Institute for
CONDENSED MATTER THEORY
Physics in Engineering & LAS at Illinois

CALENDAR OF EVENTS http://physics.illinois.edu/bluesheet.asp

Thursday, November 16, Thesis Defense: "Angle-Resolved Photoemission and First-Principles Studies of Topological Semimetals and Heterostructures" Man-Hong Wong; 1:00 pm in 3110 ESB

Thursday, November 16, POETS Seminar: "Creating Your Professional Brand" Dr. Janice Collins; 4:00 pm in 1013 ECEB

Friday, November 17, High Energy Phenomenology Seminar: "Charged Dark Matter and Dark Catalysts" Jakob Scholtz; 12:00 pm in 222 Loomis

Friday, November 17, Special Joint Atomic, Molecular and Optical Physics/Physical Chemistry Seminar: "Optucal Multidimensional Coherent Spectroscopy" Steve Cundiff; 4:00 pm in 116 RAL

Saturday, November 18, Thanksgiving Break Begins

Visitors:

Thesis Defense

Title: "Angle-Resolved Photoemission and First-Principles Studies of Topological Semimetals and Heterostructures"

Speaker: Man-Hong Wong

Date: Thursday, November 16

Time/Location: 1:00 pm / 3110 ESB

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Visitors:

Job Opportunity

Postdoctorial positions in Theoretical Condensed Matter Physics

The Department of Physics at the University of California, Berkeley plans to hire a Postdoctoral Scholar in the field of theoretical condensed matter physics. The position has an anticipated duration of two or three years and includes subsidized benefits in addition to a competitive salary.
Candidates should have received a Ph.D. in physics by the start date of the position (September or October 2018) and have demonstrated excellence in research and scientific communication at the time of application. The successful candidate is expected to work closely with Berkeley theory faculty studying strongly correlated quantum matter, including Professors Ehud Altman, Dung-Hai Lee, Joel Moore, Norman Yao and Michael Zaletel. Current interests in the group include: properties of topological phases of matter; transport and nonequilibrium processes in interacting systems; emulation of strongly correlated materials by artificial atomic or condensed matter systems; and applications of entanglement and other quantum information concepts to theoretical analysis and computational methods.

Applications will be processed through AcademicJobsOnline.org. **Review of applications will begin November 23, 2017**. Applicants should submit a CV including publication list and a one-page statement of research interests and arrange for three letters of recommendation to be communicated to the website by the recommenders.

UC Berkeley is an affirmative action/equal employment opportunity employer and is dedicated to recruiting a diverse research community. We welcome all qualified applicants to apply, including women, minorities, individuals with disabilities, and veterans.

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Visitors:

Job Opportunity

Postdoctoral Position in Theory of Quantum Condensed Matter

Applications for a postdoctoral opening in condensed matter theory are requested. Preference will be given to candidates with expertise in the quantum aspects of condensed matter physics and research interests in the general area of superconductivity, mesoscopic physics, electron correlations, and disordered systems. The position is for two years. It is funded through an ANR project on the electrodynamics of disordered superconductors.

Grenoble offers a great research environment with a number of strong theoretical and experimental groups. The postdoctoral work will be guided by Manuel Houzet (http://inac.cea.fr/Pisp/manuel.houzet/) and Julia Meyer (http://inac.cea.fr/Pisp/julia.meyer/) at INAC/PHELIQS, Université Grenoble Alpes and CEA Grenoble. Collaborations with experimentalists and other theorists are expected and will be encouraged.

Applicants should send a CV including a publication list and a brief summary of research interests by email to julia.meyer@univ-grenoble-alpes.fr. Selected preprints or reprints may also be included. Electronic submission in a single pdf file is strongly preferred. In addition, each applicant should arrange for two letters of recommendation to be sent.

For full consideration please apply before January 15, 2018 – though later applications are possible until the position is filled..

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High Energy Phenomology Seminar

Title: "Charged Dark Matter and Dark Catalysis"

Speaker: Jakob Scholtz (Harvard)

Date: Friday, November 17

Time/Location: 12:00 pm / 222 Loomis

Abstract: See Here
https://physics.illinois.edu/calendar/event/11/17/2017/33283482

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Visitors:

Job Opportunity

Postdoctoral Position in Condensed Matter Theory at Université Grenoble Alpes and CEA Grenoble

Applications for a PhD position in condensed matter theory are requested. The PhD work will be guided by Manuel Houzet (http://inac.cea.fr/Pisp/manuel.houzet/) and Julia Meyer (http://inac.cea.fr/Pisp/julia.meyer/) at INAC/PHELIQS, Université Grenoble Alpes and CEA Grenoble. It is funded through a joint ANR-NSF program on the transport properties of superconducting hybrid structures.

Topological phases of matter have attracted much interest in recent years. Topological superconductors are of particular interest because they may host Majorana bound states. Josephson junctions have been proposed as probes of topological superconductivity, and possible signatures of such Majorana bound states in topological Josephson junctions have indeed been observed. However, important aspects related to the effect of the environment on the properties of the junction are still not fully understood. The aim of the PhD work is to make progress in the understanding of quantum transport in voltage-biased topological Josephson junctions in the presence of an electromagnetic environment. More information can be found here: http://inac.cea.fr/Pisp/julia.meyer/Sujet2018-Majorana.pdf

Interested candidates should have a good basis in quantum mechanics, statistical physics, and condensed matter physics. Applicants should send a cover letter, a CV, as well as Master's and Bachelor's transcripts by email to julia.meyer@univ-grenoble-alpes.fr. Electronic submission in a single pdf file is strongly preferred. In addition, each applicant should arrange for two letters of recommendation to be sent.

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Job Opportunity

Postdoctoral Research on Topology in Quantum Condensed Matter

The Max Planck Institute for the Physics of Complex Systems in Dresden looking for postdoctoral candidates interested in pursuing research on the interplay of interactions and topology in quantum condensed matter systems such as the fractional quantum Hall liquids, quantum spin liquids, graphene, topological insulators, etc. I would be grateful if you can forward this email to potentially interested parties.

The closing call for the next round of applications at the Institute is next week on November 15, but interested candidates are always welcome to contact me at any time. More information on the application process can be found here: https://www.mpipks-dresden.mpg.de/visitors-program/

For more information about my research interests:

https://www.mpipks-dresden.mpg.de/fractionalization-and-topology-in-quantum-matter/
https://arxiv.org/find/cond-mat/1/au:+Sodemann_I/0/1/0/all/0/1

Our institute has vibrant group of in-house condensed matter researchers and serves as one of the central meeting places for condensed matter theory conferences in Europe. Dresden is also a powerhouse in condensed matter research thanks to a strong network of institutions within walking distance dedicated to condensed matter physics, including the MPI for the Chemical Physics of Solids (http://www.cpfs.mpg.de/en), the Leibniz Institute (https://www.ifw-dresden.de), and the Physics Department at TU Dresden (https://tu-dresden.de/mn/physik?set_language=en).
For more info about the Institute please visit: https://www.mpipks-dresden.mpg.de

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POETS Seminar

Title: "Creating Your Professional Brand"

Speaker: Janice Collins, College of Media

Date: Thursday, November 16 **Time/Location:** 4:00 pm / 1013 ECEB

Abstract: Interested in learning how to use multimedia platforms to create a professional brand and better communicate your research? Wondering why branding is so important for the modern scientist or engineer? If so, please join us for an engaging "how-to" from Dr. Janice Collins, a multi-Emmy journalist and professor of the College of Media. You will learn how to… land your next job, create a personal website, share your research via social media, and create YouTube tutorials.

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Special Joint Atomic, Molecular and Optical Physics/ Physical Chemistry Seminar

Title: **"Optical Multidimensional Coherent Spectroscopy"**

Speaker: Steve Cundiff (University of Michigan)

Date: Friday, November 17

Time/Location: 4:00 pm / 116 RAL

Abstract: The concept of multidimensional Fourier transform spectroscopy originated in NMR where it enabled the determination of molecular structure. In either NMR or optics, a sample is excited by a series of pulses. The key concept is to correlate what happens during multiple time periods between pulses by taking a multidimensional Fourier transform. Migrating multidimensional Fourier transform spectroscopy to the infrared and visible regimes is difficult because of the need to obtain full phase information about the emitted signal and for the phase difference between the excitation pulses to be stable and precisely incremented. I will give an introduction to optical two-dimensional coherent spectroscopy, using an atomic vapor as simple test system, but also show unexpected results due to atomic interactions. I will then present our use of it to study optical resonances in semiconductor nanostructures.