

## Curriculum Vitae

Marta Zarà

**Date of Birth:** 21/10/1991

**Work Address:** Laboratory of platelet biochemistry, Cascina Cravino, via Bassi 21, Pavia (PV), Italy.

Department of Biology and Biotechnology "L. Spallanzani". University of Pavia

**Contact Information:** [marta.zara@unipv.it](mailto:marta.zara@unipv.it); [marta.zara21@gmail.com](mailto:marta.zara21@gmail.com);

<https://www.linkedin.com/in/mzara21/>

**ResearcherID:** E-3632-2019

**ORCID ID:** 0000-0001-7538-4393

**Scopus ID:** 57191090270

---

### **Research Experience**

#### **2024 – present**

*Tenure-Track Researcher*

Department of Biology and Biotechnology, University of Pavia, Pavia, Italy

#### **2018 – 2024**

*Postdoctoral Researcher*

Heart-Brain Axis Unit, IRCCS Centro Cardiologico Monzino, Milan, Italy

Group Leader: Dr. Silvia Barbieri

#### **2015 – 2018**

*PhD Candidate*

Department of Biology and Biotechnology, University of Pavia, Pavia, Italy

Supervisor: Prof. Mauro Torti

---

### **Education**

#### **2019**

*PhD in Biomedical Sciences (Biochemistry Track)*

Department of Biology and Biotechnology, University of Pavia, Pavia, Italy

Thesis: "The crosstalk between blood platelets and cancer: molecular mechanisms and functional effects."

Supervisor: Prof. Mauro Torti

#### **2015**

*Master Degree in Molecular Biology and Genetics*

Department of Biology and Biotechnology, University of Pavia, Pavia, Italy

Grade: 110/110 cum laude

Thesis: "Interplay between platelets and cancer cells: role of platelet-derived microparticles in metastasis."

Supervisor: Prof. Mauro Torti

#### **2013**

*Bachelor Degree in Biological Sciences*

Department of Biology and Biotechnology, University of Pavia, Pavia, Italy

Grade: 110/110

Thesis: "Collagen-induced platelet aggregation is independent of Akt phosphorylation."

Supervisor: Prof. Mauro Torti

**2010**

Scientific High School diploma

Grade: 98/100

---

### **Grants**

*Ricerca Finalizzata Giovani Ricercatori 2021*

Role: co-Principal Investigator

Funding Agency: Italian Ministry of Health

Project Code: GR-2021-12373651

Title: "Exosomes as Integrative Tool for Prognostic Stratification of Adverse Cardiac Remodeling in STEMI Patients: the MIRACLE Study"

Amount: 443.000,00 €

ClinicalTrials.gov ID: NCT06070974

---

### **Awards**

*Young Researchers Award* for the best presentation at the XVII National Congress of the Italian Society for the Study of Arteriosclerosis (SITeCS), Milan, Italy, October 14, 2023. Presentation: "Circulating plasma exosomes reflect the severity of myocardial damage in STEMI patients."

---

### **Publications and Metrics**

**Publications in Peer-Reviewed Journals 28**

**Citations >500**

**H-Index 11**

- **Zarà M**, Guidetti GF. *Editorial: Platelets and their multi-faceted roles in health and disease*. *Frontiers in Molecular Biosciences*. Volume 11, 2024. doi: 10.3389/fmolb.2024.1375090.
- Amadio P, Sandrini L, **Zarà M**, Barbieri SS, Ieraci A. *NADPH-oxidases as potential pharmacological targets for thrombosis and depression comorbidity*. *Redox Biology*. Volume 70, 2024, 103060. doi: 10.1016/j.redox.2024.103060.
- **Zarà M**, Baggiano A, Amadio P, Campodonico J, Gili S, Annoni A, De Dona G, Carerj ML, Cilia F, Formenti A, Fusini L, Banfi C, Gripari P, Tedesco CC, Mancini ME, Chiesa M, Maragna R, Marchetti F, Penso M, Tasseti L, Volpe A, Bonomi A, Marenzi G, Pontone G, Barbieri SS. *Circulating Small Extracellular Vesicles Reflect the Severity of Myocardial Damage in STEMI Patients*. *Biomolecules*. 2023 Sep 29;13(10):1470. doi: 10.3390/biom13101470.
- Amadio P, Porro B, Cavalca V, **Zarà M**, Eligini S, Sandrini L, Werba JP, Cosentino N, Olivares P, Galotta A, Bonomi A, Tremoli E, Trabattoni D, Barbieri SS. *Hemostatic system in Takotsubo patients at long-term follow-up: A hidden activation?* *Int J Cardiol*. 2023 Nov 1;390:131229. doi: 10.1016/j.ijcard.2023.131229.
- Trivigno SMG, Guidetti GF, Barbieri SS, **Zarà M**. *Blood Platelets in Infection: The Multiple Roles of the Platelet Signalling Machinery*. *Int J Mol Sci*. 2023 Apr 18;24(8):7462. doi: 10.3390/ijms24087462.
- Vismara M, Manfredi M, **Zarà M**, Trivigno SMG, Galgano L, Barbieri SS, Canobbio I, Torti M, Guidetti GF. *Proteomic and functional profiling of platelet-derived extracellular vesicles released under physiological or tumor-associated conditions*. *Cell Death Discov*. 2022 Nov 26;8(1):467. doi: 10.1038/s41420-022-01263-3.
- Greco MF, Rizzuto AS, **Zarà M**, Cafora M, Favero C, Solazzo G, Giusti I, Adorni MP, Zimetti F, Dolo V, Banfi C, Ferri N, Sirtori CR, Corsini A, Barbieri SS, Pistocchi A, Bollati V, Macchi C, Ruscica M. *PCSK9 Confers Inflammatory Properties to Extracellular Vesicles Released by Vascular Smooth Muscle Cells*. *Int J Mol Sci*. 2022 Oct 28;23(21):13065. doi: 10.3390/ijms232113065.

- Jaron M, Lehky M, **Zarà M**, Zaydowicz CN, Lak A, Ballmann R, Heine PA, Wenzel EV, Schneider KT, Bertoglio F, Kempter S, Köster RW, Barbieri SS, van den Heuvel J, Hust M, Dübel S, Schubert M. *Baculovirus-Free SARS-CoV-2 Virus-like Particle Production in Insect Cells for Rapid Neutralization Assessment*. *Viruses*. 2022 Sep 20;14(10):2087. doi: 10.3390/v14102087.
- Amadio P, Macchi C, Favero C, **Zarà M**, Solazzo G, Dioni L, Sandrini L, Vigna L, Greco MF, Buoli M, Sirtori CR, Pesatori AC, Ieraci A, Ruscica M, Barbieri SS, Bollati V. *Brain-Derived Neurotrophic Factor and Extracellular Vesicle-Derived miRNAs in an Italian Cohort of Individuals With Obesity: A Key to Explain the Link Between Depression and Atherothrombosis*. *Front Cardiovasc Med*. 2022 Jul 13;9:906483. doi: 10.3389/fcvm.2022.906483.
- **Zarà M**<sup>#</sup>, Vismara M, Dona G, Trivigno SMG, Amadio P, Sandrini L, Guidetti GF, Barbieri SS. *The Impact of Platelet Isolation Protocol on the Release of Extracellular Vesicles*. *Front Biosci (Landmark Ed)*. 2022 May 18;27(5):161. doi: 10.31083/j.fbl2705161.
- Banfi C, Amadio P, **Zarà M**, Brioschi M, Sandrini L, Barbieri SS. *Preylcysteine Oxidase 1 (PCYOX1), a New Player in Thrombosis*. *Int J Mol Sci*. 2022 Mar 4;23(5):2831. doi: 10.3390/ijms23052831.
- Sandrini L, Amadio P, Ieraci A, Malara A, Werba JP, Soprano PM, Balduini A, **Zarà M**, Bonomi A, Veglia F, Colombo GI, Popoli M, Lee FS, Tremoli E, Barbieri SS. *The  $\alpha$ 2-adrenergic receptor pathway modulating depression influences the risk of arterial thrombosis associated with BDNFVal66Met polymorphism*. *Biomed Pharmacother*. 2022 Feb;146:112557. doi: 10.1016/j.biopha.2021.112557.
- **Zarà M**, Campodonico J, Cosentino N, Biondi ML, Amadio P, Milanese G, Assanelli E, Cerri S, Biggiogera M, Sandrini L, Tedesco CC, Veglia F, Trabattoni D, Blandini F, Tremoli E, Marenzi G, Barbieri SS. *Plasma Exosome Profile in ST-Elevation Myocardial Infarction Patients with and without Out-of-Hospital Cardiac Arrest*. *Int J Mol Sci*. 2021 Jul 28;22(15):8065. doi: 10.3390/ijms22158065.
- Amadio P, Cosentino N, Eligini S, Barbieri S, Tedesco CC, Sandrini L, **Zarà M**, Fabiocchi F, Niccoli G, Magnani G, Fracassi F, Crea F, Veglia F, Marenzi G, Barbieri SS. *Potential Relation between Plasma BDNF Levels and Human Coronary Plaque Morphology*. *Diagnostics (Basel)*. 2021 Jun 1;11(6):1010. doi: 10.3390/diagnostics11061010.
- Vismara M<sup>\*</sup>, **Zarà M**<sup>\*</sup>, Negri S, Canino J, Canobbio I, Barbieri SS, Moccia F, Torti M, Guidetti GF. *Platelet-derived extracellular vesicles regulate cell cycle progression and cell migration in breast cancer cells*. *Biochim Biophys Acta Mol Cell Res*. 2021 Jan;1868(1):118886. doi: 10.1016/j.bbamcr.2020.118886.
- **Zarà M**<sup>#</sup>, Amadio P, Campodonico J, Sandrini L, Barbieri SS. *Exosomes in Cardiovascular Diseases*. *Diagnostics (Basel)*. 2020 Nov 12;10(11):943. doi: 10.3390/diagnostics10110943.
- Sandrini L, Ieraci A, Amadio P, **Zarà M**, Barbieri SS. *Impact of Acute and Chronic Stress on Thrombosis in Healthy Individuals and Cardiovascular Disease Patients*. *Int J Mol Sci*. 2020 Oct 22;21(21):7818. doi: 10.3390/ijms21217818.
- Amadio P, **Zarà M**, Sandrini L, Ieraci A, Barbieri SS. *Depression and Cardiovascular Disease: The Viewpoint of Platelets*. *Int J Mol Sci*. 2020 Oct 13;21(20):7560. doi: 10.3390/ijms21207560.
- Sandrini L, Castiglioni L, Amadio P, Werba JP, Eligini S, Fiorelli S, **Zarà M**, Castiglioni S, Bellosta S, Lee FS, Sironi L, Tremoli E, Barbieri SS. *Impact of BDNFVal66Met Polymorphism on Myocardial Infarction: Exploring the Macrophage Phenotype*. *Cells*. 2020 Apr 27;9(5):1084. doi: 10.3390/cells9051084.
- Torti M, Manganaro D, Visconte C, **Zarà M**, Canino J, Vismara M, Canobbio I, Guidetti GF. *Stimulation of mTORC2 by integrin  $\alpha$ IIb $\beta$ 3 is required for PI3K $\beta$ - dependent activation of Akt but is dispensable for platelet spreading on fibrinogen*. *Platelets*. 2020 May 18;31(4):521-529. doi: 10.1080/09537104.2019.1663806.
- Sandrini L, Ieraci A, Amadio P, **Zarà M**, Mitro N, Lee FS, Tremoli E, Barbieri SS. *Physical Exercise Affects Adipose Tissue Profile and Prevents Arterial Thrombosis in BDNF Val66Met Mice*. *Cells*. 2019 Aug 11;8(8):875. doi: 10.3390/cells8080875.
- **Zarà M**, Guidetti GF, Camera M, Canobbio I, Amadio P, Torti M, Tremoli E, Barbieri SS. *Biology and Role of Extracellular Vesicles (EVs) in the Pathogenesis of Thrombosis*. *Int J Mol Sci*. 2019 Jun 11;20(11):2840. doi: 10.3390/ijms20112840.
- Visconte C, Canino J, Guidetti GF, **Zarà M**, Seppi C, Abubaker AA, Pula G, Torti M, Canobbio I. *Amyloid precursor protein is required for in vitro platelet adhesion to amyloid peptides and potentiation of thrombus formation*. *Cell Signal*. 2018 Dec;52:95-102. doi: 10.1016/j.celsig.2018.08.017.

- **Zarà M**, Canobbio I, Visconte C, Canino J, Torti M, Guidetti GF. *Molecular mechanisms of platelet activation and aggregation induced by breast cancer cells*. Cell Signal. 2018 Aug;48:45-53. doi: 10.1016/j.cellsig.2018.04.008.
- **Zarà M**, Guidetti GF, Boselli D, Villa C, Canobbio I, Seppi C, Visconte C, Canino J, Torti M. *Release of Prometastatic Platelet-Derived Microparticles Induced by Breast Cancer Cells: A Novel Positive Feedback Mechanism for Metastasis*. TH Open. 2017 Dec 15;1(2):e155-e163. doi: 10.1055/s-0037-1613674.
- Canobbio I, Visconte C, Momi S, Guidetti GF, **Zarà M**, Canino J, Falcinelli E, Gresele P, Torti M. *Platelet amyloid precursor protein is a modulator of venous thromboembolism in mice*. Blood. 2017 Jul 27;130(4):527-536. doi: 10.1182/blood-2017-01-764910.
- Guidetti GF, **Zarà M**, Canobbio I, Visconte C, Di Nunzio G, Torti M. *Novel pharmacological inhibitors demonstrate the role of the tyrosine kinase Pyk2 in adhesion and aggregation of human platelets*. Thromb Haemost. 2016 Oct 28;116(5):904-917. doi: 10.1160/TH16-01-0067.
- Canobbio I, Visconte C, Oliviero B, Guidetti G, **Zarà M**, Pula G, Torti M. *Increased platelet adhesion and thrombus formation in a mouse model of Alzheimer's disease*. Cell Signal. 2016 Dec;28(12):1863-1871. doi: 10.1016/j.cellsig.2016.08.017.

\*co-authorship, # corresponding author

---

### **Partecipations at Conferences**

- XXVIII Siset National Conference. November 2024. (Oral presentation)
- XVII SITeCS National Conference and SISA Congress. Milano (IT), October 2023 (Oral presentation)
- 5th EUPLAN International Conference. Milano (IT), September 2022. (Poster)
- Congress of the International Society on Thrombosis and Haemostasis (ISTH). London (UK), July 2022 (Oral presentation)
- XV SITeCS National Conference and SISA Congress. Milano (IT), October 2021. (Oral presentation)
- XXVI Siset National Congress. November 2020. (Poster)
- Congress of the International Society on Thrombosis and Haemostasis (ISTH). July 2020. (Poster)
- 4th EUPLAN International Conference Bruges (BE), September 2018. (Poster)
- 30° A. Castellani National Meeting of PhD Students in Biochemical Sciences, Pavia (IT). June 2018 (Oral presentation)
- XVIII Meeting of Platelet Study Group. Triuggio (IT), October 2017. (Oral presentation)
- UK platelet meeting 2017. Bath (GB), September 2017. (Oral presentation)
- 29° A. Castellani National Meeting of PhD Students in Biochemical Sciences, Pavia (IT). June 2017 (Poster)
- XVII Meeting of Platelet Study Group. Padova (IT), October 2017. (Oral presentation)

---

### **Teaching activity:**

#### **2025**

Teaching at University of Pavia: Course " Laboratory methods in molecular biology and biochemistry "(Bachelor Program of Biology)

#### **2025**

Teaching at University of Pavia: Course "Biochemical-clinical Analysis" (Master program in Experimental and applied biology)

#### **2024**

Seminars on Methods in Biochemistry at the University of Pavia (Master program in Molecular Biology and Genetics).

#### **2015 – present**

Supervision of undergraduate and graduate students during their bachelor and master projects, University of Pavia and Centro Cardiologico Monzino

**2018**

Tutoring activity at University of Pavia: Course “Laboratory of Molecular biology 2” (Bachelor program in Biology)

**2018**

Tutoring activity at University of Pavia: Course “Laboratory of Enzimology” (Bachelor program in Biotechnology)

**2016-2017**

Tutoring activity at University of Pavia: Course “Laboratory of Biochemistry II” (Bachelor program in Biology)

---

### **Supervision of Bachelor and Master students**

**2022**

Co-supervisor of master student Gianluca De Dona (Master program in Medical and pharmaceutical biotechnologies)

**2018**

Co-supervisor of master students Gabriele Coppo (Master program in Experimental and applied biology) and Chiara Licandro (Master program in Medical and pharmaceutical biotechnologies)

**2017**

Co-supervisor of bachelor students Lisaura Colla (Bachelor program in Biotechnology) and Cristina Calvaruso (Bachelor program in Biology)

---

### **Editorial Activities**

- Ad hoc reviewer for international journals such as *PLOS One*, *Cell Communication and Signaling*, *International Journal of Molecular Sciences*, *Diagnostics*, *STAR Protocols*, *Frontiers in Molecular Biosciences*, and *Bioengineering*.
  - Topic Editor for the research topic "Platelets and their Multi-faceted Roles in Health and Disease" in *Frontiers in Molecular Biosciences*.
  - Guest Editor for the Special Issue "Insights into Mechanisms Underlying Cardiovascular Disease" in *International Journal of Molecular Sciences*.
  - Guest Editor for the Special Issue "New Insight into Extracellular Vesicles in Human Diseases" in *Frontiers in Bioscience-Landmark*.
- 

### **Scientific membership**

- Italian Society of Biochemistry (SIB)
- Platelet Society
- International Society on Thrombosis and Haemostasis (ISTH)
- Italian Society for Hemostasis and Thrombosis (SISET)

Pavia, 10.09.2024

Marta Zarà