

DIEGO CHIANESE

Education	PhD Student in Medical, Omics and Oncological Sciences Department of Medical Sciences (MUR – Department of excellence 2023 – 2027), University of Ferrara. November 2022 – Present Master's Degree summa cum laude in Pharmaceutical Biotechnology Department of Pharmacy and Biotechnology, University of Bologna. Experimental Thesis: "Characterization of the expression levels of IP3R3 (inositol 1,4,5-trisphosphate receptor, type 3) in colon cancer." September 2019 – March 2022 Bachelor's Degree summa cum laude in Biotechnology Department of Life Sciences and Biotechnology, University of Ferrara. Experimental Thesis: "Antiproliferative and proapoptotic activity of new palladium complexes on human neoplastic cells." September 2016 – July 2019
Formation	Qualification for use of laboratory animals Function A, according to Italian law d.lgs. 26/2014 September 2024 National Board in Biology University of Tuscia (Viterbo) November 2022
Internship and Employment	Research Fellowship Signal Transduction Lab, Department of Medical Sciences (MUR – Department of excellence 2023 – 2027), University of Ferrara. Title: "Role of IL-1B mediated inflammation in tumor development". April 2022 – October 2022 Master's Degree Internship Signal Transduction Lab, Department of Medical Sciences (MUR – Department of excellence 2023 – 2027), University of Ferrara. April 2021 – March 2022 Bachelor's Degree Internship Department of Biochemistry and Molecular Biology, University of Ferrara. March 2019 – June 2019

Research Experiences	Albert Einstein College of Medicine (NY) Department of Oncology, Prof. Keisuke Ito's Lab, New York (United State of America). September 2024 – March 2025
Other Academic Experiences	Co-supervisor of experimental thesis 1 Master's degree in Chemistry and Pharmaceuticals Technologies (LM-13), University of Ferrara. Laboratory Co-supervisor of undergraduate student 1 master's student in Chemistry and Pharmaceuticals Technologies (LM-13), University of Ferrara. 1 master's student in Biotechnology for Translational Medicine (LM-9), University of Ferrara.
Publications	- Bertino F, Mukherjee D, Bonora M, Bagowski C, Nardelli J, Metani L, Zanin Venturini DI, Chianese D, Santander N, Salaroglio IC, Hentschel A, Quarta E, Genova T, McKinney AA, Allocco AL, Fiorito V, Petrillo S, Ammirata G, De Giorgio F, Dennis E, Allington G, Maier F, Shoukier M, Gloning KP, Munaron L, Mussano F, Salsano E, Pareyson D, di Rocco M, Altruda F, Panagiotakos G, Kahle KT, Gressens P, Riganti C, Pinton PP, Roos A, Arnold T, Tolosano E, Chiabrando D. Dysregulation of FLVCR1a-dependent mitochondrial calcium handling in neural progenitors causes congenital hydrocephalus. Cell Rep Med. 2024 Jul 16;5(7):101647. doi: 10.1016/j.xcrm.2024.101647. PMID: 39019006; PMCID: PMC11293339. Chianese D, Bonora M, Sambataro M, Sambato L, Paola LD, Tremoli E, Cappucci IP, Scatto M, Pinton P, Picari M, Ferroni L, Zavan B. Exploring Mitochondrial Interactions with Pulsed Electromagnetic Fields: An Insightful Inquiry into Strategies for Addressing Neuroinflammation and Oxidative Stress in Diabetic Neuropathy. Int J Mol Sci. 2024 Jul 16;25(14):7783. doi: 10.3390/ijms25147783. PMID: 39063025; PMCID: PMC11277522. - Di Mambro T, Pelliello G, Agyapong ED, Carinci M, Chianese D, Giorgi C, Morciano G, Patergnani S, Pinton P, Rimessi A. The Tricky Connection between Extracellular Vesicles and Mitochondria in Inflammatory-Related Diseases. Int J Mol Sci. 2023 May 3;24(9):8181. doi: 10.3390/ijms24098181. PMID: 37175888; PMCID: PMC10179665. - Vitto VAM, Bianchin S, Zolondick AA, Pelliello G, Rimessi A, Chianese D, Yang H, Carbone M, Pinton P, Giorgi C, Patergnani S. Molecular Mechanisms of Autophagy in Cancer Development, Progression, and Therapy. Biomedicines. 2022 Jul 5;10(7):1596. doi: 10.3390/biomedicines10071596. PMID: 35884904; PMCID: PMC9313210.
Abstracts in Congresses	Poster D. Chianese, F. Begnozzi, C. Giorgi, P. Pinton, M. Bonora and B. Zavan. Molecular characterization of calcium homeostasis in quiescent cancer cells. 3rd Unife Young Researchers Meeting – YRM 2025, 12th June 2025, Ferrara (Italy). F. Begnozzi, D. Chianese, C. Giorgi, E. Calura, P. Pinton, M. Bonora. Tracing the genomic and biochemical regulations of cell fate by the mitochondrial permeability transition pore. 3rd Unife Young Researchers Meeting – YRM 2025, 12th June 2025, Ferrara (Italy).

3. D. Viavattene, A.R. Marchetti, S. Patergnani, A. Lobascio, A. Savino, L. Ponzone, **D. Chianese**, G. Righes, ... V. Poli. mTOR triggers STAT3 S-P at the ER inhibiting calcium-mediated apoptosis. *SIBBM seminar 2024*, 17-19th June 2024, Trento (Italy).
4. **D. Chianese**, F. Begnozzi, C. Giorgi, P. Pinton, M. Bonora and B. Zavan. Molecular analysis of calcium regulation in dormant cancer cells. *2nd Unife Young Researchers Meeting – YRM 2024*, Ferrara (Italy).
5. **D. Chianese**, F. Begnozzi, C. Giorgi, P. Pinton, M. Bonora and B. Zavan. Investigation of calcium homeostasis mechanisms in quiescent cancer cells. *ABCD SIBBM 2024 National Ph.D. Meeting*, Bologna (Italy).
6. **D. Chianese**, F. Begnozzi, C. Giorgi, P. Pinton, M. Bonora and B. Zavan. Molecular characterization of calcium homeostasis in quiescent cancer cells. *1st Unife Young Researchers Meeting – YRM 2023*, Ferrara (Italy).

Scientific Skills and Learnings

Cell Culture: Extensive experience in culturing tumor and immortalized mammalian cell lines, including maintenance, passaging, cryopreservation, and 3D spheroid generation. Skilled in establishing and maintaining primary cell cultures derived from human colon biopsies and mouse tissues.

Transfection Techniques: Skilled in transient and stable gene transfection using liposome-based (Lipofectamine), polyethyleneimine (PEI), and calcium phosphate protocols. Experienced in optimizing transfection conditions for various mammalian cell types and in validating expression efficiency through fluorescence microscopy and immunoblotting.

Viral Transduction: Proficient in the production, titration, and use of lentiviral and adenoviral vectors for transgene expression and stable clone generation. Experienced in performing clonal selection, screening, and validation of stably transduced cell lines.

Mitochondrial Reporters and Functional Imaging: Experienced in applying synthetic (TMRM, MitoTracker) and genetically encoded (mtGFP, mito-LAR, mito-GECOs) mitochondrial reporters to analyze morphology, dynamics, and membrane potential ($\Delta\psi_m$) using fluorescence and confocal microscopy.

Luminometry: Proficient in recording intracellular Ca^{2+} transients in transfected mammalian cells using aequorin-based photoprotein assays (aequorinometry), and in quantifying cytosolic, mitochondrial, and extracellular ATP through luciferase-based luminescent probes.

Flow Cytometry and Cell Sorting: Extensive experience in multicolor flow cytometry and cell sorting. Skilled in isolation of hematopoietic stem cells from mouse bone marrow, performing complex multicolor staining on low-abundance populations, and conducting downstream assays on sorted cells.

Microscopy: Expertise in fluorescence microscopy, including widefield and confocal laser scanning imaging. Skilled in live-cell imaging of calcium transients using synthetic indicators (Fura-2, CalRed, Fura Red) and genetically encoded sensors (GCaMPs, GECOs) targeted to specific organelles. Experienced in microscopy of suspension cells, including hematopoietic stem cells, and in 3D reconstruction and intravital imaging.

Protein Expression and Analysis: Western blotting for quantitative protein expression profiling; ELISA immunoassays for soluble protein quantification; immunohistochemistry and immunofluorescence for tissue and cellular protein localization studies.

Molecular Biology: Skilled in RNA and DNA extraction, reverse transcription, semi-quantitative and quantitative PCR, and agarose gel electrophoresis. Basic knowledge of molecular cloning, including restriction digestion, ligation, and plasmid amplification for construct design.

Animal Models and In Vivo Techniques: Extensive experience in handling laboratory mice, including housing, genotyping, and tissue collection for ex vivo analyses. Skilled in performing experiments on live animals and tissues, including basic behavioural tests, while adhering to strict animal welfare and ethical guidelines.

Language Skills

Mother tongue: **Italian**

Other tongue: **English**

Listening	Reading	Spoken Production	Spoken Interaction	Writing
C1	C1	C1	C1	C1

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

Digital Skills

Microsoft Office

Microsoft Word | Microsoft Powerpoint | Microsoft Excel | Microsoft Teams

Database

PubMed (advanced user) | UCSC Genome Browser | NCBI GenBank | DrugBank
NCBI Blast | Primer-BLAST | KEGG Pathway | Swiss PDB Viewers | PRIMER7

Images and Data Analysis

ImageJ/Fiji (advanced) | GraphPad Prism (complete proficiency) | MetaMorph |
Proficient with Nikon NIS-Elements | ScanR Automated Image and Data Analysis
Software | FlowJo

Google

Google Meet | Google Docs | Google Classroom | Google Forms | Google Drive |
Google Slide

Il sottoscritto autorizza il trattamento dei propri dati personali ai sensi del GDPR 679/16 "Regolamento Europeo sulla protezione dei dati personali".

Il sottoscritto acconsente alla pubblicazione del presente curriculum vitae sul sito dell'Università degli Studi di Ferrara