

## CURRICULUM VITAE

<b>PERSONAL INFORMATION</b>	
<i>Name</i>	<b>MELANIA MELIS</b>
<i>Nationality</i>	ITALIAN
<i>Address</i>	DEPARTMENT OF BIOMEDICAL SCIENCES
<i>Telephone</i>	00390706754142
<i>E-mail</i>	MELANIAMELIS@UNICA.IT
<i>Current Position</i>	ASSOCIATED PROFESSOR, Dept. of Biomedical Sciences, Cagliari University, Italy
<b>PROFILE</b>	
<i>Brief description</i>	<p>Melania Melis has built a strong research profile, as evidenced by the numerous publications of which she is the first author and the award as brilliant researcher received from <b>The Physiological Society of Italy in 2019</b>. Her studies analyzed the physiology of the sense of taste and its role in food preferences, nutritional status and human health. By integrating psychophysics, molecular biology, neurobiology, genetics, nutrition and electrophysiology methods, these studies have focused on identifying the physiological basis of individual taste variability, the relationships between taste sensitivity, food behavior, nutritional status and health and modifications of taste perception. Recently she designed and patented a new technique based on electrophysiological recordings of the bioelectric potentials generated in the taste cells of the human tongue by taste stimulation, thus obtaining a direct, objective and quantitative measure of the peripheral taste function (WO 2017/212377 A1; Device, system and relating method for the quantitative assessment of taste sensitivity). Furthermore, recent studies focus on the evaluation of gustatory alterations and its variations in relation to parameters correlated with the degree of severity of neuroinflammatory and neurodegenerative diseases.</p> <p>Researcher unique identifier(s): ORCID: 0000-0003-3410-3158; <b>Scopus Author ID:</b> 55482402200  <b>Scientific production:</b> 48 publications, h-index 22, citations 1212</p> <p>20/11/2023-20/11/2034 National Scientific Qualification for Full Professor of Physiology</p>
<b>EDUCATION</b>	
2011 - 2014	PhD in Morphological and Functional Sciences, Dept. of Biomedical Sciences, Cagliari University, Italy
2008 - 2010	Master Degree in Experimental and Applied Biology, Faculty of Science MM.FF.NN, Cagliari University, Italy 110/110 cum laude
2005 - 2008	Bachelor's first degree, Experimental Biology, Cagliari University, Italy
<b>WORK EXPERIENCE</b>	
2021-2024	Researcher type B, Dept. of Biomedical Sciences, Cagliari University, Italy
2019 – 2021	Researcher type A, Dept. of Biomedical Sciences, Cagliari University, Italy
2017 – 2019	Post-doc Researcher Dept. of Biomedical Sciences, Cagliari University, Italy
2016 -2017	Research collaborator Dept. of Biomedical Sciences, Cagliari University, Italy
2014 – 2016	Post-doc Researcher Dept. of Biomedical Sciences, Cagliari University, Italy
January 2013 -June 2013	Visiting Student Researcher Laboratory of Sensory Evaluation/ Nutrition, Dep. of Food Science, Rutgers University, NJ, USA
2011 – 2014	PhD student Dept. of Biomedical Sciences, Cagliari University, Italy

2010 – 2011	Research collaborator Dept. of Biomedical Sciences, Cagliari University, Italy
<b>FELLOWSHIP AND AWARDS</b>	
2011 - 2014	PhD scholarship (P.O.R. Sardegna F.S.E., European Social Fund 2007-2013 - Axis IV Human Resources, Objective I.3, Line of Activity I.3.1.).
2019	Award from <i>The Physiological Society of Italy</i> as brilliant researcher
<b>MAIN FUNDINGS</b>	
2024-2025	Research project supported by Finanziato dall'Unione europea –NextGenerationEU – PNRR. Project title: <i>PROFILES “Peripheral and centRal Immune prOFiles revealing the Impact of sex on biomarkers in mUltiple sclErosis and parkinSon's disease.</i> Role Participant
2023 - 2025	Research project supported by Progetti Start-up. Ente finanziatore: Università degli Studi di Cagliari. Project title: <i>Biomarkers identification and their interplay investigation in individuals with Parkinson’s Disease and new insights on the diagnostic and prognostic value of biomarkers explored by Machine Learning.</i> Role PI
2023-2025	Research project supported by Finanziato dall'Unione europea –NextGenerationEU – PNRR. Project title: <i>Ecosystem of Innovation for Next Generation Sardinia (e.INS).</i> Role Participant
2023-2025	Research project supported by PRIN 2022. Project title: <i>Effect of dietary CLA-enriched dairy products on metabolic and nutritional factors underlying metabolic flexibility in overweight middle-aged subjects with central adiposity.</i> Role Participant
2022 - 2024	Research project supported by Progetti biennali FdS - Bando 2021, Project title: <i>“Identification of the chemosensory, genetic and molecular factors influencing food choice and associated changes of lipid and energy metabolism in humans.”</i> Role PI
2020 - 2021	Research project supported by Fondi 5 per mille (anno 2017), Università degli studi di Cagliari, Project title: <i>“Approccio innovativo per monitoraggio della variabilità individuale della sensibilità gustativa ed olfattiva in soggetti sani e con malattie infiammatorie e neurodegenerative”.</i> Role PI
<b>TEACHING ACTIVITIES</b>	
2023- present	Teacher of Sensory Physiology in the master's degree in Neuropsychobiology
2021 – present	Teacher of General Physiology – Degree in Biology, Cagliari University, Italy
2020 – present	Teacher of Functional basis of individual eating behavior - Degree in Biology, Cagliari University, Italy
2019 – present	Teacher of General Physiology – Degree in Biomedical Engineering, Cagliari University, Italy
2018 – present	<i>Supervision of graduate and PhD students:</i> Thesis of Master Students in Cellular and Molecular Biology, Faculty of Biology and Pharmacy, students in Biology, Faculty of Biology and Pharmacy and PhD student, PhD program in Neurosciences, Dept. of Biomedical Sciences, Cagliari University, Italy
<b>PRESENT INTERNATIONAL COLLABORATIONS</b>	
	<ul style="list-style-type: none"> <li>• Beverly J Tepper, Rutgers University, USA</li> <li>• Yanina Pepino, Urbana University, USA</li> <li>• Thomas Hummel, Technische Universität Dresden, Germany</li> </ul>
<b>ACADEMIC ACTIVITY</b>	
	<i>Participation in committees of scientific journals</i>

2023 - 2024	Guest Editor. Nutrients, Special Issue: How the Taste Sense Influences Our Eating Behavior and Health: Genetic and Non-genetic Factors
2022 - 2023	Guest Editor. Nutrients, Special Issue: Special Issue: Relationship Between Taste and Olfactory Function and BMI in Normal Weight Healthy Subjects and Patients with Obesity
2022 - present	European Chemoreception Research Organization (ECRO) clinical liaison group
July 2022	Revision for the European Research Council (ERC) Starting Grant 2021
2021 – present	Guest Editor. Nutrients, Special Issue: Implications of Taste and Olfaction in Nutrition and Health
2020 - present	“Topic Editor” in Nutrients (ISSN 2072-6643) as Generic Topical Advisory Panel
2018 – present	Reviewer activity for scientific journals: J Nutr, Arch.; Oral Bio; Biol. Lett; Comput. Biol. Med.; Oncotarget; J Hum Nutr Diet; Biochimie; Physiol. Behav.; Pediatric reports; BioMedicine; Nutrients; Int. J. Biol. Macromol; Prog. Lipid Res.
	<i>Teaching assignments at Phd Research Schools</i>
2023	Committee Member of the Ph.D. School in Neuroscience, Cagliari University
2022	Member of the dissertation committee for a PhD candidate Program in Food Science at Rutgers University
2021	Member of the dissertation committee for a PhD candidate for the double degree in Agrifood and Environmental Sciences at University of Trento and Engineering Science at University of Southern Denmark
<b>MEMBERSHIP OF SCIENTIFIC SOCIETIES</b>	
2020	Società Italiana di Scienze Sensoriali
2019	Società Italiana di Fisiologia
2013	Association for Chemoreception Sciences
<b>PUBLICATIONS</b>	
	<ol style="list-style-type: none"> <li>1. <b>Melis M.</b>, Loi E, Mastinu M, Naciri LC, Zavattari P, Barbarossa IT. <i>Gene Methylation Affects Salivary Levels of the Taste Buds' Trophic Factor, Gustin Protein</i>. Nutrients, 2024, 16(9):1304. doi: 10.3390/nu16091304.</li> <li>2. <b>Melis M.</b>, Mastinu M, Sollai G. <i>Effect of the rs2821557 Polymorphism of the Human Kv1.3 Gene on Olfactory Function and BMI in Different Age Groups</i>. Nutrients, 2024, 16(6):821. doi: 10.3390/nu16060821;</li> <li>3. Piochi, M., Spinelli, S., <b>Melis, M.</b>, Laureati, M., Feeney, E., Methven L., Yang, Q., Monteleone E., Torri L., Ford, R., Pagliarini, E., Barbarossa, I.T., Dinnella, C. <i>Methods for fungiform papillae assessment: A collaborative study among European research units</i>. Food Quality and Preference, 2024, 113, 105076. DOI: <a href="https://doi.org/10.1016/j.foodqual.2023.105076">https://doi.org/10.1016/j.foodqual.2023.105076</a>;</li> <li>4. Naciri L.C.; Mastinu M.; <b>Melis M.</b>; Green T.; Wolf A.; Hummel T.; Tomassini Barbarossa I. <i>A Supervised Learning Regression Method for the Analysis of the Taste Functions of Healthy Controls and Patients with Chemosensory Loss</i>. Biomedicines, 2023, 11, Issue 8; DOI: 10.3390/biomedicines11082133;</li> <li>5. Naciri L.C.; Mastinu M.; <b>Melis M.</b>; Green T.; Wolf A.; Hummel T.; Tomassini Barbarossa I. <i>A supervised learning regression method for the analysis of oral sensitivity of healthy individuals and patients with chemosensory loss</i>. Scientific Reports, 2023, Volume 13, Issue 1; DOI: 10.1038/s41598-023-44817-w;</li> <li>6. <b>Melis M.</b>, Tomassini Barbarossa I, Sollai G. <i>The Implications of Taste and Olfaction in Nutrition and Health</i>. Editorial Nutrients, 2023, 15(15):3412. doi: 10.3390/nu15153412.</li> <li>7. Mastinu, M., <b>Melis, M.</b>, Yousaf, N.Y., Barbarossa, I.T., Tepper, B.J. <i>Emotional responses to taste and smell stimuli: Self-reports, physiological measures, and a potential role for individual and genetic factors</i>. Journal of Food Science, 2023, 88, pp. 65–90. DOI: 10.1111/1750-3841.16300;</li> </ol>

8. Naciri LC, Mastinu M, Crnjar R., Tomassini Barbarossa I, **Melis M.** *Automated identification of the genetic variants of TAS2R38 bitter taste receptor with supervised learning.* Computational and Structural Biotechnology Journal Volume 21, 2023, Pages 1054-1065.
9. **Melis M,** Mastinu M, Naciri LC, Muroi P, Tomassini Barbarossa I. *Associations between Sweet Taste Sensitivity and Polymorphisms (SNPs) in the TAS1R2 and TAS1R3 Genes, Gender, PROP Taster Status, and Density of Fungiform Papillae in a Genetically Homogeneous Sardinian Cohort.* Nutrients. 2022;14(22):4903.
10. **Melis M.,** Tomassini Barbarossa I, Crnjar R, Sollai G. *Olfactory Sensitivity Is Associated with Body Mass Index and Polymorphism in the Voltage-Gated Potassium Channels Kv1.3.* Nutrients. 2022;14(23):4986.
11. Yousaf, N.Y.; Wu, G.; **Melis, M.**; Mastinu, M.; Contini, C.; Cabras, T.; Tomassini Barbarossa, I.; Zhao, L.; Lam, Y.Y.; Tepper, B.J. *Daily Exposure to a Cranberry Polyphenol Oral Rinse Alters the Oral Microbiome but Not Taste Perception in PROP Taster Status Classified Individuals.* Nutrients **2022**, *14*, 1492.
12. Sollai G., **Melis M.,** Tomassini Barbarossa I., Crnjar R. *A polymorphism in the human gene encoding OBPIIa affects the perceived intensity of smelled odors.* Behav. Brain Res, **2022**; 427:113860.
13. Naciri, L.C.; Mastinu, M.; Crnjar, R.; Tomassini Barbarossa, I.; **Melis, M.** *Automated Classification of 6-n-Propylthiouracil Taster Status with Machine Learning.* Nutrients **2022**, *14*, 252.
14. **Melis, M.**; Haehner, A.; Mastinu, M.; Hummel, T.; Barbarossa, I.T. *Molecular and Genetic Factors Involved in Olfactory and Gustatory Deficits and Associations with Microbiota in Parkinson's Disease.* Int. J. Mol. Sci. **2021**, *22*, 4286.
15. **Melis, M.**; Mastinu, M.; Pintus, S.; Cabras, T.; Crnjar, R.; Tomassini Barbarossa, I. *Differences in Salivary Proteins as a Function of PROP Taster Status and Gender in Normal Weight and Obese Subjects.* Molecules **2021**, *26*, 2244.
16. **Melis M,** Pintus S, Mastinu M, Fantola G, Moroni R, Pepino MY, Tomassini Barbarossa I. *Changes of Taste, Smell and Eating Behavior in Patients Undergoing Bariatric Surgery: Associations with PROP Phenotypes and polymorphisms in the orant-binding Protein OBPIIa and CD36 Receptor Genes.* Nutrients, **2021**, Volume 13, Issue 1, January 2021, Article number 250, Pages 1-22.
17. Sollai, G., **Melis M.,** Mastinu, M., Paduano, D, Chicco, F., Magri, S., Usai, P., Hummel, T., Barbarossa, I.T., Crnjar, R. *Olfactory function in patients with inflammatory bowel disease (Ibd) is associated with their body mass index and polymorphism in the odor binding-protein (obpiia) gene.* Nutrients. **2021**. 13 (2), 1-14.
18. **Melis M.,** Tomassini Barbarossa I., Hummel T., Crnjar R., Sollai G. *Effect of the rs2890498 polymorphism of the OBPIIa gene on the human ability to smell single molecules.* Behavioural Brain Research. **2021**, 402, 113127.
19. Yousaf, N.Y., **Melis, M.**, Mastinu, M., Contini, C., Cabras, T., Barbarossa, I.T., Tepper, B.J. *Time course of salivary protein responses to cranberry-derived polyphenol exposure as a function of prop taster status.* Nutrients, **2020**, 12(9),2878, pp. 1-19.
20. Vascellari S, **Melis M,** Cossu G, Melis M, Serra A, Palmas V, Perra D, Oppo V, Fiorini, Cusano M, Morelli M, Manzin A, Tomassini Barbarossa I. *Genetic variants of TAS2R38 bitter taste receptor associate with distinct gut microbiota traits in Parkinson's disease: A pilot study,* Int. J. Biol. Macromol., **2020**, 165, 665-674.
21. **Melis M\***, Sollai G, Mastinu M, Pani D, Cosseddu P, Bonfiglio A, Crnjar R, Tepper BJ, Tomassini Barbarossa I. *Electrophysiological responses from the human tongue to the six taste qualities and their relationships with PROP taster status.* Nutrients **2020** Jul; 12(7): 2017.
22. Oppo V, Melis M, **Melis M,** Tomassini Barbarossa I and Cossu G *"Smelling and Tasting" Parkinson's Disease: Using Senses to Improve the Knowledge of the Disease Front.* Aging Neurosci. **2020** 12:43.
3. **Melis M,** Mastinu M, Sollai G, Paduano D, Chicco F, Magri S, Usai P, Crnjar R, Tepper BJ and Tomassini Barbarossa I. *Taste Changes in Patients with Inflammatory Bowel Disease: Associations with PROP Phenotypes and polymorphisms in the salivary protein, Gustin and CD36 Receptor Genes.* Nutrients **2020**, *12*, 409; doi:10.3390/nu12020409.
4. **Melis, M,** Errigo, A. Crnjar, R., Pes, G.M. Tomassini Barbarossa I. *TAS2R38 bitter taste receptor and attainment of exceptional longevity* Scientific Report, **2019** Volume 9, Issue 1, Article number 18047. ISSN: 20452322. DOI: 10.1038/s41598-019-54604-1
5. **Melis, M,** Sollai, G., Masala, C. Pisanu, C., Cossu, G., Melis, M., Sarchioto, M., Oppo, V., Morelli, M., Crnjar, R., Hummel, T, Tomassini Barbarossa, I. *Odor identification performance in idiopathic Parkinson's disease is associated with gender and the genetic variability of the olfactory binding protein.* Chemical Senses, **2019** 44(5), 311-318.
6. Sollai, G., **Melis, M.**, Magri, S., Usai, P., Hummel, T., Tomassini Barbarossa, I., Crnjar, R. *Association between the rs2590498 polymorphism of Odorant Binding Protein (OBPIIa) gene and olfactory performance in healthy subjects.* Behavioural Brain Research. **2019**, 372, 17 October, Article number 112030.

27. **Melis M**, Grzeschuchna L, Sollai G, Hummel T, Tomassini Barbarossa I. *Taste disorders are partly genetically determined: Role of the TAS2R38 gene, a pilot study*. THE LARYNGOSCOPE. **2019** Sep;129(9):E307-E312.
28. Sollai G\*, **Melis M\***, Mastinu M, Pani D, Cosseddu P, Bonfiglio A, Crnjar R, Tepper JB, Tomassini Barbarossa I *Human Tongue Electrophysiological Response to Oleic Acid and Its Associations with PROP Taster Status and the CD36 Polymorphism (rs1761667)*. NUTRIENTS, **2019**, vol. 11, p. 315; **\*Equal contribution**.
29. Burgess B, **Melis M**, Scouler K, Driver M, Schaich KM, Keller KL, Tomassini Barbarossa I, Tepper BJ. *Effects of CD36 Genotype on Oral Perception of Oleic Acid Supplemented Safflower Oil Emulsions in Two Ethnic Groups: A Preliminary Study*. J Food Sci. **2018** May;83(5):1373-1380;
30. Cossu G\*, **Melis M\***, Sarchioto M, Melis M, Melis M, Morelli M, Tomassini Barbarossa I. *6-n-propylthiouracil taste disruption and TAS2R38 nontasting form in Parkinson's disease*. Mov Disord. **2018** Aug;33(8):1331-1339.
31. **Melis M**, Mastinu M, Arca M, Crnjar R, Tomassini Barbarossa I. *Effect of chemical interaction between oleic acid and L-Arginine on oral perception, as a function of polymorphisms of CD36 and OBPIIa and genetic ability to taste 6-n-propylthiouracil*. PLoS One **2018** 13(3):e0194953; DOI: 10.1371/journal.pone.0194953;
32. **Melis M\***, Carta G\*, Pintus S, Pintus P, Piras CA, Murru E, Manca C, Di Marzo V, Banni S, Tomassini Barbarossa I. *Polymorphism rs1761667 in the CD36 Gene Is Associated to Changes in Fatty Acid Metabolism and Circulating Endocannabinoid Levels Distinctively in Normal Weight and Obese Subjects*. Front Physiol **2017** Dec 6;8:1006. **\*Equal contribution**.
33. Tepper BJ, **Melis M**, Koelliker Y, Gasparini P, Ahijevych KL, Tomassini Barbarossa I. *Factors Influencing the Phenotypic Characterization of the Oral Marker, PROP*. Nutrients **2017** 23;9(12).
34. Pani D, Usai I, Cosseddu P, **Melis M**, Sollai G, Crnjar R, Tomassini Barbarossa I, Raffo L, Bonfiglio A. *An automated system for the objective evaluation of human gustatory sensitivity using tongue biopotential recordings*. PLoS One. **2017** Aug 2;12(8):e0177246.
35. **Melis M**, Tomassini Barbarossa I. *Taste Perception of Sweet, Sour, Salty, Bitter, and Umami and Changes Due to L-Arginine Supplementation, as a Function of Genetic Ability to Taste 6-n-Propylthiouracil*. Nutrients. **2017** May 25;9(6).
36. Tomassini Barbarossa I, Ozdener MH, **Melis M**, Love-Gregory L, Mitreva M, Abumrad NA, Pepino MY. *Variant in a common odorant-binding protein gene is associated with bitter sensitivity in people*. Behav Brain Res. **2017** Jun 30;329:200-204.
37. Carta G\*, **Melis M\***, Pintus S, Pintus P, Piras CA, Muredda L, Demurtas D, Di Marzo V, Banni S, Barbarossa IT. *Participants with Normal Weight or with Obesity Show Different Relationships of 6-n-Propylthiouracil (PROP) Taster Status with BMI and Plasma Endocannabinoids*. Scientific Reports **2017** May 2;7(1):1361. **\*Equal contribution**.
38. **Melis M**, Yousaf N. Y , Mattes M. Z., Cabras T., Messana I., Crnjar R, Tomassini Barbarossa I. and Tepper B. J. *Sensory Perception and Salivary Protein Response to Astringency as a Function of the 6-n-Propylthiouracil (PROP) Bitter-taste Phenotype*. Physiol Behav. **2017**; 173:163-173.
39. Sollai, G\*; **Melis, M\***; Pani, D.; Cosseddu, P.; Usai, I.; Crnjar, R.; Bonfiglio, A.; Tomassini Barbarossa, I. *First objective evaluation of taste sensitivity to 6-n-propylthiouracil (PROP), a paradigm gustatory stimulus in humans*. Scientific Reports **2017**, 7, 40353; DOI: 10.1038/srep40353 **\*Equal contribution**.
40. **Melis M**, Sollai G, Muroi P, Crnjar R, Barbarossa IT. *Associations between orosensory perception of oleic acid, the common single nucleotide polymorphisms (rs1761667 and rs1527483) in the CD36 gene, and 6-n-propylthiouracil (PROP) tasting*. Nutrients **2015** 7: 2068-2084.
41. **Melis M**, Arca M, Aragoni MC, Cabras T, Caltagirone C, et al. *Dose-Dependent Effects of L-Arginine on PROP Bitterness Intensity and Latency and Characteristics of the Chemical Interaction between PROP and L-Arginine*. PLoS One **2015**, 10: e0131104.
42. Solari P, **Melis M**, Sollai G, Masala C, Palmas F, et al. *Sensing with the legs: contribution of pereopods in the detection of food-related compounds in the red swamp crayfish*. Journal of Crustacean Biology **2015** 35: 81-87;
43. Tomassini Barbarossa I, **Melis M**, Mattes MZ, Calò C, Muroi P, Crnjar R, Tepper BJ. *The gustin (CA6) gene polymorphism, rs2274333 (A/G), is associated with fungiform papilla density, whereas PROP bitterness is mostly due to TAS2R38 in an ethnically-mixed population*. Physiol Behav **2015** 138C:6-12.
44. Tepper BJ, Banni S, **Melis M**, Crnjar R, Tomassini Barbarossa I. *Genetic Sensitivity to the Bitter Taste of 6-n-Propylthiouracil (PROP) and Its Association with Physiological Mechanisms Controlling Body Mass Index (BMI)*. Nutrients **2014**, 6(9): 3363–3381;
45. **Melis M**, Aragoni MC, Arca M, Cabras T, Caltagirone C, Castagnola M, Crnjar R, Messana I, Tepper BJ, Barbarossa IT. *Marked increase in PROP taste responsiveness following oral supplementation with selected salivary proteins or their related free amino acids*. PLoS One **2013**, 8(3):e59810;
46. **Melis M**, Atzori E, Cabras S, Zonza A, Calò C, Muroi P, Nieddu M, Padiglia A, Sogos V, Tepper BJ, Tomassini Barbarossa I. *The gustin (CA6) gene polymorphism, rs2274333 (A/G), as a*

	<p><i>mechanistic link between PROP tasting and fungiform taste papilla density and maintenance. PLoS One 2013, 8(9):e74151;</i></p> <p>47. Tomassini Barbarossa I, Carta G, Murru E, <b>Melis M</b>, Zonza A, Vacca C, Muroni P, Di Marzo V, Banni S. <i>Taste sensitivity to 6-n-propylthiouracil is associated with endocannabinoid plasma levels in normal-weight individuals. Nutrition 2013, 29(3):531-536.</i></p> <p>48. Cabras T, <b>Melis M</b>, Castagnola M, Padiglia A, Tepper BJ, Messina I, Tomassini Barbarossa I. <i>Responsiveness to 6-n-Propylthiouracil (PROP) is associated with salivary levels of two specific basic Proline-rich proteins in Humans. PLOS One 2012, 7(2): e30962.</i></p>
<p><i>In compliance with the Italian legislative Decree no. 196 dated 30/06/2003, I hereby authorize you to use and process my personal details contained in this document.</i></p>	

Place, date

Cagliari, April 7, 2025

Signature  
