

2014 Boulder Summer School
Modern Aspects of Superconductivity
June 30-July 25, 2014

Detailed schedule
All Lectures are in **Duane Physics Room G125**
Public Lectures are in **Duane Physics Room G1B20**

Sunday, June 29th

6:30pm – 8:30pm Registration mixer with refreshments
WeatherTech Café in the C4C

Week 1, June 30 - July 3

Monday, June 30th

8:30 – 9:00	Leo Radzihovsky <i>Welcome and Introduction</i>
9:00 – 10:30	Randeria <i>Phenomenology of HTSC in cuprates</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Sigrist <i>Symmetry aspects of unconventional superconductivity I</i>
14:30 – 16:00	Dessau <i>Fundamentals and Applications of ARPES on correlated and superconducting electron systems</i>
16:15 – 17:15	Student introductions

Tuesday, July 1st

9:00 – 10:30	Sigrist <i>Symmetry aspects of unconventional superconductivity II</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Randeria <i>Quantum Oscillations, X-ray experiments</i>
14:30 – 16:00	Dessau <i>ARPES studies of high-T_c superconductors</i>

19:00 – 20:00 **Soundbites I**

Wednesday, July 2nd

9:00 – 10:30 **Randeria**
ARPES, STM experiments

10:30 – 11:00 Coffee Break

11:00 – 12:30 **Martinis**
Quantum computing and error correction

14:30 – 16:00 **Sigrist**
Symmetry aspects of unconventional superconductors III

19:00 – 21:30 **Poster Session I**
11th Floor Gamow Tower

Thursday, July 3rd

9:00 – 10:30 **Sigrist**
Symmetry aspects of unconventional superconductors IV

10:30 – 11:00 Coffee Break

11:00 – 12:30 **Martinis**
Superconducting qubits

14:30 – 16:00 **Randeria**
Review of BCS-BEC Crossover & Unitary Fermi gas as an example of strongly interacting paired superfluid

16:30 - 18:00 **Q and A Session**

18:00 - 19:00 **BBQ (Dirks East Courtyard, C4C)**

Friday, July 4th

Holiday

Week 2, July 7 - 11

Monday, July 7th

9:00 – 10:30 **Kivelson**
Modern aspects of superconductivity I

10:30 – 11:00 Coffee Break

11:00 – 12:30 **Keimer**

14:30 – 16:00 *Neutron and X-ray scattering studies of superconductors I*
Senthil
Superconductivity near the Mott transition I

Tuesday, July 8th

9:00 – 10:30 **Keimer**
Neutron and X-ray scattering studies of superconductors II

10:30 – 11:00 Coffee Break

11:00 – 12:30 **Kivelson**
Modern aspects of superconductivity II

14:30 – 16:00 **Senthil**
Superconductivity near the Mott transition II

17:00 – 20:00 **Flagstaff Picnic**

Wednesday, July 9th

9:00 – 10:30 **Boebinger**
Evidence for a phase transition near optimum doping in the cuprates (1995 to present).

10:30 – 11:00 Coffee Break

11:00 – 12:30 **Keimer**
Neutron and X-ray scattering studies of superconductors III

14:30 – 16:00 **Vafek**
d-wave quasiparticles in the vortex state

19:00 – 21:30 **Public Lecture**

Thursday, July 10th

9:00 – 10:30 **Paramakanti**
Strong coupling aspects of superconductivity I

10:30 – 11:00 Coffee Break

11:00 – 12:30 **Boebinger**
Specific heat studies of the cuprates.

14:30 – 16:00 **Kivelson**
Modern aspects of superconductivity III

16:30 - 18:30 **Q and A Session**

Friday, July 11th

9:00 – 10:30 **Vafek**
Quasiparticle thermal Hall transport in d-wave superconductors

10:30 – 11:00	Coffee Break
11:00 – 12:30	Kivelson <i>Modern aspects of superconductivity IV</i>
14:30 – 16:00	Paramekanti <i>Strong coupling aspects of superconductivity II</i>
18:00 – 19:00	BBQ (Dirks East Courtyard, C4C)

Week 3, July 14 - 18

Monday, July 14th

9:00 – 10:30	Sachdev <i>Magnetism and superconductivity I</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Millis <i>Theory of Superconductivity I</i>
14:00 – 15:30	Sachdev <i>Magnetism and superconductivity II</i>
15:45 - 17:15	Coleman <i>The physics of heavy-fermion superconductors I</i>

Tuesday, July 15th

9:00 – 10:30	Sachdev <i>Magnetism and superconductivity III</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Sachdev <i>Magnetism and superconductivity IV</i>
14:00 – 15:30	Coleman <i>The physics of heavy-fermion superconductors II</i>
15:45 – 17:15	Millis <i>Theory of superconductivity II</i>
19:00 - 20:00	Soundbites II

Wednesday, July 16th

9:00 – 10:30	Millis <i>Theory of superconductivity III</i>
10:30 – 11:00	Coffee Break

11:00 – 12:30 **Matsuda**
Iron-based superconductors I

14:00 – 15:30 **Coleman**
The physics of heavy-fermion superconductors III

19:00 – 21:30 **Poster Session III**
11th Floor Gamow Tower

Thursday, July 17th

9:00 – 10:30 **Coleman**
The physics of heavy-fermion superconductors IV

10:30 – 11:00 Coffee Break

11:00 – 12:30 **Millis**
Theory of Superconductivity IV

14:00 – 15:30 **Matsuda**
Iron-based superconductors II

16:30 - 18:30 **Q and A session**

Friday, July 18th

9:00 – 10:30 **Matsuda**
Iron-based superconductors III

10:30 – 11:00 Coffee Break

11:00 – 12:30 **Dessau**
Recent developments

18:00 – 19:00 **BBQ (Dirks East Courtyard, C4C)**

Week 4, July 21 – 25

Monday, July 21st

9:00 – 10:30 **Radzihovsky**
S-wave Feshbach resonant superfluidity

10:30 – 11:00 Coffee Break

11:00 – 12:30 **Orenstein**
Optical Properties of superconductors I

14:30 – 16:00 **Vafek**
d-wave and other unconventional superconductivity III

19:00 - 20:30 **Seminar**

Tuesday, July 22nd

9:00 – 10:30 **Orenstein**
Optical Properties of superconductors II

10:30 – 11:00 Coffee Break

11:00 – 12:30 **Hoffman**
STM studies of modern superconductors I

14:30 – 16:00 **Radzihovsky**
P-wave Feshbach resonant superfluidity

19:00 - 20:00 **Soundbites III**

Wednesday, July 23rd

9:00 – 10:30 **Hoffman**
STM studies of modern superconductors II

10:30 – 11:00 Coffee Break

11:00 – 12:30 **Fu**
Topological superconductivity I

14:30 – 16:00 **Chubukov**
Superconductivity due to repulsive interactions I

19:00 - 21:30 **Poster session III**
11th Floor Gamow Tower

Thursday, July 24th

9:00 – 10:30 **Fu**
Topological superconductivity II

10:30 – 11:00 Coffee Break

11:00 – 12:30 **Chubukov**
Superconductivity due to repulsive interactions II

14:30 – 16:00 **Orenstein**
Optical Properties of superconductors III

18:00 – 19:00 **BBQ (Dirks East Courtyard, C4C)**

Friday, July 25th

9:00 – 10:30 **Chubukov**
Superconductivity due to repulsive interactions III

10:30 – 11:00 Coffee Break

11:00 – 12:30 **Q and A session**