

Curriculum Vitae

Dr. Maddalena Parafati, MBiol., MBiot., Ph.D.



Department of Pharmacodynamics, University of Florida, e-mail: mparafati@cop.ufl.edu

PROFESSIONAL EXPERIENCE

Research Assistant Professor at the Department of Pharmacodynamics, University of Florida

Maddalena Parafati received her PhD in Pharmaceutical Science from the University Magna Graecia of Catanzaro (Italy) in 2010, where she won the Doctoral Research Abroad Program award as Ph.D. Student to conduct her research dissertation abroad in the Drug Discovery Laboratory at Southern Research Institute (USA) (2008-2010). Previously, she obtained two masters in Biological Science and, won a National Scholarships award for the Master in Biotechnology, both obtained at Sapienza University of Rome (Italy). She had experience in the biotechnology industry as Research Scientist at Eisai Co. (UK) (2012-2014). She conducted her postdoctoral research trainings at University Magna Graecia of Catanzaro (2010-2012; 2014-2015; 2018-2020) and at Sanford Burnham Prebys Conrad Prebys Center for Chemical Genomics (USA) (2015-2017), a state-of-the-art drug discovery center. Later on, she was promoted as Scientist, Associate in the same outstanding academic research institute (2017-2018). She continued her education and in 2019 she obtained a Master in the field of Assisted Reproductive Technology at Sapienza University of Rome. In 2020, she joined as a Research Assistant Professor the Department of Pharmacodynamics at the University of Florida, which stands on top among public universities in the U.S.

During her postdoc she tested Bergamot polyphenols *in vivo* models of NAFLD, for the prevention and treatment of steatosis. She leveraged her ability to make primary astrocytes from WT and NQO2 KO mice, to investigate the role of NQO2 enzyme in autophagy for maintaining astrocytic functions. She developed platforms for the development of therapeutic antibodies targeting Amyloid- β and phospho-tau for passive immunotherapy in Alzheimer's disease. She established the use of stem cells as iPSC-derived hepatocyte phenotypic screening platform for research in NAFLD by utilizing AstraZeneca company's annotated library. Recently, her research is centered around miniaturized human-engineered skeletal muscle tissues-on-a-chip, aiming to gain new insights into cellular adaptations of skeletal muscle to microgravity aboard the International Space Station, through a collaboration between NCATS at NIH and CASIS in partnership with NASA. Her scientific interests lie in exploring how microgravity may provide new insight on advancing our understanding of mechanically driven biology and disease and devising new therapeutics in this extreme environment. Currently, her 3D muscle tissues on-a-chip system have been part of the SpaceX CRS-25 and -26 missions, transferred from the Dragon Capsule on-board of the ISS, and returned crucial scientific data to Earth. She aims to identify age-related biomarkers and their future use in drug discovery for hepatic steatosis, neurodegeneration and muscle atrophy. She develops 3D human disease models for omic studies, RNA/DNA sequencing, proteomics and secretome. She supervised multi-disciplinary, national and international, research students. In her role, she is an invited peer-reviewer of several journal articles and she co-authored several original journal publications, including high-quality journals in her field such as British J. of Pharmacology, Autophagy, J. Nutritional Biochemistry, Disease Model and Mechanism, Aging Cell, Scientific Report and Nature PJ Microgravity.

Her detailed *Curriculum Vitae* is available at

<https://www.linkedin.com/in/maddalena-parafati-ph-d-mbiol-mbiot-a4957619/>

<https://pharmacy.ufl.edu/profile/parafati-maddalena/>