The Distinguished UIC Physics Department James S. Kouvel Lecture Series

Michael E. Fisher FRE HonFRSE

Distinguished University Professor and
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PICTURES, MODELS, APPROXIMATIONS, and REALITY: Phase Transitions and the Role of Theory and Experiment

Ways in which theoretical physicists try to understand the real world as embodied in experimental observations will be explored. Through the medium of a domino game on a large checkerboard, the rapier-like specific heat of superfluid helium, and the visual effects seen when a liquid and its vapor merge to form a supercritical fluid, the talk will address the question: "What is the role of the theorist in modern science?" The power of analogy based on physical pictures and simple models will be illustrated in the context of ideas concerning phase transitions and critical phenomena in fluids and magnets. The significance of concepts of shape and singularity in the search for universality will be explained; the role of symmetry and dimensionality in our insights will be touched on.

Wednesday, April 24th, 2:30 pm
Events Center in James Stukel Towers
718 W. Rochford St. (next to UIC Forum)

Refreshments will be served at 2:00 pm outside of the Events Center

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