EUROPEAN CURRICULUM VITAE FORMAT

PERSONAL INFORMATION

Name	ZURLO MATTEO
Email	matteo.zurlo@irst.emr.it
Nationality	ITALIAN
Date of birth	18/09/91

DIPLOMAS, SEMINARS, WORKSHOPS

•Date	23-25 April 2024
• Name and type of education or training institution	CRISPRMED24
• Main subjects/professional skills covered by the study	**The CRISPR MEDiCiNE Conference 2024, 1st edition**
• Qualification achieved	Certificate of attendance + Workshop "Pre-Clinical Safety Analyses"
•Date	15 December 2023
• Name and type of education or training institution	Veronesi Foundation
• Main subjects/professional skills covered by the study	**FUV Post-doctoral Fellowships 2024**
• Qualification achieved	Winner of FUV Post-doctoral Fellowships 2024
•Date	2-4 November 2023
• Name and type of education or training institution	La Sapienza University of Rome, Spandidos publications
• Main subjects/professional skills covered by the study	**26th International Symposium on Molecular Medicine**
• Qualification achieved	Certificate of attendance (selected Speaker)
•Date	5 June 2023
• Name and type of education or training institution	University of Ferrara
• Main subjects/professional skills covered by the study	**Congress "1st UNIFE Young Researchers Meeting" Molecular mechanisms in cancer and rare genetic disorders: from the signaling pathways to the therapeutic approach.**
• Qualification achieved	Certificate of Attendance (Invited Speaker)
•Date	20-22 June 2022
• Name and type of education or training institution	Italian Society of Biophysics and Molecular Biology (SIBBM Rome)
• Main subjects/professional skills covered by the study	**Congress "Frontiers in Molecular Biology: the RNA world 3.0"**
• Qualification achieved	Certificate of attendance

•Date	5-6 February 2020
• Name and type of education or training institution	University of Ferrara, PhD in Biomedical and Biotechnological Sciences
• Main subjects/professional skills covered by the study	**PhD day UNIFE Rimini**
• Qualification achieved	Certificate of attendance
•Date	17-19 July 2019
• Name and type of education or training institution	University of Urbino Carlo Bo, Centre for Biotechnology (Fano)
• Main subjects/professional skills covered by the study	**I° Workshop Chromatin immunoprecipitation (ChIP): from theory to application**
• Qualification achieved	Certificate of attendance
•Date	6-7 February 2019
• Name and type of education or training institution	University of Ferrara, PhD in Biomedical and Biotechnological Sciences
• Main subjects/professional skills covered by the study	**PhD day UNIFE Peschiera del Garda**
• Qualification achieved	Certificate of attendance
•Date	2 December 2018
• Name and type of education or training institution	Non-profit organization "Tutti per Chiara", Department of Life Sciences and Biotechnology
• Main subjects/professional skills covered by the study	**Workshop in memory of Chiara Gemmo "Liquid biopsy: a new frontier for the diagnosis and personalized therapy of tumors"**
• Qualification achieved	Certificate of attendance
•Date	7/12/2017
• Name and type of education or training institution	University of Ferrara
• Qualification achieved	**Qualification to the profession of Pharmacist**
• Level in the national classification	219/250
•Date	27/09/2011 - 20/10/2017
• Name and type of education or training institution	University of Ferrara, Department of Life Sciences and Biotechnology
• Location of the curricular internship	University Hospital of Ferrara, Hospital Pharmacy Unit
• Qualification achieved	**Master's Degree in Pharmacy**
• Thesis title and supervisors	"Effects of iron chelating agents on chemically-induced fetal hemoglobin production in erythroid cells" Speakers: Alessia Finotti, Roberto Gambari
• Level in the national classification	108/110

PUBBLICATIONS

Gasparello, J., Papi, C., Zurlo, M., Corradini, R., Gambari, R., & Finotti, A. (2019). Demonstrating specificity of bioactive peptide nucleic acids (PNAs) targeting microRNAs for practical laboratory classes of applied biochemistry and pharmacology. *PloS one*, *14*(9), e0221923.

Romagnoli, R., Prencipe, F., Oliva, P., Cacciari, B., Balzarini, J., Liekens, S., Hamel, E., Brancale, A., Ferla, S., Manfredini, S., Zurlo, M., Finotti, A., & Gambari, R. (2020). Synthesis and Biological Evaluation of New Antitubulin Agents Containing 2-(3',4',5'-trimethoxyaniline)-3,6-disubstituted-4,5,6,7-tetrahydrothieno[2,3-c]pyridine Scaffold. *Molecules (Basel, Switzerland)*, *25*(7), 1690.

Cosenza, L. C., Gasparello, J., Romanini, N., Zurlo, M., Zuccato, C., Gambari, R., & Finotti, A. (2021). Efficient CRISPR-Cas9-based genome editing of β-globin gene on erythroid cells from homozygous β039-thalassemia patients. *Molecular therapy. Methods & Clinical Development*, *21*, 507–523.

Zurlo, M., Romagnoli, R., Oliva, P., Gasparello, J., Finotti, A., & Gambari, R. (2021). Synergistic effects of the combined treatment of U251 and T98G glioma cells with an anti-tubulin tetrahydrothieno[2,3-c]pyridine derivative and a peptide nucleic acid targeting miR-221-3p. *International Journal of Oncology*, *59*(2), 61.

Zuccato, C., Cosenza, L. C., Zurlo, M., Lampronti, I., Borgatti, M., Scapoli, C., Gambari, R., & Finotti, A. (2021). Treatment of Erythroid Precursor Cells from β-Thalassemia Patients with *Cinchona* Alkaloids: Induction of Fetal Hemoglobin Production. *International Journal of Molecular Sciences*, *22*(24), 13433.

Gasparello, J., Papi, C., Zurlo, M., Gambari, L., Rozzi, A., Manicardi, A., Corradini, R., Gambari, R., & Finotti, A. (2022). Treatment of Human Glioblastoma U251 Cells with Sulforaphane and a Peptide Nucleic Acid (PNA) Targeting miR-15b-5p: Synergistic Effects on Induction of Apoptosis. *Molecules (Basel, Switzerland)*, *27*(4), 1299.

Zurlo, M., Nicoli, F., Borgatti, M., Finotti, A., & Gambari, R. (2022). Possible effects of sirolimus treatment on the long-term efficacy of COVID-19 vaccination in patients with β-thalassemia: A theoretical perspective. *International Journal of Molecular Medicine*, *49*(3), 33.

Gasparello, J., Papi, C., Zurlo, M., Cosenza, L. C., Breveglieri, G., Zuccato, C., Gambari, R., & Finotti, A. (2022). Teaching during COVID-19 pandemic in practical laboratory classes of applied biochemistry and pharmacology: A validated fast and simple protocol for detection of SARS-CoV-2 Spike sequences. *PloS one*, *17*(4), e0266419.

Zurlo, M., Romagnoli, R., Oliva, P., Gasparello, J., Finotti, A., & Gambari, R. (2022) Synergistic Effects of A Combined Treatment of Glioblastoma U251 Cells with An Anti-miR-10b-5p Molecule and An AntiCancer Agent Based on 1-(3',4',5'-Trimethoxyphenyl)-2-Aryl-1*H*-Imidazole Scaffold. *International Journal of Molecular Sciences*, 23(11), 5991.

Zuccato, C.*, Cosenza, L. C.*, Zurlo, M.*, Gasparello, J., Papi, C., D'Aversa, E., Breveglieri, G., Lampronti, I., Finotti, A., Borgatti, M., Scapoli, C., Stievano, A., Fortini, M., Ramazzotti, E., Marchetti, N., Prosdocimi, M., Gamberini, M. R., & Gambari, R. (2022). Expression of γ-globin genes in β-thalassemia patients treated with sirolimus: results from a pilot clinical trial (Sirthalaclin). Therapeutic advances in hematology, 13, 20406207221100648.

Papi, C., Gasparello, J., Zurlo, M., Manicardi, A., Corradini, R., Cabrini, G., Gambari, R., Finotti, A. Combined Treatment of Bronchial Epithelial Calu-3 Cells with Peptide Nucleic Acids Targeting miR-145-5p and miR-101-3p: Synergistic Enhancement of the Expression of the Cystic Fibrosis Transmembrane Conductance Regulator (CFTR) Gene. Int. J. Mol. Sci. 2022, 23, 9348.

Cosenza, L.C., Zuccato, C., Zurlo, M., Gambari, R., Finotti, A. Co-Treatment of Erythroid Cells from β-Thalassemia Patients with CRISPR-Cas9-Based β039-Globin Gene Editing and Induction of Fetal Hemoglobin. Genes 2022, 13, 1727.

Gasparello, J., Papi, C., Zurlo, M., Gambari, L., Manicardi, A., Rozzi, A., Ferrarini, M., Corradini, R., Gambari, R., & Finotti, A. (2022). MicroRNAs miR-584-5p and miR-425-3p Are

Up-Regulated in Plasma of Colorectal Cancer (CRC) Patients: Targeting with Inhibitor Peptide Nucleic Acids Is Associated with Induction of Apoptosis in Colon Cancer Cell Lines. *Cancers*, 15(1), 128.

Zuccato, C., Cosenza, L. C., Zurlo, M., Breveglieri, G., Bianchi, N., Lampronti, I., Gasparello, J., Scapoli, C., Borgatti, M., Finotti, A., & Gambari, R. (2023). The rs368698783 (G>A) Polymorphism Affecting LYAR Binding to the Aγ-Globin Gene Is Associated with High Fetal Hemoglobin (HbF) in β-Thalassemia Erythroid Precursor Cells Treated with HbF Inducers. *International Journal of Molecular Sciences*, 24(1), 776.

Zurlo, M., Nicoli, F., Proietto, D., Dallan, B., Zuccato, C., Cosenza, L. C., Gasparello, J., Papi, C., d'Aversa, E., Borgatti, M., Scapoli, C., Finotti, A., & Gambari, R. (2023). Effects of Sirolimus treatment on patients with β-Thalassemia: Lymphocyte immunophenotype and biological activity of memory CD4+ and CD8+ T cells. *Journal of cellular and molecular medicine*, *27*(3), 353–364.

Zurlo, M., Gasparello, J., Cosenza, L. C., Breveglieri, G., Papi, C., Zuccato, C., Gambari, R., & Finotti, A. (2023). Production and Characterization of K562 Cellular Clones Hyper-Expressing the Gene Encoding α-Globin: Preliminary Analysis of Biomarkers Associated with Autophagy. *Genes*, *14*(3), 556.

Papi, C., Gasparello, J., Zurlo, M., Cosenza, L. C., Gambari, R., & Finotti, A. (2023). The Cystic Fibrosis Transmembrane Conductance Regulator Gene (CFTR) Is under Post-Transcriptional Control of microRNAs: Analysis of the Effects of agomiRNAs Mimicking miR-145-5p, miR-101-3p, and miR-335-5p. *Non-coding RNA, 9*(2), 29.

Tupini, C.*, Zurlo, M.*, Gasparello, J., Lodi, I., Finotti, A., Scattolin, T., Visentin, F., Gambari, R., & Lampronti, I. (2023). Combined Treatment of Cancer Cells Using Allyl Palladium Complexes Bearing Purine-Based NHC Ligands and Molecules Targeting MicroRNAs miR-221-3p and miR-222-3p: Synergistic Effects on Apoptosis. *Pharmaceutics*, *15*(5), 1332.

Gamberini, M. R., Zuccato, C., Zurlo, M., Cosenza, L. C., Finotti, A., & Gambari, R. (2023). Effects of Sirolimus Treatment on Fetal Hemoglobin Production and Response to SARS-CoV-2 Vaccination: A Case Report Study. *Hematology reports*, *15*(3), 432–439.

Gasparello, J., Marzaro, G., Papi, C., Gentili, V., Rizzo, R., Zurlo, M., Scapoli, C., Finotti, A., & Gambari, R. (2023). Effects of Sulforaphane on SARSCoV2 infection and NF-κB dependent expression of genes involved in the COVID19 'cytokine storm'. *International Journal of Molecular Medicine*, *52*(3), 76.

Gasparello, J., Papi, C., Zurlo, M., Volpi, S., Gambari, R., Corradini, R., Casnati, A., Sansone, F., & Finotti, A. (2023). Cationic Calix[4]arene Vectors to Efficiently Deliver AntimiRNA Peptide Nucleic Acids (PNAs) and miRNA Mimics. *Pharmaceutics*, *15*(8), 2121.

Gambari, R., Zuccato, C., Cosenza, L. C., Zurlo, M., Gasparello, J., Finotti, A., Gamberini, M. R., & Prosdocimi, M. (2023). The Long Scientific Journey of Sirolimus (Rapamycin): From the Soil of Easter Island (Rapa Nui) to Applied Research and Clinical Trials on β-Thalassemia and Other Hemoglobinopathies. *Biology*, *12*(9), 1202.

Zurlo, M., Zuccato, C., Cosenza, L. C., Gasparello, J., Gamberini, M. R., Stievano, A., Fortini, M., Prosdocimi, M., Finotti, A., & Gambari, R. (2023). Decrease in α-Globin and Increase in the Autophagy-Activating Kinase ULK1 mRNA in Erythroid Precursors from β-Thalassemia Patients Treated with Sirolimus. *International Journal of Molecular Sciences*, *24*(20), 15049.

Cosenza, L. C., Marzaro, G., Zurlo, M., Gasparello, J., Zuccato, C., Finotti, A., & Gambari, R. (2023). Inhibitory effects of SARS-CoV-2 Spike protein and BNT162b2 vaccine on erythropoietin-induced globin gene expression in erythroid precursor cells (ErPCs) from β-thalassemia patients. *Experimental Hematology*, *129*, 104128.

Zurlo, M., Gasparello, J., Verona, M., Papi, C., Cosenza, L. C., Finotti, A., Marzaro, G., & Gambari, R. (2023). The anti-SARS-CoV-2 BNT162b2 vaccine suppresses mithramycin-induced erythroid differentiation and expression of embryo-fetal globin genes in human erythroleukemia K562 cells. *Experimental cell research*, *433*(2), 113853.

Traeger-Synodinos, J., Vrettou, C., Sofocleous, C., Zurlo, M., Finotti, A., Gambari, R., & International Hemoglobinopathy Research Network (INHERENT) (2024). Impact of α-Globin Gene Expression and α-Globin Modifiers on the Phenotype of β-Thalassemia and Other Hemoglobinopathies: Implications for Patient Management. *International Journal of Molecular Sciences*, *25*(6), 3400.

Zurlo, M., Zuccato, C., Cosenza, L. C., Gamberini, M. R., Finotti, A., & Gambari, R. (2024). Increased Expression of α-Hemoglobin Stabilizing Protein (AHSP) mRNA in Erythroid Precursor Cells Isolated from β-Thalassemia Patients Treated with Sirolimus (Rapamycin). *Journal of Clinical Medicine*, *13*(9), 2479.

WORK EXPERIENCE

• Date	8 JANUARY 2023 – PRESENT
• Name and address of employer	Romagna Institute for the Study of Tumors "Dino Amadori" – IRST IRCCS
• Type of Employment	Researcher
• Main tasks and responsibilities	Research in the field of oncology, tumor immunotherapy, CAR-T Platform
• Date	1 DECEMBER 2022 – 30 NOVEMBER 2023
• Name and address of employer	Department of Life Sciences and Biotechnology, University of Ferrara
• Employment Type	Post-doctoral Research fellow
• Main tasks and responsibilities	Research in different fields (oncology and rare diseases), teaching for thesis students of the laboratory, teaching during practical laboratories in the courses of Biotechnology, Pharmacy and CTF
• Date	1 NOVEMBER 2018 – 28 SEPTEMBER 2022
• Name and address of employer	Department of Life Sciences and Biotechnology, University of Ferrara
• Type of employment	Ph.D. student
• Main tasks and responsibilities	Research in different fields (oncology and hematological diseases), teaching for thesis students of the laboratory, teaching during practical laboratories in biotechnology courses, teaching tutoring
• Dates	1 JULY 2018 – 30 OCTOBER 2018
• Name and address of employer	Department of Life Sciences and Biotechnology, University of Ferrara
• Type of use	Research Fellowship
• Main duties and responsibilities	Research aimed at evaluating the effects of iron chelators used in therapy by beta thalassaemia patients on gene expression in erythroid cells treated with fetal hemoglobin inducers

EXPERIENCE GAINED IN THE EDUCATIONAL FIELD

- Appointment of subject expert for the courses of Molecular and Recombinant Technologies (SSD BIO/11) and Cellular and Molecular Therapies (SSD BIO/10), in the three-year degree of Biotechnology, University of Ferrara.
- Science communicator in the context of the researchers' night in the city of Ferrara (2022)
- Assistance and supervision during the exams of the Bachelor's Degree in Biotechnology in the following courses: Molecular Biology, Applied Biochemistry, Cellular and Molecular Therapies, Molecular and Recombinant Technologies, Physiology and Pathology
- Teaching tutor for the teaching of Cellular and Molecular Therapies in the Degree Course in Biotechnology from 2018 to 2022

- Lecturer in teaching support and seminars in the courses of Molecular Biology and Molecular and Recombinant Technologies from 2018 to 2022
- Co-supervisor of Master's Degree Thesis in CTF and Pharmacy
- Co-supervisor of Bachelor's and Master's Degree Theses in Biotechnology
- Tutor during periods of attendance in the laboratory of high school students in the context of school-work alternation

PERSONAL SKILLS AND COMPETENCIES

MOTHER TONGUE: Italian language

OTHER LANGUAGE: English language (PET certificate)

• Reading skills	Good (B1)
• Writing skills	Good (B1)
• Oral expression skills	Good (B1)

FIELDS OF COMPETENCE AND INTERESTS

- fetal hemoglobin inducers
- Combo therapy in cancer treatment
- Liquid biopsy
- microRNA as diagnostic biomarkers
- microRNA as therapeutic tool (miRNA targeting)
- Autophagy process
- Gene editing
- Rare disease: α/β-Thalassemia, Sickle cell disease, Cystic Fibrosis
- Rare tumors: Glioblastoma, Neuroblastoma, Pancreatic Neuroendocrine tumors (PNETs)

TECHNICAL SKILLS AND COMPETENCIES

- Maintenance of mammalian cell cultures in suspension and adhesion
- Isolation and culture of erythroid precursors from whole blood
- DNA extraction/RNA extraction
- analysis of gene expression by quantitative RT-PCR
- Agarose gel electrophoresis
- Protein expression analysis by Western Blot
- Flow cytometry
- Gene editing
- Molecular Cloning and use of bacteria
- DNA-protein interaction assays with radiolabeled probes (EMSA)
- study of transcription factors by chromatin immunoprecipitation (CHIP assay)
- ELISA and ELISPOT assays
- 3D cell cultures (Tumor-Sphere)
- basic knowledge of immunohistochemistry
- In vitro imaging with fluorescent probes

I authorize the processing of personal data contained in my curriculum vitae according to art. 13 of Legislative Decree 196/2003 and art. 13 of EU Regulation 2016/679 on the protection of natural persons with regard to the processing of personal data.

Signature Date

17/06/2024