Curriculum vitae et studiorum

PERSONAL INFORMATION

Name Stefano Quarta | **Sex** Male | **Date of birth** [redacted]
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EDUCATION AND TRAINING

01/12/2020-ongoing	PhD student in Molecular Biology (BIO/11) – DiSTeBA, University of Salento.
14/07/2020	Master Degree in Biology (LM-6) – Curricula Human Nutrition – University of Salento, Academic year 2019/2020. (110/100 cum laude and merit mention) *Thesis title*: Evaluation of the impact of lifestyles on psychophysical well-being: epidemiological analysis of the role of the Mediterranean Diet on the state of subjective well-being. Thesis supervisor: Prof. Fabrizio Damiano; Thesis co-supervisor: Dott.ssa Marika Massaro.
18/07/2018	Bachelor Degree in Biological Sciences (L-13) – University of Salento, academic year 2017/2018. (110/110 cum laude) *Thesis title*: Regulation and biological functions of FTO-mediated mRNA N6-methyladenosine demethylation. Thesis supervisors: Prof.ssa Luisa Siculella, Prof. Fabrizio Damiano.

WORK EXPERIENCE

2020-ongoing	PhD student in Molecular Biology (BIO/11) (DiSTeBA, University of Salento)
2019-2020	Master Degree Internship – Research Laboratory of IFC-CNR (Lecce)
2018	Bachelor Degree Internship – Laboratory of Molecular Biology (Università del Salento)

RESEARCH ACTIVITIES

My research interests are in the field of molecular mechanisms underlying adipose tissue dysregulation and endothelial disfunction, under inflammatory and insulin resistance conditions, and nutrigenomics applied to obesity and cardiovascular disease prevention and treatment. I am exploring these links in in vitro models and in primary endothelial, monocytes, adipose and mesenchymal cells isolated from saphenous vein, whole blood and human adipose tissue. In particular, I focus on pericardial and epicardial adipose tissue from valvular and coronary artery disease patients. The activities are targeted to explore, in detail, the pro-atherogenic properties of the aforementioned adipose tissue and adipocytes, PBMCs and endothelial cells. In these models, I have also studied the anti-inflammatory and anti-atherogenic properties of nutraceuticals, plants extract and marine omega-3 polyunsaturated fatty acids (docosahexaenoic acid and eicosapentaenoic acid). Furthermore, I work on the isolation of mesenchymal cells from human adipose tissue to study the differentiation in adipocytes and osteocytes.

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Another part of my research is focused on the study of angiogenesis in in vitro models of endothelial cells using functionalized microparticles and scaffolds, and on the anti-inflammatory and anti-adhesive properties of nutraceuticals and extracts from plants and marine source within monocyte co-cultures.

Since 2019, I have been a part of the MeDiWeB consortium which aims to deepen the link between Mediterranean Diet adherence, dietary habits and psychological well-being in the general population and in individuals at risk of different chronic disease.

SCIENTIFIC AND TECHNICAL SKILLS

- Excellent expertise in the maintenance and cultivation of endothelial, monocytes, fibroblasts and adipocytes cell lines (HMEC-1; THP-1; U937; SGBS) and in carrying out co-cultures with endothelial, adipose and monocytes cells;
- Excellent expertise in molecular biology and physiological techniques applied to cell cultures for the evaluation of cellular responses to inflammatory, hormonal and pharmacological stimuli, nutraceuticals and plant extracts;
- Excellent expertise in cell vitality assays, angiogenic assays, migration assays, ROS detection assay, monocyte adhesion assays;
- Excellent expertise in the isolation, maintenance and cultivation of adipocytes, mesenchymal, endothelial cells and PBMC starting from epicardial and pericardial adipose tissue, whole blood, saphenous vein and umbilical cords;
- Excellent expertise in carrying-out organ cultures of human adipose tissue;
- Excellent expertise in the evaluation of responsiveness of primary cells and organ cultures to pro-inflammatory stimuli and nutraceuticals;
- Excellent knowledge of the theory and techniques applied to gene and protein expression studies (RT-PCR, real time PCR, extraction and preparation of nucleic acids and proteins, protein assays, SDS-PAGE);
- Extensive experience in carrying out ELISA and EIA tests;
- Excellent knowledge of the main software and informatics tools and excellent knowledge of bioinformatics program for the structural and comparative analysis of the genome and sequences nucleotide and amino acids, for the gene networks, for the navigation in biomedical databases and for docking analysis (with Autodock);
- Excellent knowledge and expertise with medical statistics and use of statistical analysis software (SPSS, R, GraphPad);
- Good reading, writing and oral expression in English.

PUBLICATION

Total number of publications in peer-review journals: **13**
Total number of first name publication: **10**

Total number of citations: **117**
h-index: **4**

List of publication:

Quarta S, Santarpino G, Carluccio MA, Calabriso N, Maffia M, Siculella L, et al. Exploring the significance of epicardial adipose tissue in aortic valve stenosis and left ventricular remodeling: Unveiling novel therapeutic and prognostic markers of disease. *Vascular Pharmacology*. 2023;152:107210. DOI: https://doi.org/10.1016/j.vph.2023.107210.

Quarta S, Siculella L, Levante A, Carluccio MA, Calabriso N, Scoditti E, et al. Association between Mediterranean lifestyle and perception of well-being and distress in a sample population of university Italian students. *International Journal of Food Sciences and Nutrition*. 2023;74(4):556-67. DOI: https://doi.org/10.1080/09637486.2023.2232129.

Carpi S†, **Quarta S†**, Doccini S, Saviano A, Marigliano N, Polini B, et al. Tanshinone IIA and Cryptotanshinone Counteract Inflammation by Regulating Gene and miRNA Expression in Human SGBS Adipocytes. *Biomolecules*. 2023;13(7):1029. DOI: https://doi.org/10.3390/biom13071029. *Open Access*

Quarta S, Scoditti E, Zonno V, Siculella L, Damiano F, Carluccio MA, et al. In Vitro Anti-Inflammatory and Vasculoprotective Effects of Red Cell Extract from the Black Sea Urchin Arbacia lixula. *Nutrients*. 2023;15(7):1672. DOI: https://doi.org/10.3390/nu15071672. *Open Access*

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Gallo N, **Quarta S**, Massaro M, Carluccio MA, Barca A, Cannoletta D, et al. Development of L-Lysine-Loaded PLGA Microparticles as a Controlled Release System for Angiogenesis Enhancement. *Pharmaceutics*. 2023;15(2):479. DOI: https://doi.org/10.3390/pharmaceutics15020479. *Open Access*

Siculella L, Giannotti L, Di Chiara Stanca B, Spedicato F, Calcagnile M, **Quarta S**, et al. A comprehensive understanding of hnRNP A1 role in cancer: new perspectives on binding with noncoding RNA. *Cancer Gene Therapy*. 2023;30(3):394-403. DOI: https://doi.org/10.1038/s41417-022-00571-1.

Quarta S, Santarpino G, Carluccio MA, Calabriso N, Scoditti E, Siculella L, et al. Analysis of the Anti-Inflammatory and Anti-Osteoarthritic Potential of Flonat Fast®, a Combination of Harpagophytum Procumbens DC. ex Meisn., Boswellia Serrata Roxb., Curcuma longa L., Bromelain and Escin (Aesculus hippocastanum), Evaluated in In Vitro Models of Inflammation Relevant to Osteoarthritis. *Pharmaceuticals*. 2022;15(10):1263. DOI: https://doi.org/10.3390/ph15101263. *Open Access*

Quarta S, Massaro M, Carluccio MA, Calabriso N, Bravo L, Sarria B, et al. An Exploratory Critical Review on TNF-α as a Potential Inflammatory Biomarker Responsive to Dietary Intervention with Bioactive Foods and Derived Products. *Foods*. 2022;11(16):2524. DOI: https://doi.org/10.3390/foods11162524. *Open Access*

Quarta S, Levante A, García-Conesa M-T, Lecciso F, Scoditti E, Carluccio MA, et al. Assessment of Subjective Well-Being in a Cohort of University Students and Staff Members: Association with Physical Activity and Outdoor Leisure Time during the COVID-19 Pandemic. *International Journal of Environmental Research and Public Health*. 2022;19(8):4787. DOI: https://doi.org/10.3390/ijerph19084787. *Open Access*

Andrade V†, **Quarta S†**, Tagarro M, Miloseva L, Massaro M, Chervenkov M, et al. Exploring Hedonic and Eudaimonic Items of Well-Being in Mediterranean and Non-Mediterranean Countries: Influence of Sociodemographic and Lifestyle Factors. *International Journal of Environmental Research and Public Health*. 2022;19(3):1715. DOI: https://doi.org/10.3390/ijerph19031715. *Open Access*

Quarta S, Scoditti E, Carluccio MA, Calabriso N, Santarpino G, Damiano F, et al. Coffee Bioactive N-Methylpyridinium Attenuates Tumor Necrosis Factor (TNF)-α-Mediated Insulin Resistance and Inflammation in Human Adipocytes. *Biomoleculs*. 2021;11(10):1545. DOI: https://doi.org/10.3390/biom11101545. *Open Access*

Quarta S, Massaro M, Chervenkov M, Ivanova T, Dimitrova D, Jorge R, et al. Persistent Moderate-to-Weak Mediterranean Diet Adherence and Low Scoring for Plant-Based Foods across Several Southern European Countries: Are We Overlooking the Mediterranean Diet Recommendations? *Nutrients*. 2021;13(5):1432. DOI: https://doi.org/10.3390/nu13051432. *Open Access*

García-Conesa M-T, Philippou E, Pafilas C, Massaro M, **Quarta S**, Andrade V, et al. Exploring the Validity of the 14-Item Mediterranean Diet Adherence Screener (MEDAS): A Cross-National Study in Seven European Countries around the Mediterranean Region. *Nutrients*. 2020;12(10):2960. DOI: https://doi.org/10.3390/nu12102960. *Open Access*

POSTERS AND COMMUNICATIONS

N. Calabriso, E. Marinosci, M. Massaro, E. Scoditti, **S. Quarta**, B. Laddomada, A. Manco, A. Scarano, S. Palombieri, F. Sestili, M.A. Carluccio. Anti-inflammatory and anti-atherosclerotic properties of intestinal metabolites of high-amylose wheat phenolic extract. SISA 2023, 37° Congresso Nazionale Società Italiana per lo Studio dell'Aterosclerosi, 26-28 June, Napoli, abstract number 19.

Quarta S, Santarpino G, Calabriso N, Siculella L, Damiano F, Carluccio MA, Massaro M. Epicardial adipose tissue and pericardial adipose tissue as cell models to assess patient respnsiveness to therapeutics. SISA 2023, 37° Congresso Nazionale Società Italiana per lo Studio dell'Aterosclerosi, 26-28 June, Napoli, abstract number 14,

Quarta S, Santarpino G, Carluccio MA, Calabriso N, Scoditti E, Siculella L, Damiano F, Maffia M, Verri T, de Caterina R, Massaro M. Analisi del potenziale antinfiammatorio e antiartrosico della combinazione di Harpagophytum procumbens, Boswellia serrata, Curcuma, bromelina ed escina, valutata in modelli in vitro di infiammazione e artrosi. WORKSHOP ALIFUN—Sviluppo di ALImenti FUNzionali per l'innovazione dei prodotti alimentari di tradizione italiana, 26-27 Giugno 2023, book of abstract page 65.

Quarta S, Scoditti E, Zonno V, Siculella L, Damiano F, Pagliara P. Red cells of the black sea urchin Arbacia lixula: a promising source of anti-inflammatory compounds. SIICS 2023, 23° Congresso della Società Italiana di Immunologia Comparata e dello Sviluppo, 13-15 Febraury, Napoli, https://doi.org/10.25431/1824-307X/isj.v20i1.21-37 page 30.

Quarta S, Massaro M, Scoditti E, Carluccio MA, Calabriso N, and Santarpino G. Anti-inflammatory and antiarthritics properties by components of Flonat Fast® in human monocytes: new insights for the treatment of osteoarthritis. FBHC 2022, 3rd International Conference on Food Bioactives & Health, 21-24 June, Parma, abstract ID 606.

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AWARDS

Travel Grant. SISA 2023, 37° Congresso Nazionale Società Italiana per lo Studio dell'Aterosclerosi, 26-28 June, Napoli.

PEER REVIEW ACTIVITIES

Peer Reviewer for: International Journal of Environmental Research and Public Health (IJERPH); International Journal of Molecular Sciences (IJMS), Mental Health and Physical Activity, Translational Pediatrics, Cardiovascular Diagnosis and Therapy, Medicina, BMC Public Health.

CONFERENCES AND EVENTS

Speaker at "LeBiotech VI edizione" organized by *Università del Salento*, Lecce, 24/09/2023. Presentation title: Epicardial adipose tissue (EAT) and pericardial adipose tissue (PAT) as cell models to assess patient responsiveness to therapeutics.

Speaker at "La promozione del benessere nella terza età – dall'Invecchiamento Attivo alla prevenzione delle demenze." organized by *Ordine Psicologi Regione Puglia*, Lecce, 21/10/2022. Presentation title: Associazione tra dieta mediterranea, pratica dell'attività fisica e salute cognitiva negli adulti e negli anziani: evidenze epidemiologiche e possibili determinanti molecolari".

Speaker at "Congresso Stilo" organized by *Essecore S.R.L.*, Stilo, 27/05/2022. Presentation title: Anti-inflammatory and antiarthritics properties by components of Flonat Fast® in human endothelial cells and monocytes: new insights for the treatment of osteoarthritis.

Speaker at "Giornata di lavoro sui temi della produzione ed alimentazione sostenibile" organized by *Università del Salento*, Lecce (Online), 22/04/2021. Presentation title: Applicazione dello strumento MEDIWELL per monitorare il benessere della comunità Unisalento.

EDUCATIONAL ACTIVITIES

December 2021 — **Tutor** for Thesis in Nutrigenomics entitled: "Role of nutraceuticals in the treatment of osteoarthritis: study of the mechanisms regulating the expression and release of matrix metalloproteinases in monocyte-macrophage cells". Master Degree in Biology, Università del Salento. Student: Francesca Letizia; Thesis Supervisor: Prof. Fabrizio Damiano; Thesis Co-Supervisor: Massaro Marika, **Quarta Stefano**.

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