



Personal information

Born on December 12th, 1994, in Italy.

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Training

- **February 2024 – ongoing: Postdoctoral researcher**, University of Bologna, Department of Experimental, Diagnostic and Specialty Medicine. Project: “Research of new strategies in regenerative medicine”. Supervisor: Prof. Ventura Carlo.
- **November 2020 – January 2024: PhD student in “Oncology, Hematology and Pathology”**, University of Bologna, Department of Medical and Surgical Sciences. Project: “Research of new strategies in regenerative medicine”. Supervisor: Prof. CANAIDER Silvia
- **October 2022 – April 2023: PhD visiting student**, Medical University of South Carolina, Department of Cardiology. Project: “Electromagnetic forces modulation of TBI’s systemic fallout”. Supervisor: Prof. DEL MONTE Federica
- **May 2020 - October 2020: Attending graduate**, University of Bologna, Department of Experimental, Diagnostic and Specialty Medicine. Supervisor: Prof. CANAIDER Silvia
- **May 2019 - April 2020: Research fellow**, University of Bologna, Department of Biological, Geological, and Environmental Sciences; Project: “Effects of natural extracts on inflammation modulation evaluated in *in vitro* models”. Supervisor: Prof. SPISNI Enzo
- **March 2019 - April 2019: Attending graduate**, University of Bologna, Department of Pharmacy and Biotechnology. Supervisor: Prof. CAPRINI Marco
- **February 2018 - March 2019: Curricular internship (master’s degree in molecular and Cellular Biology)**, University of Bologna, Department of Pharmacy and Biotechnology. The aim of the project was the morphological and molecular characterization of the gastrointestinal tract of a Fabry Disease mouse model on order to identify the molecular mechanisms underpinning the gastrointestinal symptoms in Fabry disease patients. Supervisor: Prof. CAPRINI Marco
- **April 2016 - May 2016: Curricular internship (bachelor’s degree in Biological Sciences)**, University of Tuscia, Viterbo, Department of Ecological and Biological Sciences. Learning of the techniques for proteins study. Supervisor: Prof. CARUSO Carla
- **November 2015 - January 2016: Curricular internship (bachelor’s degree in Biological Sciences)**, Belcolle’s Hospital, Viterbo. Learning of laboratory analysis methods in the various sections: blood, immunological, microbiological and urine analysis. Tutor: Dr. CARROZZA Renato

Teaching Activities

- **Academic Year 2024 - 2025: Committee examinations for Applied Biology (Code 85242) in the bachelor’s degree in Exercise and Sport sciences**, University of Bologna (Prof. CANAIDER Silvia)
- **March 2025 – May 2025: Teaching tutor in Biology and Genetics Lab-based Course - Single cycle degree programme (LMCU) in Medicine and Surgery**, University of Bologna (Prof. PIOVESAN Allison)
- **Academic Year 2024 - 2025: Teaching tutor, Acquisition of basic notions – Biology**, course: Cross-curricular activity for several medical courses, University of Bologna (Prof. FACCHIN Federica, Prof. Frabetti Flavia)
- **November 2024 – December 2024: Teaching tutor in Applied Biology, single cycle degree in School of Dentistry**, University of Bologna, Bologna (Prof. CANAIDER Silvia)
- **March 2024 – May 2024: Teaching tutor in Biology and Genetics Lab-based Course - Single cycle degree programme (LMCU) in Medicine and Surgery**, University of Bologna (Prof. FRABETTI Flavia)
- **November 2023 – December 2023: Teaching tutor in Applied Biology, single cycle degree in School of Dentistry**, University of Bologna, Bologna (Prof. CANAIDER Silvia)

- **March 2023 – May 2023:** Teaching tutor in Biology and Genetics Lab-based Course - Single cycle degree programme (LMCU) in Medicine and Surgery, University of Bologna (Dr. ABRUZZO Provvidenza Maria)
- **March 2022 – May 2022:** Teaching tutor in Biology and Genetics Lab-based Course - Single cycle degree programme (LMCU) in Medicine and Surgery, University of Bologna (Dr. ABRUZZO Provvidenza Maria)
- **November 2021 – December 2021:** Teaching tutor in Applied Biology, single cycle degree in School of Dentistry, University of Bologna, Bologna (Prof. CANAIDER Silvia)

Education

- **November 2020 – June 2024: PhD in Oncology, Haematology and Pathology (excellent cum laude)**, University of Bologna, Department of Medical and Surgical Sciences. PhD thesis: “Different approaches in regenerative medicine: modulation of biological properties of human mesenchymal stem cells and induction of cardiomyocyte proliferation”. Supervisor: Prof.ssa CANAIDER Silvia, co-supervisor: Prof. LAURIOLA Mattia
- **December 2020: Qualification to practice the profession of Biologist**, University of Salento
- **October 2016 – March 2019: Master’s degree in “Molecular and Cellular Biology” (score 110/110 cum laude)**, University of Bologna, Department of Pharmacy and Biotechnology. Experimental degree thesis in General Physiology: ‘Altered globotriaosylceramide accumulation and mucosal neuronal fiber density in the colon of the Fabry disease mouse model’ (Supervisor: Prof. CAPRINI Marco)
- **October 2013 – December 2016: Bachelor’s degree in “Biological Sciences” (score 110/110)**, University of Tuscia, Viterbo, Department of Ecological and Biological Sciences. Degree thesis in General Physiology: ‘Patophysiological effects of fasting in the regulation of Hypothalamus-Pituitary-Thyroid axis’ (Supervisor: Prof. CATALANI Elisabetta)

Abilities and Technical Skills

- Cell cultures: maintenance in culture of immortalized cell lines (both in adhesion and in suspension), maintenance and differentiation of adult and perinatal stem cells
- Mesenchymal stem cells isolation from adipose tissue, dermis and Wharton’s jelly; characterization by flow cytometer
- Primary cultures of murine cardiomyocytes
- Adult cardiomyocytes isolation – Langendorff apparatus
- Cell proliferation and differentiation assays
- Transfection of cell lines with expression vectors
- Gene silencing
- Immunohistochemistry and immunofluorescence
- Use of confocal microscope, cryostat, ultrasonic sonicator, IncuCyte® Live-Cell Analysis System
- Use of Atomic Force Microscope
- Measurement of cell viability and toxicity tests (MTT, Resazurin, LDH)
- Evaluation of cellular senescence
- Cell cycle and apoptosis analysis by flow cytometer
- DNA and RNA extraction
- Genotyping, PCR, Real Time PCR
- Protein analysis by enzymatic assays, Western Blot, immunological assays
- Multiplex immunological assays by using Bio-Plex® 200 System
- Isolation and characterization by flow cytometer of extracellular vesicles
- Use of many programs such as Office systems (Word, Excel, Power Point), primer designing tools (Primer-BLAST, Nucleotide-BLAST, Amplify), graphical and statistical programs (GraphPad Prism, ImageJ FIJI, Image Lab, NIS Elements, EZ-C1 3.90 FreeViewer, qbase), specific database (PubMed, NCBI)
- Management and manipulation of normal and transgenic murine colony.

Awards and recognition

- “Marco Polo” research study grant for research activities abroad.
- AIBG 2024 Congress Scholarship

Scientific Productions

ORCID: 0000-0002-7114-9588

Web of Science ResearcherID: ABE-1847-2021

Scopus Author ID: 57211987182

14 on international peer-reviewed journal, 5 of which as first author; h-index: 7; Total citations: 259 (Data from Scopus at 10/21/2025)

- Pampanella, L., **Petrocelli, G.** et al. Tert-butyl hydroperoxide in human adult mesenchymal stem cells isolated from dermis: a stress-induced premature senescence model. *Cells* **2025**, 14, 1563. <https://doi.org/10.3390/cells14191563>.
- **Petrocelli, G.**; Pampanella, L.; Abruzzo, P.M.; Cruciani, S.; Ventura, C.; Canaider, S.; Facchin, F. Cannabidiol as modulator of spontaneous adipogenesis in human adipose-derived stem cells. *Molecules* **2025**, 30, 2367. <https://doi.org/10.3390/molecules30112367>.
- Pacilio, S.; Lombardi, S.; Costa, R.; Paris, F.; **Petrocelli, G.**; Marrazzo, P.; Cenacchi, G.; Alviano, F. Role of perinatal stem cell secretome as potential therapy for muscular dystrophies. *Biomedicines* **2025**, 13, 458. <https://doi.org/10.3390/biomedicines13020458>
- Pampanella, L.; **Petrocelli, G.**; Forcellini, F.; Cruciani, S.; Ventura, C.; Abruzzo, P.M.; Facchin, F.; Canaider, S. Oxytocin, the Love Hormone, in Stem Cell Differentiation. *Curr. Issues Mol. Biol.* **2024**, 46, 12012-12036. <https://doi.org/10.3390/cimb46110713>
- Pampanella, L.; **Petrocelli, G.**; Abruzzo, P.M.; Zucchini, C.; Canaider, S.; Ventura, C.; Facchin, F. Cytochalasins as modulators of stem cell differentiation. *Cells* **2024**, 13, 400. <https://doi.org/10.3390/cells13050400>
- **Petrocelli, G.**; Abruzzo, P.M.; Pampanella, L.; Tassinari, R.; Marini, S.; Zamagni, E.; Ventura, C.; Facchin, F.; Canaider, S. Oxytocin modulates osteogenic commitment in human adipose-derived stem cells. *Int J Mol Sci* **2023**, 24, 10813. <https://doi.org/10.3390/ijms241310813>
- **Petrocelli, G.**; Marrazzo, P.; Bonsi, L.; Facchin, F.; Alviano, F.; Canaider, S. Plumbagin, a Natural Compound with Several Biological Effects and Anti-Inflammatory Properties. *Life* **2023**, 13, 1303. <https://doi.org/10.3390/life13061303>
- Pampanella, L.; Abruzzo, P.M.; Tassinari, R.; Alessandrini, A.; **Petrocelli, G.** et al. Cytochalasin B influences cytoskeletal organization and osteogenic potential of human Wharton's jelly mesenchymal stem cells. *Pharmaceuticals* **2023**, 16, 289. <https://doi.org/10.3390/ph16020289>
- Bianconi, E.; Tassinari, R.; Alessandrini, A.; Cavallini, C.; Abruzzo, P.M.; **Petrocelli, G.** et al. Cytochalasin B modulates nanomechanical patterning and fate in human Adipose-derived Stem Cells. *Cells* **2022**, 11, 1629, <https://doi.org/10.3390/cells11101629>
- **Petrocelli, G.** et al. Endogenous opioids and their role in stem cell biology and tissue rescue. *Int J Mol Sci* **2022**, 23, 3819. <https://doi.org/10.3390/ijms23073819>.
- Pizzuti, V.; Abruzzo, P.M.; Chatgialloglu, A.; Zia, S.; Marrazzo, P.; **Petrocelli, G.** et al. A tailored lipid supplement restored membrane fatty acid composition and ameliorates in vitro biological features of human Amniotic Epithelial Cells. *JCM* **2022**, 11, 1236, <https://doi.org/10.3390/jcm11051236>
- **Petrocelli, G.** et al. Molecules present in plant essential oils for prevention and treatment of colorectal cancer (CRC). *Molecules* **2021**, 26, 885, <https://doi.org/10.3390/molecules26040885>
- Spisni, E.; **Petrocelli, G.** et al. Antioxidant, anti-inflammatory, and microbial-modulating activities of essential oils: Implications in colonic pathophysiology. *Int J Mol Sci* **2020**, 21, 4152, <https://doi.org/10.3390/ijms21114152>
- Spisni, E.; Imbesi, V.; Giovanardi, E.; **Petrocelli, G.** et al. Differential physiological responses elicited by ancient and heritage wheat cultivars compared to modern ones. *Nutrients* **2019**, 11, 2879, <https://doi.org/10.3390/nu11122879>

Scientific associations

- From 2023: member of Associazione Italiana di Biologia e Genetica Generale e Molecolare (AIBG)
- 2021 – ongoing: member of the International Society for Stem Cell Research (ISSCR)
- 2021 – ongoing: member of the Stem Cell Research Italy (SCRI)

National and international meetings and seminars

- **G. Petrocelli** et al. Tert-butyl hydroperoxide in human adult mesenchymal stem cells isolated from dermis: a cellular senescence model. **Poster presentation**, XXIII National Meeting A.I.B.G., Chieti, 18-20 September 2025.
- C. Serpe, M. Marini, C. Zucchini, **G. Petrocelli** et al. Redox imbalance and ionic pump dysfunctions in the blood of children with autism spectrum disorder. **Poster**, XXIII National Meeting A.I.B.G., Chieti, 18-20 September 2025.
- **G. Petrocelli** et al. Oxytocin and Cannabidiol modulate the differentiation potential of human adipose-derived stem cells. **Poster presentation**, XXII National Meeting A.I.B.G., Salerno, 19-21 September 2024.
- F. Paris, A. Rambaldi, A.R. Tondin, V. Pizzuti, P. Marrazzo, **G. Petrocelli** et al. Two-in-One Therapy: Insulin-Producing and Immune-Modulating Perinatal Cell Spheroids for Type 1 Diabetes. **Poster**, International Placenta Stem Cell Society Meeting, Izola, 19-20 September 2024.

Giovannamaria Petrocelli
CURRICULUM VITAE

- **G. Petrocelli** et al. Cannabidiol promotes spontaneous adipogenesis in human adipose-derived mesenchymal stem cells. **Poster presentation**, *International Society for Stem Cell Research annual meeting, Hamburg, 10-13 July 2024*
- **G. Petrocelli** et al. Oxytocin modulates osteogenic commitment in human adipose-derived stem cells. **Oral presentation**, *STEMNET NEXT-GENERATION CONTEST 2023 – Young researchers' contributions, webinar, 16 May 2024*.
- **G. Petrocelli** et al. Oxytocin modulates osteogenic commitment in human adipose-derived stem cells. **Poster presentation**, *Second international StemNet meeting, Brescia, 18-20 October 2023*.
- S. Da Pra, S. Boriati, C. Miano, F. Sacchi, C. Bongiovanni, I. Del Bono, A. Aharonov, N. Pianca, **G. Petrocelli**, et al. Glucocorticoids suppress cardiomyocyte proliferation induced by pro-regenerative growth factors by intercepting MAPK signalling. **Abstract selected for oral presentation**, *37th Annual Meeting of the International Society for Heart Research European Section, Porto, 10-13 July, 2023*.
- **G. Petrocelli** et al. Oxytocin modulates osteogenic commitment and autophagy in human adipose derived mesenchymal stem cells. **Oral presentation**, *SCR1 One Day Meeting, Chieti, 19 May 2023*.
- F. Paris, V. Pizzuti, P. Marrazzo, A. Sargenti, S. Pasqua, **G. Petrocelli** et al. Three-dimensional spheroid co-culture for pancreatic differentiation protocols: a new model for regenerative medicine applications. **Poster**, *International Placenta Stem Cell Society Meeting, Brescia, 2-3 September 2022*.
- L. Pampanella, P.M. Abruzzo, **G. Petrocelli** et al. Cytochalasin B modulates biological properties of human Wharton's Jelly Mesenchymal Stem Cells (hWJ-MSCs). **Poster**, *SCR meeting, Genoa, 8-10 June 2022*.
- **G. Petrocelli** et al. Cytochalasin B modulates nanomechanical patterning and fate in human adipose-derived stem cells. **Poster presentation**, *First international StemNet meeting, Padua, 22-24 September 2021*.
- V. Pizzuti, P.M. Abruzzo, A. Chatgililoglu, P. Marrazzo, **G. Petrocelli** et al. In vitro restoration of lipid membrane composition ameliorates in vitro biological features of human Amniotic Epithelial Cells. **Poster**, *First international StemNet meeting, Padua, 22-24 September 2021*.
- **G. Petrocelli** et al. Cytochalasin B modulates nanomechanical patterning and fate in human adipose-derived stem cells. **Poster presentation**, *International Society for Stem Cell Research annual meeting, virtual, 21-26 June 2021*.
- Workshop on Clinical Translation – Translating iPS Cell-based therapy to the clinic. *International Society for Stem Cell Research*, 7 June 2021.
- Webinar “Stem Cell-Based Embryo Models”, *International Society for Stem Cell Research*, 27 April 2021.
- Webinar “Aging and Stem Cells”, *Stem Cell Research Italy*, 30/03/2021.

Bologna 10/21/2025

Giovannamaria Petrocelli

