



量子材料科学中心 International Center for Quantum Materials

Seminar

“Emergence of Order in Physical, Chemical and Biological Systems”



Prof. Harry L. Swinney
Department of Physics,
University of Texas at Austin

Time: 4:00 pm, Jun. 13. 2011 (Monday)

时间: 2011年6月13日 (周一) 下午4:00

Venue: Conference Room A (607), No. 5 Science Building

地点: 理科五号楼607会议室

Abstract

The emergence of patterns is one of the world's most durable mysteries. Some patterns (clouds, zebra stripes) form in space, while others (the ebb and flow of tides, cardiac rhythms) form in time. Although there is no general theory of pattern formation in systems far from thermodynamic equilibrium, new analysis techniques enable quantitative comparisons of patterns such as the spirals in a frog egg, a fibrillating heart, and an ocean eddy. Insight into pattern formation in diverse systems of different sizes and different underlying mechanisms can be gained from a common approach, as will be illustrated with examples from chemistry, physics, and biology.

About the Speaker

Prof. Harry L. Swinney obtained his PhD degree in Physics from Johns Hopkins University in 1968. He has been a Professor in City College of CUNY. Now he works as Sid Richardson Foundation Regents Chair and Trull Centennial Professor in University of Texas at Austin. His research interests range from chemical patterns and instabilities, granular media to electrodeposition and channel flow. University of Texas at Austin awarded him the Career Research Excellence Award in 1997 and American Association for the Advancement of Science entitled him fellow in 1999.