

BIOGRAPHICAL SKETCH

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NAME: Valeria Barili

POSITION TITLE: Assistant Professor in Medical Genetics

(<https://personale.unipr.it/en/ugovdocenti/person/204932>)

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	Completion Date	FIELD OF STUDY
University of Parma – Parma, Italy	Bachelor's degree	07/2003	Biotechnology – 110/110 cum laude
University of Parma – Parma, Italy	Master's degree	06/2006	Biotechnology for Health – 110/110 cum laude
San Raffaele Scientific Institute – Milan, Italy	-	12/2006	Post-lauream Fellowship (Study of the neuro-secretion processes for neuronal differentiation)
Vita-Salute San Raffaele University – Milan, Italy	PhD	04/2011	Molecular Medicine (Functional analysis of transcription factors which regulate neural stem cells during neurogenesis)

A. Personal Statement

Assistant Professor in Medical Genetics (PhD in Molecular Medicine) with extensive experience in molecular genetics, genomics and precision medicine, specializing in hereditary cancer syndromes and rare tumors. My academic journey has been shaped by a deep commitment to uncovering the molecular mechanisms underlying complex diseases and translating these insights into improved diagnostic and therapeutic strategies. With 18 years of research experience, I have combined expertise in multi-omic technologies, bio-assay development and implementing novel protocols and technologies. I have extensive experience in leading research teams and managing scientists to drive advancements in the field. Adept and successful in writing grant proposals and high-impact manuscripts (Nature Communications and Nature Medicine).

My commitment to genetic research has been evident since my doctoral training at the San Raffaele Scientific Institute in Milan (Italy), where I studied transcription factors regulating neural stem cells. This experience provided me with a solid foundation in molecular genetics and transcriptomics, which later I applied to the field of immunology and oncology during my postdoctoral research. At the University of Parma, I have led projects on T-cell exhaustion in chronic viral infections and hepatocellular carcinoma, contributing to groundbreaking studies published in high-impact journals such as Nature Medicine and Nature Communications. These works identified metabolic and epigenetic regulatory mechanisms that restore immune function, paving the way for novel immunomodulatory therapies which have been patented in 2023.

Since 2021, my research has focused on developing high-throughput sequencing approaches to identify pathogenic variants in genetically driven disorders. As the Scientific Director of the Medical Genetics Laboratory at the University of Parma, I have spearheaded investigations into the genomic landscape of NF1-associated tumors, aiming to identify genetic drivers of malignant transformation. As a principal investigator, I have secured competitive research grants to develop innovative diagnostic pipelines, aimed at enhancing detection and risk stratification in hereditary cancer syndromes. As a mentor to Ph.D. students and postdoctoral fellows, I emphasize the importance of interdisciplinary collaboration, rigorous scientific inquiry, and translational research. My experience in securing competitive funding and engaging in international collaborations has equipped me with the leadership skills necessary to drive ambitious projects to success.

The SPATIAL project represents a natural evolution of my research, perfectly aligned with my expertise in rare tumor genomics and multi-omic integration. By combining high-resolution spatial transcriptomics with exome and methylation profiling, SPATIAL aims to create the first spatially resolved molecular atlas of NF1- and NF2-associated nerve sheath tumors. This integrative approach will uncover key molecular drivers of malignant transformation and identify spatial biomarkers with diagnostic and prognostic value.

My previous work on NF1-related tumor biology, along with established collaborations—including the European Reference Network GENTURIS—ensures access to well-characterized clinical samples and a solid framework for translation. I am committed to contributing my scientific leadership and technical skills to advance this project, which I believe holds strong potential to redefine how we diagnose and manage rare nerve sheath tumors.

B. Positions and Honors

Current position:

- 5-year fixed-term research position as Assistant Professor in Medical Genetics at the University of Parma, awarded in a public competition against eight other highly qualified candidates.
- From 2021, **Scientific Director of the Medical Genetics Laboratory at the University of Parma** leading research on genetic diseases that increase cancer risk (<https://mc.unipr.it/en/node/4160>). This role includes successful mentorship of a team of eight, including PhD students, research fellows, and thesis students.

Honors:

1. selected for an **advanced experimental training course** of three weeks with the aim to perform molecular manipulation of mouse embryos for the generation of embryonic stem cells at the **Cold Spring Harbor Laboratory** in USA (Molecular Embryology of the Mouse - Training course, 2008).
2. **Best abstract winner** at San Raffaele Scientific Retreat (Stresa, Italy) with the project "Insulin-like Growth Factor I is essential for Purkinje neuron survival at birth" in 2010.
3. Winner of **Young Investigator Bursary** at the **EASL International Liver Congress in Amsterdam** for her project "*Metabolic signatures of chronic hepatitis C evolution revealed by transcriptome profiling of virus-specific CD8 cells across different stages of HCV infection*" in 2017. The award (€600) was granted by an esteemed international review board.
4. In 2020, **selected at ReActor, the School of Entrepreneurship and Innovation** sponsored by Fondazione Marino Golinelli in Bologna (Italy) and private companies. This program provided hands-on training, mentorship, and opportunities for international collaboration to transform scientific research into entrepreneurial ventures. This opportunity allowed her to **win a 2-month bursary at Mind the Bridge** accelerator program in **San Francisco USA** (2022) for the best project at ReActor, fostering connections with international investors and refining her skills in business development and scientific communication.
5. In 2022, awarded by **University of Parma** (€23,128.00) as PI for the project "*Genomic approaches for the study of individuals with autism spectrum disorder*," through a competitive call (Feliciani-Ferretti grant).
6. In 2022, awarded a **PRIN 2022 grant (€249,800)** from the **Italian Minister of University and Research** for her research project "*On the development of neoantigen vaccine for HCC cure: from genomics of Hepatitis B Virus (HBV) integration in liver cells to immunological host response toward neopeptides as novel immunotherapeutic approaches*." This study, with Dr. Barili as PI, aims to identify chimeric proteins derived from HBV integration in liver cancer using cutting-edge genomic technologies.
7. In 2022, awarded another **PRIN PNRR grant (€229,022)** from the **Italian Minister of University and Research** for the project "*ADVANCE - Accelerated Diagnosis and non-invasive strategies for AN early prediction of malignant transformation in NF1*". This research focuses on identifying driver gene variants linked to malignant transformations in Neurofibromatosis type 1.
8. In **2022**, awarded a competitive research grant (**€23,128.00**) from the **University of Parma (Italy)** under the **Lascito Feliciani-Ferretti program**, for the project "*Genomic approaches for the study of individuals with autism spectrum disorder*," with Dr. Barili as Principal Investigator. The project includes the supervision of a research fellowship and aims to investigate the genetic basis of autism spectrum disorder by focusing on a clinically well-characterized cohort of patients with a higher likelihood of underlying genetic alterations.
9. In **2025**, recipient of the "**University of Parma Outstanding Researcher Award**" (1st Edition, 2024), recognizing excellence in scientific leadership and international research impact within the University of Parma.
10. In **2025**, awarded a **Nanopore Research Grant by Oxford Nanopore Technologies**, supporting innovative research in nanopore-based sequencing technologies for liquid biopsy profiling in rare tumors affected patients.

C. Contributions to Science

Thanks to the experience in molecular biology (PhD in Molecular Medicine), I have contributed to develop new projects aimed at defining the gene expression profile of virus-specific T cells to identify deregulated genes involved in the pathogenesis of T cell exhaustion in patients with chronic hepatitis B and C, with the ultimate goal of designing new immunomodulatory therapies which conducted to a [Nature Medicine paper IF=58](#) (Fiscaro et al 2017, the PI Barili is second author) and a paper in [Nature Communications IF=14](#) (Barili et al 2020, the PI is the first-author). This work led to the discovery of molecules capable of restoring antiviral functions in lymphocytes, which opened the door to new immunomodulatory therapies in HBV infection. A clinical trial approved by AIFA (Italian Drug Agency) is currently testing MitoQ, a molecule identified in this research. These achievements led to [two patents](#). The first one in 2022 titled "*Pharmaceutical compound for use as a therapeutic treatment for chronic HBV infection and method for the identification of exhausted lymphocytes*," and the second one in 2023, titled "*Compound and composition for the metabolic and functional restoration of NK lymphocytes in hepatocellular carcinoma (HCC)*". Furthermore, I have been collaborating on research projects in the field of cancer, seeking to characterize immune mechanisms responsible for the development of hepatocellular carcinoma, and on genetic tumor predisposition syndromes, with a strong focus on Neurofibromatosis Type 1 (NF1) and Schwannomatosis.

International and National Research Projects and Clinical Studies:

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| 2010-2013 | <ul style="list-style-type: none"> Research team member for the project "Early events in acute hepatitis C virus (HCV) infection with the aim to identify new biomarkers", funded by European Commission, EC grant FP7 proposal n. 260844 with 10 different EU and non-EU countries which lead to the publication in Nature Communications 2020 (Barili et al.). |
| 2011-2014 | <ul style="list-style-type: none"> Research team member for the project "Cellular and molecular events in the pathogenesis of chronic HBV and HCV infections" funded by the Italian Minister of University and Research, FIRB grant RBAP10TPXK |
| 2012-2015 | <ul style="list-style-type: none"> Collaborator in project writing and research team member for the Research Program Emilia-Romagna, Strategic Programmes Area 1 Personalized medicine: viral and autoimmune diseases, "A tailored approach to the immune-monitoring and clinical management of viral and autoimmune diseases". |
| 2015-2017 | <ul style="list-style-type: none"> Research team member for the project "A Phase 2, Randomized, Open-Label Study to Evaluate the Safety and Efficacy of GS-4774 in combination with Tenofovir Disoproxil Fumarate (TDF) for the Treatment of Subjects with Chronic Hepatitis B and who are currently not on Treatment" funded by Gilead Sciences, Inc. |
| 2015-2018 | <ul style="list-style-type: none"> Collaborator in project writing and research team member for the project "A novel integrated genomic and immunological strategy for the therapy of chronic hepatitis B" funded by the Italian Minister of Health, Progetti Ordinari di Ricerca Finalizzata (Project Code RF-2013-02359333). |
| 2018-2019 | <ul style="list-style-type: none"> Collaborator in project writing and research team member for the project "Characterization of immunological correlates of protection in HBV infection" – Protocol Code IMM-HBV (no profit), funded by Gilead Sciences, Inc. |
| 2019-2022 | <ul style="list-style-type: none"> Collaborator in project writing and research team member for the project "Targeting transcriptionally deregulated metabolic pathways in exhausted virus-specific CD8+ T cells as a novel strategy for the treatment of chronic hepatitis B virus (HBV) infection" funded by the Italian Minister of University and Research, PRIN 2017 grant. |
| 2022-2026 | <ul style="list-style-type: none"> Collaborator in project writing and research team member for the PNRR "Ecosistema innovativo della Salute - INNOVA" Hub Lifescience Diagnostica Avanzata- The project will be focused on identifying and integrating tissue patient-specific genomic signatures, and pathogenetic mechanisms underlying disease-causing variants predict treatment outcomes in both acute and |

- chronic disorders
- 2021-2026 • Research team member for “**OPCT - Identification of aggregate metabolic phenotypes for the main dietary (poly)phenols and assessment of the factors associated with their formation: development of an oral (poly)phenol challenge test**” project funded by **ERC starting grant** (European Commission, PI Prof. Pedro Mena).
- 2022-2028 • Collaborator with **international research groups** (see the first published paper - Bocquet B et al. JCI Insight. 2023 doi: 10.1172/jci.insight.169426. PMID: 37768732) on “**Genetic factors associated with ophthalmic disease**” to identify the genetic factors contributing to the development of hereditary eye disorders, with the aim of identifying new targets for potential gene therapy.
- 2022-2026 • Collaborator in **European-level projects** with international groups in the European Reference Network for Genetic Tumour Risk Syndromes (**ERN GENTURIS**), to study patients affected with tumor predisposing syndromes (see the first published paper - Hendricks LAJ, et al. J Natl Cancer Inst. 2023. doi: 10.1093/jnci/djac188. PMID: 36171661).
- 2023-2025 • PI for the “**On the development of neoantigen vaccine for HCC cure: from genomics of Hepatitis B Virus (HBV) integration in liver cells to immunological host response toward neopeptides as novel immunotherapeutic approaches**” project founded by PRIN 2022 MUR.
- 2023-2025 • PI for the “**Accelerated Diagnosis and non-invasive strategies for AN early prediction of malignant transformation in NF1**” project founded by PRIN PNRR 2022 MUR.
- 2023-2028 • Research team member for the project “**Integrative “multi-omics” and functional platform for the complete diagnostic characterization of tumors: the Italian tumor chemogenomic profiler (IT-TCP)**” funded by **POS** (Piano Operativo Salute) – Italian Minister of Health (PI Prof. Roti Giovanni).
- 2023-2025 • Collaborator in project writing and research team member for the project “**Unraveling the multifaceted interactions of SERCA2 protein in the pathogenesis of Darier’s disease**” funded by University of Parma (Bando Ateneo – PI Prof. Feliciani Claudio).
- 2023-2026 • Collaborator in project writing and research team member for the project “**LIBERTY - Liquid Biopsy implementation in the management of Rare Tumors associated with hereditary syndromes**” project founded by **PNRR 2023 Italian Minister of Health** (PI Prof. Percesepe).
- 2024-2025 • Collaborator in project writing and research team member for the project “**Serum-miRNA profiles and inflammatory prognostic biomarkers in sudden sensorineural hearing loss**” funded by University of Parma (azione B – PI Prof. Di Lella Filippo).
- 2024-2025 • Co-investigator for the **Human Technopole** project “**IMPRINT: Spatial transcriptomic Profiling for the Identification of genomic signatures in rare Tumors**” granted by Human Technopole Milan – Italy.

Publications: <https://pubmed.ncbi.nlm.nih.gov/?term=barili+v&sort=pubdate>

1. Moschella B†, Busciglio S†, Ambrosini E, Cesarini S, Caramanna L, Zanelli S, Cannizzaro IR, Luberto A, Taiani A, Treccani M, De Sensi E, Caggiati P, Azzoni C, Bottarelli L, Lorusso B, Lagrasta CAM, Montanaro A, Pagliaro L, Zamponi R, Gherli A, Martorana D, Dominici MM, De Felici Del Giudice MB, Mozzoni P, Silini EM, Neri I, Feliciani C, Roti G, Uliana V, **Barili V**✉, Percesepe A. Genetics of Darier’s Disease: New Insights into Pathogenic Mechanisms. *Genes*. 2025 Jun; 16(6):619. doi: 10.3390/genes16060619.
2. Godino L*, Ambrosini E*, **Barili V***, et al. Clinical genetic services in the Emilia-Romagna region, Italy: current activity and open issues: a mixed-method study. *J Community Genet*. 2025 Jan 11. doi: 10.1007/s12687-024-00750-7. PMID: 39797934. (* the authors **contributed equally** to this work).
3. Cannizzaro IR, Treccani M, Taiani A, Ambrosini E, Busciglio S, Cesarini S, Luberto A, De Sensi E, Moschella B, Gismondi P, Azzoni C, Bottarelli L, Giordano G, Corradi D, Silini EM, Zanatta V, Cennamo F, Bertolini P, Caggiati P, Martorana D, Uliana V, Percesepe A, **Barili V**. Proof of Concept for Genome Profiling of the Neurofibroma/Sarcoma Sequence in Neurofibromatosis Type 1. *Int J Mol Sci*. 2024 Oct 9;25(19):10822.
4. Uliana V, Ambrosini E, Taiani A, Cesarini S, Cannizzaro IR, Negrotti A, Serra W, Quintavalle G, Micale L, Fusco C, Castori M, Martorana D, Bortesi B, Belli L, Percesepe A, Pisani F, **Barili V**. Phenotypic Expansion of Autosomal Dominant LZTR1-Related Disorders with Special Emphasis on Adult-Onset Features. *Genes*. 2024 Jul 13;15(7):916. doi: 10.3390/genes15070916.
5. Vitetta G, Desiderio L, Baccolini I, Uliana V, Lanzoni G, Ghi T, Pili G, Ambrosini E, Caggiati P, **Barili V**, et al. Mosaic derivative chromosomes at chorionic villi (CV) sampling are expression of genomic instability and precursors of cryptic disease-causing rearrangements: report of further four cases. *Mol Cytogenet*. 2024 Apr 8;17(1):8. doi: 10.1186/s13039-024-00675-3. PMID: 38589928; PMCID: PMC11003029.
6. Ambrosini E, Cancilla R, Paul JJ, Bauer P, Garavaglia B, **Barili V**, Percesepe A, Negrotti A. Pure Parkinsonism as Possible Phenotype Expansion of THAP1-Related Disorders. *Mov Disord*. 2024 Feb 15. doi: 10.1002/mds.29745. PMID: 38358056.
7. **Barili V**, et al. Genetic Basis of Breast and Ovarian Cancer: Approaches and Lessons Learnt from Three Decades of Inherited Predisposition Testing. *Genes*. 2024 Feb 8;15(2):219. doi: 10.3390/genes15020219. PMID: 38397209; PMCID: PMC10888198.
8. Gemignani F, Percesepe A, Gualandi F, Allegri I, Bellanova MF, Nuredini A, Sacconi E, Ambrosini E, **Barili V**✉, Uliana V. Charcot-Marie-Tooth Disease with Myelin Protein Zero Mutation Presenting as Painful, Predominant Small-Fiber Neuropathy. *Int J Mol Sci*. 2024 Jan 29;25(3):1654.
9. Zecca A, **Barili V**, et al. High CD49a+ NK cell infiltrate is associated with poor clinical outcomes in Hepatocellular Carcinoma. *Heliyon*. 2023 Nov 21;9(12):e22680. doi: 10.1016/j.heliyon.2023.e22680. PMID: 38107324; PMCID: PMC10724659.
10. Tonelli L, Balla C, Farnè M, Margutti A, Maniscalchi ET, De Feo G, Di Domenico A, De Raffe M, Percesepe A, Uliana V, **Barili V**, et al. SCN5A mutation is associated with a higher Shanghai Score in patients with type 1 Brugada ECG pattern. *J Cardiovasc Med (Hagerstown)*. 2023 Dec 1;24(12):864-870. doi: 10.2459/JCM.0000000000001560. Epub 2023 Oct 30. PMID: 37942788.
11. Rossi M, Vecchi A, Tiezzi C, **Barili V**, al. Phenotypic CD8 T cell profiling in chronic hepatitis B to predict HBV-specific CD8 T cell susceptibility to functional restoration in vitro. *Gut*. 2023 Nov;72(11):2123-2137. doi: 10.1136/gutjnl-2022-327202. PMID: 36717219;
12. Bocquet B, Borday C, Erkilic N, Mamaeva D, Donval A, Masson-Garcia C, Parain K, Kaminska K, Quinodoz M, Perea-Romero I, Garcia-Garcia G, Jimenez-Medina C, Boukhaddaoui H, Coget A, Leboucq N, Calzetti G, Gandolfi SA, Percesepe A, **Barili V**, Uliana V, et al. TBC1D32 variants disrupt retinal ciliogenesis and cause retinitis pigmentosa. *JCI Insight*. 2023 Sep 28:e169426. doi: 10.1172/jci.insight.169426. PMID: 37768732.
13. Martorana D, **Barili V***, et al. Reassessment of the NF1 variants of unknown significance found during the 20-year activity of a genetics diagnostic laboratory. *Eur J Med Genet*. 2023 Sep 24;66(11):104847. doi: 10.1016/j.ejmg.2023.104847. PMID: 37751797.
14. **Barili V**, Fisicaro P, Boni C. Epigenetic and metabolic regulation of immunity during infection or cancer and associated immune biomarkers. *Front Immunol*. 2023 Aug 22;14:1275735. doi: 10.3389/fimmu.2023.1275735. PMID: 37675112.
15. **Barili V**, et al. Success and Pitfalls of Genetic Testing in Undiagnosed Diseases: Whole Exome Sequencing and Beyond. *Genes*. 2023;

14(6):1241. <https://doi.org/10.3390/genes14061241>.

16. Montali I, Ceccatelli Berti C, Morselli M, Acerbi G, **Barili V**, et al. Deregulated intracellular pathways define novel molecular targets for HBV-specific CD8 T cell reconstitution in chronic hepatitis B. *J Hepatol*. 2023 Jul;79(1):50-60. doi: 10.1016/j.jhep.2023.02.035.
17. **Barili V**, et al. A patient with mosaic USP9X gene variant. *Eur J Med Genet*. 2022 Dec;65(12):104638. doi: 10.1016/j.ejmg.2022.104638.
18. Serra W, Vitetta G, Uliana V, Barocelli F, **Barili V**, et al. Severe hypertrophic cardiomyopathy in a patient with a homozygous MYH7 gene variant. *Heliyon*. 2022 Dec 16;8(12):e12373. doi: 10.1016/j.heliyon.2022.e12373. PMID: 36593836; PMCID: PMC9803765.
19. Hendricks LAJ, ... Gerasimenko A, **Barili V**, et al. Cancer risks by sex and variant type in PTEN Hamartoma Tumor Syndrome. *J Natl Cancer Inst*. 2022 Sep 28:djac188. doi: 10.1093/jnci/djac188. Epub ahead of print. PMID: 36171661. IF = 13.8.
20. Zecca A, **Barili V**, et al. Targeting Stress Sensor Kinases in Hepatocellular Carcinoma-Infiltrating Human NK Cells as a Novel Immunotherapeutic Strategy for Liver Cancer. *Front Immunol*. 2022 May 23;13:875072.
21. **Barili V**, et al. Unraveling the Multifaceted Nature of CD8 T Cell Exhaustion Provides the Molecular Basis for Therapeutic T Cell Reconstitution in Chronic Hepatitis B and C. *Cells*. 2021 Sep 28;10(10):2563. doi: 10.3390/cells10102563. PMID: 34685543;
22. Boni C, Cavazzini D, Bolchi A, Rossi M, Vecchi A, Tiezzi C, **Barili V**, et al. Degenerate CD8 Epitopes Mapping to Structurally Constrained Regions of the Spike Protein: A T Cell-Based Way-Out From the SARS-CoV-2 Variants Storm. *Front Immunol*. 2021 Sep 8;12:730051.
23. Acerbi G, Montali I, Ferrigno GD, **Barili V**, et al. Functional reconstitution of HBV-specific CD8 T cells by in vitro polyphenol treatment in chronic hepatitis B. *J Hepatol*. 2021 Apr;74(4):783-793. doi: 10.1016/j.jhep.2020.10.034. Epub 2020 Nov 11. PMID: 33188902;
24. Zecca A, **Barili V**, et al. Intratumor Regulatory Noncytotoxic NK Cells in Patients with Hepatocellular Carcinoma. *Cells*. 2021 Mar 10;10(3):614.
25. **Barili V**, et al. Metabolic regulation of the HBV-specific T cell function. *Antiviral Res*. 2021 Jan;185:104989. doi: 10.1016/j.antiviral.2020.104989. Epub 2020 Nov 26. PMID: 33248194;
26. Fisicaro P*, **Barili V***, et al. Pathogenetic Mechanisms of T Cell Dysfunction in Chronic HBV Infection and Related Therapeutic Approaches. *Front Immunol*. 2020 May 12;11:849. (* Fisicaro P. and Barili V. **contributed equally** to this work).
27. Zecca A, **Barili V**, et al. Energy metabolism and cell motility defect in NK-cells from patients with hepatocellular carcinoma. *Cancer Immunol Immunother*. 2020 Aug;69(8):1589-1603.
28. Cavazzoni A, Digiacomo G, Alfieri R, La Monica S, Fumarola C, Galetti M, Bonelli M, Cretella D, **Barili V**, et al. Pemetrexed Enhances Membrane PD-L1 Expression and Potentiates T Cell-Mediated Cytotoxicity by Anti-PD-L1 Antibody Therapy in Non-Small-Cell Lung Cancer. *Cancers* (Basel). 2020 Mar 12;12(3);
29. **Barili V**, et al. Targeting p53 and histone methyltransferases restores exhausted CD8+ T cells in HCV infection. *Nature Communications*. 2020 Jan 30;11(1):604. doi: 10.1038/s41467-019-14137-7. PMID: 32001678;
30. Fisicaro P, Rossi M, Vecchi A, Acerbi G, **Barili V**, et al. The Good and the Bad of Natural Killer Cells in Virus Control: Perspective for Anti-HBV Therapy. *Int J Mol Sci*. 2019 Oct 13;20(20);
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32. Boni C, Janssen HLA, Rossi M, Yoon SK, Vecchi A, **Barili V**, et al. Combined GS-4774 and Tenofovir Therapy Can Improve HBV-Specific T-Cell Responses in Patients With Chronic Hepatitis. *Gastroenterology*. 2019 Jul;157(1):227-241.
33. Fisicaro P, **Barili V**, Boni C, Laccabue D, Ferrari C. Strategies to overcome hbv-specific t cell exhaustion; checkpoint inhibitors and metabolic re-programming. *Curr Opin Virol*. 2018 Jun;30:1-8. doi: 10.1016/j.coviro.2018.01.003.
34. Fisicaro P, **Barili V**, et al. Targeting mitochondrial dysfunction in exhausted HBV-specific CD8 T-cells can restore antiviral activity in chronic hepatitis B. *Nature Medicine* 2017 Mar;23(3):327-336.
35. Ferrari C, Vecchi A, **Barili V**, et al. T cell regulation in HBV-related chronic liver disease. *J Hepatol*. 2017, May;66(5):1096-1098.
36. Cariani E, Pilli M, **Barili V**, et al. Natural killer cells phenotypic characterization as an outcome predictor of HCV-linked HCC after curative treatments. *Oncoimmunology*. 2016 Mar 4;5(8):e1154249.
37. Boni C, Lampertico P, Talamona L, Giuberti T, Invernizzi F, **Barili V**, et al. Natural killer cell phenotype modulation and natural killer/T-cell interplay in nucleos(t)ide analogue-treated hepatitis e antigen-negative patients with chronic hepatitis B. *Hepatology*. 2015 Dec;62(6):1697-709.
38. Missale G, Pilli M, Zerbini A, Penna A, Ravanetti L, **Barili V**, et al. Lack of full CD8 functional restoration after antiviral treatment for acute and chronic hepatitis C virus infection. *Gut*. 2012 Jul;61(7):1076-84.
39. Croci L*, **Barili V***, et al. Local insulin-like growth factor I expression is essential for Purkinje neuron survival at birth. *Cell Death Differ*. 2011 Jan;18(1):48-59. (* Croci L. and Barili V. **contributed equally** to this work).
40. Casoni F, Croci L, Bosone C, D'Ambrosio R, Badaloni A, Gaudesi D, **Barili V**, et al. Zfp423/ZNF423 regulates cell cycle progression, the mode of cell division and the DNA-damage response in Purkinje neuron progenitors. *Development*. 2017 Oct 15;144(20):3686-3697.
41. Corno D, Pala M, Cominelli M, Cipelletti B, Leto K, Croci L, **Barili V**, et al. Gene signatures associated with mouse postnatal hindbrain neural stem cells and medulloblastoma cancer stem cells identify novel molecular mediators and predict human medulloblastoma molecular classification. *Cancer Discov*. 2012 Jun;2(6):554-68.
42. Montanini L, Lasagna L, **Barili V**, et al. MicroRNA cloning and sequencing in osteosarcoma cell lines: differential role of miR-93. *Cell Oncol*. 2012 Feb;35(1):29-41.
43. Masserdotti G, Badaloni A, Green YS, Croci L, **Barili V**, et al. ZFP423 coordinates Notch and bone morphogenetic protein signaling, selectively up-regulating Hes5 gene expression. *J Biol Chem*. 2010 Oct 1;285(40):30814-24.
44. Florio M, Leto K, Muzio L, Tinteri A, Badaloni A, Croci L, Zordan P, **Barili V**, et al. Neurogenin 2 regulates progenitor cell-cycle progression and Purkinje cell dendritogenesis in cerebellar development. *Development*. 2012 Jul;139(13):2308-20.

Oral Presentations:

1. 2024 "Dissecting The Complex Connections Between NOTCH1 and SERCA2 Proteins in the Darier's Disease: A Paradigmatic Genetic Network in The Pathogenesis of a Mendelian Genodermatosis", at the 2nd European Congress on Human Genetics in London (UK).
2. 2024 "Exploring multifaceted connections between NOTCH1 and SERCA2 proteins in the Darier's disease: a paradigmatic molecular network in the pathogenesis of a Mendelian genodermatosis", at the 27th National Congress of the Italian Society of Human Genetics (SIGU) in Padua (Italy).

3. 2024 "*Neurofibromatosis I: When the Genetic Test Does Not Confirm the Diagnosis*" at the national conference on Neurofibromatosis I organized by the Association of Neurofibromatosis Patients, at the Ospedale Maggiore in Parma (Italy).
4. 2024 – "*Insights into NOTCH1 signaling dysregulation in Darier's disease: genotype-phenotype variant correlation based on ATP2A2 and NOTCH1 interactions*", 15th International Symposium on Variants in the Genome congress (HUGO Meeting), Porto (Portugal).
5. 2024 – "*Dissecting the molecular landscape of the hereditary tumor predisposition syndrome: clinical and genetic aspects of Neurofibromatosis type 1*", 9th International Conference on Cancer Research and Oncology (online).
6. 2022 – "*Rejuvenate: new molecular approaches for the identification of novel liver cancer targets and new approaches for an accelerated diagnosis through non-invasive strategies for the early detection of malignancy transformation in hereditary cancer susceptibility syndrome, Neurofibromatosis 1*". Selected at Mind The Bridge in San Francisco (USA).
7. 2020 – "*Targeting p53 and histone methyltransferases to restore fully exhausted CD8+ T cells in human HCV infection before and after DAA-therapy*", selected at EASL The International Liver Congress, London.
8. 2017 – "*Metabolic signatures of chronic hepatitis C evolution revealed by transcriptome profiling of virus-specific CD8 cells across different stages of HCV infection*", EASL The International Liver Congress, Amsterdam - (winner of a young investigator bursary).
9. 2014 – "*Transcriptome profile of HCV-specific CD8 cells in early HCV infection*", Liver Gymnasium meeting, Padua, Italy.
10. 2014 – "*Genomic expression analysis of HCV-specific CD8 T cells in acute and chronic HCV infection*" - HepaCute Parma Workshop – Parma, Italy.
11. 2012 – "*Transcriptome profile of HCV-specific CD8 cells in early HCV infection*", AISF - SIICA Joint Meeting, Rozzano, Milan, Italy.
12. 2012 – "*Transcriptome analysis and polyfunctionality of HCV-specific CD4+ and CD8+ T cells*", HepaCute Mid Term meeting Barcelona, Spain.
13. 2011 – "*Molecular and immunological approaches to study CD8 T cell exhaustion in acute and chronic HCV infection*", Hepacutec Casablanca Workshop, Morocco.
14. 2010 – "*Insulin-like Growth Factor I is essential for Purkinje neuron survival at birth*" - San Raffaele Scientific Retreat – Stresa, Italy (winner of best abstract award).
15. 2008 – "*Roles of EBF transcription factors in cerebellar development and Purkinje cells survival at birth*" - Cold Spring Harbor Lab Meeting – NY, USA.

I am in the scientific organizers of the '**3rd European Congress on Human Genetics**' on June 19-20, 2025 (see <https://scisynopsisconferences.com/human-genetics/>), which will be held in Vienna. The congress will focus on the latest research in the field of genetics and pharmacogenetics applied to health and diseases.

Book Chapters:

1. Ferrari C, Barili V, Varchetta S, Mondelli M. Immune mechanisms of viral clearance and disease pathogenesis during viral hepatitis. In "The Liver" Arias Ed. 2018.
2. Ferrari C, Barili V, Rossi M, Boni C, Fisicaro P. Cellular immunity and occult in HBV infection. In "Occult Hepatitis B Infection".

D. Additional Information: Research Support and/or Scholastic Performance

Dr. Barili's academic trajectory has been marked by excellence. She earned her Bachelor's Degree in Biotechnology in 2003 and her Master's Degree in Biotechnology for Health in 2006 from the University of Parma and both awarded with top honors (110/110 cum laude). Her doctoral studies were completed at the San Raffaele Scientific Institute in Milan, where she received a PhD in Molecular Medicine in 2011. During her PhD fellowship, Dr. Barili worked on the functional analysis of transcription factors regulating neural stem cells during neurogenesis. She employed a variety of advanced molecular approaches, including mouse models, ex vivo systems, and cell cultures, gaining broad methodological expertise in molecular biology and experimental embryology.

The research output reflects her dedication to advancing knowledge through high-quality research, with a total of **44 peer-reviewed publications** (15 as first/last/corresponding author) and contribution to **2 book chapters**, an **h-index of 20**, **1251 citations** in the scientific literature, underscoring the broad influence of her work. During her career, she has also disseminated her work through **15 oral presentations** at national and international congresses.

Dr. Barili plays an active role in academia, combining her expertise in genetics and molecular biology with a strong commitment to mentorship and scientific dissemination. She is an **Assistant Professor** in Genetics, Medical Genetics and Molecular Diagnostic Techniques at the University of Parma, where she teaches across various degree programs. Since 2016, Dr. Barili has **supervised numerous thesis projects** in Biology and Biotechnology, focusing on topics such as immunological aspects of liver cancers, hepatitis-related infections, and the genetics underlying complex diseases. From 2016 to 2021, she guided 4 MSc degree candidates, followed by 14 additional MSc students from 2021 to 2024, working on projects related to "Genomic (WES) and Cellular Approaches for Understanding Rare and Complex Genetic Diseases." Between 2018 and 2021, she also supervised two PhD students and two post-doctoral researchers engaged in liver cancer studies. Currently, she oversees three PhD students involved in PRIN-funded projects.

Her leadership as Scientific Director of the Medical Genetics Laboratory at the University of Parma further underscores her ability to drive interdisciplinary collaboration and mentor emerging researchers. These accomplishments not only illustrate her success in securing research support but also her dedication to advancing knowledge and applications in genetics and immunology.