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**ENRIQUE VELASCO CARAVACA** Professor  
Statistical Physics of Complex Liquids and  
Biophysics

Work Module 5, Office 605, 6th floor.

### Biographical Info

Staff member in Universidad Autónoma de Madrid since 2000.

Postdoctoral positions in University of Copenhagen and University of Southampton.

PhD in Physics (Universidad Autónoma de Madrid, 1991).

Physics Degree (Universidad Autónoma Madrid, 1985).

### Research Interests

Theory of Complex Fluids.

Statistical Physics of Liquids.

Computer Simulation of Classical Systems.

Numerical Integration of Dynamical Equations.

### Relevant/Recent Publications

Domain walls in two-dimensional nematics confined in a small circular cavity, D. de las Heras and E. Velasco, *Soft Matter* 10, 1758 (2014). [\[URL\]](#)

Hard rods in a cylindrical pore: the nematic-to-smectic transition, S. Varga, Y. Martínez-Ratón, and E. Velasco, *J. Phys. Cond. Matt.* 26, 075104 (2014). [\[URL\]](#)

Interplay between columnar and smectic stability in suspensions of polydisperse colloidal platelets, E. Velasco and Y. Martínez-Ratón, *Phys. Chem. Chem. Phys.* 16, 765 (2013). [\[URL\]](#)

Liquid-crystal patterns of rectangular particles in a square nanocavity, M. González-Pinto, Y. Martínez-Ratón and E. Velasco, *Phys. Rev. E* 88, 032506 (2013). [\[URL\]](#)

Two-dimensional nematics in bulk and confined geometries, D. de las Heras, Y. Martínez-Ratón, L. Mederos and E. Velasco, *J. Mol. Liq.* 185, 13 (2013). [\[URL\]](#)

Dimensional crossover of hard parallel cylinders confined on cylindrical surfaces, Y. Martínez-Ratón and E. Velasco, Phys. Rev. E 87, 052314 (2013). [\[URL\]](#)

Effect of polydispersity, bimodality and aspect ratio on the phase behavior of colloidal platelet suspensions, Y. Martínez-Ratón and E. Velasco, J. Chem. Phys. 137, 134906 (2012). [\[URL\]](#)

Mechanisms of Budding of Nanoscale Particles through Lipid Bilayers, T. Ruiz-Herrero, E. Velasco and M. F. Hagan, J. Phys. Chem. 116, 9595 (2012). [\[URL\]](#)

Theory and simulation of the confined Lebwohl-Lasher model, R. G. Marguta, Y. Martínez-Ratón, N. G. Almarza and E. Velasco, Phys. Rev. E 83, 041701 (2011). [\[URL\]](#)

Effect of polydispersity and soft interactions on the nematic versus smectic phase stability in platelet suspensions, Y. Martínez-Ratón and E. Velasco, J. Chem. Phys. 134, 124904 (2011). [\[URL\]](#)

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