



- 15:00 **Parallel Session:** “Heavy Fermions I” BOA-ABC — Chaired by **T. Takabatake**
- 15:00 **M. Loewenhaupt** Magnetism and superconductivity in the heavy fermion compound  $\text{CeCu}_2\text{Si}_2$  studied by neutron scattering (invited)
- 15:30 **G. Knebel** Comparison between Yb and Ce heavy fermion systems:  $\text{YbRh}_2\text{Si}_2$  versus  $\text{CeRh}_2\text{Si}_2$  (invited)
- 16:00 **W. K. Park** Andreev reflection spectroscopy of the pure and Cd-doped heavy-fermion superconductor  $\text{CeCoIn}_5$  (invited)
- 15:00 **Parallel Session:** “Cobaltates I” BOA-EF — Chaired by **P. Dai**
- 15:00 **Z. Wang** Physics of strong correlation in sodium doped cobaltates  $\text{Na}_x\text{CoO}_2$  (invited)
- 15:30 **M. Z. Hasan** Novel phases of correlated electrons on a spin-1/2 Triangular lattice ( $\text{Na}_x\text{CoO}_2$ ) (invited)
- 16:00 **N. L. Wang** Optical properties of layered cobaltates (invited)
- 16:30 **Afternoon Break** Hilton BOA Lobby
- 17:00 **Parallel Session:** BOA-ABC — Chaired by **J. G. Sereni**  
“Quantum Phase Transitions II”
- 17:00 **J. Saunders**  $^3\text{He}$  films on graphite; models for quantum criticality (invited)
- 17:30 **K. Ingersent** Kondo physics in a dissipative environment (contributed)
- 17:45 **R. P. Smith** Logarithmic breakdown of the Fermi liquid in  $\text{ZrZn}_2$  and the nature of the ferromagnetic quantum critical point (contributed)
- 18:00 **D. A. Sokolov** Quantum criticality in itinerant antiferromagnet  $\text{Cr}_{0.963}\text{V}_{0.037}$  (contributed)
- 18:15 **N. T. Huy** Evidence for a ferromagnetic quantum critical point in URhGe doped with Ru (contributed)
- 17:00 **Parallel Session:** “Actinides” BOA-EF — Chaired by **T. Hotta**
- 17:00 **G. H. Lander** Mott transitions in the actinides: the role of 5f electrons (invited)
- 17:30 **K. Haule** Uncovering the secrets of actinides using dynamical mean field theory (invited)
- 18:00 **S. K. McCall** Properties of disorder in Pu(Am) at the localization-delocalization crossover (contributed)
- 18:15 **J.-X. Zhu** Spectral properties of elemental Pu studied by LDA+DMFT (contributed)

7:00	<b>Eye-Opener Coffee and Pastries; Poster Set-Up</b>	GRB, 2 <sup>nd</sup> Level
8:30	<b>Session:</b> “Quantum Magnetism I”	BOA-ABC — Chaired by <b>P. Coleman</b>
8:30	<b>T. Senthil</b>	Quantum spin fluid states of frustrated magnets (invited)
9:00	<b>K. Kanoda</b>	Spin liquid and Mott transition in layered organics (invited)
9:30	<b>S.-S. Lee</b>	Spin liquid with spinon Fermi surface: possible application to the organics (invited)
10:00	<b>Mid-Morning Break</b>	GRB 2 <sup>nd</sup> Level
10:30	<b>Session:</b> “Mesoscopics I”	BOA-ABC — Chaired by <b>A. de Visser</b>
10:30	<b>N. Andrei</b>	Quantum impurities out of equilibrium (invited)
11:00	<b>S. Kirchner</b>	Quantum criticality in ferromagnetic single-electron transistors (invited)
11:30	<b>G. Finkelstein</b>	Carbon nanotube quantum dots: from the Coulomb blockade to the SU(4) Kondo and the mixed valence regimes (contributed)
11:45	<b>D. Natelson</b>	Anomalous gate dependence of the Kondo effect in single-molecule transistors (contributed)
12:00	<b>Lunch Break</b>	
13:00	<b>Poster Session II</b>	GRB 2 <sup>nd</sup> Level — Chaired by <b>S. H. Pan</b>
	Mott-Hubbard systems (#1-26); Quantum Magnetism and Frustrated Systems I (#27-57); Superconductivity – Unconventional, Non-High-T <sub>c</sub> II (#58-79); Spin/Charge/Orbital Interplay/Ordering I (#80-103); Heavy Fermions – Physical Properties II (#104-126)	
15:00	<b>Parallel Session:</b> “Heavy Fermions II”	BOA-ABC — Chaired by <b>H. Sato</b>
15:00	<b>T. Yanagisawa</b>	Ultrasonic study of the filled skutterudite compound NdOs <sub>4</sub> Sb <sub>12</sub> (invited)
15:30	<b>T. Sakakibara</b>	Probing the nodal structures of heavy electron superconductors by means of the specific heat measurements in magnetic fields (invited)
16:00	<b>J. Singleton</b>	Fermi-surface topology and field-dependent effective masses in the skutterudite PrOs <sub>4</sub> As <sub>12</sub> (contributed)
16:15	<b>P. C. Canfield</b>	Strong electronic correlations in RT <sub>2</sub> Zn <sub>20</sub> (R = rare earth, T = transition metal) single crystals (contributed)

15:00	<b>Parallel Session: “High <math>T_c</math> II”</b>	BOA-EF — Chaired by <b>S. H. Pan</b>
15:00	<a href="#">N. E. Hussey</a>	Correlation between anisotropic scattering and superconductivity in $Tl_2Ba_2CuO_{6+\delta}$ (invited)
15:30	<a href="#">J. Chakhalian</a>	Electronic and magnetic structures at the interfaces of strongly correlated insulators (invited)
16:00	<a href="#">A. V. Fedorov</a>	The ground state of the pseudogap in cuprates (contributed)
16:15	<a href="#">B. Freelon</a>	Spin fluctuation scattering in a high- $T_c$ parent using soft x-rays (contributed)
16:30	<b>Afternoon Break</b>	Hilton BOA Lobby
17:00	<b>Session: “Quantum Phase Transitions III”</b>	BOA-ABC — Chaired by <b>T. Vojta</b>
17:00	<a href="#">H. v. Lohneysen</a>	Anisotropy of the magnetic susceptibility of $CeCu_{6-x}Au_x$ near the quantum phase transition (contributed)
17:15	<a href="#">T. Park</a>	Vanishing energy scale at a quantum critical point in the heavy-fermion superconductor $CeRhIn_5$ (contributed)
17:30	<a href="#">S. Paschen</a>	Quantum criticality in $Ce_3Pd_{20}Si_6$ : First results on single crystals (contributed)
17:45	<a href="#">T. Muramatsu</a>	Pressure induced magnetic ordering in $Yb_2Pd_2Sn$ with two quantum critical points (contributed)
20:00	<b>Plenary Session: “BCS @ 50”</b>	BOA-ABC — Chaired by <b>E. Abrahams</b>
20:00	<a href="#">P. W. Anderson</a>	Spectroscopy using RVB equations
20:40	<a href="#">F. Steglich</a>	Experimental evidence for unconventional BCS states in $CeCu_2Si_2$
21:20	<a href="#">P. C. W. Chu</a>	From BCS to RTS?

## Wednesday, May 16 2007

7:00	<b>Eye-Opener Coffee and Pastries</b>	Hilton BOA Lobby
8:30	<b>Session: “deHass - van Alphen”</b>	BOA-ABC — Chaired by <b>J. A. Mydosh</b>
8:30	<a href="#">S. R. Julian</a>	de Haas van Alphen studies of heavy fermions - overview (invited)
9:00	<a href="#">Y. Onuki</a>	Fermi surface revolution in $CeRhIn_5$ and non-centrosymmetric superconductivity in $CeIrSi_3$ (invited)
9:30	<a href="#">N. Harrison</a>	Doped Mott insulator physics in $CeIn_3$ and implications for pressure-induced superconductivity (invited)
10:00	<b>Mid-Morning Break</b>	Hilton BOA Lobby

10:30	<b>Session:</b> “Quantum Magnetism II”	BOA-ABC — Chaired by <b>S. M. Stishov</b>
10:30	<a href="#">Y. Lee</a>	The physics of frustrated spins on the two dimensional kagomé lattice (invited)
11:00	<a href="#">H. Tsunetsugu</a>	Spin nematic order in quantum frustrated magnets (invited)
11:30	<a href="#">S. E. Sebastian</a>	Geometrical frustration: a recipe for novel groundstates in BaCuSi <sub>2</sub> O <sub>6</sub> and SrCu <sub>2</sub> (BO <sub>3</sub> ) <sub>2</sub> (contributed)
11:45	<a href="#">A. C. Walters</a>	Spinon excitations in the 1D antiferromagnet Sr <sub>2</sub> CuO <sub>3</sub> (contributed)
12:00	<b>Free Time / Optional Tours</b>	
19:00	<b>Cool Science Evening Event</b>	Houston Museum of Natural Science

## Thursday, May 17 2007

7:00	<b>Eye-Opener Coffee and Pastries; Poster Set-Up</b>	GRB, 2 <sup>nd</sup> Level
8:30	<b>Session:</b> “Heavy Fermions III”	BOA-ABC — Chaired by <b>N. E. Phillips</b>
8:30	<a href="#">S. Nakatsuji</a>	Spin liquid behavior and unconventional anomalous Hall transport of the geometrically frustrated Kondo lattice Pr <sub>2</sub> Ir <sub>2</sub> O <sub>7</sub> (invited)
9:00	<a href="#">C. Krellner</a>	From Ferro- to Antiferromagnetism in the layered Kondo systems CeTPO (T = Ru, Os) (contributed)
9:15	<a href="#">H. Okamura</a>	Universal scaling of the dynamical conductivity in heavy fermion Ce and Yb compounds (contributed)
9:30	<a href="#">S. M. Stishov</a>	Systematic study of the itinerant ferromagnet MnSi at ambient and high hydrostatic pressures (contributed)
9:45	<a href="#">M. A. Continentino</a>	Interior gap superconductivity in heavy fermions (contributed)
10:00	<b>Mid-Morning Break</b>	GRB 2 <sup>nd</sup> Level
10:30	<b>Session:</b> “Unconventional Superconductivity”	BOA-ABC — Chaired by <b>E. Bauer</b>
10:30	<a href="#">A. Kapitulnik</a>	High resolution polar Kerr effect measurements of Sr <sub>2</sub> RuO <sub>4</sub> : evidence for broken time reversal symmetry in the superconducting state (invited)
11:00	<a href="#">I. Vekhter</a>	Unconventional superconductors under rotated magnetic field (invited)
11:30	<a href="#">C. J. Bolech</a>	Shot-noise Fano Factor as a Probe of Majorana Localized States in <i>p</i> -wave Superconductors (contributed)
11:45	<a href="#">H. Q. Yuan</a>	Novel pairing states in the non-centrosymmetric superconductors Li <sub>2</sub> (Pd <sub>1-x</sub> Pt <sub>x</sub> ) <sub>3</sub> B (contributed)

12:00	<b>Lunch Break</b>	
13:00	<b>Poster Session III</b>	GRB 2 <sup>nd</sup> Level — Chaired by <b>I. Vekhter</b>
	Superconductivity – Conventional I (#1-11); Other (#12-20); Spin/Charge/Orbital Interplay/Ordering II (#21-48); Superconductivity – High $T_c$ I (#49-74); Quantum Phase Transitions I (#75-95); Heavy Fermions – Physical Properties III (#96-125)	
15:00	<b>Parallel Session:</b> “Magnetism & Superconductivity”	BOA-ABC Chaired by <b>D. E. MacLaughlin</b>
15:00	<b>V. F. Mitrovic</b>	Spin susceptibility in the FFLO phase in CeCoIn <sub>5</sub> (invited)
15:30	<b>M. R. Eskildsen</b>	Vortex studies and the interplay between superconductivity and paramagnetism in CeCoIn <sub>5</sub> and TmNi <sub>2</sub> B <sub>2</sub> C (invited)
16:00	<b>C. L. Broholm</b>	Magnetic fluctuations in superconducting CeCoIn <sub>5</sub> (contributed)
16:15	<b>N. J. Curro</b>	Field-induced magnetism in CeCoIn <sub>5</sub> (contributed)
15:00	<b>Parallel Session:</b> “Mesoscopics II”	BOA-EF — Chaired by <b>R.-R. Du</b>
15:00	<b>D. Goldhaber-Gordon</b>	Observation of two-channel Kondo effect and quantum phase transition in a semiconductor nanostructure (invited)
15:30	<b>R. G. Pereira</b>	Kondo screening cloud and charge quantization in mesoscopic devices (contributed)
15:45	<b>Y. P. Chen</b>	Quantum coherence in a disordered Bose Einstein condensate (contributed)
16:00	<b>R. N. Bhatt</b>	Search for Nagaoka ferromagnetism in non-magnetic doped semiconductors (contributed)
16:15	<b>N. Shah</b>	Wiedemann-Franz law analysis near a pair-breaking quantum phase transition in superconducting nanowires (contributed)
16:30	<b>Afternoon Break</b>	Hilton BOA Lobby
17:00	<b>Parallel Session:</b> “Cobaltates II”	BOA-ABC — Chaired by <b>E. Miranda</b>
17:00	<b>S. Shastry</b>	Theory of thermoelectric effects in strongly correlated systems (invited)
17:30	<b>M. Lee</b>	Large enhancement of the thermopower in Na <sub>x</sub> CoO <sub>2</sub> at high Na doping (invited)
18:00	<b>G.-q. Zheng</b>	Cooper-pair symmetry and spin correlations in the cobalt-oxide superconductors Na <sub>x</sub> CoO <sub>2</sub> ·1.3H <sub>2</sub> O (contributed)
18:15	<b>Y. Ihara</b>	Quantum critical behavior in superconducting Na <sub>x</sub> (H <sub>3</sub> O) <sub>z</sub> CoO <sub>2</sub> · yH <sub>2</sub> O revealed by Co-NMR measurements (contributed)

17:00	<b>Parallel Session:</b> “Novel Orders”	BOA-EF — Chaired by <b>J. Di Tusa</b>
17:00	<a href="#">A. Vishwanath</a>	Spin crystals and fluctuating order in the helimagnet MnSi (invited)
17:30	<a href="#">Y. J. Uemura</a>	MuSR studies of quantum phase transitions: MnSi, (Sr,Ca)RuO <sub>3</sub> , HTSC and frustrated systems (invited)
18:00	<a href="#">K. H. Kim</a>	Interplay between Fermi surface topology and ordering in URu <sub>2</sub> Si <sub>2</sub> revealed through abrupt Hall coefficient changes in strong magnetic fields (invited)

## Friday, May 18 2007

7:00	<b>Eye-Opener Coffee and Pastries; Poster Set-Up</b>	GRB, 2 <sup>nd</sup> Level
8:30	<b>Session:</b> “Transition Metal / Mott-Hubbard Systems”	BOA-ABC Chaired by <b>E. M. Baggio-Saitovitch</b>
8:30	<a href="#">H. Takagi</a>	Spin and charge frustration in new Ir and Rh spinel oxides (invited)
9:00	<a href="#">B. Lorenz</a>	Tuning ferroelectricity in multiferroic magnetoelectric compounds by pressure and magnetic fields (invited)
9:30	<a href="#">S. Ramos</a>	Spin dynamics in Sr <sub>3</sub> Ru <sub>2</sub> O <sub>7</sub> near the metamagnetic transition by inelastic neutron scattering (contributed)
9:45	<a href="#">M. C. O. Aguiar</a>	Mott-Anderson transition in disordered correlated systems (contributed)
10:00	<b>Mid-Morning Break</b>	GRB 2 <sup>nd</sup> Level
10:30	<b>Session:</b> “Kondo Lattices”	BOA-ABC — Chaired by <b>J. D. Thompson</b>
10:30	<a href="#">Z. Fisk</a>	Superconductivity and magnetism in Cd-doped Ce115s (invited)
11:00	<a href="#">E. Lebanon</a>	Quantum criticality in heavy electrons: deconfinement and the breakup of the Kondo pseudo-potential (invited)
11:30	<a href="#">S. J. Yamamoto</a>	Fermi surface and magnetism in the Kondo lattice: a Continuum Field Theory approach (contributed)
11:45	<a href="#">B. Coqblin</a>	Ferromagnetic Doniach diagram for the underscreened Kondo lattice (contributed)
12:00	<b>Lunch Break</b>	
13:00	<b>Poster Session IV</b>	GRB 2 <sup>nd</sup> Level Chaired by <b>A. Litvinchuk</b>

Mathematical and/or Computational (#1-5); Non-Fermi-Liq. and Exotic Phases (#6-20); Superconductivity – High T<sub>c</sub> II (#21-46); Superconductivity and Magnetism (#47-73); Quantum Phase Transitions II (#74-94); Heavy Fermions – Physical Properties IV (#95-125)

15:00	<b>Session:</b> “1D Dynamics”	BOA-ABC — Chaired by <b>M. Aronson</b>
15:00	<a href="#">B. Lake</a>	Quantum criticality, universal scaling and the crossover phase diagram of a quantum antiferromagnet (invited)
15:30	<a href="#">J. W. Allen</a>	New Luttinger-liquid physics from angle resolved photoemission on a paradigm material (invited)
16:00	<a href="#">L. I. Glazman</a>	Dynamic response of one-dimensional interacting fermions (invited)
16:30	<b>Closing</b>	