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Born July 20, 1962 in Luanda, Angola  
CNRS Senior Scientist

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## Education

1980-86 Bachelor in Physics, University of Lisbon. Master in Physics, University of Lyon I.

1986-89 PhD: Polymers at Interfaces. ENS Lyon, University of Lyon I.

1994 Habilitation. University of Strasbourg.

## Professional Career

1987-89 Teaching assistant at the Ecole Normale Supérieure de Lyon.

1989-95 CNRS Research Scientist at Institut Charles Sadron, Strasbourg.

1989-90 Post Doctoral position, Cavendish Laboratory, Cambridge.

1995-96 Sabbatical leave, University of California in Santa Barbara.

1996-98 C.N.R.S.-Rhodia-Princeton University Complex Fluid Laboratory, visiting scientist Princeton University.

1998-22 CNRS Research Scientist, Institut Charles Sadron, University of Strasbourg. Senior Scientist since 2002

2022- CNRS Senior Scientist, Chemistry Laboratory, Ecole Normale Supérieure de Lyon.

## Awards

1994 Bronze CNRS Medal; 1999 CNRS Equipes Jeunes ACI; 2004 Alsace Research Award.

## Teaching Experience

1987-89 Condensed Matter and Quantum Mechanics. ENS-Lyon and ULP Strasbourg

1993 Self-Assembled Systems, Curso de Pós-Graduação. USP, Brazil.

1993-95 Polymer Physics. Ecole Supérieure de Plasturgie, Oyonnax.

1998 Physics of Membranes, Short Course. Princeton University.

2004-19 A Random Walk in Soft Land. UNAM, Mexico. USP, Brazil. University of Strasbourg

1999-19 Kinetics of Soft Matter and Advanced Soft Matter, University of Strasbourg.

## 150<sup>+</sup> publications, choice of 7

- [062] [Impact of Polymer Tether Length on Multiple Ligand-Receptor Bond Formation](#). Jeppesen, C. *et al. Science*, 2001, **293**, 465. [A quantitative study of the role of ligand spacers on bio-adhesion](#).
- [081] [Photo-induced Destruction of Giant Vesicles in Methylene Blue Solutions](#). Caetano, W. *et al. Langmuir*, 2007, **23**, 1307. [First visualisation of photo-induced oxidation of lipid membranes](#).
- [107] [Gel-Assisted Formation of Giant Unilamellar Vesicles](#). Weinberger, A. *et al. Biophys. J.*, 2013, **105**, 154. [The easiest, fastest and most universal giant unilamellar vesicle's growing method](#).
- [110] [Enhanced Chemical Synthesis at Soft Interfaces: A Universal Reaction-Adsorption Mechanism in Micro-compartments](#). Fallah-Araghi, A. *et al. Phys. Rev. Lett.*, 2014, **112**, 028301. [Was life born in a droplet?](#)
- [113] [Polymer collapse in miscible good solvents is a generic phenomenon driven by preferential adsorption](#). Mukherji, D. *et al. Nature Communications*, 2014, **5**, 4882. [A counterintuitive simple explanation](#).
- [141] [The Giant Vesicle Book](#). Ed. R. Dimova and C. Marques, Boca Raton, [CRC Press](#) 2019.
- [148] [Accumulation of styrene oligomers alters lipid membrane phase order and miscibility](#). Morandi, M.I. *et al. PNAS*, 2021, **118**, e2016037118. [The hidden threat of plastic pollution](#).
- [155] [Activation energy for pore opening in lipid membranes under an electric field](#). Lafarge, E.J. *et al. PNAS*, 2023, **120**, e2213112120. [Biomembrane pores open under an electric field. But do we know why?](#)

## Present Research

The science of lipid membranes: giant unilamellar vesicles as lipid bilayer platforms; lipid oxidation; pore formation; DNA, peptide and nanoparticle interactions with lipid membranes; specific adhesion; reaction-diffusion and confinement ... and also co-non-solvency; fiber compression; pebble erosion ...

