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PEDRO TARAZONA LAFARGA Full Professor
Statistical Physics of Complex Liquids and
Biophysics

Work Module 5, Office 602, 6th floor.

Biographical Info

Born in Barbastro (Huesca, Spain) 1955.

Married (1993), two children (1994, 1999).

Graduate in Physics Universidad Autonoma de Madrid, 1977.

Ph.D. Universidad Autonoma de Madrid, 1981, Supervisor: Guillermo Navascues.

Postdoctoral University of Bristol (UK), 1981-1983.

Associate Professor, Universidad Autonoma de Madrid, 1985-1995.

Sabbatical Universität Wien, 1991.

Full Professor, Universidad Autonoma de Madrid, since 1995.

Academic responsibilities at Universidad Autonoma de Madrid along the time:

Coordinator for the Degree in Physics, Director of the Master in Biophysics, Head of the Department.

Research responsibilities: Member of the Network Panel in Physics (CE) by ESF proposal. Coordinator for Physics and Mathematics in the Spanish Agency for Scientific Evaluation and Prospective (ANEP), 1996-1999.

Member of the Liquids Board of the EPS 1999-2002.

Member of the C6 (Biological Physics) Commission of the IUPAP (2011-14).

Honors and Awards

Graduation Award "Premio Extraordinario de Licenciatura" at the Universidad Autonoma de Madrid 1977.

Medal of the Spanish Royal Society of Physics (RSEF) 2014.

Research Interests

Soft Condensed Matter Physics and Biophysics: phase transitions, liquids, crystallization, liquid crystals, density functional approximations and extension to dynamical properties.

Fluctuations in fluid interfaces, capillary waves and mesoscopic surface hamiltonian. Lipid membranes, foams and Newton black films.

Evolutionary dyanmics, molecular quasi-species and ARN folding.

Protein filament: mesoscopic descriptions of FtsZ and the link to membrane deformation and segregation.

Relevant/Recent Publications

Effect of dispersion forces on the capillary-wave fluctuations of liquid surfaces, by E. Chacon, E.M. Fernandez and P. Tarazona, Phys. Rev. E 89, 042406 (2014). [\[URL\]](#)

Torsion and curvature of FtsZ filaments, by P. Gonzalez de Prado Salas, Pablo, et al. Soft Matter 10, 1977 (2014). [\[URL\]](#)

Intrinsic Fluid Interfaces and Nonlocality, by E.M. Fernandez, et al., Phys. Rev. Lett 111, 096104 (2013). [\[URL\]](#)

Depolymerization dynamics of individual filaments of bacterial cytoskeletal protein FtsZ, by P. Mateos-Gil, et al., PNAS 109, 8133 (2012). [\[URL\]](#)

Hydrodynamics of nanoscopic capillary waves, by R. Delgado-Buscalioni, E. Chacon and P. Tarazona, Phys. Rev. Lett. 101, 106102 (2008). [\[URL\]](#)

Density functional theories of hard particle systems, by P. Tarazona, J.A. Cuesta and Y. Martinez-Raton, Lectures Nortés in Physics, 753, 247-341, Springer-Verlag (2008). [\[URL\]](#)

Density Functional for Hard Sphere Crystals: A Fundamental Measure Approach, by P. Tarazona, Phys. Rev. Lett. 84, 694 (2000). [\[URL\]](#)

Dynamic density functional theory of fluids, by U. Marini Bettolo Marconi and P. Tarazona, J. Chem. Phys. 110, 8032 (1999). [\[URL\]](#)

Free energy density functional for hard-spheres, by P. Tarazona, Phys. Rev. A 31, 2672 (1985). [\[URL\]](#)

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