



STEFANO MIGLIETTA

Date and place of birth: May 9, 1992 - San Pietro Vernotico (BR), Italy

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TITLES

- **2017-2021**; Ph.D. title in Cellular and Molecular Biology (evaluation: Excellent), University of Bologna (Italy). Thesis: "Deciphering the role of the mitochondrial chaperonine MCJ in ovarian cancer". Supervisors: Prof. Anna Maria Porcelli, Prof. Anna Maria Ghelli.
- **2019-2020**; Training course - 24 credits - Teacher training 9241.
- **2014-2017**; Master's degree in Molecular and Industrial Biotechnology (evaluation: 110/110 cum laude), University of Bologna (Italy). Thesis: "Study of the interaction between A/C Lamin and HDAC-2 in cellular control and laminopathic models". Supervisors: Prof. Francesco Francia, Dr. Elisabetta Mattioli.
- **2011-2014**; Bachelor's degree in Biotechnology (evaluation: 110/110 cum laude), University of Salento (Italy). Thesis: "Development of the site-specific transposition system in order to obtain a recombinant baculovirus for the expression of an olive lipase (*Olea europaea* L.)". Supervisor: Prof. Eliana Nutricati.

RESEARCH EXPERIENCE

- **Apr 2023 - Present**: Post-doc with research Fellowship [Prot. n. 695, AIRC IG-24494] at Dept. of Pharmacy and Biotechnology, University of Bologna. Group leader: Prof. Anna Maria Porcelli
- **Apr 2022 - Mar 2023**: Post-doc with research Fellowship [Prot. n. 652, AIRC IG-24494] at Dept. of Pharmacy and Biotechnology, University of Bologna. Group leader: Prof. Anna Maria Porcelli.
- **Apr 2021 - Mar 2022**: Post-doc with research Fellowship [Prot. n. 756, AIRC IG-24494] at Dept. of Pharmacy and Biotechnology, University of Bologna. Group leader: Prof. Anna Maria Porcelli.
- **Nov 2017 - Oct 2021**: PhD Fellow at the Department of Pharmacy and Biotechnology – FaBiT, Cellular Biochemistry, "Deciphering the role of the mitochondrial chaperonine MCJ in ovarian cancer". Group leader: Prof. Anna Maria Porcelli.
- **Feb 2016 - Mar 2017**: Graduate student at IGM-CNR, Institute of Molecular Genetics (Bologna); Musculoskeletal cell biology laboratory. Biochemical-molecular studies of progeroid laminopathies and protein interactions studies between A/C Lamin, progerin and HDAC-2. Group leader: Dr. Elisabetta Mattioli.
- **Mar 2014 - Jun 2014**: Undergraduate student at Di.S.Te.B.A, Department of Biological and Environmental Sciences and Technologies of the University of Salento. Functional characterization of an Olive lipase. Group leader: Prof. Eliana Nutricati.

TEACHING EXPERIENCE

- **Oct 2023**: Teaching Tutor for graduated students of the course CHIMICA E TECNOLOGIA FARMACEUTICHE - BIOCHIMICA APPLICATA [cod. 00062] Modulo III [Rep. n. 12851/2023 Prot. n. 300547 del 17/10/2023], University of Bologna.
- **Mar 2023**: Teaching Tutor for graduated students of the course PHARMACEUTICAL BIOTECHNOLOGY - MOLECULAR INTERACTION NETWORKS (I.C.) [cod. 90818] - MOLECULAR SIGNALLING TRANSDUCTION [cod. 93311] [Rep. n. 4011/2023 Prot. n. 90799 del 31/03/2023], University of Bologna.
- **Mar 2023**: Teaching Tutor for graduated students of the course MOLECULAR AND CELL BIOLOGY - BIOCHEMISTRY OF CELLULAR SIGNALING [cod. 96022]. [Rep. n. 2753/2023 Prot. n. 50256 del 26/02/2023], University of Bologna.
- **Oct 2022**: Teaching Tutor for graduated students of the course CHIMICA E TECNOLOGIA FARMACEUTICHE - BIOCHIMICA APPLICATA [cod. 00062] Modulo III [Rep. n. 14725/2022 Prot. n. 312564 del 14/11/2022], University of Bologna.
- **Mar 2022**: Teaching Tutor for graduated students of the course MOLECULAR AND CELL BIOLOGY - BIOCHEMISTRY OF CELLULAR SIGNALING [cod. 96022]. [Rep. n. 4617/2022 Prot. n. 75549 del 05/04/2022], University of Bologna.

LANGUAGE SKILLS

	Understanding	Speaking	Writing
English	B2	B2	B2

PROFESSIONAL AND TECHNICAL EXPERTISE

Molecular Biology: DNA and RNA extraction from cultured cells and tissues and quantification. PCR (Polymerase Chain Reaction), RT-PCR (Reverse Transcriptase-Polymerase Chain Reaction), Real-time RT-qPCR.

Cell Biology/Biochemistry: eukaryotic cell culture techniques, maintenance of cell lines and treatments with compounds. Protein extraction from cell lines and tissues (total lysate and mitochondria) and quantification. Oxygen consumption rate (OCR) and

extracellular acidification rate (ECAR) measurements with Seahorse XF analyzer on cell lines. Spectrophotometric kinetics to measure the activity of enzymes (i.e. Mitochondrial ETC complexes, GPX, PRX). Measurements of glucose consumption and lactate production on *in vitro* cell models. Measurement of mitochondrial ATP synthesis on permeabilized cells. SDS-Page and 1D/2D Native-Page (BN/CN), Western Blot Analysis. Cell lines viability/mortality assays. Cells clonogenic and wound-healing assays. Cellular senescence assay (β -Gal), Immunoprecipitation and Co-immunoprecipitation of protein complexes, Immunofluorescence and PLA (Proximity Ligation Assay). Cell transfection: silencing and overexpression of genes. Stable overexpression of genes by infection with lentiviral particles. Use of Baculovirus-mediated expression systems. Measurement of oxidative stress and reactive oxygen species production (ROS). Electrochemotherapy assay on cell lines with Cliniporator (IGEA S.P.A.).

Other experience: techniques of manipulation and dissection of patient samples and their maintenance in culture: maintenance in culture of primary cell lines (2D) and primary spheroids (3D) derived from tumor biological samples from ovarian carcinosis (Ascites).

Bioinformatics Competences: Biological databases and genome browser (NCBI, EMBL, HmtDB), primers- design softwares (Primer3web, OligoAnalyzer3.1, mFold). Windows operating systems and Microsoft Office package.

PUBLICATIONS

- Perrone AM, Ravegnini G, **Miglietta S**, Argnani L, Ferioli M, De Crescenzo E, Tesei M, Di Stanislao M, Girolimetti G, Gasparre G, Porcelli AM, De Terlizzi F, Zamagni C, Morganti AG, De Iaco P. Electrochemotherapy in Vulvar Cancer and Cisplatin Combined with Electroporation. Systematic Review and In Vitro Studies. *Cancers (Basel)*. 2021. PMID: 33919139.
- Sollazzo M, De Luise M, Lemma S, Bressi L, Iorio M, **Miglietta S**, Milioni S, Kurelac I, Iommarini L, Gasparre G, Porcelli AM. Respiratory Complex I dysfunction in cancer: from a maze of cellular adaptive responses to potential therapeutic strategies. *FEBS J*. 2021. PMID: 34606156.
- De Luise M, Sollazzo M, Lama E, Coadă CA, Bressi L, Iorio M, Cavina B, D'Angelo L, Milioni S, Marchio L, **Miglietta S**, Coluccelli S, Tedesco G, Ghelli A, Lemma S, Perrone AM, Kurelac I, Iommarini L, Porcelli AM, Gasparre G. Inducing respiratory complex I impairment elicits an increase in PGC1 α in ovarian cancer. *Sci Rep*. 2022. PMID: 35577908.
- **Miglietta S**, Girolimetti G, Marchio L, Sollazzo M, Laprovitera N, Coluccelli S, De Biase D, De Leo A, Santini D, Kurelac I, Iommarini L, Ghelli A, Campana D, Ferracin M, Perrone AM, Gasparre G, Porcelli AM. MicroRNA and Metabolic Profiling of a Primary Ovarian Neuroendocrine Carcinoma Pulmonary-Type Reveals a High Degree of Similarity with Small Cell Lung Cancer. *Noncoding RNA*. 2022. PMID: 36287116.
- Kurelac I, Cavina B, Sollazzo M, **Miglietta S**, Fornasa A, De Luise M, Iorio M, Lama E, Traversa D, Nasiri HR, Ghelli A, Musiani F, Porcelli AM, Iommarini L, Gasparre G. NDUFS3 knockout cancer cells and molecular docking reveal specificity and mode of action of anti-cancer respiratory complex I inhibitors. *Open Biol*. 2022. PMID: 36349549.

ABSTRACTS, ORAL AND POSTER PRESENTATIONS IN CONFERENCES

- Ivana Kurelac, Beatrice Cavina, Manuela Sollazzo, Stefano Miglietta, Agnese Fornasa, Monica De Luise, Maria Iorio, Eleonora Lama, Daniele Traversa, Hamid Razi Nasiri, Anna Ghelli, Francesco Musiani, Anna Maria Porcelli, Luisa Iommarini and Giuseppe Gasparre. "NDUFS3 knockout cancer cells and molecular docking reveal specificity and mode of action of anti-cancer respiratory complex I inhibitors" – 5th edition Metabolism&Cancer, Nice (France), 22-24 November 2023. **Co-author of selected poster.**
- Manuela Sollazzo, Sara Milioni, Monica De Luise, Stefano Miglietta, Ilaria Gligora, Ivana Kurelac, Luisa Iommarini, Giuseppe Gasparre, Anna Maria Porcelli. "Adaptive mechanisms triggered by pharmacological complex I inhibition in ovarian cancer" - 62^o CONGRESS SIB Firenze, 7-9 September 2023. **Co-author of selected poster.**
- Manuela Sollazzo, Sara Milioni, Monica De Luise, Ilaria Gligora, Francesca Nanetti, Stefano Miglietta, Luigi D'Angelo, Marco Fiorillo, Ivana Kurelac, Luisa Iommarini, Giuseppe Gasparre and Anna Maria Porcelli. "SPARC and PKCa signaling activation upon CI-impairment in cancer models: a potential synthetic lethality approach". - ABCD 2023: The Biennial Congress of the Italian Association of Cell Biology and Differentiation, Paestum, 21-23 September 2023. **Co-author of selected poster.**
- Stefano Miglietta, Iacopo Gherardi, Manuela Sollazzo, Lorena Marchio, Sara Milioni, Sara Coluccelli, Luisa Iommarini, Ivana Kurelac, Anna Myriam Perrone, Giuseppe Gasparre, Anna Ghelli, Anna Maria Porcelli. "MCJ/DNAJC15 mitochondrial chaperonine increases vulnerability to ferroptosis of chemoresistant ovarian cancer cells". 4th meeting Metabolism Meets Function (MMF) "Enabling metabolism knowledge to improve diagnosis and therapy in cancer". University of Bari "Aldo Moro", 21 July 2023. **Selected oral presentation.**
- Stefano Miglietta, Lorena Marchio, Manuela Sollazzo, Monica De Luise, Camelia Alexandra Coadă, Sara Milioni, Sara Coluccelli, Luisa Iommarini, Ivana Kurelac, Anna Myriam Perrone, Giuseppe Gasparre, Anna Maria Porcelli. "ABCG2 transporter: a modulator of stemness and metabolism during ovarian cancer chemoresistance onset". SIB 3rd

BDTWORKSHOP - Understanding cancer metabolism: exploring tumor heterogeneity to advance cancer therapy. University Magna Grecia of Catanzaro, 29-30 June 2023. **Selected oral presentation.**

- Manuela Sollazzo, Sara Milioni, Monica De Luise, Stefano Miglietta, Ilaria Gligora, Ivana Kurelac, Luisa Iommarini, Giuseppe Gasparre, Anna Maria Porcelli. "*SPARC and PKCa signaling activation upon CI-impairment in ovarian cancer models: a potential way toward a synthetic lethality approach*". SIB 3rd BDTWORKSHOP - Understanding cancer metabolism: exploring tumor heterogeneity to advance cancer therapy. University Magna Grecia of Catanzaro, 29-30 June 2023. **Co-author of selected poster (best poster awarded).**
- Stefano Miglietta, Iacopo Gherardi, Manuela Sollazzo, Lorena Marchio, Sara Milioni, Luisa Iommarini, Ivana Kurelac, Anna Myriam Perrone, Giuseppe Gasparre, Anna Ghelli, Anna Maria Porcelli. "*MCJ/DNAJC15 mitochondrial chaperonine increases vulnerability to ferroptosis of chemoresistant ovarian cancer cells*". International Meeting of the Italian Group of Biomembranes and Bioenergetics (GIBB). Riva Del Garda (TN), 8-10 June 2023. **Selected oral presentation.**
- Stefano Miglietta, Iacopo Gherardi, Manuela Sollazzo, Lorena Marchio, Sara Milioni, Luisa Iommarini, Ivana Kurelac, Anna Myriam Perrone, Anna Ghelli, Giuseppe Gasparre, Anna Maria Porcelli. "*MCJ/DNAJC15 mitochondrial chaperonine increases vulnerability to ferroptosis of chemoresistant ovarian cancer cells*". SIB «Tumor Biochemistry» Seminars under 35. Online, 14 December 2022. **Selected oral seminar.**
- Sara Milioni, M. Sollazzo, L. Iommarini, M. De Luise, E. Rossi, S. Miglietta, I. Kurelac, A.M. Perrone, G. Gasparre, A.M. Porcelli. "*Adaptive responses activated upon respiratory Complex I impairment in ovarian cancer: unravelling the role of molecular players to define a novel synthetic lethality strategy*". National Ph.D Meeting (ABCD). Salerno (Italy), 24-26 March 2022. **Co-author of selected poster.**
- Luigi D'Angelo, M. Sollazzo, S. Miglietta, S. Milioni, M. De Luise, E. Lama, I. Kurelac, L. Iommarini, G. Gasparre, A. M. Porcelli. "*Correlation between metabolic parameters and protein expression in ovarian cancer*". National Ph.D Meeting (ABCD). Salerno (Italy), 24-26 March 2022. **Co-author of selected poster and flash oral presentation.**
- Stefano Miglietta, Manuela Sollazzo, Lorena Marchio, Iacopo Gherardi, Sara Milioni, Luisa Iommarini, Ivana Kurelac, Anna Maria Ghelli, Giuseppe Gasparre, Anna Maria Porcelli. "*MCJ/DNAJC15 mitochondrial chaperone as a metabolic "balance needle" in ovarian cancer chemoresistance*". 1st Workshop of the SIB group «Tumor Biochemistry», From genes to metabolites through proteins: dealing with human health and disease. Milan (Italy) - February 25, 2022. **Selected oral presentation.**
- Manuela Sollazzo, Luisa Iommarini, Sara Milioni, Monica De Luise, Stefano Miglietta, Ivana Kurelac, Giuseppe Gasparre, Anna Maria Porcelli. "*Potential adaptive responses upon CI-impairment in ovarian cancer cells*". 1st Workshop of the SIB group «Tumor Biochemistry», From genes to metabolites through proteins: dealing with human health and disease. Milan (Italy) - February 25, 2022. **Co-author of selected poster.**
- Stefano Miglietta, Manuela Sollazzo, Lorena Marchio, Iacopo Gherardi, Luisa Iommarini, Ivana Kurelac, Anna Maria Ghelli, Giuseppe Gasparre, Anna Maria Porcelli. "*MCJ/DNAJC15 as a 'dampening' mitochondrial chaperone in ovarian cancer metabolism and chemoresistance*". EMBO Workshop, Cancer Immunometabolism, Sitges, Barcelona (Spain) - Hybrid 29 November – 1 December 2021. **Selected poster.**
- Manuela Sollazzo, Luisa Iommarini, Sara Milioni, Monica De Luise, Beatrice Cavina, Luigi D'Angelo, Stefano Miglietta, Ivana Kurelac, Giuseppe Gasparre, Anna Maria Porcelli. "*mTORC2/PKCa pathway activation as a potential adaptive response upon CI-impairment in ovarian cancer cells*". EMBO Workshop, Cancer Immunometabolism, Sitges, Barcelona (Spain) - Hybrid 29 November – 1 December 2021. **Co-author of selected poster.**
- Eleonora Lama, Monica De Luise, Manuela Sollazzo, Camelia A. Coadă, Licia Bressi, Maria Iorio, Beatrice Cavina, Luigi D'Angelo, Sara Milioni, Lorena Marchio, Stefano Miglietta, Sara Coluccelli, Greta Tedesco, Anna Ghelli, Silvia Lemma, Ivana Kurelac, Luisa Iommarini, Anna Maria Porcelli, Giuseppe Gasparre. "*Inducing respiratory Complex I impairment elicits increase of PGC1 α in ovarian cancer cells*". 33rd AICC Annual Conference: International Meeting on Cancer Metabolism, Turin (Italy). 22 – 24 November 2021. **Co-author of selected poster (best poster awarded).**
- Stefano Miglietta, Manuela Sollazzo, Lorena Marchio, Luisa Iommarini, Anna Ghelli, Giuseppe Gasparre, Anna Maria Porcelli. "*Deciphering the role of the mitochondrial chaperonine MCJ in ovarian cancer*". 4th Metabolism & Cancer conference, online, 27-29 May 2021. **Selected poster.**
- Lorena Marchio, Giulia Girolimetti, Stefano Miglietta, Sarah Courtois, Beatriz Parejo Alonso, Camelia A. Coadă, Daniele Mercatelli, Federico M. Giorgi, Ivana Kurelac, Anna Ghelli, Luisa Iommarini, Anna Maria Porcelli, Patricia Sancho,

Giuseppe Gasparre. "Lipid and glucose metabolism dependence defines cisplatin-resistant models of ovarian cancer". Cancer stem cells: impact and treatment, online, 13-17 December 2020. **Co-author of selected poster.**

- Stefano Miglietta, L. Marchio, G. Girolimetti, S. Coluccelli, P. De Iaco, A.M. Perrone, A. Ghelli, G. Gasparre, A.M. Porcelli. "Role of MCJ/DNAJC15 in mitochondrial metabolic rewiring of chemoresistant ovarian cancer cells." ABCD Congress 2019, 18-21 September 2019, Bologna (Italy). **Selected poster.**
- Stefano Miglietta, L. Marchio, G. Girolimetti, S. Coluccelli, P. De Iaco, A.M. Perrone, A. Ghelli, G. Gasparre, A.M. Porcelli. "MCJ/DNAJC15: role in the mitochondrial metabolism of chemoresistant ovarian cancer cells". Frontiers in Molecular Biology, SIBBM 2019 - Nucleic acid immunity: from cellular mechanisms to new technologies, 11-13 June 2019, Bologna (Italy). **Selected poster.**
- Stefano Miglietta, L. Marchio, G. Girolimetti, S. Coluccelli, L.B. Amato, D. de Biase, G. Dondi, P. De Iaco, A. Ghelli, A.M. Perrone, A.M. Porcelli, G. Gasparre. "Mitochondrial and nuclear DNA analysis of samples from patients with high-grade serous ovarian cancer". Cell Communication and Signaling, Annual Conference of Italian Association of Cell Cultures (AICC), 27-28 November 2018, Bologna (Italy). **Selected poster.**

ATTENDEND CONFERENCES AND WORKSHOPS

- Frontiers in Molecular Biology, SIBBM 2021 – Metabolic Research, online, 7-10 June 2021.
- "Virtual FISV Symposium on SARS-CoV-2 Biology and COVID-19: Current research and perspectives", online, 16 September 2020.
- Workshop "Discovering Organoids: The Journey of 3D Cultures Systems", 17 October 2018, Bologna (Italy).
- Conference "Ovarian cancer: current strategies and future perspectives", 29 June 2018, Bologna (Italy).
- "Conference series in cancer: imaging of cancer dynamics", II UNITO-POLITO, 7-9 March 2018, Turin (Italy).

DISSEMINATION ACTIVITY

- AIRC research dissemination, "Incontri con La Ricerca – AIRC nelle scuole", February 7, 2023. Baricella/Malalbergo (BO).
- European Night of Researchers 2019, "In viaggio con Charlie alla scoperta dei mitocondri" - (Progetto TRANSMIT H2020-MSCA-ITN), 27 September 2019. Bologna (BO).
- #LOTTOANCHIO awareness campaign, 6th edition dedicated to the World Day of Fight against childhood cancers. Organized by A.G.E.O.P. ONLUS RESEARCH. - Progetto TRANSMIT H2020-MSCA-ITN, February 2, 2020. Bologna (BO).

SUPERVISION ACTIVITY

- Co-supervisor of under-graduate student for the bachelor thesis preparation "Analysis of the response to chemotherapy treatments in ovarian cancer cells following induced expression of the mitochondrial MCJ protein" for the Biological Science course (January 2020 - June 2020).
- Co-supervisor of under-graduate student for the bachelor thesis preparation "Studio della risposta a trattamenti con cisplatino in linee cellulari di carcinoma ovarico in relazione all'espressione della chaperonina mitocondriale MCJ" for the Biological Science course (October 2021 – March 2022).
- Co-supervisor of graduate student for the master thesis preparation "Unraveling the impact of the mitochondrial chaperone MCJ on mitochondrial bioenergetics and cancer phenotype" for the Molecular and Cellular Biology course (March 2021 – March 2022).

ATTENDED COURSES AND CERTIFICATES

- Course "Biologia e gestione degli animali da laboratorio, moduli 3.1, 4, 5, 6.1, 7. dm 5 agosto 2021 roditori e lagomorfi". 2023 Online course, FAD IZSLER. Certificate obtained.
- Certificate of the European Computer Driving License (ECDL) obtained on 6th May 2011.
- Handling of Radioisotopes in Biology (12hr), Prof. A. Danielli, University of Bologna.
- Basic course in Science of Laboratory Animals (12 hr), Dr. V. Vasina, University of Bologna.
- Biocrystallography (16 hr), Dr. L. Mazzei, University of Bologna.
- Calorimetry and light-scattering: Theory and applications for the characterization of proteins in solution (14 hr), Dr. B. Zambelli, University of Bologna.

AWARDS

- Mention of merit and prize conferred by the National Association of Teachers of Natural Sciences (ANISN) for the Olympic Games of Natural Sciences. Bari, 2 May 2011.

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