

CURRICULUM VITAE

Gianfranca Carta is Associate Professor of Physiology, SSD BIOS-06/A, at the Department of Biomedical Sciences, University of Cagliari.

Professional Experience

Tenure-track researcher (type B) in Physiology (2016–2019) – University of Cagliari.

Research Fellow. Project: “Role of the endocannabinoid system in the relationship between taste sensitivity and body composition”; project: “Modulation of lipid metabolism induced by dietary intake of dairy products enriched with conjugated linoleic acid” – University of Cagliari.

National Scientific Qualification (ASN) for the role of Full Professor (I fascia), Academic Field 05/D1 – Physiology (2023).

Education

Ph.D. in Cellular and Molecular Pathophysiology (2004) – University of Modena and Reggio Emilia.

Bachelor's Degree in Biological Sciences – University of Cagliari.

Postgraduate Program (1996) – University of Pittsburgh, Pittsburgh, PA (USA), focusing on “New Techniques for the Studies and the Development of Novel Biomedical Antioxidants.”

Academic Activities

Since Academic Year 2019–2020, member of the faculty board for the Ph.D. Program in Molecular and Translational Medicine, Nutritional and Metabolic Curriculum, University of Cagliari.

Since Academic Year 2019–2020, member of the faculty board for the Residency School in Food and Nutritional Sciences at the Faculty of Medicine and Surgery, University of Cagliari.

Teaching Experience at the University of Cagliari in the following degree programs:

- B.Sc. in Motor and Sports Sciences (since 2020/2021): Course in Physiology.
- B.Sc. in Biotechnology, Pharmaceutical Curriculum (starting 2024/2025): Course in General and Cellular Physiology.
- M.Sc. in Cellular and Molecular Biology (starting 2024/2025): Course in Molecular Physiology.
- B.Sc. in Environmental and Natural Sciences: Course in Physiology (2017/2018–2023/2024).
- B.Sc. in Dental Hygiene: Course in Physiology (2021/2022–2023/2024).
- B.Sc. in Health Assistance: Course in Physiology (2020/2021–2021/2022).
- B.Sc. in Prevention Techniques in the Environment and Workplace: Course in Physiology (2020/2021–2021/2022).
- B.Sc. in Speech Therapy: Course in Physiology (2019/2020).
- B.Sc. in Midwifery: Course in Physiology (2016/2017).
- B.Sc. in Health Assistance: Course in Food Science (2013/2014).
- B.Sc. in Dental Hygiene: Course in Food Science (2013/2014).
- Specialization School for Secondary School Teacher Training: Course in Food Process Technology (2005/2006).

Supervisor for undergraduate theses in Motor and Sports Sciences, Environmental and Natural Sciences, and experimental research activities at the Experimental Nutrition Laboratory.

Committee Memberships

- Member of the Evaluation Committee for applications to fill teaching positions in Physiology (BIO/09) (from 2024/2025).

- Member of the Quality Self-Assessment Committee for the M.Sc. in Cellular and Molecular Biology (from 2024/2025).
- Member of the Third Mission Committee within the Quality Self-Assessment Committee (CAV-Dip) of the Department of Biomedical Sciences, University of Cagliari (since 2019/2020).
- Member of the Quality Self-Assessment Committee for the B.Sc. in Environmental and Natural Sciences (L-32) and the M.Sc. in Conservation and Management of Nature and the Environment (LM-60), University of Cagliari (2019/2020 – 2023/2024).
- Member of various evaluation committees for postdoctoral positions, postgraduate fellowships, and the extension of a three-year contract (DR2022_2150_RTDA) for the Academic Recruitment Field 05/D1 - SSD BIO/09, in accordance with Article 24, paragraph 3a, of Law 30/12/2010, n. 240, at the Department of Biology, University of Naples Federico II (2022).

Main Research Lines in Recent Years

The research activity focuses on nutrition physiology, with an emphasis on lipid metabolism and the characterization of bioactive lipophilic molecules using techniques such as Gas Chromatography, Liquid Chromatography, and Mass Spectrometry (LC-MS). Studies, conducted in both experimental models and humans, investigate the physiological activity and tissue metabolic changes induced by dietary intake of various lipid formulations, particularly: Polyunsaturated fatty acids (PUFAs), such as conjugated linoleic acid (CLA) and PUFAn-3, saturated fatty acids, such as palmitic acid, with a focus on their relationship to de novo lipogenesis.

Other key research areas include Short-chain fatty acids (SCFAs): Characterization and analysis of their activity in relation to gut microbiota production.

Modulation of the endocannabinoid and PPAR- α systems: Examination of the effects of dietary lipids on lipid and energy metabolism, body composition homeostasis, adipose tissue distribution, and eating behavior.

Role of natural compounds: Investigation of the effects of molecules such as resveratrol and β -caryophyllene on the physiological response to cerebral hypoperfusion/reperfusion using animal models. Vitamin A metabolism: Study of modifications induced by dietary intake of conjugated polyunsaturated fatty acids.

Editorial and Reviewer Activities

Member of the Editorial Board for Biomolecules (ISSN 0011-0011) and Lipidology (ISSN: 2813-7086).

Reviewer for journals under Frontiers, MDPI, Hindawi Publishing Corporation, and Lipids in Health and Disease.

Publications

Author of over 80 indexed publications in peer-reviewed journals with impact factors and multiple presentations at national and international conferences.

ORCID ID: 0000-0002-3527-4197. Scopus Author ID: 7101609523. A full list of publications is available in the “Research > Research Outputs (IRIS)” section of this page: https://web.unica.it/unica/it/ateneo_s07_ss01_ssss05_ssss01.page?contentId=SHD31041

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