



CAMILLA BARBERO MAZZUCCA

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ABOUT ME

My professional journey combines my passion for nutrition and immunology research. My primary goal is to study the protective effects of nutrition on chronic diseases, especially immune-mediated ones. I'm committed to sharing research findings with the general population through outreach activities, making it the main beneficiary of scientific progress. As a licensed Nutrition Biologist, I work closely with people to promote their health through evidence-based dietary education. To excel in my work, I stay updated through conferences and seminars, and, as a member of the Italian Society of Human Nutrition, I'm always updated about the latest nutrition research, collaborating with fellow experts in the field. In my free time, I manage a social media page dedicated to educating people about healthy eating. I enjoy hiking, running, and swimming, considering sports essential for a healthy lifestyle. Notably, I collaborate with sports professional trainers, providing my nutritional support.

WORK EXPERIENCE

- Private practice as Nutrition Biologist (Register of Biologists number: AA_091664)
- November 2023- to date: Research Fellowship in MED-04/ General Pathology

EDUCATION AND TRAINING

- 2020-to date: **Ph.D. Student in Food, Health and Longevity** in the laboratory of Immunomics (Prof. Annalisa Chiocchetti).

Project title: *Are extracellular vesicles at the intersection between Food, Unhealthy Lifestyles, Microbiota and Autoimmune Diseases?* Supervisor: Prof. Annalisa Chiocchetti

The objective of my research project is studying the relationship between diet and autoimmune diseases (AD) by I) creating, validating and administrating dietary questionnaires; II) evaluating the protective/harmful effect of single foods on the risk of Rheumatoid Arthritis onset; III) performing laboratory analysis on biological samples from AD patients. These activities are part of the MINDFUL (Microvesicles: INtersection between autoimmune Diseases, Food and Unhealthy Lifestyles) project, coordinated by Professor Annalisa Chiocchetti.

University of Eastern Piedmont, Novara, CAAD (Translational Research Centre on Autoimmune and Allergic Diseases).

- July 2020: **Master of Science in Food, Health and Environment** (110/110 cum laude and mention of honor).

Title of the thesis: *"Microvesicles at the intersection between Autoimmune Diseases, Food and Unhealthy Lifestyles: setting the nutrition part of the study"*. Supervisor: Prof. Annalisa Chiocchetti

University of Eastern Piedmont, Novara.

- 2019-2020: Master thesis internship at **CAAD** (Translational Research Centre on Autoimmune and Allergic Diseases), **Laboratory of Immunology** (Prof. Annalisa Chiocchetti).

My research was focused on the design of a tool to investigate the eating habits of patients with autoimmune disease which is a task of the MINDFUL (Microvesicles: INtersection between autoimmune Diseases, Food and Unhealthy Lifestyles) project, coordinated by Professor Annalisa Chiocchetti. To reach this aim, I worked both independently and in contact with experts in the field, by attending nutritional interviews at the Ospedale Maggiore della Carità (Novara), to acquire knowledge of the field.

Moreover, during my training in the laboratory of Immunology, I also acquired flow

cytometric skills for analysis of extracellular vesicles and immune phenotype from fresh blood.

University of Eastern Piedmont, Novara.

- 2018-2019/2019-2020 Institutional task in University of Eastern Piedmont: participation to the Quality Management and Review group.
- July 2018. **Bachelor's degree in Biotechnology (110/110);**

Title of the thesis: "*Evaluation of the interaction between B7h and osteopontin by pull-down method*".
Supervisor: Prof. Annalisa Chiocchetti

University of Eastern Piedmont, Novara.

- 2017-2018: Bachelor thesis internship at the **Laboratory of Immunology** (Prof. Umberto Dianzani/Prof. Annalisa Chiocchetti).
My research focused on studying in vitro the binding of osteopontin to its novel receptor ICOS ligand (ICOSL) by performing pull down assay and migration assay.

University of Eastern Piedmont, Novara.

PUBLICATIONS

- Barbero Mazzucca C, Cappellano G, Chiocchetti A. *Nutrition, immunity and aging: current scenario and future perspectives in neurodegenerative diseases*. CNS Neurol Disord Drug Targets. 2023 May 2. doi: 10.2174/1871527322666230502123255. Epub ahead of print. PMID: 37138438.
- Publication of a popular science article on the scientific dissemination journal "Salute33", edition of February 2023, entitled "Malattie autoimmune e dieta: prevenire è meglio che curare".
- Mazzucca C.B., Scotti L., Cappellano G., Barone-Adesi F., Chiocchetti A. Nutrition and rheumatoid arthritis onset: a prospective analysis using the UK biobank. *Nutrients*. 2022 Apr 8;14(8): 1554.doi:10.3390/nu14081554
- Mazzucca CB, Raineri D, Cappellano G, Chiocchetti A. How to Tackle the Relationship between Autoimmune Diseases and Diet: Well Begun Is Half-Done. *Nutrients*. 2021;13(11):3956. doi:10.3390/nu13113956
- Cappellano G, Vecchio D, Magistrelli L, et al. The Yin-Yang of osteopontin in nervous system diseases: damage versus repair. *Neural Regen Res*. 2021;16(6):1131-1137. doi:10.4103/16735374.300328

PARTICIPATION IN NATIONAL/INTERNATIONAL CONGRESSES

- 18th November 2023: participation to the IRCAD Day with a poster entitled "T1DM diabetes might be associated to accelerated immune-aging"- **Camilla Barbero Mazzucca**, Silvia Savastio, Lorenza Scotti, Davide Raineri, Simonetta Bellone, Ivana Rabbone, Annalisa Chiocchetti (CAAD, Novara).

- 22-23rd October 2023: attendance to the first European cytoff congress (Bambino Gesù Hospital, Rome)
- 25th September 2023: participation to the Ph.D. day as a speaker, representing the Ph.D course in Food, health and longevity, with a talk entitled “Exploring the intersection between life style, food and microbiota in autoimmune diseases”.
- 7th -9th June 2023: participation to the Italian Society of Human Nutrition (SINU) annual congress (XLIII edition) as a member of the “young” group with a poster titled “Nutrition as a modifiable risk factor for autoimmune disease onset: from single foods to complex dietary patterns” - **Mazzucca C.B.**, Scotti L., Cappellano G., Chiocchetti A. (Arezzo, Centro Fiere e Congressi).
- 27th -28th April 2023: participation to the Nutrими Congress (XVI edition) as a speaker. Title of the talk: “Nutrition and autoimmune diseases onset: a prospective analysis using the UK biobank” (Milano, Fondazione Stelline).
- 28th -29th April 2022: participation to the Nutrими Congress (XVI edition) as a speaker and with a poster. Title of the talk: “Relazione tra stile di vita, dieta e rischio di sviluppare malattie autoimmuni”; title of the poster “The role of nutrition on rheumatoid arthritis onset: a prospective analysis using the UK biobank”- **Mazzucca C.B.**, Scotti L., Cappellano G., Barone-Adesi F., Chiocchetti A. (Milano, Fondazione Stelline).
- 3rd -4th April 2022: participation to the Italian Society of Human Nutrition (SINU) annual congress (XLII edition) with a poster titled “The role of nutrition on rheumatoid arthritis onset: a prospective analysis using the UK biobank” (Napoli, Università Federico II)- Mazzucca C.B., Scotti L., Cappellano G., Barone-Adesi F., Chiocchetti A. (Milano, Fondazione Stelline).
- 3rd -4th November 2022: participation in a poster titled “A novel hybrid T:B cell: a paradigm to be rewritten or an artifact?- Raineri D., Cappellano G., **Barbero MC.**, Savastio S., Bellone S., Rabbone I., Chiocchetti A. at the Italian Society of Translational Research and Health Professions (SIRTEPS) (l’Aquila).
- 29th-30th September 2022: participation in a poster titled “Circulating GLAST+ Extracellular Vesicles (EVs) are a new biomarker for Amyotrophic Lateral Sclerosis (ALS)”- Vilardo B., Raineri D., **Barbero M.C.**, De Marchi., Mazzini L., Cappellano G. and Chiocchetti A. at Congress Aging project UPO Congress Aging project UPO (Novara, Italy).
- 10th-13th November 2022: best abstract award in the XXIII SIEDP National Congress 2021 “Microvesicles in children and adolescents with type 1 diabetes: role at onset in the acute phase of the disease.”- Silvia Savastio, Giuseppe Cappellano, Davide Raineri, **Camilla Barbero Mazzucca**, Erica Pozzi, Sara Zanetta, Simonetta Bellone, Ivana Rabbone, Annalisa Chiocchetti,

INVOLVEMENT IN NATIONAL AND INTERNATIONAL PROJECTS

2023. Team member of the “TWINS4RA. Gemello biologico e gemello digiTale di sinovia su chip vascolarizzata analizzato via Webcam nella transizloNe

verSo la medicina 4P per curare l’artrite ReumAtoide” funded by the MIUR (Ministero Italiano dell’Università e della Ricerca). Principal investigator Prof. Annalisa Chiocchetti

AWARDS

- **September 2022:** Second prizewinner in the science dissemination contest “UPO Science Slam” organized by the University of Eastern Piedmont (Broletto, Novara).

- **November 2021.** Best abstract. Microvesicles in children and adolescents with type 1 diabetes: role at onset in the acute phase of the disease. Silvia Savastio, Giuseppe Cappellano, Davide Raineri, **Camilla Barbero Mazzucca**, Erica Pozzi, Sara Zanetta, Simonetta Bellone, Ivana Rabbone, Annalisa Chiocchetti, XXIII SIEDP National Congress 2021. (10-13 November 2021) (best abstract award).

EDITORIAL ACTIVITIES

- Reviewer for papers/review for the Journal BioMed Research International, Rheumatology Section BioMed Research International
- Reviewer for papers/review for the International Journal of Clinical Practice.
- Reviewer for BMC Public Health.

SCIENTIFIC SOCIETIES MEMBERSHIP

- Italian Society of Human Nutrition (SINU), youth section.

TEACHING ACTIVITIES

- November 2023: Teaching activity for basic immunology course, international master EMOTION (University of Eastern Piedmont, Novara).
- November 2022: Teaching activity to bachelor and master's degree students in the context of optional didactic activities about nutritional immunology.
- July 2022: tutoring activity for master degree students (University of Eastern Piedmont, Novara).+
- July 2020: achievement of 24 CFU in anthropo-psycho-pedagogical field and educational technologists for the access to the state examination for teaching (University of Turin).

METHODOLOGICAL SKILLS

- Assessment of the nutritional status and creation of personalized dietary plans to healthy subjects and patients affected by chronic and metabolic diseases. Skills acquired practicing at the endocrinology unit (Ospedale Maggiore della Carità, Novara) and in private practice.
- Nutritional interviews for research purposes; creation of nutrition assessment tools.
- Tutoring activity to Master students: following the students during experimental work, writing and thesis dissertation preparation.
- Cytofluorimetric analysis of microvesicles and immunophenotype on fresh blood (sample preparation, acquisition and analysis); activation induced markers (AIM) test; isolation of peripheral blood mononucleated cells; storing of samples for biobank creation; ELISA; PCR; real time PCR; reverse PCR; DNA sequencing (Sanger, Illumina); DNA/RNA extraction; immunofluorescence; protein extraction from lysates; Western Blot; Pulldown assay; cell culture. Basic knowledge of sorting.

DISSEMINATION

- 25th September 2023: participation to the Ph.D. day as a speaker, representing the Ph.D course in Food, health and longevity, with a talk entitled “Exploring the intersection between life style, food and microbiota in autoimmune diseases.
- 16th January 2023: scientific dissemination at the “Università della terza Età” with a speech entitled “La dieta mediterranea: un’alleata per la salute del microbiota intestinale” (Centro Sociale, Borgosesia).
- 10th November 2022: participation as a speaker to the scientific dissemination event “Ricercatori alla Spina” (Campus Perrone, Novara).
- 26th September 2022: organization of educational activities for the primary school in occasion of the “Settimana della Ricerca” promoted by the University of Eastern Piedmont (Campus Perrone, Novara).
- 28th May 2022: dissemination activity through an oral presentation entitled “La dieta Mediterranea, impara a conoscerla per la salute di tutta la famiglia”; the event was sponsored by the Comune di Borgosesia (Borgosesia, Via Alberto Giordano 51).
- 11th May 2022: participation to the scientific talent show “FameLab Italia”, ranking in the first 10 finalists in the regional selection.
- 30th June 2022: participation to the scientific competition “Science Slam” organized by DISS (dipartimento di scienze della salute), ranking in the first position and passing the selection for the final competition (Campus Perrone, Novara).
- April 2022: publication of a dissemination article in the “Rivista di Nutrizione Pratica”, drawn up in occasion of the Nutrimi Congress (XVI edition).
- 30th June 2021: participation in the scientific competition "Science Slam" (CAAD, Novara)
- 29th March 2021: dissemination activity at the Fumagalli Institute in Castelnuovo. Lecture: discovering the Microbiota (Google Meet).
- December 2020: dissemination activity at the scientific marathon "Free Ahmadreza Djalali" (Google Meet). Topic: Nutritional immunology.

FURTHER ACTIVITIES & CERTIFICATIONS

- 7th-8th November 2022: participation to the Yakult Academy course on scientific communication on social media in nutrition field promoted by Yakult and the School of Advanced Studies on Food and Nutrition
- 21st October 22: attendance to the seminar “Extracellular vesicles: biogenesis, functions and isolation from tissues” by Rossella Crescitelli (Palazzo Bellini, Novara).
- 21st September 2022: participation to the workshop Bioprinting & Hands On (CAAD, Novara).
- 19th September 2022: participation to the FACSCanto training organized by Becton & Dickinson (CAAD, Novara).
- 12th -15th September 2022: attendance to the Cytoff training organized by Standard BioTools Inc. (CAAD, Novara).
- 24th June 2022: attendance to the workshop “The new frontiers of Molecular Cytometry” organized at CAAD in collaboration with Becton & Dickinson (CAAD, Novara).

- 14th June 2022: attendance to the TECHNOMED-HUB kick off meeting (CAAD, Novara).
- 6th -19th -26th April 2021: attendance to the course "Introduction to multicolor cytometry" (ISCCA School & BD) (Zoom meeting).
- 15th March-26 April 2021: attendance the Science Communication Course (Zoom meeting).
- 25th February 2021: attendance to the scientific conference of UK biobank: "Enabling COVID-19 Research"; "Democratising Access at UK Biobank's Scientific Conference" (Google Meet).
- 5th February 2021: participation in the kick-off meeting of the FLAMIN-GO Project (CAAD Novara).
- 17th November 2020: attendance to the Nanosight practical use course (CAAD, Novara)
- 5th -6th November 2020: attendance to the Becton Dickinson (BD) training course for the cytofluorimetric facility FACS Symphony (CAAD, Novara)
- November 2020: qualification as grade A biologist. Registration number: AA_091664
- (University of Eastern Piedmont, Alessandria).
- July-October 2019: participation to the School of Excellence UPO, obtaining the first place in the admissions rankings (University of Eastern Piedmont, Novara).
- March 8-May 31, 2019: attendance to the 10th edition of the High Education on Food Legislation course (CAFLA), (University of Eastern Piedmont, Alessandria).
- November 10, 2018: participation to the IRCAD day (CAAD, Novara).
- January 2016: participation to the Safety Training Course in Chemical and Biological Labs (University of Eastern Piedmont, Novara).

LANGUAGES

- 12th September 2023: Achievement of advanced scientific English certificate in grant writing and stage presentation from American Business English school (University of Eastern Piedmont, Novara).
- 26th July 2022: Achievement of scientific English writing certificate from American Business English school (University of Eastern Piedmont, Novara).
- French: basic knowledge

SKILLS

- Ability to interact with patients (even in pediatric age) acquired during performing nutritional interviews in the hospital and in private practice.
- Ethical Committee documentation drafting for research projects.
- Tutoring activity to master and bachelor students.
- Data exposition in meetings, thesis writing, presentation, discussion in foreign language (English).

- Use of online database (UK Biobank) and surveys managing tools (REDCap).
- Use of the most common bioinformatics browsers (Ensembl, UCSC, BLAST, Nutrigenome DB).
- Use Office package and familiarity with commonly used software.
- Use of social networks (Facebook, Instagram, LinkedIn); administration of a blog (www.colsaleinzucca.it) and an Instagram page about nutrition (<https://www.instagram.com/colsaleinzucca/>).

MORE INFORMATION

Soft Skills acquired during Ph.D and Master of Science through the participation to additional courses:

- The course in "Science communication" was critical to learn how to communicate scientific results in an effective way for non-scientists; the course ended with a practical experience of science dissemination in which I had to compete with other scientists explaining my research activity in an attractive and intuitive way: the Science Slam (March-June 2021).
- In the "Communication Skills and Social Media" course I learned how to create a website to promote a company and how to use social networks to spread innovative ideas (November-January 2020)
- The "Innovation Management in life sciences" course has provided me with the basis for project management and intellectual property protection, with specific application to the field of medical research (March- June 2019).

I authorize the processing of my personal data under DLG 196/2003 and GDPR 679/2016

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