



Matteo Caforio

Date of birth: 21/05/1988 | **Phone number:** (+39) 3393620612 (Mobile) | **Email address:** matteo.caforio@opbg.net |

Address: Piazza Aldo Moro 28 B, 00071, Pomezia (RM), Italy (Home)

● WORK EXPERIENCE

14/02/2018 – CURRENT Roma, Italy

RESEARCH ASSISTANT BAMBINO GESÙ CHILDREN'S HOSPITAL

Research activity carried out during these years concerns the study of mechanisms of resistance to treatment in pediatric tumors. It was performed at the Bambino Gesù Children's Hospital, in the Department of onco-hematology and Gene and Cell Therapy under the supervision of Dr Valentina Folgiero

29/11/2018 – 13/12/2021 Roma, Italy

PHD STUDENT PHD PROGRAM IN BIOCHEMISTRY, SAPIENZA UNIVERSITY OF ROME/OPBG

The project concerned the role of IDO1 enzyme in response to treatment of neuroblastoma with CAR T-cells directed to GD2. It was carried out at OPBG under the supervision of Dr Valentina Folgiero

09/10/2015 – 21/03/2017 Roma, Italy

TRAINING SAPIENZA UNIVERSITY OF ROME

My experimental training was carried out at the Department of Molecular Medicine of Sapienza University, Oncogenomic Unit, directed by Prof Elisabetta Ferretti

● EDUCATION AND TRAINING

31/10/2018 – 13/12/2021 Roma, Italy

PHD IN BIOCHEMISTRY Sapienza University of Rome

My PhD project concerned the role of IDO1 enzyme in the mechanism of response to CAR T-cells directed GD2 and NK cells in the treatment of Neuroblastoma. It was carried out at OPBG at the department of Onco-Hematology directed by Prof Franco Locatelli under the supervision of Valentina Folgiero.

Thesis Indolamine 2-3 deoxygenase 1 is involved in Neuroblastoma Immune Escape

30/10/2014 – 21/03/2017 Roma, Italy

MASTER'S DEGREE IN GENETICS AND MOLECULAR BIOLOGY IN BASIC AND MEDICAL RESEARCH

Sapienza University of Rome

Grade: 110/110 cum laude

Title of the thesis: "Ruolo della via del segnale Hedgehog-Gli nel controllo del fattore di trascrizione FOXM1 nelle cellule staminali neuronali".

The project was focused on the role of FOXM1 in the maintenance of stemness of murine neural stem cells through the control of microRNA and its involvement in the Hedgehog-Gli pathway.

31/10/2008 – 26/03/2014 Roma, Italy

THREE YEARS DEGREE IN BIOLOGICAL SCIENCES Sapienza University of Rome

Grade: 99/110

Title of the thesis: "Le integrine nei processi cellulari"

31/08/2002 – 31/05/2008 Pomezia (RM), Italy

SCIENTIFIC HIGH SCHOOL DIPLOMA High School "Blaise Pascal"

● **LANGUAGE SKILLS**

Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	B2	B2	B2	B2	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● **PUBLICATIONS**

Enhancer engagement sustains oncogenic transformation and progression of B-Cell Precursor Acute Lymphoblastic Leukemia.

Giacomo Corleone; Cristina Sorino; Matteo Caforio; Stefano Di Giovenale; Francesca De Nicola; Frauke Goeman; Valentina Bertaina; Angela Pitisci; Clelia Cortile; Franco Locatelli; Valentina Folgiero; Maurizio Fanciulli

J Exp Clin Cancer Res. 2024 Jun 27;43(1):179. doi: 10.1186/s13046-024-03075-y.

Impact Factor 11,2

GMP-manufactured CRISPR/Cas9 technology as an advantageous tool to support cancer immunotherapy.

Caforio M, Iacovelli S, Quintarelli C, Locatelli F, Folgiero V.

J Exp Clin Cancer Res. 2024 Mar 1;43(1):66. doi: 10.1186/s13046-024-02993-1.

Impact Factor 11,2

2024
Immune microenvironment to improve cancer immunotherapy: IGF1R, a promising target.

Pellegrino M, Secli V, D'Amico S, Petrilli LL, Caforio M, Folgiero V, Tumino N, Vacca P, Vinci M, Fruci D, de Billy E.

Front Immunol. 2024 Feb 14;15:1356321. doi: 10.3389/fimmu.2024.1356321. eCollection 2024.

Impact factor 8,8 description...

2023
AATF/Che-1 RNA polymerase II binding protein overexpression reduces the anti-tumor NK-cell cytotoxicity through activating receptors modulation

Caforio M, Tumino N, Sorino C, Manni I, Di Giovenale S, Piaggio G, Iezzi S, Strimpakos G, Mattei E, Moretta L, Fanciulli M, Vacca P, Locatelli F, Folgiero V

Front Immun.2023 Jun 26:14:1191908. doi: 10.3389/fimmu.2023.1191908

Impact Factor 8,8

2022
Enhancer engagement sustains oncogenic transformation and progression of B-Cell Acute Lymphoblastic leukemia.

Corleone G, Sorino C, Caforio M, Di Giovenale S, De Nicola F, Bertaina V, Pitisci A, Cortile C, Locatelli F, Folgiero V, Fanciulli M.

Manuscript in preparation

2022
CAPE and its synthetic derivative VP961 restore BACH1/NRF2 axis in Down Syndrome

Pagnotta S, Tramutola A, Barone E, Di Domenico F, Pittalà V, Salerno L, Folgiero V, Caforio M, Locatelli F, Petrini S, Butterfield DA, Perluigi M.

Free Radic Biol Med 2022 Apr;183:1-13.

Impact Factor 7,376

2021

PI3K/Akt Pathway: The Indestructible Role of a Vintage Target as a Support to the Most Recent Immunotherapeutic Approaches

Caforio M, de Billy E, De Angelis B, Iacovelli S, Quintarelli C, Paganelli V, Folgiero V.

Cancers (Basel) 2021 Aug 11;13(16):4040

Impact factor 6,32

2021

GD2 redirected CAR T and activated NK-cell-mediated secretion of IFN γ overcomes MYCN-dependent IDO1 inhibition, contributing to neuroblastoma cell immune escape

Caforio M, Sorino C, Caruana I, Weber G, Camera A, Cifaldi L, De Angelis B, Del Bufalo F, Vitale A, Goffredo BM, De Vito R, Fruci D, Quintarelli C, Fanciulli M, Locatelli F, Folgiero V.

J Immunother Cancer 2021 Mar;9(3):e001502.

Impact Factor 13,751

2020

Proteomics Study of Peripheral Blood Mononuclear Cells in Down Syndrome Children

Chiara Lanzillotta, Viviana Greco, Diletta Valentini, Alberto Villani, Valentina Folgiero, Matteo Caforio, Franco Locatelli, Sara Pagnotta, Eugenio Barone, Andrea Urbano. Fabio Di Domenico, Marzia Pierluigi

Antioxidants (Basel) 2020 Nov 11;9(11):1112

Impact factor 6,313

2020

Chronic PERK induction promotes brain pathology in Down syndrome brain: novel clues for therapeutic

Chiara Lanzillotta, Ilaria Zuliani, Antonella Tramutola, Eugenio Barone, Valentina Folgiero, Matteo Caforio, Diletta Valentini, J Alberto Villani, Franco Locatelli, Allan Butterfield, Elizabeth Head, Marzia Perluigi, Jose F. Abisambra and Fabio Di Domenico

Progress in Neurobiology

Impact factor 11,685

2020

Advanced Non-animal Models in Biomedical Research Breast Cancer

Folgiero V, Romania P, Rossi F, Caforio M, Nlc M, Novotny T, Busquet F, Straccia M, Gribaldo L

European Commission

2018

Recent advances in searching c-Myc transcriptional cofactors during tumorigenesis

Caforio M, Sorino C, Iacovelli S, Fanciulli M, Locatelli F, Folgiero V

J Exp. clin. cancer Res. 2018 Sep 27;37(1):239. doi: 10.1186/s13046-018-0912-2.

● CONFERENCES AND SEMINARS

02/10/2023 – 04/10/2023 Bologna

XLVIII Congresso Nazionale AIEOP

Poster

"L'over espressione di AATF/Che1 nei balsti di BCP-ALL riduce l'attività anti-tumorale delle cellule NK attraverso la modulazione dell'espressione dei recettori attivatori"

Caforio M¹, Tumino N², Sorino C³, Manni I³, Di Giovenale S³, Piaggio G³, Strimpakos G⁴, Mattei E⁵, Moretta L⁶, Fanciulli M³, Vacca P², Locatelli F^{1,7}, Folgiero V¹

03/05/2023 – 05/05/2023 Mainz (germany)

20th CIMT Annual Meeting

Poster

"AATF/Che-1 RNA polymerase II binding protein overexpression reduces the anti-tumor NK-cell cytotoxicity through immune check-point modulation"

Caforio M, Tumino N, Sorino C, Manni I, Di Giovenale S, Piaggio G, Iezzi S, Strimpakos G, Mattei E, Moretta L, Fanciulli M, Vacca P, Locatelli F, Folgiero V

10/10/2022 – 12/10/2022 Torino

XLVII Congresso Nazionale AIEOP

Poster

"La Plasticità degli enhancer sostiene la trasformazione oncogenica e la progressione della BCP-ALL"

Caforio M, Corleone G, Sorino C, Di Giovenale S, De Nicola F, Bertaina V, Pitisci A, Cortile C, Locatelli F, Fanciulli M, Folgiero V

19/05/2022 – 21/05/2022 Rimini

EMBO workshop: The many faces of cancer evolution

Presentazione Orale

"Enhancer plasticity sustains oncogenic transformation and progression of B-cell Acute Lymphoblastic Leukemia"

Giacomo Corleone, Matteo Caforio, Cristina Sorino, Francesca De Nicola, Stefano Di Giovenale, Valentina Bertaina, Angela Pitisci, Franco Locatelli, Maurizio Fanciulli and Valentina Folgiero

08/04/2022 – 14/04/2022 New Orleans, Louisiana, USA

AACR Annual Meeting 2022

Poster

"Mapping the DNA accessibility Landscape of BCP-ALL patients revealed principles of tumor evolution"

Giacomo Corleone, Matteo Caforio, Cristina Sorino, Francesca De Nicola, Stefano Di Giovenale, Valentina Bertaina, Angela Pitisci, Franco Locatelli, Maurizio Fanciulli and Valentina Folgiero

20/10/2021 – 23/10/2021 Virtual Congress

International Society of Paediatric Oncology Virtual Congress

Poster

"Integrated dissection of BCP-ALL regulatory landscape reveals enhancer implication in disease progression"

Giacomo Corleone, Matteo Caforio, Cristina Sorino, Francesca De Nicola, Stefano Di Giovenale, Valentina Bertaina, Angela Pitisci, Franco Locatelli, Maurizio Fanciulli and Valentina Folgiero

EACR Virtual Congress 2021

Poster

"Secretion of the pro-inflammatory cytokine IFN γ produced by activated NK and GD2 Redirected CAR-T cells overcomes MycN-Dependent IDO1 Inhibition, contributing to Neuroblastoma immune-escape"

Caforio Matteo, Caruana Ignazio, Weber Gerrit, Cifaldi Loredana, De Angelis Biagio, Fruci Dorian, Quintarelli Concetta, Fanciulli Maurizio, Locatelli Franco, Folgiero Valentina

01/03/2020 – 03/03/2020 Lisbona

EACR-AACR Conference "Tumor Microenvironment"

Poster

"Secretion of the pro-inflammatory cytokine IFN γ produced by activated NK and GD2 Redirected CAR-T cells overcomes MycN-Dependent IDO1 Inhibition, contributing to Neuroblastoma immune-escape"

Caforio Matteo, Sorino Cristina, Caruana Ignazio, Weber Gerrit, Camera Antonio, Cifaldi Loredana, De Angelis Biagio, Vitale Alessia, Goffredo Bianca Maria, De Vito Rita, Fruci Dorian, Quintarelli Concetta, Fanciulli Maurizio, Locatelli Franco, Folgiero Valentina

05/11/2019 – 07/11/2019 Napoli

61st. Annual Meeting of the Italian Cancer society

Presentazione Orale

"Secretion of the pro-inflammatory cytokine IFN γ produced by activated NK and GD2 redirected CAR- T cells overcomes MycN-dependent IDO1 inhibition, contributing to neuroblastoma cells immune escape"

Caforio Matteo, Sorino Cristina, Caruana Ignazio, Weber Gerrit, Camera Antonio, Cifaldi Loredana, De Angelis Biagio, Vitale Alessia, Goffredo Bianca Maria, Compagnone Mirco, Fruci Dorian, Quintarelli Concetta, Fanciulli Maurizio, Locatelli Franco, Folgiero Valentina

12/10/2019 – 14/10/2019 Catania

XLIV Congresso Nazionale AIEOP

Poster

"La produzione di IFN γ da parte delle cellule NK e delle cellule GD2.CAR-T è in grado di superare la repressione di IDO1 esercitata da MycN contribuendo ai meccanismi di immune escape del neuroblastoma"

Caforio Matteo, Sorino Cristina, Caruana Ignazio, Weber Gerrit, Camera Antonio, Cifaldi Loredana, De Angelis Biagio, Vitale Alessia, Goffredo Bianca Maria, Compagnone Mirco, Fruci Dorian, Quintarelli Concetta, Fanciulli Maurizio, Locatelli Franco, Folgiero Valentina

12/06/2019 – 15/06/2019 Amsterdam

24th EHA congress Amsterdam

"Exosomes-mediated delivery of RNA oligos directed to Che-1/AATF impairs BCP-ALL vitality"

Matteo Caforio, Cristina Sorino, Valentina Bertaina, Angela Pitisci, Giulia Battafarano, Andrea Del Fattore, MaurizioFanciulli,ValentinaFolgieroandFrancoLocatelli

18/09/2018 – 21/09/2018 Milano

60th Annual Meeting of the Italian Cancer society

Poster

"Che-1/AATF is a new actor in the c-Myc-driven cell proliferation in pediatric B-cell precursor acute lymphoblastic leukemia"

Valentina Folgiero, Cristina Sorino, Matteo Pallocca, Matteo Caforio, Francesca De Nicola, Frauke Goeman, Valentina Bertaina, Angela Pitisci, Luisa Strocchio, Maurizio Fanciulli and Franco Locatelli

Poster

"Che-1/AATF è coinvolta nell'attività trascrizionale di c-Myc per il controllo della proliferazione dei blasti leucemici sia umani che murini"

Valentina Folgiero, Cristina Sorino, Matteo Pallocca, Francesca De Nicola, Frauke Goeman, Matteo Caforio, Valentina Bertaina, Luisa Strocchio, Angela Pitisci, Maurizio Fanciulli and Franco Locatelli

● **COMMUNICATION AND INTERPERSONAL SKILLS**

Personal skills

Capacity to work in team to solve experimental problems, analyze data and propose new tasks of the project

● **PROFESSIONAL SKILLS**

Technical skills

- Extraction and manipulation of proteins from cellular pellets
- Co-immunoprecipitation assay
- Western blotting
- RNA extraction, retrotranscription, semi-quantitative and Real Time pcr
- Bacterial transformation, DNA extraction and amplification by Mini and Maxi prep
- Generation of primary cell line from neuronal tumor tissues (Medulloblastoma, glioblastoma)
- Manipulation of primary neuronal cells and human immortalized cell lines
- Cell transfection, transduction of lentivirus of adherent and hemopoietic cell lines
- Immortalization of B-cell by transduction with Epstein-bar virus
- Treatment with drugs, Viability assay (MTT), clonogenicity assay
- Extraction and manipulation of murine neuronal stem cells from murine cerebellum
- Extraction of mononuclear cells from whole peripheral blood and bone marrow (ficol)
- Magnetic cell sorting
- Co-culture assay between tumor cells and cells of immune system
- RNA interference, CRISPR/Cas9 system application
- Exosomes production by dendritic cells and loading with interfering oligos
- Flow cytometry