

SHORT CV

FLAMINIA CESARE MARINCOLA

Qualifications

1989-1994: Master's Degree in Chemistry with final grade 110/110 cum laude

1996-1999: PhD in Chemical Sciences, University of Sassari (Degree awarded on 14.01.2000)

PhD Thesis Title: *"Study of DNA interactions with organic ligands and metal ions by ^{23}Na NMR quadrupolar relaxation."* The aim of the thesis was to investigate DNA complexes in isotropic solution with divalent metal ions, intercalators, and groove binders, using ^{23}Na (the natural counterion of DNA) as a probe. This allowed the development of a useful technique for characterizing the structural and dynamic properties of such complexes. The knowledge gained during the PhD years laid the foundation for further research, particularly focused on drug-DNA complexes where DNA is organized in liquid crystalline phases (similar to lyotropic mesogens observed in vivo in certain cellular systems) or in G-quadruplex structures, found in telomeres—guanine-rich chromosomal regions essential for correct genetic material replication.

2001-2002: Technical Collaborator, assigned to the CHIM/02 – Physical Chemistry field, at the NMR Laboratory, Department of Chemical Sciences, University of Cagliari

2002-2019: University Researcher (CHIM/02 – Physical Chemistry), Department of Chemical and Geological Sciences, Faculty of Biology and Pharmacy, University of Cagliari

Since 2019: Associate Professor (CHIM/02 – Physical Chemistry), Department of Chemical and Geological Sciences, University of Cagliari

International Work Experience

1996-1997: Research activity at the Battelle Memorial Institute, Columbus, Ohio, USA, focusing on the development of analytical techniques for detecting chemical pollutants in the air.

1998: Research activity at the Department of Physical Chemistry, Chalmers University of Technology, Gothenburg, Sweden (October 7 – December 18, 1998) as part of PhD research.

1999: Research activity at the Department of Physical Chemistry, Chalmers University of Technology, Gothenburg, Sweden (July 14 – August 10, 1999) as part of PhD research.

2002-2003: Visiting researcher at the Department of Biophysical Chemistry, Lund University, Sweden.

Scientific Participation in Research Projects

- **RAS LR 7/2007 (Promotion of scientific research and technological innovation in Sardinia) – 2010 Call:** *"Chemometric applications for the evaluation and comparison of the quality of Sardinian sheep cheeses produced with indigenous health-promoting microorganisms."*

- **RAS LR 7/2007 – 2015 Call – "Highly qualified human capital":** *"Metabolomic analysis for predictive evaluation of the metabolic state in Sardinian newborns from diabetic mothers."*
- **Projects funded by the Sardinia Foundation – 2017 Call:** *"Integrative analysis of the impact of pre-, peri-, and post-natal factors on the microbiota and metabolome of newborns."* Scientific Coordinator: Vassilios Fanos.
- **RAS LR 7/2007 – Promotion of scientific research and technological innovation in Sardinia (FSC 2014-2020 resources - Development Pact for the Sardinia Region) – 2017 Call:** *"Acute hypoxia during physical exercise: effects on circulatory regulation, body composition, and metabolome in humans and animal models."* Scientific Coordinator: Antonio Crisafulli.
- **CCM (National Center for Disease Prevention and Control) – 2017:** *"Environment, fetal epigenetic programming, and prevention of chronic diseases."*
- **Projects funded by the Sardinia Foundation – 2019 Call:** *"Lizard-tail Nanoparticles for Minimizing Protein Corona and Modulating Interactions at the Bio-nano Interfaces."* Scientific Coordinator: Andrea Salis.
- **Projects funded by the Sardinia Foundation – 2022 Call:** *"Rational Design and Eco-Friendly Synthesis of G-Quadruplex Binders to Attack Viral Nucleic Acids."* Scientific Coordinator: Andrea Porceddu.
- **European Project LIFE18 ENV/IT/000460 – 2019:** *"Reducing the impact of endocrine disruptors in human breast milk to support public health" – LIFE MILCH.*

Cagliari, 30.06.2025