

Gordon Research Conference on Condensed Matter Physics

June 22--27, 2003, Connecticut College

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<http://www.kiis.or.jp/rekishi/kyoto/img0073-e.html>

soft corrals for electrons and atoms

"Soft corrals" are deformable materials such as flexible, organic molecules or deformable surface structures that shape electronic states and electron transport at the mesoscopic scale of tens of nanometers or less. New forms of mesoscopic confinement and new resulting electronic behavior are rapidly emerging. These include electronic propagation, magnetic ordering and concerted atomic motion.

Topics:

- Materials
 - surfactant micelles
 - surfactant monolayers
 - metal surfaces
 - chemisorbed small molecules
 - organic molecules
 - polymers and copolymers
 - carbon nanotubes
 - nanoclusters and nanorods
- Corral formation by
 - molecular structure
 - micelles
 - surface reconstruction
 - copolymers
 - ionic complexes
 - single-atom positioning
- Propagation via...
 - tunneling
 - dipolar excitation
 - delocalized molecular states
 - spin density waves
- ...as probed by
 - gated currents
 - scanning probe microscopy
 - fast spectroscopy
 - electron microscopy

Speakers:

[Harry Atwater](#), Harvard University
[David Awschalom](#), University of California, Santa Barbara
[Paul Barbara](#), University of Texas, Austin
[Sam Bader](#), Argonne National Laboratory
[Paul Chaikin](#), Princeton University
[Dongmin Chen](#), Roland Institute
[Leonid Glazman](#), University of Minnesota
[Andreas Heinrich](#), IBM San Jose
[Heinrich Jaeger](#), University of Chicago
[Charles Kane](#), University of Pennsylvania
[Victor Klimov](#), Los Alamos National Laboratory
[Robert Magerle](#), Universitaet Bayreuth, Germany
[Hongkun Park](#), Harvard University
[Dan Ralph](#), Cornell University
[Jacob Sagiv](#), Weizmann Institute of Science
[Kunio Takayanagi](#), Tokyo Institute of Technology
[Edwin L. Thomas](#), Massachusetts Institute of Technology
[T. Mitch Wallis](#), University of California, Irvine
[R. Bruce Weisman](#), Rice University
[Paul S. Weiss](#), Pennsylvania State University
[Ellen D. Williams](#), University of Maryland
[Gerard Wong](#), University of Illinois, Urbana