



Family name, First name: **Martelli, Maria Paola**
Researcher ID (ORCID): 0000-0001-9139-1729
Date of Birth: 18-7-68
Place of Birth: Perugia, Italy
Nationality: Italian
Family Status: married, with four children

Work address: CREO (Center for Research in Hemato-Oncology), Hematology and Clinical Immunology Section, Department of Medicine and Surgery, University of Perugia
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Expertise and Fields of interest

Care and treatment of patients with malignant hematological diseases, particularly acute leukemias (AML and ALL); Principal Investigator and Coinvestigator in clinical trials on acute leukemias; Biochemistry and functions of tumour-specific proteins (i.e. mutant NPM1, IDH1/IDH2, DNMT3A and FLT3; EML4/ALK; BRAFV600E); Functional genomics in onco-hematology; Drug discovery/development and targeted therapy in acute myeloid leukemia (AML); Clinical and translational research in AML; Medical Director of the Research Unit for Phase 1 Clinical Studies and Laboratory Director of the Phase 1 sections of Hematology/Hemopathology laboratories at the Hematology center, University of Perugia

• EDUCATION

- 1998-2001 PhD in Biotechnologies in Human Bone Marrow Transplantation, Hematology, University of Perugia, Perugia, Italy/NHLBI, NIH, Bethesda, USA
PhD Supervisor: Dr. Barbara E. Bierer (NHLBI, NIH, Bethesda, USA)
- 1993-1997 Specialty in Hematology (Honours Commendation), "La Sapienza" University, Rome, Italy
- 1987-1993 M.D. (Honours Commendation) University of Perugia, Italy

• CURRENT POSITION

- Since 1/11/23 Responsible of the Hematology and Clinical Immunology Section, Department of Medicine and Surgery, University of Perugia
Coordinator of the PhD Course in 'Clinical and Molecular Medicine', Department of Medicine and Surgery, University of Perugia
Director of Specialty School in Hematology, University of Perugia
- Since 18/5/23 Acting Director of Hematology Clinical Department, Hospital of Perugia
- 2016 – to date Associate Professor
Hematology/Perugia General Hospital, Perugia, Italy
- 2007 – to date Assistant Clinical Director
Assignment of High Specialization (Perugia Hospital): 'Hematology Department Clinical Activity and Study and Application of Diagnostic and Therapeutic Protocols in Acute Leukemia', Hematology/Perugia General Hospital, Perugia, Italy

• PREVIOUS POSITIONS

- 2005 – 2016 Assistant Professor/Researcher
Hematology/University of Bari, Bari, Italy
- 2005 – 2007 Assistant Clinical Director
Hematology/Bari General Hospital, Bari, Italy
- 2002 – 2004 Assistant Clinical Director
Hematology/Umberto I General Hospital, Rome, Italy
- 1998 – 2001 NIH Research Fellow, NIH, Bethesda, USA

- **FELLOWSHIPS/AWARDS**

- 2023 'UMBRIA IN ROSA' award (Provincia of Perugia) – Start-up section
- 2022 America Innovation Prize (Fondazione Italia-USA) – Start-up
- 2017 National (MIUR) Scientific Qualification for Full Professor position
- 2012 National (MIUR) Scientific Qualification for Associate Professor position
- 1998 – 2001 PhD Fellowship Award, University of Perugia, Perugia, Italy
- 2000 – 2001 NIH Fellowship Award, NHLBI, NIH, Bethesda, USA
- 1998 – 1999 Supplemental Visiting Fellow NIH Fellowship Award, NHLBI, NIH, Bethesda, USA
- 1998 – 1999 "Fondazione Istituto Pasteur-Cenci Bolognetti" 2-years Fellowship Award for PhD student activity abroad, "La Sapienza" University, Rome, Italy
- 1989 ERASMUS Project Fellowship Award, University of Perugia, for a 3-months stage at Molecular Biology Laboratory, King's College, London, UK

- **TEACHING ACTIVITIES**

At University of Perugia, Perugia, Italy

2014-to date Lecturer in Hematology, School of Medicine

2014-to date Lecturer in Hematology, post-graduate School of Clinical Pathology

2012-to date Lecturer in Hematology, post-graduate School of Internal Medicine

2010-to date Lecturer in Cell Therapies, School of Biotechnology

2009-to date Lecturer in Hematology, post-graduate Schools of Radiotherapy and Radiology

2008-to date Lecturer in Hematology, post-graduate School of Haematology

At University of Bari, Bari, Italy

2005-2007 Lecturer in Hematology, School of Dentistry

- **MENTORING ACTIVITIES**

In the Perugia University academic environment, as professor in Hematology at the School of Medicine and faculty member of the PhD School in Molecular and Clinical Medicine, Prof. Martelli had the opportunity of teaching and tutoring many either undergraduate or PhD students, as well as supervising postdoctoral fellows.

2011 – to date Hematology Resident MD: 14; PhD: 15 (7 supported with PI's grants); Postdocs: 16, Perugia University, IT

2017-2021: three AIRC Fellowship for Italy (Dr Valerio Ciaurro, 1yr; Dr Corinne Quadalti, 2 yrs; Dr Roberta Ranieri, 3 yrs), one SIE 'Francesco Lo Coco' AIL Fellowship (Dr Marcella Sabino, 1yr); for research projects at PI's lab

2017-2021: SIES Postgraduate Scholarship for Abroad–Dr Roberta Ranieri, FMP, Berlin, DE; "Christian Boulin Fellowship", Dr Roberta Ranieri, Advanced Light Microscopy Facility, EMBL, Heidelberg, DE; ERASMUS Fellowship, Martina De Vizio, ERASMUS MC, Rotterdam University, Prof. Ruud Delwel; BST bursary for The 36th Annual Scientific Meeting of the BSTP–Pathology of mice with human immune systems, Dr Serenella Silvestri; Leukemia Trainee Program Fellowship, Dr Valerio Ciaurro, MDACC, Texas University, USA, Prof. Marina Konopleva; for collaborative research projects abroad

- **INSTITUTIONAL RESPONSIBILITIES**

At Perugia General Hospital/Regione Umbria, Perugia, Italy

2021 – to date Member of the Regional *Ethics Committee Review Board*

At Department of Medicine and Surgery, University of Perugia, Perugia, Italy

2021 – to date *Board of Directors* of CERICLET, Clinical and Translational Research Center

2019 – to date *Board of Directors* of "Rights and Science" Research Center

2016 – to date Member of the Joint teacher-student Commission of School of Medicine

2013 – to date Member of the Faculty Committee of PhD School in Clinical and Molecular Medicine

2013 – to date Member of the Faculty Committee of Post-graduate School in Internal Medicine

2010 – to date Member of the Faculty Committee of Intercourse Council of Interfaculty Biotechnology Study

2008 – to date Member of the Faculty Committee of Post-graduate School in Hematology

2008 – to date Member of the Faculty Committee of Post-graduate School in Radiology and School in Radiotherapy

2014 – 2018 Researcher Board member of Department of Medicine
2002 – 2013 Member of the Faculty Committee of PhD School in Biotechnologies in Human Bone Marrow Transplantation, Department of Clinical and Experimental Medicine

- **MEMBERSHIPS OF SCIENTIFIC SOCIETIES**

Member of national (Italian Society of Hematology, SIE; Italian Society of Experimental hematology, SIES) and international (European Hematology Association, EHA; American Society of Hematology, ASH) scientific societies; Member of ERC in Italy (a non-profit association of ERC awardees born to promote fundamental and frontier research in Italy); Member of the Association of ERC Grantees; Member of European Association for Cancer Research (EACR).

- **RESEARCH AND CLINICAL ACTIVITIES**

- Main lines of research include: 1) to characterize the leukemogenesis processes related to the most frequent gene mutations in AML (NPM1, IDH1/2, DNMT3A, FLT3) – using models of HSC expressing the mutation of interest; 2) to study by single-cell proteogenomics disease clonal evolution and potential cell surface targets; 3) to identify specific disease vulnerabilities in AML that can be exploited to develop a "tailor-made" therapy; 4) high-throughput (HTS) screening of medium/large compound (and drug) libraries 5) onco-hematological disease cell modelling, including patient-derived-xenograft (PDX) and cell lines, modified by CRISPR genome editing technology; 6) to develop drugs targeting 'undruggable' key players in leukemia; 7) Characterization of bone marrow immune microenvironment in AML during targeted therapies by spatial digital pathology and transcriptomics; 8) in vivo studies in mice models.

- Continuous clinical-assistance activities at the Hematology Divisions of the University of Rome "La Sapienza" (2001-2004), as Assistant Clinical Director, University of Bari (2005-2007), and University of Perugia (2008) - today) as a Assistant and then Associate Professor, in general in the field of hematology and in particular in the field of diagnostics and treatment of patients with onco-hematological diseases in hospitalization, outpatient and day-hospital.

2010-2014 Professional assignment (Perugia Hospital): 'Clinic of Acute Leukemia'

2014-present Assignment of High Specialization (Perugia Hospital): 'Hematology Department Clinical Activity and Study and Application of Diagnostic and Therapeutic Protocols in Acute Leukemia'

- Since December 2020, Medical Coordinator of the *Research Unit for Phase 1 Clinical Studies* at the Hematology center, University of Perugia

- Since November 2021, *Laboratory Director of the Phase 1* sections of Hematology/Hemopathology laboratories

- Principal Investigator and Co-Investigator in different Clinical trials for treatment of Acute Leukemias

- **SCIENTIFIC PUBLICATIONS AND OTHER ACTIVITIES**

- 138 publications in international peer-reviewed scientific journals and two book chapters (see PubMed <https://pubmed.ncbi.nlm.nih.gov/?term=martelli+mp&filter=years.1978-2022&sort=date>)

- **h-index** 43 [Scopus]

Since 2023: **Board of Director Member (Vice-President) of the Italian Society of Experimental Hematology (SIES)**

2022-to date: **Member of the European Hematology Association (EHA) - Acute Myeloid Leukemia (AML) Scientific Working Group (SWG)** – EHA, Europe

2021-to date: **Panel Member of Scientific Evaluation Committee** for Associazione Italiana Ricerca contro il Cancro (AIRC), Italy

2016-2018: **Panel Member of Scientific Evaluation Committee** for Programme de recherche translationnelle en Cancérologie (PRT-K), Institut National du Cancer – INCa, France

- Oral/poster presentations at national and international conferences [American Society of Hematology (ASH), European Hematology Association (EHA), Italian Hematology Society (SIE), Italian Experimental Hematology Society (SIES)].

- Reviewer for *Blood, Leukemia, Leukemia Research, Annals of Hemato-Oncology, Haematologica, Cancers, Frontiers, Frontiers Oncology, Cancer Letter, Journal of Applied Hematology, Journal of Cancer*

Biology and Treatment, Journal of Medical Genetics and Genomics, Tumori, Infection Disorders-Drug Targets

- Reviewer for grant applications to Wellcome Trust, UK (2014); Leukemia and Lymphoma Research, USA (2014); Programme de recherche translationnelle en Cancérologie (PRT-K), Call for Projects in Translational Cancer Research 2015, Institut National du Cancer – INCa, France (2015)

- **Previous funding for research on acute myeloid leukemia** from *Italian Ministry of Health, Bando Ricerca Finalizzata 2008* (2 yrs- coordinator of research unit; 140.000 €) and *Bando Cellule Staminali 2008* (2 yrs- PI; 210.000 €); from *Cassa di Risparmio di Perugia' Foundation, Bando Ricerca di Base 2010*, for a one-year Research fellowship (PI); from AIRC (Associazione Italiana Ricerca contro il Cancro): *AIRC IG 2006* (3 yrs), *AIRC IG 2010* (3yrs), *AIRC IG 2013* (3 yrs), *AIRC IG 2016* (3 yrs) (to Brunangelo Falini), as coinvestigator; *European Research Council (ERC) consolidator grant 2016* (5 years, 1.883.750 €) (PI, Title: Dissecting to hit the therapeutic targets in *NPM1*-mutated AML) (<http://erc.martellilab.eu/>); *Corbel 2018*, European Union's Horizon 2020 research and innovation programme under grant agreement No 654248. (PI, Title: High-throughput compound screening approach to identify drugs targeting the acute myeloid leukemia (AML) entity harbouring *NPM1* gene mutation); *AIRC IG 2019* (3+2 yrs) (to Brunangelo Falini), as coinvestigator

- **Active funding for research on acute myeloid leukemia:**

- *AIRC IG 2018 Id. 21419* (5 years-PI; 1.775.000 €) (Title: A novel chemo-free approach to *NPM1*-mutated AML: from bench to bedside)
- *GIMEMA-AIL 2022* (Title: TRacKing neutrotrophin tyrosine kinases receptor (NTRK) genes and exploring their leukemogenesis role in *NPM1*-mutated AML)
- *MUR - PRIN project call 2022* (2-years-PI) (Title: Investigating DNA methyltransferase 3A (DNMT3A) gene mutation for its essentiality in acute myeloid leukemia (AML) maintenance, associated pharmacogenomic profile and potentiality in human AML development)
- *MUR - PRIN-PNRR project call 2022* (2-years-Unit Cordinator) (Title: Clonal evolution in newly defined high-risk acute myeloid leukemia and role of leukemic stem cells as disease reservoir)
- *ERC – European Research Council – ERCPoC* (18 months-PI) (Title: Re-envisioning risk biomarkers in acute myeloid leukemia (AML) at single-cell level)
- *AIRC 5xmille 'Actionable targets in clonal progression and systemic spreading of myeloid neoplasms'* PI – Unit Perugia
- *PROGETTO PNC-E3-2022-23683269 PNC-HLS-TA*, PI – Unit Perugia

• PATENTS and UNIVERSITY'S THIRD MISSION

Patents: 1) US20160317579A1 (granted): Combination of an arsenic compound and at least one retinoid for treating acute myeloid leukemia; 2) WO2017046108A1 (granted): Dactinomycin compositions and methods for the treatment of acute myeloid leukemia; 3) Italian patent application No. 102021000025976: Combination of active substances for the treatment of AML with *NPM1* mutation.

Spin-Off: in 2021, Prof. Martelli with Drs. Iliaria Gionfriddo and Francesca Milano, Assistant Professors at her lab, founded 'toClinics', an academic spin-off with focus on preclinical pharmacological research in onco-hematology (<https://www.toclinics.com>)

• CAREER BREAKS

Significant career breaks from 2000 to 2005 due to maternity leaves (4 children).

"Si autorizza il trattamento dei dati personali ai sensi della vigente normativa sulla privacy – D.lgs. n. 196/2003 e ss.mm.ii. ed ex articolo 13 del Regolamento Europeo 2016/679 (GDPR)".

Perugia, 30-12-2023