

# VALENTINA BONALDI

## EDUCATION

### University of Pavia

Master's degree in Molecular Biology and Genetics, grade 110/110 cum laude

Pavia, Italy

September 2022-July 2024

### University of Pavia

Bachelor's degree in Biological Science, grade 110/110 cum laude

Pavia, Italy

September 2019-July 2022

### Collegio Nuovo – Fondazione Sandra ed Enea Mattei

Education at Collegio Nuovo, during bachelor's and master's degree

Pavia, Italy

2019-2024

### Scientific High School D.M. Turolde

High school diploma

Zogno (BG), Italy

September 2014-June 2019

## PROFESSIONAL EXPERIENCES

### PhD student in Biomedical Sciences – Biologie Santé Biotechnologies

Vinci program, Franco-Italian University

Pavia IT – Toulouse FR

October 2024 – until now

### University of Pavia, Université Toulouse III Paul Sabatier

Characterization of platelet-derived extracellular vesicles and molecular investigation of their biogenesis and release mechanisms: the roles of PI3Ks.

- Supervisors: Prof. Gianni Guidetti, Prof. Severin Sonia

### Master's thesis internship at Platelets Biochemistry laboratory

Biology and Biotechnology Department of the University of Pavia

Pavia, Italy

October 2022-July 2024

- Supervisor: Prof. Gianni Guidetti
- Research: Study of the interaction of Glioblastoma cell lines U251, U87, T98G with PEVs released from activated human platelets.
- Activities and responsibility: preliminary characterization of PEVs purified from activated human platelets with immunoblotting, analysis of the physical interaction of GBM cell lines with PEVs through immunofluorescence and flowcytometry, evaluation of PEV effect on the protein phosphorylation profile of recipient cells through SDS-page and immunoblotting, analysis of functional effects of the interaction, through MTT analysis, apoptosis assay, migration assay.
- Preliminary analysis of the effect of anticancer drugs Temozolomide and Cisplatin on GBM cell lines, and the effect of the drugs combined with PEVs: MTT analysis, apoptosis assay, cell cycle analysis.

### Internship at Institut Pasteur

Cellular plasticity and Disease modelling unit

Paris, France

21 August 2023-15 October 2023

- Supervisors: Prof. Han Li, Prof. Aurelie Chiche
- Research: Study of the contribution of p16 in the process of cellular plasticity in breast cancer development
- Activities and responsibility: extraction of mammary gland from mice with breast cancer, preparation of mammary gland samples for histological thought hematoxylin and eosin treatments, immunofluorescence analysis of samples, organoid cultures.

### Bachelor's thesis internship at Platelets Biochemistry laboratory

Biology and Biotechnology Department of the University of Pavia

Pavia, Italy

October 2021-July 2022

- Supervisors: Prof. Gianni Guidetti, Dr. Silvia Trivigno
- Research: Platelet activation induced by CpG-rich oligonucleotides: a preliminary study on the role of membrane receptor CD93
- Activities and responsibility: Analysis of the biochemical events involved in the activation of platelets from murine blood, stimulated with the agonist CpG-ODNs, in order to clarify the mechanisms of control

in pathological contexts, such as inflammatory processes, infections, through aggregations, immunoblotting, flowcytometry and immunofluorescence assay.

### Tutoring Experiences

• Tutor of Laboratory of Biomolecular Methodologies, University of Pavia	Pavia, Italy
• Tutor responsible for the biological area, Collegio nuovo Fondazione Sandra ed Enea Mattei	2023 – until now
• Tutor of Methods in Biochemistry, Professor Gianni Guidetti, University of Pavia	2024
	2024

### CONGRESSES (AND ABSTRACTS)

- **Bonaldi V.**, Zarà M., Rossignod R., Manfredi M., Rustichelli S., Canobbio I., Severin S., Torti M., Guidetti G.F. Investigation on the role of phosphoinositide 3-kinases in the biogenesis of platelet extracellular vesicles. Meeting Platelet study group, October 5-7, Caramanico Terme (PE), Italy.
- **Bonaldi V.**, Zarà M., Rossignod G., Rustichelli S., Gemme M., Canobbio I., Manfredi M., Severin S., Torti M., Guidetti G.F. Investigation on the role of phosphoinositide 3-kinases in the biogenesis of platelet extracellular vesicles. 8th meeting young biochemists in Lombardy, SIB, 19 september 2025, Pavia, Italy.
- Rossignod G., Zarà M., **Bonaldi V.**, Rustichelli S., Gemme M., Canobbio I., Torti M., Guidetti G.F. Platelet-derived Extracellular Vesicles as modulators of Glioblastoma Multiforme progression and response to therapy. Unite Conference 14–15 May 2025, Heidelberg (Germany).
- **Bonaldi V.**, Zarà M., Rossignod G., Rustichelli S., Gemme M., Canobbio I., Severin S., Torti M., Guidetti G.F. Investigation on the role of phosphoinositide 3-kinases in the biogenesis of platelet-derived extracellular vesicles. The Platelet Society Congress, Manchester, 2025 23<sup>rd</sup> April-25<sup>th</sup> April.
- Gemme M., Rustichelli S., **Bonaldi V.**, Rossignod G., Zarà M., Guidetti G.F., Torti M., Canobbio I. Lypopolysaccharide potentiates platelet activation through Proline Riche Tyrosine Kinase Pyk2 engagement. The Platelet Society Congress, Manchester, 2025 23<sup>rd</sup> April-25<sup>th</sup> April.
- Trivigno S.M.G., Rustichelli S., **Bonaldi V.**, Vismara M., Rossignod G., Canobbio I., Galvagni F., Orlandini M., Torti M., Guidetti G.F. Platelet activation induced by CpG-rich oligodeoxynucleotides: the involvement of the C-type lectin receptor CD93. 48<sup>th</sup> FEBS Congress, 2024, 29th June-3rd July.
- Trivigno S.M.G., Rustichelli S., **Bonaldi V.**, Vismara M., Canobbio I., Galvagni F., Orlandini M., Torti M., Guidetti G.F. Platelet activation induced by CpG-rich oligodeoxynucleotides: the involvement of the C-type lectin receptor CD93. 6th EUPLAN International Conference, Bristol, GB. 2023, 4-6th September.
- Trivigno S.M.G., Rustichelli S., **Bonaldi V.**, Vismara M., Rossignod G., Canobbio I., Galvagni F., Orlandini M., Torti M., Guidetti G.F. Platelet activation induced by CpG-rich oligodeoxynucleotides: the involvement of the C-type lectin receptor CD93. 5th ECTH 2023, Valencia, ES. 2023, 13-15th September.

### CERTIFICATIONS

Qualified to perform the functions: A (performing experimental procedures), C (performing animal care and animal husbandry) and D (performing euthanasia) for the species *Mus musculus*, according to the regulations D.lgs 26/2014.

• <b>Practical Training Course, Mus Musculus, modules 3.2 - 6.2 - 8</b> OPBA of the University of Pavia	Pavia (PV), Italy
• <b>National legislation and ethics level 1, modules 1 and 2, ministerial decree 5 August 2021 - 1st edition</b> Experimental zooprophylactic institute of Lombardy and Emilia Romagna	November 2024
• <b>Biology and management of laboratory animals, rodents and lagomorphi</b> Experimental Zooprophylactic Institute of Lombardy and Emilia Romagna	Pavia (PV), Italy
	May 2023
	November 2022

### TRAINING INTERNSHIP

#### Trieste Next Academy

Issuing organization: Goodnet Territori in Rete

Trieste (TS), Italy

September 2021

Training initiative related to the scientific research festival. Days of workshops, conferences, and meetings with experts in the field to broaden and acquire specific skills and create networks.

#### Papa Giovanni XXIII Hospital

Tutor: Dr. Colledan Michele

Bergamo, Italy

May 2017-July 2017

- Department of abdominal surgery: observation of duodenocephalopancreatectomy (DCP) and export of part of lung interventions
- Plastic surgery: observation of removal of skin and breast cancer interventions
- Rehabilitation department

## LINGUAGES

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- **Italian** (native language)
- **English** (excellent level of written english and fluent spoken english)

## COMPUTER SKILLS

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- Knowledge of the main mobile operating systems (Android and IOS)
- Excellent knowledge of Windows, Microsoft Office Word – Excel – Power Point.

## LABORATORY SKILLS

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- Biochemical assay: enzymatic digestion, BCA protein assay, MTT assay, migration assay, crystal violet assay, cell cycle assay, Thrombin Generation Assay (TGA)
- Molecular biology techniques: quantitative polymerase chain reaction (qPCR), polymerases chain reaction (PCR), agarose gel electrophoresis, SDS-page electrophoresis, western blotting, immunoblotting
- Cell purification techniques: platelet purification of murine blood, platelet purification of human blood, platelet extracellular vesicle purification, neutrophil purification from murine blood
- In vivo techniques: handling and blood sampling from central vena cava and eyes of *Mus musculus*, mammary gland removal of *Mus musculus*
- Cell culture and analysis: culturing tumor cells, organoids, preparation of sample for histological analysis, immunofluorescence, treatments and analysis with hematoxylin and eosin, platelet adhesion and spreading
- Flowcytometry analysis, Aggregation analysis and Nanoparticle tracking analysis

## ADDITIONAL INFORMATION

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### Extracurricular activities

- Member of the community Mentors4U, Fondazione Achille e Giulia Borroni

### Courses/workshops

- Course Learn to teach biochemistry. University of Pavia. 2024-2025. Pavia.
- Training course (practical part) on the use of animals in experimentation. University of Pavia. 2024-2025. Pavia.
- Experimental model for biomedical research. University of Pavia. 2024-2025. Pavia.
- Workshop & user-meeting Nanosight, nanoparticle tracking analysis. Alfatest, 30/10/2024, Milan.
- Course of Netiquette and security issues, protection of computers and smartphones. Prof. Roberto Marmo, 2021-2022, Collegio Nuovo of Pavia
- English language course "General English Approach to level C". Prof. Claudia Sirellini, 2021-2022, Collegio Nuovo of Pavia
- French language course "Le Francais Pratique". Prof. Faten Bethabet, 2021-2022, Collegio Nuovo of Pavia
- Career Management Skills course. Prof. Zanetti and Prof. Ferretti, 2021-2022, Collegio Nuovo of Pavia
- Basic bioinformatic element course. Prof. Francesco Lescai, 2020-2021, organized by Collegio Nuovo of Pavia
- Course of Writing in English for Scientists. Prof. Maria Ferretti, 2020-2021, Collegio Nuovo of Pavia
- Career Management Skills, Prof. Zanetti, Prof. Percivalle, Prof. Ferrari and Prof. Ferretti, 2020-2021, Collegio Nuovo of Pavia
- French language course "the first conversation and the first professional interview". Prof. Faten Bethabet, 2020-2021, Collegio Nuovo of Pavia
- Advanced course of Excel. Prof. Roberto Marmo, 2020-2021, Collegio Nuovo of Pavia
- Basic course of Excel. Prof. Roberto Marmo, 2020-2021, Collegio Nuovo of Pavia

- Career Management Skills course. Prof. Gualdi, Prof. Percivalle, Prof. Ferrari e Prof. Ferretti, 2019-2020, Collegio Nuovo of Pavia

## Conferences

- Conference "Science and politics in Europe". Elena Cattaneo, pharmacologist, biologist, academic and senator. Promoted by Collegio Nuovo of Pavia, 2021-2022
- Conference "We are heroes. Covid 19: not just a disease "held by Annalisa Malara, resuscitator anesthetist doctor, named "personality of the year" for having identified Coronavirus patient 1. Promoted by Collegio Nuovo of Pavia, 2020-2021
- Conference "Science and creativity. Towards the most powerful computer in the world". Anna Grassellino, Italian electronic engineer and researcher, Senior Scientist and Deputy Director of the "Division of applied physics and superconductor technology ". Promoted by Collegio Nuovo of Pavia , 2020-2021
- Conference "The alb and the sword. Cancer strategies: from 'metastasis in test tubes' to 'Natural Killers'". Adriana Albini, biochemist, oncologist, lecturer and Italian writer, the only woman in the BBC 100 Women of 2020 list, the first Italian woman elected to the Board of Directors of the American Association for Cancer Research. Promoted by Collegio Nuovo of Pavia, 2020-2021
- Series of conferences on Neuroscience, "Action potentials". Professors Egidio Ugo D'Angelo and Mauro Ceroni, 2020-2021, organized by the Collegio Cairoli of Pavia
- Conference "Doing research with passion and trust. Stem cells for brain repair: illusion or reality? ". Maria Pia Abbracchio, Professor of Pharmacology, Deputy Protector and Protector of research strategies and policies. Promoted by Collegio Nuovo of Pavia, 2019-2020
- Conference "From zinc to lithium: adventurous history of the battery from Volta to the Nobel Prize for Chemistry 2019". Luigi Fabbri, Professor Emeritus of the Chemistry Department of the University of Pavia. Promoted by Collegio Nuovo of Pavia, 2019-2020.
- Mindfulness workshop. Dr. Lia Antica, organized by Collegio Nuovo of Pavia, 2019-2020

## Personal information

I am an extremely curious person, eager to challenge myself and understand the mechanisms that govern nature. I am fascinated by the idea of being able to study cellular mechanisms to make sense of and explain the phenomena that govern life, contributing to the advancement of science.