

# Continuous Advances in QCD

May 12-14, 2000

## **Friday, May 12**

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3-180 EE/Csci

8:15 - 9:00 a.m. Registration

9:00 - 9:05 a.m. Welcome

9:05 - 9:40 a.m. Konishi  
"Dynamics of Supersymmetric  $SU(n_c)$  and  $USp(2n_c)$  Gauge Theories "

9:40 - 10:15 a.m. Andrei Smilga, Univ. Nantes  
"Vacuum States in  $N=8$  Gauge Supersymmetric Quantum Mechanics with Any Gauge Group"

10:15 - 11:00 a.m. Coffee Break

11:00 - 11:35 a.m. Piet Brouwer, Cornell University  
"Fluctuating Spin  $g$ -tensor in Small Metal Grains"

11:35 - 12:10 a.m. Dan C. Ralph, Cornell University  
"Interacting-Electron States inside Ferromagnetic and Superconducting Particles"

12:10 - 2:00 p.m. Lunch, Humphrey Room, Radisson Hotel Metrodome

### **Afternoon session – Humphrey Room, Radisson Hotel Metrodome**

2:00 – 2:35 p.m. Marc Kastner, Massachusetts Institute of Technology  
"Kondo and Fano Line Shapes in the Conductance of Single Electron Transistors"

2:35 – 3:10 p.m. Leo Kouwenhoven, Technical University Delft  
"New Results on the Kondo Effect in Quantum Dots and Rings"

3:10 – 3:40 p.m. Coffee Break

- 3:40 - 4:15 p.m. Doug Stone, Yale University  
"Suppression of Ground-State Magnetization Due to Interaction Fluctuations"
- 4:15 - 4:50 p.m. Charlie Marcus, Stanford University  
"Mesoscopics with Spin"
- 4:50 - 5:25 Albert Chang, Purdue University  
"Transport Investigations of Small GaAs/Al<sub>x</sub>Ga<sub>1-x</sub>As Quantum Dots"

## **Saturday, May 13**

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Humphrey Room, Radisson Hotel Metrodome

- 9:00 - 9:35 a.m. Mike Tinkham, Harvard University  
"Quantum Suppression of Superconductivity in Ultrathin Nanowires"
- 9:35 - 10:10 a.m. John Clarke, Lawrence Berkeley National Lab  
"The Effects of Dissipation on Quantum Fluctuations in Small Junctions"
- 10:10 - 10:40 a.m. Coffee Break
- 10:40 - 11:15 a.m. Anton Andreev, University of Colorado  
"Coulomb Blockade Oscillations in the Thermopower of Open Dots"
- 11:15 - 11:50 a.m. Igor Aleiner, SUNY, Stony Brook  
"Mesoscopic Fluctuations of Coulomb Drag"
- 11:50 - 2:00 p.m. Lunch, Humphrey Room, Radisson Hotel Metrodome

### **Afternoon Session - Humphrey Room, Radisson Hotel Metrodome**

- 2:00 - 2:35 p.m. Charlie Kane, University of Pennsylvania  
"Electronic Transport in Carbon Nanotubes"
- 2:35 - 3:10 p.m. Paul L. McEuen, UC Berkeley  
"Carbon Nanotubes - a (Nearly) Ideal 1D Conductor"
- 3:10 - 3:45 p.m. Leon Balents, UC Santa Barbara  
"Spin and Charge Transport in Carbon Nanotubes"
- 3:45 - 4:15 p.m. Coffee Break

- 4:15 - 4:50 p.m. Uri Sivan, Technion, Israel  
"1D Crystallization of Positively Charged Colloids on DNA - Low Temperature Physics at Room Temperature"
- 4:50 - 5:25 p.m. Alexander van Oudenaarden, Massachusetts Institute of Technology  
"Brownian Ratchets and Stochastic Phenomena in Biology"

### **Sunday, May 14**

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Humphrey Room, Radisson Hotel Metrodome

- 9:00 - 9:35 a.m. David Awschalom, UC Santa Barbara  
"Optical Manipulation of Electron and Nuclear Spin States in Semiconductors"
- 9:35 - 10:10 a.m. Yoram Alhassid, Yale University  
"Interaction Effects on the Conductance Peak Fluctuations in Quantum Dots"
- 10:10 - 10:40 a.m. Coffee Break
- 10:40 - 11:15 a.m. Yuval Gefen, Institute for Advanced Study, Princeton  
"Scrambling of Electrons in Quantum Dots and the Anderson Orthogonality Catastrophe"
- 11:15 - 11:50 a.m. Harold Baranger, Duke University  
"Kinks in Coulomb-Blockade Peak Positions: Theory and Experiment"