2020: 7.31

Cod. Id. Scopus: 2-s2.0-85074238808

Cod. Id. ISI: WOS:000493905100010

13. **Capuano C**, Pighi C, Battella S, Santoni A, Palmieri G, Galandrini R. Memory NK Cell Features Exploitable in Anticancer Immunotherapy. *J Immunol Res*;2019:8795673. doi: 10.1155/2019/8795673. eCollection 2019.

IF JCR-year of publication: 3.32 – JCR-2020: 4.81

Cod. Id. Scopus: 2-s2.0-85063303442

Cod. Id. ISI: WOS:000459060600001

14. **Capuano C**, Battella S, Pighi C, Franchitti L, Turriziani O, Morrone S, Santoni A, Galandrini R, Palmieri G. Tumor-Targeting Anti-CD20 Antibodies Mediate In Vitro Expansion of Memory Natural Killer Cells: Impact of CD16 Affinity Ligation Conditions and In Vivo Priming. *Front. Immunol.* 2018;9:1031. doi: 10.3389/fimmu.2018.01031.

IF JCR-year of publication: 4.71 – JCR-2020: 7.56

Cod. Id. Scopus: 2-s2.0-85047020567

Cod. Id. ISI: WOS:000431879800001

15. Kunkl M, Porciello N, Mastrogiovanni M, **Capuano C**, Lucantoni F, Moretti C, Persson JL, Galandrini R, Buzzetti R, Tuosto L. ISA-2011B, a Phosphatidylinositol 4-Phosphate 5-Kinase  $\alpha$  Inhibitor, Impairs CD28-Dependent Costimulatory and Pro-inflammatory Signals in Human T Lymphocytes. *Front Immunol.* 2017;8:502. doi: 10.3389/fimmu.2017.00502.

IF JCR-year of publication: 5.51 - JCR-2020: 7.56

Cod. Id. Scopus: 2-s2.0-85018445653

Cod. Id. ISI: WOS:000400313800001

16. **Capuano C**, Pighi C, Molfetta R, Paolini R, Battella S, Palmieri G, Giannini G, Belardinilli F, Santoni A and Galandrini R. Obinutuzumab-mediated high affinity ligation of Fc $\gamma$ RIIIA/CD16 primes NK cells for IFN $\gamma$  production. *Oncolimmunology.* 2017;6(3): e1290037. doi: 10.1080/2162402X.2017.1290037.

IF JCR-year of publication: 5.51 - JCR-2020: 8.11

Cod. Id. Scopus: 2-s2.0-85016574166

Cod. Id. ISI: WOS:000397988500031

17. Molfetta R, Quatrini L, Zitti B, **Capuano C**, Galandrini R, Santoni A, Paolini R. Regulation of NKG2D Expression and Signaling by Endocytosis. *Trends Immunol.* 2016;pii: S1471-4906(16)30119-3. doi: 10.1016/j.it.2016.08.015.

IF JCR-year of publication:13.28 - JCR-2020: 16.68

Cod. Id. Scopus: 2-s2.0-84992731485

Cod. Id. ISI: WOS:000387627600009

18. Lollobrigida M, Lamazza L, **Capuano C**, Formisano G, Serra E, Laurito D, Romanelli M, Molinari A, De Biase A. Physical Profile and Impact of a Calcium-Incorporated Implant Surface on Preosteoblastic Cell Morphologic and Differentiation Parameters: A Comparative Analysis. *Int J Oral Maxillofac Implants.* 2016; 31(1):223-31. doi: 10.11607/jomi.4247.

IF JCR-year of publication: 2.26 - JCR-2020: 2.80

Cod. Id. Scopus: 2-s2.0-84979093811

Cod. Id. ISI: WOS:000378740400027

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IF JCR-year of publication: 7.35 - JCR-2020: 8.19

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IF JCR-year of publication: 8.55 - JCR-2020: 12.7

Cod. Id. Scopus: 2-s2.0-84945565968

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21. Tuosto L, **Capuano C**, Muscolini M, Santoni A, Galandrini R. The multifaceted role of PIP2 in leukocyte biology. *Cell Mol Life Sci.* 2015; 72(23):4461-74. doi:10.1007/s00018-015-2013-0.

IF JCR-year of publication: 5.69 - JCR-2020: 9.26

Cod. Id. Scopus: 2-s2.0-84946481355

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IF JCR-year of publication: 4.98 - JCR-2020: 5.42

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Cod. Id. ISI: WOS:000348134000052

23. Molfetta R, Quatrini L, **Capuano C**, Gasparrini F, Zitti B, Zingoni A, Galandrini R, Santoni A, Paolini R. c-Cbl regulates MICA- but not ULBP2-induced NKG2D down-modulation in human NK cells. *Eur J Immunol.* 2014;44(9):2761-2770. doi: 10.1002/eji.201444512.

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24. Tuccillo FM, Palmieri C, Fiume G, de Laurentiis A, Schiavone M, Falcone C, Iaccino E, Galandrini R, **Capuano C**, Santoni A, D'Armiento FP, Arra C, Barbieri A, Dal Piaz F, Venzon D, Bonelli P, Buonaguro FM, Scala I, Mallardo M, Quinto I, Scala G. Cancer-associated CD43 glycoforms as target of immunotherapy. *Mol Cancer Ther.* 2014;13(3):752-762. doi: 10.1158/1535-7163.MCT-13-065.

IF JCR-year of publication: 5.68 - JCR-2020: 6.26

Cod. Id. Scopus: 2-s2.0-84896267878

Cod. Id. ISI: WOS:000334318300019

25. Galandrini R, **Capuano C**, Santoni A. Activation of Lymphocyte Cytolytic Machinery: Where are We?. *Front Immunol.* 2013;4:390. doi:10.3389/fimmu.2013.00390.

IF (year of publication) 6.42 – JCR-2020: 7.56

Cod. Id. Scopus: 2-s2.0-84890384819

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IF JCR-year of publication: 5.36 – JCR-2020: 5.42

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27. **Capuano C**, Paolini R, Molfetta R, Frati L, Santoni A, Galandrini R. PIP2-dependent regulation of Munc13-4 endocytic recycling: impact on the cytolitic secretory pathway. *Blood*. 2012;119:2252-2262. doi: 10.1182/blood-2010-12-324160.

IF JCR-year of publication: 9.06 – JCR-2020: 22.11

Cod. Id. Scopus: 2-s2.0-84858042087

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28. Micucci F<sup>1</sup>, **Capuano C**<sup>1</sup>, Marchetti E, Piccoli M, Frati L, Santoni A, Galandrini R. PI5KI-dependent signals are critical regulator of the cytolitic secretory pathway. *Blood*. 2008;111(8):4165-4172. <sup>1</sup> **Equal contribution**. doi:10.1182/blood-2007-08-108886.

IF JCR-year of publication: 10.4- JCR-2020: 22.11

Cod. Id. Scopus: 2-s2.0-43249090885

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IF JCR-year of publication:10.3 – JCR-2020: 22.11

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Cod. Id. ISI: WOS:000236014200031

### Metrics

**Publications:** Scopus (march 2024): 30

**Times Cited:** Scopus (march 2024): 683

**Average per item:** Scopus (march 2024):22.7

**H index:** Scopus (march 2024): 17

### **Impact Factor:**

JCR-year of publication: total IF 189.811 -average IF: 6.33

## **TEACHING EXPERIENCE 2022/2023 academic year-present**

Departmental Faculty of Medicine and Surgery

UniCamillus- Saint Camillus International University Of Health Sciences

Holder of Teaching Assignment SSD MED/04 for the following Degree Courses in English and Italian Language

Medicine and Surgery (Rome) LM-41

General Pathology-[90252]-2 CFU

Immunology and Immunopathology-[90235]-2 CFU-Teaching Coordinator

Dentistry and Dental Prosthetics LM-46

General pathology-[90532]-3 CFU-Teaching Coordinator

Midwifery (qualifying to practice as an obstetrician) L/SNT1

General pathology-[90352]-1 CFU

Biomedical Laboratory Techniques (qualifying for the healthcare profession of Biomedical Laboratory Technician) L/SNT3

General and cellular pathology-[90331]- 2 CFU-Teaching Coordinator

Human Nutrition Sciences LM-61

Pathophysiology-[90680 ]-4 CFU-Teaching Coordinator

Nursing (qualifying for the healthcare profession of Nursing) L/SNT1

General Pathology - Physiopathology-[90198]- 2 CFU

### **From 2015/2016 to 2019/2020 academic years**

Sapienza University -Faculty of Pharmacy and Medicine

-Responsible for the Immunology and Immunopathology Module (1 CFU), within the course of Pathophysiological Bases of Diseases [1036417]

-Responsible for Elective Teaching Activity (ADE) [AAF1433] for first-year students (1 CFU)

Degree Course in Biomedical Laboratory Techniques (L/SNT3), Latina

### **2015-2022:**

Sapienza University

-Tutor for the degree theses preparation (Degree Course in Biomedical Laboratory Techniques)

-Tutor for PhD theses preparation, Doctoral School in Immunological, Hematological and Rheumatological Sciences (SIER), Immunology and Immunopathology curriculum

### **2017-2022:**

Sapienza University-Faculty of Pharmacy and Medicine

-Elective Teaching Activity (ADE) within Immunology and Immunopathology course, 3rd year of the Degree Course in Medicine and Surgery (Channel A)

### **NATIONAL AND INTERNATIONAL MEETINGS HOSTED BY SCIENTIFIC SOCIETIES**

### **2023**

Meeting: XIV National Congress of the Italian Society of Immunology, Clinical Immunology and Allergology. Verona, Italy, May 22-25

Title: Impact of Covid-19 vaccination on FcγRIIIA/CD16 dynamics in natural killer cells: relevance for antibody-dependent functions and vaccinal responses

Type: oral communication

## **2021**

Meeting: XII National Congress of the Italian Society of Immunology, Clinical Immunology and Allergology. Virtual Edition, May 26-28

Title: Role of autoantibodies in shaping human memory natural killer cell compartment

Type: oral communication

## **2017**

Meeting: XI National Congress of the Italian Society of Immunology, Clinical Immunology and Allergology. Bari, Italy, May 28-31

Title: The interplay between anti-CD20 therapeutic antibodies and "memory" Natural Killer cells

Type: oral communication

## **2016**

Meeting: Giornata Romana di Immunologia, promosso da Sapienza Università di Roma, Consiglio Nazionale delle Ricerche (CNR), Santa Lucia Neuroscienze e Riabilitazione e patrocinato da SIICA, Roma, Italy, June 6

Title: The Interplay between anti-CD20 therapeutic antibodies and human Natural Killer cells

Type: oral communication

## **2014**

Meeting: 9th National Conference of the Italian Society Of Immunology, Clinical Immunology and Allergology. Firenze, Italy, May 28-31

Title: A sustained CD16 aggregation induced by therapeutic antibody opsonized targets impairs cytotoxic responses in human NK cells

Type: oral communication

## **2013**

Meeting: 14th Meeting of the Society for Natural Immunity. Heidelberg, Germany, September 18-22

Title: CD16 aggregation induced by therapeutic antibody-opsonized targets impairs cytotoxic responses in human NK cells

Type: oral communication

## **2010**

Meeting: 7th National Conference of the Italian Society Of Immunology, Clinical Immunology and Allergology. Vol 101. Suppl.1 N.3 page 35. Bari, Italy, May 26-29

Title: PI5K $\gamma$ -dependent PIP2 pool plays a key role in Munc13-4 priming factor functional compartmentalization

Type: oral communication

## **2009**

Meeting: BeMM PhD Symposium. Roma, Italy, December 10

Title: Regulatory signals of cytolytic secretory pathway: looking for a role of phosphatidylinositol-4,5 bisphosphate in SNARE system functional compartmentalization

Type: oral communication

**2019**

Meeting: 5th International Conference Of Translational Medicine On The Pathogenesis And Therapy of Immune-Mediated Diseases, Milano, Italy, May 16-18

Title: The glycoengineered tumor-targeting mAb Obinutuzumab acts via FcγRIIIA/CD16 to promote miR-155 upregulation associated to the priming for IFN-γ production in Natural Killer cells

Type: speaker for poster presentation

**2016**

Meeting: 16th Meeting of the Society for Natural Immunity. Taormina, Italy, October 2-5 (<https://www.nk2016.it>)

Title: The interplay between anti-CD20 therapeutic antibodies and human Natural Killer cells: impact of antibody Fc engineering

Type: speaker for poster presentation

**2013**

Meeting: 15th International Congress of Immunology. Milano, Italy, August 22-27

Title: CD16 aggregation induced by therapeutic antibody-opsonised targets impairs cytotoxic responses in human NK cells

-published in Front. Immunol doi: 10.3389/conf.fimmu.2013.02.00148

Type: speaker for poster presentation

**2012**

Meeting: 2nd Conference Of Translational Medicine On The Pathogenesis And Therapy of Immune-Mediated Diseases. Rozzano, Italy, November 5 -7

Title: Impact of FcγRIIIA, CD16, trafficking during cytolytic interaction on serial killing potential in human NK cells

Type: speaker for poster presentation

**2009**

Meeting: 2nd European Congress of Immunology. Vol 39 No. S1 S337. Berlin, Germany, September 13-16

Title: PI5Kγ-dependent PIP2 pool plays a key role in Munc13-4 priming factor compartmentalization

Type: speaker for poster presentation

**2007**

Meeting: 5th National Conference the Italian Society Of Immunology, Clinical Immunology and Allergology. Vol 98. Suppl.1 N.3 page 8. Trieste, Italy, June 6-9

Title: A critical role for type I phosphatidylinositol 4-phosphate 5-kinase (PI5KI)-dependent signals in the regulation of cytotoxic function

Type: speaker for poster presentation

Rome, 12-3-2024

il dichiarante  
Cristina Capuano

La sottoscritta, consapevole che- ai sensi dell'art. 76 del D.P.R. 445/2000-le dichiarazioni mendaci, la falsità negli atti e l'uso di atti falsi sono puniti ai sensi del codice penale e delle leggi speciali, dichiara che le informazioni riportate rispondono a verità

Autorizzo il trattamento dei miei dati personali ai sensi del D.lgs. 196 del 30 giugno 2003 "Codice in materia di protezione dei dati personali" e la pubblicazione in ottemperanza a quanto previsto dall'art. 15, c. 1, lett. C) del Decreto Legislativo n. 33/2013