**THIRD IFT WORKSHOP***

# QUANTUM IMPURITY PROBLEMS

*Paynes Prairie Room, 282 Reitz Union*

**Friday, February 24, 1995**

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| 8:00 a.m. | Registration and Coffee |
| 8:45 a.m. | Welcome: **President John Lombardi** |
| 9:00 a.m. | **D. Cox**, The Ohio State University<br>*"Relevance of the Two-Channel Kondo Model to Heavy Fermion Materials: A Critical Assessment"* |
| 9:45 a.m. | **M.B. Maple**, University of California, San Diego<br>*"Non-Fermi Liquid Ground States in Strongly Correlated f-electron Materials "* |
| 10:30 a.m. | **Break** |
| 10:45 a.m. | **D. Ralph**, Harvard University<br>*"Kondo Scattering from Magnetic Impurities and Two-Level Tunneling Systems in Nanometer-Scale Metal Constrictions"* |
| 11:30 a.m. | **A. Ludwig**, University of California, Santa Barbara<br>To Be Announced |
| 12:15 p.m. | **Lunch** |
| 1:15 p.m. | **H. Schoeller**, Simon Fraser University<br>*"Mesoscopic Quantum Transport of Strongly Correlated Electrons"* |
| 2:00 p.m. | **A. Zawadowski**, Institute of Physics, Budapest<br>*"Realistic Realization of Two-Channel Kondo Problem by Two-Level Systems in Metals"* |
| 2:30 p.m. | **Ned Wingreen**, NEC<br>To Be Announced |

*Sponsored in part by the National Science Foundation and the National High Magnetic Field Laboratory.

2:50 p.m. **Break**

3:05 p.m. **N. Andrei**, Rutgers University
*"Elementary Excitations and Fixed-Point Structure of the Anisotropic Multichannel Kondo Model"*

3:25 p.m. **R. Osborn**, Argonne National Laboratory
*"Non-Fermi Liquid Scaling of the Magnetic Response of $UCu_{5-x}Pd_x$ (x=1, 1.5)"*

3:45 p.m. **A. Sengupta**, AT&T Bell Laboratories
*"The Two-Impurity, Two-Channel Kondo Model"*

4:05 p.m. **L.P. Gor 'kov**, National High Magnetic Field Laboratory
*"Effect of Finite Concentration in Magnetic Alloys"*

4:25 p.m. **A. Schiller**, University of Florida
*"An Exactly Solvable Nonequilibrium Kondo Problem"*

4:45 p.m. **K. Matveev**, Massachusetts Institute of Technology
*"Coulomb Blockade as a Multi-Channel Kondo Problem"*

5:05 p.m. **A. Furusaki**, Massachusetts Institute of Technology
*"Transport Through a Quantum Dot as a Quantum Impurity Problem"*

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**Saturday, February 25, 1995**

9:00 a.m. **D. Ginsberg**, University of Illinois, Urbana-Champaign
*"Transport Experiments in Pure and Doped High-Temperature Superconductors"*

9:45 a.m. **K. Levin**, University of Chicago
*"Impurity Effects and Order Parameter Symmetry in High-Temperature Superconductors "*

10:30 a.m. **Break**

10:45 a.m. **D. Poilblanc**, Universite Paul Sabatier, Toulouse
*"Resonant Impurity Scattering in a Strongly Correlated Electron Model "*

11:30 a.m. **A. Balatsky**, Los Alamos National Laboratory
*"Impurity States and Absence of Quasiparticle Localization in Disordered d-wave Superconductor"*

12:15 p.m. **Lunch**

1:15 p.m. **POSTER SESSION - Suwannee River Room, 284 Reitz Union**

2:00 p.m. **V. Emery**, Brookhaven National Laboratory
*"Some Exact Results for Dynamical Impurity Problems from Abelian Bosonization"*

2:45 p.m. **M.P.A. Fisher**, University of California, Santa Barbara
*"Impurity Scattering and Transport in 1D Luttinger Liquids"*

3:30 p.m. **Break**

3:45 p.m. **D. Haldane,** Princeton University
*"Stability of Quantum Hall Edge States: Contacts and Impurities"*

4:05 p.m. **S. Eggert**, Chalmers University of Technology
*"Exotic Boundary Effects from Impurities in Spin-1/2 Chains"*

4:25 p.m. **E. Fradkin**, University of Illinois, Urbana-Champaign
*"Bosonization Rules in ½ + 1 Dimensions"*

4: 45 p.m. **J. Giapintzakis**, University of Illinois, Urbana-Champaign
*"Effects of Electron Irradiation on High-Temperature Superconductors"*

5:05 p.m. "**F. Wenger**, Chalmers University of Technology
*"Strong Vertex Corrections from Weak Disorder in 2D d-Wave Superconductors"*

7:30 p.m. **Dinner Party - vans leave from Holiday Inn**

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**Sunday, February 26, 1995**

9:00 a.m. **G. Kotliar**, Rutgers University
*"Correlated Electrons in Large Dimensions: Exact Statements and a Few Surprises "*

9:45 a.m. **M. Jarrell**, University of Cincinnati
*"Anomalous Normal-State Properties of the Infinite-Dimensional Hubbard Model"*

10:30 a.m. **Break**

10:45 a.m. **D. Vollhardt**, Technische Hochschule Aachen
*"Magnetic and Metamagnetic Phase Transitions in Correlated Electron Systems: A Large-d Study"*

11:30 a.m. **D. Fisher**, Harvard University
*"Holes in Antiferromagnets via Infinite Dimensions and Impurity Models"*

11:50 a.m. Closing Remarks: **J.R. Schrieffer**, National High Magnetic Field Laboratory

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1:30 p.m. - 6:00 p.m. **Canoe Trip - leave from Holiday Inn**