Mark Bowick

Professor, Physics and Director of Soft Matter Program

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Physics Department
317 Physics Building
Phone: 315-443-5979

Curriculum Vitae

Research Interests

- Soft Matter.
- Interplay of order and geometry.
- Building blocks for supramolecular self-assembly.
- Shaped structures.
- Topological defects and common themes in condensed matter and particle physics.

News Articles

Syracuse Scientists Host University of Calcutta Official

Syracuse Physicists Explore Biomimetic Clocks

Education

1983	Ph.D. in Physics California Institute of Technology
1979	M.S. in Physics California Institute of Technology
1977	B.Sc. (Honors) University of Canterbury, New Zealand

Awards & Professional Honors

- First prize award in the 1986 Gravity Research Foundation Essay Competition
- Outstanding Junior Investigator Award, D.O.E., 1987-1994
- Fellow of the American Physical Society, DCMP, 2004-present.
- Chancellor's Citation for Exceptional Academic Achievement, Syracuse University, 2006
- William Wasserstrom Prize for Excellence in Graduate Teaching and Advising, Syracuse University, 2009

Selected Publications

Bowick, MJ et al; The Cosmological Kibble Mechanism in the Laboratory – String Formation in Liquid-Crystals, Science 263 943 (1994).

Bausch, A.R et al; Grain boundary scars and spherical crystallography, Science 299 1716 (2003).

Bowick, MJ and Travesset, A, The statistical mechanics of membranes, Phys. Rep. 344 255 (2001).

Bowick, MJ and Wijewardhana, LCR, Superstrings at High Temperature, Phys. Rev. Lett. 54 2485 (1985).

Bowick, MJ and Giomi, L, Two-Dimensional Matter: Order, Curvature and Defects, Adv. Phys. 58 449 (2009).

College Directories

Arts and Sciences Faculty

Full Time Faculty, By Department

Instructors, By Department

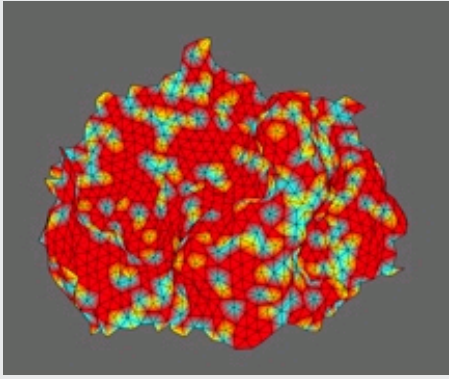
Humanities Faculty Fellows

Physics

Syracuse University Directory

Arts and Sciences Directory Lists

Research Spotlight



A snapshot of a hexatic membrane with its characteristic dislocations (yellow-blue dimers). Any sufficiently flexible elastic membrane with finite bond energies will melt via the formation of such dislocations to create a fluctuating analog of a bond-orientationally ordered planar hexatic. Mark Bowick, Chapter 11 in "Statistical mechanics of Membranes and Surfaces", ed. by D.R. Nelson, T. Piran and S. Weinberg (World Scientific, Singapore, 2004)