

CURRICULUM VITAE

PERSONAL INFORMATION

Marika Guercio

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WORK EXPERIENCE

May 2024-present

Fixed-Term Staff Biologist at IRCCS Bambino Gesù Children's Hospital, Rome - Italy

Onco-Hematology Dept. PIs: Prof F. Locatelli, Prof Concetta Quintarelli

Research Topics:

- Identification and characterization of new tumor associated antigens for immunotherapeutic strategies by single cell (sc)RNA-seq transcriptomics

Mar 2021– Mar 2024

Research Fellow “AIRC/FIRC 2020” at Bambino Gesù Children’s Hospital, Rome - Italy

Onco-Hematology Dept. PIs: Prof F. Locatelli, Prof C. Quintarelli, Dr B. De Angelis

Research Topics:

- Development of bispecific CAR (chimeric antigen receptors) T cell-based therapies for treatment of germ cell tumors

Sept-Dec 2023

Visiting Fellow (AIRC) at UCL University/GOSH Pediatric Hospital, London - UK

Infection, Immunity & Inflammation Dept UCL GOSH Institute of Child Health PIs: Prof. Alice Giustacchini, Prof. Sergi Castellano

Research Topics:

- Single cell RNA Seq (scRNA-Seq) using Chromium Platform from 10X
- Spatial transcriptomics with Visium Technology from 10X

June 2017 – Feb 2021

Research Associate at Bambino Gesù Children’s Hospital, Rome - Italy

Onco-Hematology Dept. PIs: Prof F. Locatelli, Prof C. Quintarelli, Dr B De Angelis

Research Topics:

- Development of CAR-T cells specific for CD19 positive B cell lymphoma/leukemia and CD30 positive lymphoma

Mar 2015 – July 2017

Research Fellow (Celestina Losa –Istituto Toniolo) at Università Cattolica del Sacro Cuore, Rome - Italy

Onco-Hematology Dept. PIs: Prof F. Locatelli, Prof C. Quintarelli

Research Topics:

- Development of CAR-T cells specific for GD2 antigen in the context of neuroblastoma and medulloblastoma.
- Identification and characterization of new tumor associated antigens for sarcomas.

June 2014 – Feb 2015

Post-Graduate Intern at “La Sapienza” University, Rome - Italy

Physiology and Molecular Genetics Dept. PI: Prof S. Cacchione

Research Topics:

- Molecular biology of telomeres and telomerase; mechanisms of cell aging.

May 2013 – Sept 2013

Volunteer at Laboratorio di analisi cliniche Schiavo” s.r.l. Vallo della Lucania – Italy

CEO: Dr M. Schiavo

Main Activities: Processing of IHC samples; IHC staining.

Feb 2012 – July 2012

Undergraduate Intern at CHU, Université de Caen Bass-Normandie, Caen- France

Centre de Lutte contre le Cancer François Baclesse. PI: Prof L. Poulain

Research Topics:

- Pharmacological Inhibition of PI3K/Akt/mTOR pathway; modulation of apoptosis in ovarian carcinoma models.

EDUCATION AND TRAINING

Nov 2020 – present

Residency Program in Pathology and Clinical Biochemistry

Policlinico Umberto I - “La Sapienza” University, Rome (Italy)

Oct 2020 – present

XXXVI PhD Program in Innovation in immuno-mediated and hematological disorders

“La Sapienza” University, Rome (Italy)

Feb 2020 – July 2020

Advanced Course in Bioethics and Humanities

Università Cattolica Del Sacro Cuore, Rome (Italy)

Jan 2019 – Dec 2019

Master Course in Science Education

Università degli Studi di Reggio Calabria (Italy)

Jan 2017

Professional Biologist License

“Tor Vergata” University, Rome (Italy)

Oct 2013 – Jan 2016

MSc in Genetics and Molecular Biology

“La Sapienza” University, Rome (Italy) 110/110 cum laude

Oct 2009 – Feb 2013

BSc in Biology

Università degli Studi di Parma, Parma (Italy) 106/110

PERSONAL SKILLS AND COMPETENCES

Languages

Mother tongue

- Italian

Other languages

- English (Pearson Certification - Level B2 – July 2019)
- French – Level B2 (Erasmus Certification Université de Caen Basse Normandie- June 2012)

Digital skills

- ECDL (Specialized Level - July 2020)
- Office Package
- Diva Software (Flow cytometry)
- GraphPad Prism, Biorender, Aura, Snapgene
- Tool bioinformatici (IEM, Adaptive Immunosystem for TCR sequencing)

Organizational/managerial skills

- Excellent organization and multitasking skills in project management
- Ability to define priorities, managing pressure and deadlines
- Excellent team-working and problem-solving skills
- Ability to organize and present data in spoken and written English

Job-related skills

Cellular Biology:

- Ficoll cell separation, primary T/NK cells isolation and culture
- T and NK cells retroviral transduction
- Flow cytometry analysis (BD CantoII and X-20 Fortessa Cytometers- Diva Software)
- Cytotoxicity assays, IFN- γ ELISpot, ELISA, Multiplex assays using Luminex technology, ELLA
- Single Cell Cloning
- 3D cell culture

Molecular Biology:

- DNA/RNA isolation from cells and tissues
- Reverse-transcriptase polymerase chain reaction (RT-PCR), Polymerase Chain reaction (PCR),
- Real-time PCR
- Cloning and transfection methods: Lentiviral and Retroviral vectors cloning and production
- NGS - Illumina Platforms (MiSeq, NextSeq550, NovaSeq)
- Digital PCR
- 10X Single Cell RNA-Sequencing

Pathology and Clinical Biochemistry:

- Urine culture and analysis
- Blood Counts and analysis
- RIA Test on serum/plasma/liquor
- Blood Chemistry Tests

Other Information:

- Teaching: Tutoring and workshop activity with MSc students in gene and cell therapies, UCL, London – Dec 2023
- Review Editor in “Immunological Tolerance and Regulation” – Since Jan 2023
- Pediatric Basic Life Support-Defibrillation (PBLSD)/ Basic Life Support-Defibrillation (BLSD) Training Bambino Gesù Children’s Hospital, Rome (Italy) – 2023
- ESGCT Spring School 6th Spring School, Giens (France) - March 2023

ADDITIONAL INFORMATION

Fellowships and Grants

2024-“Ricerca Corrente 2024” OPBG Grant: “Transcriptomic characterization of CAR.CD19 T cells by single cell RNA Sequencing (scRNA-Seq)” RC2024_ONCO_GUERCIO

2023-Short-term fellowship AIRC: “Transcriptomic characterization of Acute Lymphoblastic Leukemia (AML) blasts by single cell RNA-Sequencing (scRNA-Seq)”

2023-“RC/5 per mille 2023” OPBG Grant: “Preclinical and clinical development of CD30.CAR T cell based ATMP” 2305_ONCO_GUERCIO

2020-Three year Fellowship AIRC/FIRC "Francesco Alicino" id.25316: “Development of bispecific CAR (chimeric antigen receptors) T cell-based therapies for the treatment of germ cell tumors”

2015-Two year Fellowship Celestina Losa” – Istituto Toniolo and Università Cattolica del Sacro Cuore: “Development of CAR-T cells specific for GD2 antigen in the context of neuroblastoma and medulloblastoma”

Oral communications and Awards

Travel Grant- AIL "Paolo Rubino" - Immunotherapy in hematologic malignancies, 3rd Cuneo City Immunotherapy Conference – Cuneo, 18-20 Maggio 2023

Best Poster Award “CAR T-cell therapy for the treatment of Germ Cell Tumors (GCTs) with heterogeneous tumor antigen expression.” *M. Guercio et al.* (5th Annual Meeting ACC –Virtual-Oct 28-30 Oct 2020)

ESGCT Travel Grant “A novel CAR.CD30 T cell therapy associated with long persistence and high activity against CD30 positive lymphomas” *M. Guercio et al.* (ESGCT Annual Congress Barcelona 2019)

Oral Communication “Cellule T CAR.CD30 contenenti i domini di costimolazione CD28.OX40 sono associate ad una maggiore persistenza e una più elevata attività citotossica nel trattamento di linfomi CD30+” *M. Guercio et al.* (AIEOP Annual Conference Catania 2019)

Oral Communication “A novel CAR.CD30 T Cell Therapy associated with long persistence and high activity against CD30 positive lymphomas.” *M. Guercio et al.* (Oral Communication SIE 2019 Rome 2019)

Best Poster Award “A novel CAR.CD30 T cell therapy associated with long persistence and high activity against CD30 positive lymphomas.” *M. Guercio et al.* (“Luigi Cavenaghi” Award, AFI Symposium, Rimini 2019)

PUBLICATIONS

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Citations 731

Allogeneic GD2-CART01 for Treatment of patients with Relapsed/Refractory High-Risk Neuroblastoma. C Quintarelli, F Del Bufalo, MA De Ioris, *M Guercio*, M Algeri, D Pagliara, DA

Silvestris, M Di Nardo, M Sinibaldi, S Di Cecca, L Iaffaldano, S Manni, MC Garganese, GS Colafati, V Bertaina, M Becilli, A Mastronuzzi, F Fabozzi, M Gunetti, S Iacovelli, R Bugianesi, S Macchia, G Li Pira, MG Cefalo, G Leone, G Del Baldo, B De Angelis, F Locatelli. *Accepted on Nature Medicine reference number: NMED-A131164. IF 58.7*

Tumor-derived G-CSF induces an immunosuppressive microenvironment in an osteosarcoma model, reducing response to CAR.GD2 T-cells. M Pezzella, C Quintarelli, C Quadraccia, A Sarcinelli, S Manni, L Iaffaldano, A Ottaviani, R Ciccone, A Camera, M D'amore, S Di Cecca, M Sinibaldi, **M Guercio**, M Aurigemma, P De Falco, R Rota, S Pomella, M Cassandri, A Di Giannatale, C Agrati, V Bordoni, F Guarracino, M Massa, G Del Baldo, M Becilli, G Milano, F Del Bufalo, F Locatelli and B De Angelis. *J Hematol Oncol.* 2024 Dec 18;17(1):127. doi: 10.1186/s13045-024-01641-7. PMID: 39695851; PMCID: PMC11656657. **IF 29.5**

Humoral and cellular immune response after mRNA SARS-CoV-2 vaccine in children on treatment for cancer: A pilot observational study. A Mastronuzzi, R Carsetti, MA De Ioris, C Agrati, G Del Baldo, C Russo, MG Cefalo, P Merli, CF Perno, VA dell'Anna, A Serra, V Bordoni, E Piano Mortari, V Marcellini, C Albano, G Linardos, V Costabile, M Sinibaldi, **M Guercio**, S di Cecca, C Quintarelli, F Locatelli. *Heliyon*, Volume 10, Issue 14, 2024, e34503, ISSN 2405-8440, <https://doi.org/10.1016/j.heliyon.2024.e34503>. **IF 4.0**

GD2-targeting CAR T-cell therapy for patients with GD2+ medulloblastoma. Ciccone R, Quintarelli C, Camera A, Pezzella M, Caruso S, Manni S, Ottaviani A, **Guercio M**, Del Bufalo F, Quadraccia MC, Orlando D, Di Cecca S, Sinibaldi M, Aurigemma M, Iaffaldano L, Sarcinelli A, D'Amore ML, Ceccarelli M, Nazio F, Marabitti V, Giorda E, Pezzullo M, De Stefanis C, Carai A, Rossi S, Alaggio R, Del Baldo G, Becilli M, Mastronuzzi A, De Angelis B, Locatelli F. *Clin Cancer Res.* 2024 Mar 29. doi: 10.1158/1078-0432.CCR-23-1880. Epub ahead of print. PMID: 38551501. **IF 10**

Insight into immune profile associated with vitiligo onset and anti-tumoral response in melanoma patients receiving anti-PD-1 immunotherapy. Carbone ML, Capone A, **Guercio M**, Reddel S, Silvestris DA, Lulli D, Ramondino C, Peluso D, Quintarelli C, Volpe E, Failla CM. *Front Immunol.* 2023 Aug 23;14:1197630. doi: 10.3389/fimmu.2023.1197630. PMID: 37680638; PMCID: PMC10482109. **IF 5.7**

Neutralizing IFN γ improves safety without compromising efficacy of CAR-T cell therapy in B-cell malignancies. S Manni, F Del Bufalo, P Merli, DA Silvestris, **M Guercio**, S Caruso, S Reddel, L Iaffaldano, M Pezzella, S Di Cecca, M Sinibaldi, A Ottaviani, MC Quadraccia, M Aurigemma, A Sarcinelli, R Ciccone, Z Abbaszadeh, M Ceccarelli, R De Vito, MC Lodi, MG Cefalo, A Mastronuzzi, B De Angelis, F Locatelli, C Quintarelli. *Nat Commun.* 2023 Jun 9;14(1):3423. doi: 10.1038/s41467-023-38723-y. **IF 14.7**

Functional CVIDs phenotype clusters identified by the integration of immune parameters after BNT162b2 boosters. E Piano Mortari, F Pulvirenti, V Marcellini, S Terreri, A Fernandez Salinas, S Ferrari, G Di Napoli, D Guadagnolo, E Sculco, C Albano, **M Guercio**, S Di Cecca, C Milito, G Garzi, AM Pesce, L Bonanni, M Sinibaldi, V Bordoni, S Di Cecilia, S Accordini, C Castilletti, C Agrati, C Quintarelli, S Zaffina, F Locatelli, R Carsetti, I Quinti. *Front Immunol.* 2023 May 25;14:1194225. doi: 10.3389/fimmu.2023.1194225. eCollection 2023. **IF 5.7**

GD2-CART01 for Relapsed/Refractory High-Risk Neuroblastoma. F Del Bufalo, B De Angelis, I Caruana, G Del Baldo, M A De Ioris, A Serra, A Mastronuzzi, M G Cefalo, D Pagliara, M Amicucci, G Li Pira, G Leone, V Bertaina, M Sinibaldi, S Di Cecca, **M Guercio**, Z Abbaszadeh, L Iaffaldano, M Gunetti, S Iacovelli, R Bugianesi, S Macchia, M Algeri, P Merli, F Galaverna, R Abbas, M C Garganese, M F Villani, G

S Colafati, F Bonetti, M Rabusin, K Perruccio, V Folsi, C Quintarelli, F Locatelli. *N Engl J Med.*2023 Apr 6;388(14):1284-1295. doi: 10.1056/NEJMoa2210859. **IF 96.2**

Safe and effective off-the-shelf immunotherapy based on CAR.CD123-NK cells for the treatment of acute myeloid leukaemia. S Caruso, B De Angelis, F Del Bufalo, R Ciccone, S Donsante, G Volpe, S Manni, **M Guercio**, M Pezzella, L Iaffaldano, D A Silvestris, M Sinibaldi, S Di Cecca, A Pitisci, E Velardi, P Merli, M Algeri, M Lodi, V Paganelli, M Serafini, M Riminucci, F Locatelli, C Quintarelli. *J Hematol Oncol* 2022 Nov 5;15(1):163. doi: 10.1186/s13045-022-01376-3. **IF 29.5**

T-Cell Defects Associated to Lack of Spike-Specific Antibodies after BNT162b2 Full Immunization Followed by a Booster Dose in Patients with Common Variable Immune Deficiencies. Pulvirenti F, Di Cecca S, Sinibaldi M, Piano Mortari E, Terreri S, Albano C, **Guercio M**, Sculco E, Milito C, Ferrari S, Locatelli F, Quintarelli C, Carsetti R and Quinti I. *Cells* 2022, 11, 1918. <https://doi.org/10.3390/cells11121918> **IF 5.1**

B Cell Response Induced by SARS-CoV-2 Infection Is Boosted by the BNT162b2 Vaccine in Primary Antibody Deficiencies. Pulvirenti F, Fernandez Salinas A, Milito C, Terreri S, Piano Mortari E, Quintarelli C, Di Cecca S, Lagnese G, Punziano A, **Guercio M**, Bonanni L, Auria S, Villani F, Albano C, Locatelli F, Spadaro G, Carsetti R, Quinti I. *Cells*. 2021 Oct 27;10(11):2915. doi: 10.3390/cells10112915. **IF 5.1**

SARS-CoV-2 Vaccine Induced Atypical Immune Responses in Antibody Defects: Everybody Does their Best. Salinas AF, Mortari EP, Terreri S, Quintarelli C, Pulvirenti F, Di Cecca S, **Guercio M**, Milito C, Bonanni L, Auria S, Romaggioli L, Cusano G, Albano C, Zaffina S, Perno CF, Spadaro G, Locatelli F, Carsetti R, Quinti I *J CLIN IMMUNOL* 2021 11; 41: 1709-1722 PMID: 34669144 **IF 7.2**

Inclusion of the Inducible Caspase 9 Suicide Gene in CAR Construct Increases Safety of CAR.CD19 T Cell Therapy in B-Cell Malignancies. **Guercio M**, Manni S, Boffa I, Caruso S, Di Cecca S, Sinibaldi M, Abbaszadeh Z, Camera A, Ciccone R, Polito VA, Ferrandino F, Reddel S, Catanoso ML, Bocceri E, Del Bufalo F, Algeri M, De Angelis B, Quintarelli C, Locatelli F *Front Immunol* 2021; 12: 755639 PMID: 34737753 **IF 5.7**

Strategy to prevent epitope masking in CAR.CD19+ B-cell leukemia blasts. Quintarelli C, **Guercio M**, Manni S, Boffa I, Sinibaldi M, Di Cecca S, Caruso S, Abbaszadeh Z, Camera A, Cembrola B, Ciccone R, Orfao A, Martin-Martin L, Gutierrez-Herrero S, Herrero-Garcia M, Cazzaniga G, Nunes V, Songia S, Marcatili P, Marin FI, Ruella M, Bertaina V, Vinti L, Del Bufalo F, Algeri M, Merli P, De Angelis B, Locatelli F *J IMMUNOTHER CANCER* 2021 06; 9: PMID: 34135100 **IF 10.3**

CD28.OX40 co-stimulatory combination is associated with long in vivo persistence and high activity of CAR.CD30 T-cells. **Guercio M**, Orlando D, Di Cecca S, Sinibaldi M, Boffa I, Caruso S, Abbaszadeh Z, Camera A, Cembrola B, Bovetti K, Manni S, Caruana I, Ciccone R, Del Bufalo F, Merli P, Vinti L, Girardi K, Ruggeri A, De Stefanis C, Pezzullo M, Giorda E, Scarsella M, De Vito R, Barresi S, Ciolfi A, Tartaglia M, Moretta L, Locatelli F, Quintarelli C, De Angelis B. *HEMATOL J* 2021 04; 106: 987-999 PMID: 32381575 **IF 9.9**

Next-Generation Sequencing Approaches for the Identification of Pathognomonic Fusion Transcripts in Sarcomas: The Experience of the Italian ACC Sarcoma Working Group. D. Racanelli, M. Brenca, D. Baldazzi, F. Goeman, B. Casini, B. De Angelis, **M. Guercio**, G. Maria Milano, E. Tamborini, A. Busico, G. Dagrada, C. Garofalo, C. Caruso, A. Brunello, Y. Pignochino, E. Berrino, G. Grignani, K. Scotlandi, A. Parra, C. M. Hattinger, T. Ibrahim, L. Mercatali, A. De Vita, M. V. Carriero, M. Pallocca, R. Loria, R. Covello, M. Sbaraglia, A. Paolo Dei Tos, R. Falcioni, R. Maestro. *Front Oncol.*2020 Apr 15;10:489. DOI: 10.3389/fonc.2020.00489. eCollection 2020 **IF 3.5**

A new promising third generation CAR-CD30 T-cell therapy for CD30+ lymphoma. Biagio De Angelis, **M. Guercio**, D. Orlando, S. Di Cecca, M. Sinibaldi, I. Boffa, S. Caruso, Z. Abbaszadeh, A. Camera, B. Cembrola, K. Bovetti, I. Caruana, F. Del Bufalo, P. Merli, L. Vinti, K. Girardi, A. Ruggeri, R. De Vito, C.

Quintarelli and F. Locatelli (Poster ASH, Blood (2019) 134 (Supplement_1): 2069.<https://doi.org/10.1182/blood-2019-127969>) **IF 21**

Efficacy of Third-Party Chimeric Antigen Receptor Modified Peripheral Blood Natural Killer Cells for Adoptive Cell Therapy of B-cell Precursor Acute Lymphoblastic Leukemia. C Quintarelli, S Sivori, S Caruso, S Carlomagno, M Falco, I Boffa, D Orlando, **M Guercio**, Z Abbaszadeh, M Sinibaldi, S Di Cecca, A Camera, B Cembrola, A Pitisci, M Andreani, L Vinti, S Gattari, F Del Bufalo, M Algeri, G Li Pira, A Moseley, B De Angelis, L Moretta, F Locatelli. *Leukemia*.2020 Apr;34(4):1102-1115. doi: 10.1038/s41375-019-0613-7. Epub 2019 Nov 19. **IF 12.8**

Adoptive immunotherapy in medulloblastoma with T cells redirected, toward tumor cells through PRAME-specific $\alpha\beta$ TCR gene modification. D.Orlando, E. Miele, **M. Guercio**, I. Boffa, M. Sinibaldi, A. Po, I. Caruana, L. Abbale, A. Carai, A. Moseley, R. Hagedoorn, M. Heemskerk, F. Giangaspero, A. Mastronuzzi, B. De Angelis, E. Ferretti, F. Locatelli and C. Quintarelli. *Cancer Res.* 2018 Jun 15;78(12):3337-3349. **IF 12.5**

Choice of costimulatory domains and cytokines determines CAR T-cell activity in neuroblastoma. C. Quintarelli, D. Orlando, I. Boffa, **M. Guercio**, A. Petretto, Ch. Lavarello, M. Sinibaldi, G. Weber, F. Del Bufalo, E. Giorda, M. Scarsella, S. Petrini, V. A. Polito, D. Pagliara, F. Locatelli, B. De Angelis and I. Caruana. *Oncoimmunology*. 2018 Mar 15;7(6):e1433518. **IF 6.5**

CD19 Redirected CAR NK Cells Are Equally Effective but Less Toxic Than CAR T Cells. C. Quintarelli, S.Sivori, S. Caruso, S. Carlomagno, I. Boffa, , D. Orlando, **M. Guercio**, B. Cembrola, PhD, A. Pitisci, S. Di Cecca, G. Li Pira, L. Vinti, B. De Angelis, L. Moretta, F. Locatelli. (Poster ASH Blood (2018) 132 (Supplement 1): 3491. DOI: <https://doi.org/10.1182/blood-2018-99-118005>) **IF 21**

Patient-Derived Chimeric Antigen Receptor T-Cell Production Based on a Gammaretroviral Vector Platform Is Not Associated with Generation of CAR+ Leukemia Blasts. C. Quintarelli, I. Boffa, M. Sinibaldi, D. Orlando, **M. Guercio**, S. Di Cecca, S. Caruso, A. Pitisci, V. Bertaina, F. Del Bufalo, P. Merli, M. Algeri, F. Galaverna, L.Vinti, G. Li Pira, B. De Angelis, F. Locatelli. (Poster ASH Blood (2018) 132 (Supplement 1): 2204. DOI: <https://doi.org/10.1182/blood-2018-99-119413>) **IF 21**

PI3K/mTOR dual inhibitor NVP-BEZ235 decreases Mcl-1 expression and sensitizes ovarian carcinoma cells to Bcl-xL-targeting strategies, provided that Bim expression is induced. Jebahi A, Villedieu M, Pétigny-Lechartier C, Brotin E, Louis MH, Abeilard E, Giffard F, **Guercio M**, Briand M, Gauduchon P, Lheureux S, Poulain L. *Cancer Lett.* 2014 Jun 28;348(1-2):38-49. doi: 10.1016/j.canlet.2014.03.001. Epub 2014 Mar 18. **IF 9.1**

Personal Data

I hereby authorize the use of my personal data in accordance to the GDPR 679/16 - "European regulation on the protection of personal data".

I hereby authorize the publication of my CV.

Rome,
January 31th, 2025