

GORDON RESEARCH CONFERENCES frontiers of science

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Nancy Ryan Gray, Ph.D. Director

2012 GORDON RESEARCH CONFERENCE on CORRELATED ELECTRON SYSTEMS

FINAL PROGRESS REPORT

DEPARTMENT OF ENERGY GRANT NO. DE-SC0008156

The Gordon Research Conference on CORRELATED ELECTRON SYSTEMS was held at Mount Holyoke College, South Hadley, Massachusetts, June 24 – 29, 2012. The Conference was well-attended with 176 participants (attendees list attached). The attendees represented the spectrum of endeavor in this field coming from academia, industry, and government laboratories, both U.S. and foreign scientists, senior researchers, young investigators, and students. Of the 176 attendees, 71 voluntarily responded to a general inquiry regarding ethnicity which appears on our registration forms. Of the 71 respondents, 31% were Minorities – 4% Hispanic, 27% Asian and 0% African American. Approximately 14% of the participants at the 2012 meeting were women.

In designing the formal speakers program, emphasis was placed on current unpublished research and discussion of the future target areas in this field. There was a conscious effort to stimulate lively discussion about the key issues in the field today. Time for formal presentations was limited in the interest of group discussions. In order that more scientists could communicate their most recent results, poster presentation time was scheduled. Attached is a copy of the formal schedule and speaker program and the poster program. In addition to these formal interactions, "free time" was scheduled to allow informal discussions. Such discussions are fostering new collaborations and joint efforts in the field.

Thank you for your support of this Conference. As you know, in the interest of promoting the presentation of unpublished and frontier-breaking research, Gordon Research Conferences does not permit publication of meeting proceedings. If you wish any further details, please feel free to contact me. Thank you.

Sincerely, Eva Andrei, Conference Chairperson RUTGERS UNIVERSITY Correlated Electron Systems
Correlations and Topology in Electron Systems
June 24-29, 2012
Mount Holyoke College
South Hadley, MA
Chairs:

Eva Y. Andrei & Steven A. Kivelson

Vice Chairs:
N Peter Armitage & Joerg Schmalian

Related Meeting Information

The Correlated Electron Systems Gordon Research Conference was held in conjunction with the **Correlated Electron Systems Gordon Research Seminar**. Please refer to the Correlated Electron Systems GRS web page for more information.

The 2012 Gordon Conference on Correlated Electron Systems will present cutting-edge research on emergent properties arising from strong electronic correlations. While we expect the discussion at the meeting to be wideranging, given the breadth of the title subject matter, we have chosen several topics to be the particular focus of the talks. These are New Developments in Single and Bilayer Graphene, Topological States of Matter, including Topological Insulators and Spin Liquids, the Interplay Between Magnetism and Unconventional Superconductivity, and Quantum Critical Phenomena in Metallic Systems. We also plan to have shorter sessions on Systems Far From Equilibrium, Low Dimensional Electron Fluids, and New Directions (which will primarily focus on new experimental methodologies and their interpretation). In addition, we have left a few open spots in the schedule so that we can respond to exciting new developments in the field that occur between now and the time of the Conference. The Conference will bring together investigators who are at the forefront of their field, and will provide opportunities for junior scientists and graduate students to present their work in poster format and exchange ideas with leaders in the field. We intend to have talks by established leaders in the field and also by young researchers who have made seminal contributions to various aspects of correlated electron physics. Associated with the primary Conference, we are holding a pedagogic Gordon Research Seminar the previous weekend, June 23-24, 2012. This is available for junior participants to prepare them for the discussions of the primary Conference. The collegial atmosphere of the Gordon Conference, with programmed discussion sessions as well as opportunities for informal gatherings in the afternoons and evenings, provides an avenue for scientists from different disciplines to brainstorm and promotes crossdisciplinary collaborations in the various research areas represented.

Contributors















SUNDAY		
2:00 pm - 9:00 pm	Arrival and Check-in (Office Closed 6:00 pm - 7:00 pm)	
6:00 pm	Dinner	
7:30 pm - 7:40 pm	Welcome / Introductory Comments by GRC Site Staff	
7:40 pm - 9:30 pm	Graphene	
	Discussion Leader: Maria Vozmediano (U. Madrid)	
7:40 pm - 8:25 pm	Keynote: Konstantin Novoselov (Manchester University) "Interaction effects in graphene"	
8:25 pm - 8:30 pm	Discussion	
8:30 pm - 8:55 pm	Antonio H. Castro Neto (Boston University) "Graphene and beyond: two-dimensional crystals"	
8:55 pm - 9:00 pm	Discussion	
9:00 pm - 9:25 pm	Philip Kim (Columbia University) "Multicomponent Integer and Fractional Quantum Hall Effect in Graphene"	
9:25 pm - 9:30 pm	Discussion	
9:30 pm - 12:00 am	Informal Reception	
MONDAY		
7:30 am - 8:30 am	Breakfast	
8:45 am	Group Photo	
9:00 am - 10:30 am Topological Aspects of Electronic Systems I		
	Discussion Leader: Dung Hai Lee (UC Berkeley)	
9:00 am - 9:25 am	Yong-Baek Kim "Topological phases in correlated materials"	
9:25 am - 9:30 am	Discussion	

9:30 am - 9:55 am **Claudio Chamon** (Boston University) "Fractional Topological Insulators" 9:55 am - 10:00 am Discussion 10:00 am - 10:25 am **Bertrand Halperin** (Harvard) "Majorana states in proposed networks of topological superconductor wires" 10:25 am - 10:30 am Discussion Coffee Break 10:30 am 10:50 am - 12:30 pm Magnetism & Superconductivity I Discussion Leader: Joerg Schmalian (Karlsruhe) 10:50 am - 11:15 am **Eun-Ah Kim** (Cornell University) "Electronic Liquid Crystal Correlations in the Pseudogap States of High Tc Superconductors" 11:15 am - 11:20 am Discussion 11:20 am - 11:45 am **Seamus Davis** (Cornell University) "Anisotropic Energy Gaps of Iron-based Superconductivity from Intraband Quasiparticle Interference in LiFeAs" 11:45 am - 11:50 am Discussion 11:50 am - 12:15 pm **Bernhard Keimer** (Max-Planck-Institute Stuttgart) "Superconductivity and competing order in copper oxides: Recent x-ray and neutron scattering results" 12:15 pm - 12:20 pm Discussion 12:20 pm - 12:30 pm Poster Competition Announcement 12:30 pm Lunch Student Lunch with experts (K. Novoselov, A.H. Castro Neto, P. Kim) 1:30 pm - 4:00 pm Free Time 4:00 pm - 6:00 pm Afternoon Poster Session A 6:00 pm Dinner 7:30 pm - 9:30 pm **Topological Aspects of Electronic Systems II** Discussion Leader: Liang Fu (MIT) Andrei Bernevig (Princeton) 7:30 pm - 7:55 pm "Fractional topological insulators" 7:55 pm - 8:00 pm Discussion Phuan Ong (Princeton) 8:00 pm - 8:25 pm "Approaching the Dirac Point in a topological insulator by liquid gating" 8:25 pm - 8:30 pm Discussion 8:30 pm - 8:55 pm Yoshi Maeno (U. Kyoto) "Topological aspects of superconductivity in Sr2RuO4" Discussion 8:55 pm - 9:00 pm

9:00 pm - 9:25 pm	Weida Wu (Rutgers) "Topological vortices in multiferroics"
9:25 pm - 9:30 pm	Discussion
9:30 pm - 12:00 am	Evening Poster Session A
TUESDAY	
7:30 am - 8:30 am	Breakfast
9:00 am - 10:30 am	New directions
	Discussion Leader: Greg Boebinger (NHMFL)
9:00 am - 9:25 am	Mark Fromhold (University of Nottingham) "The interplay between quantum electronics and ultracold atoms"
9:25 pm - 9:30 am	Discussion
9:30 am - 9:55 am	Xuan Gao (Case Western Reserve) "Strongly correlated 2D carriers in semiconductor: some new insights from transport and compressibility measurements at rs=20 - 40"
9:55 am - 10:00 am	Discussion
10:00 am - 10:25 am	Peter Abbamonte (UIUC) "The influence of screening on the strength of electron-electron interactions in graphene"
10:25 am - 10:30 am	Discussion
10:30 am	Coffee Break
10:50 am - 12:30 pm	Systems Far from Equilibrium
	Discussion Leader: Eduardo Fradkin (University of Illinois Urbana-Champaign)
10:50 am - 11:15 am	Thierry Giamarchi (University of Geneva) "Out of equilibrium quantum systems"
11:15 am - 11:20 am	Discussion
11:20 am - 11:45 am	Randy Hulet (Rice University) "Spin-Polarized Fermions in 1D"
11:45 am - 11:50 am	Discussion
11:50 am - 12:15 pm	Natan Andrei (Rutgers University) "Quench dynamics of the interacting boson gas in one dimension"
12:15 pm - 12:20 pm	Discussion
12:20 pm - 12:30 pm	TBA (Short Talk: Poster Prize Winner, Session A)
12:30 pm	Lunch
	Student Lunch with experts (T. Giamarchi, P. Abbamonte, R. Hulet)
1:30 pm - 4:00 pm	Free Time
4:00 pm - 6:00 pm	Afternoon Poster Session B
6:00 pm	Dinner

7:30 pm - 9:30 pm	Magnetism & Superconductivity II
	Discussion Leader: Ruslan Prozorov (Ames Labs)
7:30 pm - 7:55 pm	Jenny Hoffman (Harvard) "Imaging the impact of single dopants on inhomogeneous electronic states in cuprate and pnictide superconductors"
7:55 pm - 8:00 pm	Discussion
8:00 pm - 8:25 pm	Henri Alloul (U. Paris Sud) "Pressure induced Mott transition to superconductivity in the isomeric Cs3C60 compounds"
8:25 pm - 8:30 pm	Discussion
8:30 pm - 8:55 pm	Suchitra Sebastian (Cambridge) "Multiple quantum oscillation frequencies from a nodal pocket in underdoped YBCO"
8:55 pm - 9:00 pm	Discussion
9:00 pm - 9:25 pm	Sudip Chakravarty (UCLA) "Contrasting quantum oscillations in electron and hole doped cuprates"
9:25 pm - 9:30 pm	Discussion
9:30 pm - 12:00 am	Evening Poster Session B
WEDNESDAY	
7:30 am - 8:30 am	Breakfast
9:00 am - 10:30 am	Quantum Critical Points in Metals I
	Discussion Leader: C. Varma (UC Riverside)
9:00 am - 9:25 am	Subir Sachdev (Harvard) "Entanglement, holography, and strange metals"
9:25 am - 9:30 am	Discussion
9:30 am - 9:55 am	Sean Hartinoll (Stanford) "Fractionalization and the holographic correspondence"
9:55 am - 10:00 am	Discussion
10:00 am - 10:25 am	Andrew Mackenzie (University of St. Andrews) "Signatures of Quantum Criticality in Sr3Ru2O7"
10:25 am - 10:30 am	Discussion
10:30 am	Coffee Break
10:50 am - 12:30 pm	Topological Insulators
	Discussion Leader: Babak H. Saradjeh (U. Indiana)
10:50 am - 11:15 am	Joel Moore (UC Berkeley) "Topological insulators and related phases in correlated materials"
11:15 am - 11:20 am	Discussion
11:20 am - 11:45 am	Laurens Molenkamp (Wurzburg)

"Dirac fermions in HgTe"

11:45 am - 11:50 am Discussion

11:50 am - 12:15 pm **Vidya Madhavan** (Boston University)

"Stripe, phonon and magnetic effects in 3D topological insulators"

12:15 pm - 12:20 pm Discussion

12:20 pm - 12:30 pm TBA (Short Talk: Poster Prize Winner, Session B)

12:30 pm Lunch

Student Lunch with experts (J. Moore, J. Hoffman, A. Mackenzie)

1:30 pm - 4:00 pm Free Time

4:00 pm - 6:00 pm Afternoon Poster Session C

6:00 pm Dinner

7:00 pm - 7:30 pm Business Meeting

Nominations for the next Vice Chair; Fill out Conference Evaluation Forms; Discuss future Site & Scheduling preferences; Election of the next

Vice Chair

7:30 pm - 9:30 pm Round table: Correlated electron systems - present and

future directions

Discussion Leader: Piers Coleman (Rutgers)

Greg Boebinger (NHMFL), Eduardo Fradkin (UIUC), Catherine Kallin (McMaster), Dung Hai Lee (Stanford), Jeorg Schmalian

(Karlsruhe), Chandra Varma (U.C. Riverside)

9:30 pm - 12:00 am Evening Poster Session C

THURSDAY

7:30 am - 8:30 am Breakfast

9:00 am - 10:30 am **Ouantum Critical Points in Metals II**

Discussion Leader: **Peter Armitage** (Johns Hopkins)

9:00 am - 9:25 am **Andrey Chubukov** (UW-Madison)

"Fermi liquid near a quantum phase transition"

9:25 am - 9:30 am Discussion

9:30 am - 9:55 am **Louis Taillefer** (Sherbrooke U.)

"Quantum critical point for stripe order: An organizing principle of cuprate

superconductivity"

9:55 am - 10:00 am Discussion

10:00 am - 10:25 am **Gilbert Lonzarich** (Cambridge)

"Unconventional forms of order near quantum critical points in d and f

electron systems"

10:25 am - 10:30 am Discussion

10:30 am Coffee Break

10:50 am - 12:30 pm **Advances in low dimensional systems** Discussion Leader: **Kathryn A. Moler** (Stanford) 10:50 am - 11:15 am **Amir Yacoby** (Harvard University) "Unconventional Fractional Quantum Hall Effect in Graphene" 11:15 am - 11:20 am Discussion 11:20 am - 11:45 am **Jeanie Lau** (UC Riverside) "Interaction-driven phenomena in suspended bilayer and trilayer graphene" 11:45 am - 11:50 am Discussion 11:50 am - 12:15 pm **Oscar Vafek** (Florida State University) "Theoretical approach to many body instabilities in bilayer graphene" 12:15 pm - 12:20 pm Discussion 12:20 pm - 12:30 pm TBA (Short Talk: Poster Prize Winner, Session C) 12:30 pm Lunch Student Lunch with experts (C. Kallin, N. Hussey, A. Yacoby) 1:30 pm - 6:00 pm Free Time 6:00 pm Dinner 7:30 pm - 9:30 pm **Last minute Developments** Discussion Leader: Catherine Kallin (McMaster) 7:30 pm - 7:55 pm Nigel Hussey (Bristol) "Lawlessness in a one-dimensional conductor" 7:55 pm - 8:00 pm Discussion 8:00 pm - 8:25 pm Ray Ashoori (MIT) "Very High Resolution Tunneling Spectroscopy of 2D Semiconductor and Graphene Electronic Systems" 8:25 pm - 8:30 pm Discussion 8:30 pm - 8:55 pm **Ali Yazdani** (Princeton) "Visualizing Emergence of Heavy Fermion in a Quantum Critical Kondo Lattice" 8:55 pm - 9:00 pm Discussion 9:00 pm - 9:25 pm **Harold Hwang** (Stanford) "Electronic and magnetic reconstructions in ultrathin manganite films" 9:25 pm - 9:30 pm Discussion 9:30 pm - 12:00 am **Informal Discussions** FRIDAY Breakfast 7:30 am - 8:30 am 9:00 am Departure

The views, opinions, and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy, or decision, unless so designated by other documentation.

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Correlated Electron Systems (2012)

Name	Organization	Participation	Status
ABBAMONTE, PETER M	UNIVERSITY OF ILLINOIS	Speaker	Registered
ALLAN, MILAN P	CORNELL UNIVERSITY	Poster Presenter	Registered
ALLOUL, HENRI	UNIVERSITE PARIS SUD	Speaker	Registered
ANDREI, EVA Y	RUTGERS UNIVERSITY	Chair	Registered
ANDREI, NATAN	RUTGERS UNIVERSITY	Speaker	Registered
ARMITAGE, N PETER	JOHNS HOPKINS UNIVERSITY	Vice Chair	Registered
ASHOORI, RAYMOND	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Speaker	Registered
BARLAS, YAFIS	UNIVERSITY OF CALIFORNIA RIVERSIDE	Poster Presenter	Registered
BASAK, SUSMITA	NORTHEASTERN UNIVERSITY	Poster Presenter	Registered
BASU, SAURABH	IIT GUWAHATI	Poster Presenter	Registered
BELLAFARD, ARASH	UCLA	Poster Presenter	Registered
BERG, EREZ	HARVARD UNIVERSITY	Poster Presenter	Registered
BERGMAN, DORON L	CALIFORNIA INSTITUE OF TECHNOLOGY	Poster Presenter	Registered
BERLINSKY, JOHN	PERIMETER INSTITUTE FOR THEORETICAL PHYSICS	Poster Presenter	Registered
BERNEVIG, ANDREI	PRINCETON	Speaker	Registered
BHATTACHARJEE, SUBHRO	UNIVERSITY OF TORONTO	Poster Presenter	Registered
BLACK-SCHAFFER, ANNICA M	UPPSALA UNIVERSITY	Poster Presenter	Registered
BOEBINGER, GREGORY S	NATIONAL HIGH MAGNETIC FIELD LABORATORY	Attendee	Registered
BRAY-ALI, NOAH	UNIV. MARYLAND AND NIST	Poster Presenter	Registered
BURKOV, ANTON A	UNIVERSITY OF WATERLOO	Poster Presenter	Registered
CANO, JENNIFER	UC SANTA BARBARA	Poster Presenter	Registered
CAO, HELIN	PURDUE UNIVERSITY	Poster Presenter	Registered
CASTRO, EDUARDO V	INSTITUTO SUPERIOR TECNICO, TULISBON	Poster Presenter	Registered
CASTRO NETO, ANTONIO	BOSTON UNIVERSITY	Speaker	Registered
CHAKRAVARTY, SUDIP	UCLA	Speaker	Registered
CHAMON, CLAUDIO	BOSTON UNIVERSITY	Speaker	Registered
CHOWDHURY, DEBANJAN	HARVARD UNIVERSITY	Poster Presenter	Registered
CHUBUKOV, ANDREY	UNIVERSITY OF WISCONSIN	Speaker	Registered
CHUDOW, JOEL D	YALE UNIVERSITY	Poster Presenter	Registered
CHUNG, SUK BUM	STANFORD UNIVERSITY	Poster Presenter	Registered
COLEMAN, PIERS	RUTGERS UNIVERSITY	Speaker	Registered
COUEDO, FRANCOIS	CSNSM	Poster Presenter	Registered
DAS, TANMOY	LOS ALAMOS NATIONAL LABORATORY	Poster Presenter	Registered
DATTA, TRINANJAN	AUGUSTA STATE UNIVERSITY	Poster Presenter	Registered
DAVIS, J.C. SEAMUS	CORNELL UNIVERSITY	Speaker	Registered
DITUSA, JOHN F	LOUISIANA STATE UNIVERSITY	Attendee	Registered
DIXIT, MEHUL	OHIO STATE UNIVERSITY	Poster Presenter	Registered
DREW, HOWARD D	UNIVERSITY OF MARYLAND	Poster Presenter	Registered
DZERO, MAXIM	KENT STATE UNIVERSITY	Poster Presenter	Registered
ERTEN, ONUR	OHIO STATE UNIVERSITY	Poster Presenter	Registered
ETTER, SARAH B	ETH ZURICH	Poster Presenter	Registered

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FISCHER, MARK H	CORNELL UNIVERSITY	Poster Presenter	_
FLINT, REBECCA A	MIT	Poster Presenter	
FOSTER, MATTHEW S.	RUTGERS UNIVERSITY	Poster Presenter	=
FRADKIN, EDUARDO	UNIVERSITY OF ILLINOIS AT URBANA- CHAMPAIGN	Discussion Leader	Registered
FROMHOLD, MARK	UNIVERSITY OF NOTTINGHAM	Speaker	Registered
FU, LIANG	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Discussion Leader	Registered
GAO, XUAN	CASE WESTERN RESERVE UNIVERSITY	Speaker	Registered
GERBER, SIMON M	PAUL SCHERRER INSTITUT	Poster Presenter	Registered
GHAEMI, POUYAN	UNIVERSITY OF ILLINOIS AT URBANA- CHAMPAIGN	Poster Presenter	Registered
GHIMIRE, NIRMAL J	THE UNIVERSITY OF TENNESSEE	Poster Presenter	Registered
GHOSH, AJAY KUMAR	UNIVERSITY OF ILLINOIS AT URBANA- CHAMPAIGN	Poster Presenter	Registered
GIAMARCHI, THIERRY	UNIVERSITY OF GENEVA	Speaker	Registered
GORDON, RYAN T	UNIVERSITY OF SHERBROOKE	Attendee	Registered
GOSWAMI, PALLAB	NATIONAL HIGH MAGNETIC FIELD LABORATORY AND FSU	Poster Presenter	Registered
GRUSHIN, ADOLFO G	MATERIAL SCIENCE INSTITUTE OF MADRID (ICMM-CSIC)	Poster Presenter	Registered
HALPERIN, BERTRAND	HARVARD UNIVERSITY	Speaker	Registered
HARALDSEN, JASON T	LOS ALAMOS NATIONAL LABORATORY	Poster Presenter	Registered
HARTINOLL, SEAN	STANFORD UNIVERSITY	Speaker	Registered
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HE, YU	STANFORD UNIVERSITY	Poster Presenter	Registered
	STANFORD UNIVERSITY HARVARD UNIVERSITY	Poster Presenter Speaker	Registered Registered
HE, YU			Registered
HE, YU HOFFMAN, JENNIFER E	HARVARD UNIVERSITY	Speaker	Registered Registered
HE, YU HOFFMAN, JENNIFER E HORMOZI, LAYLA	HARVARD UNIVERSITY PENNSYLVANIA STATE UNIVERSITY	Speaker Poster Presenter	Registered Registered Registered
HE, YU HOFFMAN, JENNIFER E HORMOZI, LAYLA HOU, CHANG-YU	HARVARD UNIVERSITY PENNSYLVANIA STATE UNIVERSITY CALTECH AND UC RIVERSIDE	Speaker Poster Presenter Poster Presenter	Registered Registered Registered Registered
HE, YU HOFFMAN, JENNIFER E HORMOZI, LAYLA HOU, CHANG-YU HSIEH, TIMOTHY H	HARVARD UNIVERSITY PENNSYLVANIA STATE UNIVERSITY CALTECH AND UC RIVERSIDE MIT	Speaker Poster Presenter Poster Presenter Poster Presenter	Registered Registered Registered Registered Registered
HE, YU HOFFMAN, JENNIFER E HORMOZI, LAYLA HOU, CHANG-YU HSIEH, TIMOTHY H HSU, CHEN-HSUAN	HARVARD UNIVERSITY PENNSYLVANIA STATE UNIVERSITY CALTECH AND UC RIVERSIDE MIT UCLA PHYSICS	Speaker Poster Presenter Poster Presenter Poster Presenter Poster Presenter	Registered Registered Registered Registered Registered
HE, YU HOFFMAN, JENNIFER E HORMOZI, LAYLA HOU, CHANG-YU HSIEH, TIMOTHY H HSU, CHEN-HSUAN HUIJSE, LIZA	HARVARD UNIVERSITY PENNSYLVANIA STATE UNIVERSITY CALTECH AND UC RIVERSIDE MIT UCLA PHYSICS HARVARD UNIVERSITY	Speaker Poster Presenter Poster Presenter Poster Presenter Poster Presenter Poster Presenter	Registered Registered Registered Registered Registered Registered
HE, YU HOFFMAN, JENNIFER E HORMOZI, LAYLA HOU, CHANG-YU HSIEH, TIMOTHY H HSU, CHEN-HSUAN HUIJSE, LIZA HULET, RANDY	HARVARD UNIVERSITY PENNSYLVANIA STATE UNIVERSITY CALTECH AND UC RIVERSIDE MIT UCLA PHYSICS HARVARD UNIVERSITY RICE UNIVERSITY	Speaker Poster Presenter Poster Presenter Poster Presenter Poster Presenter Poster Presenter Speaker	Registered Registered Registered Registered Registered Registered
HE, YU HOFFMAN, JENNIFER E HORMOZI, LAYLA HOU, CHANG-YU HSIEH, TIMOTHY H HSU, CHEN-HSUAN HUIJSE, LIZA HULET, RANDY HUNT, BENJAMIN M	HARVARD UNIVERSITY PENNSYLVANIA STATE UNIVERSITY CALTECH AND UC RIVERSIDE MIT UCLA PHYSICS HARVARD UNIVERSITY RICE UNIVERSITY MIT	Speaker Poster Presenter Poster Presenter Poster Presenter Poster Presenter Poster Presenter Speaker Poster Presenter	Registered Registered Registered Registered Registered Registered Registered
HE, YU HOFFMAN, JENNIFER E HORMOZI, LAYLA HOU, CHANG-YU HSIEH, TIMOTHY H HSU, CHEN-HSUAN HUIJSE, LIZA HULET, RANDY HUNT, BENJAMIN M HUSSEY, NIGEL	HARVARD UNIVERSITY PENNSYLVANIA STATE UNIVERSITY CALTECH AND UC RIVERSIDE MIT UCLA PHYSICS HARVARD UNIVERSITY RICE UNIVERSITY MIT UNIVERSITY OF BRISTOL	Speaker Poster Presenter Poster Presenter Poster Presenter Poster Presenter Poster Presenter Speaker Poster Presenter Speaker	Registered
HE, YU HOFFMAN, JENNIFER E HORMOZI, LAYLA HOU, CHANG-YU HSIEH, TIMOTHY H HSU, CHEN-HSUAN HUIJSE, LIZA HULET, RANDY HUNT, BENJAMIN M HUSSEY, NIGEL HWANG, HAROLD	HARVARD UNIVERSITY PENNSYLVANIA STATE UNIVERSITY CALTECH AND UC RIVERSIDE MIT UCLA PHYSICS HARVARD UNIVERSITY RICE UNIVERSITY MIT UNIVERSITY OF BRISTOL STANFORD UNIVERSITY	Speaker Poster Presenter Poster Presenter Poster Presenter Poster Presenter Poster Presenter Speaker Poster Presenter Speaker Speaker Speaker	Registered
HE, YU HOFFMAN, JENNIFER E HORMOZI, LAYLA HOU, CHANG-YU HSIEH, TIMOTHY H HSU, CHEN-HSUAN HUIJSE, LIZA HULET, RANDY HUNT, BENJAMIN M HUSSEY, NIGEL HWANG, HAROLD ILAN, RONI	HARVARD UNIVERSITY PENNSYLVANIA STATE UNIVERSITY CALTECH AND UC RIVERSIDE MIT UCLA PHYSICS HARVARD UNIVERSITY RICE UNIVERSITY MIT UNIVERSITY OF BRISTOL STANFORD UNIVERSITY UNIVERSITY OF CALIFORNIA, BERKELEY	Speaker Poster Presenter Poster Presenter Poster Presenter Poster Presenter Poster Presenter Speaker Poster Presenter Speaker Speaker Speaker Poster Presenter	Registered
HE, YU HOFFMAN, JENNIFER E HORMOZI, LAYLA HOU, CHANG-YU HSIEH, TIMOTHY H HSU, CHEN-HSUAN HUIJSE, LIZA HULET, RANDY HUNT, BENJAMIN M HUSSEY, NIGEL HWANG, HAROLD ILAN, RONI IYER, DEEPAK JUNEAU-FECTEAU,	HARVARD UNIVERSITY PENNSYLVANIA STATE UNIVERSITY CALTECH AND UC RIVERSIDE MIT UCLA PHYSICS HARVARD UNIVERSITY RICE UNIVERSITY MIT UNIVERSITY OF BRISTOL STANFORD UNIVERSITY UNIVERSITY OF CALIFORNIA, BERKELEY RUTGERS UNIVERSITY	Speaker Poster Presenter Poster Presenter Poster Presenter Poster Presenter Poster Presenter Speaker Poster Presenter Speaker Speaker Poster Presenter Poster Presenter Poster Presenter	Registered
HE, YU HOFFMAN, JENNIFER E HORMOZI, LAYLA HOU, CHANG-YU HSIEH, TIMOTHY H HSU, CHEN-HSUAN HUIJSE, LIZA HULET, RANDY HUNT, BENJAMIN M HUSSEY, NIGEL HWANG, HAROLD ILAN, RONI IYER, DEEPAK JUNEAU-FECTEAU, ALEXANDRE	HARVARD UNIVERSITY PENNSYLVANIA STATE UNIVERSITY CALTECH AND UC RIVERSIDE MIT UCLA PHYSICS HARVARD UNIVERSITY RICE UNIVERSITY MIT UNIVERSITY OF BRISTOL STANFORD UNIVERSITY UNIVERSITY OF CALIFORNIA, BERKELEY RUTGERS UNIVERSITY UNIVERSITÉ DE SHERBROOKE LORENTZ-INSTITUTE FOR THEORETICAL	Speaker Poster Presenter Poster Presenter Poster Presenter Poster Presenter Poster Presenter Speaker Poster Presenter Speaker Speaker Poster Presenter Poster Presenter Poster Presenter Poster Presenter Poster Presenter	Registered
HE, YU HOFFMAN, JENNIFER E HORMOZI, LAYLA HOU, CHANG-YU HSIEH, TIMOTHY H HSU, CHEN-HSUAN HUIJSE, LIZA HULET, RANDY HUNT, BENJAMIN M HUSSEY, NIGEL HWANG, HAROLD ILAN, RONI IYER, DEEPAK JUNEAU-FECTEAU, ALEXANDRE JURICIC, VLADIMIR	HARVARD UNIVERSITY PENNSYLVANIA STATE UNIVERSITY CALTECH AND UC RIVERSIDE MIT UCLA PHYSICS HARVARD UNIVERSITY RICE UNIVERSITY MIT UNIVERSITY OF BRISTOL STANFORD UNIVERSITY UNIVERSITY OF CALIFORNIA, BERKELEY RUTGERS UNIVERSITY UNIVERSITÉ DE SHERBROOKE LORENTZ-INSTITUTE FOR THEORETICAL PHYSICS	Speaker Poster Presenter Poster Presenter Poster Presenter Poster Presenter Poster Presenter Speaker Poster Presenter Speaker Speaker Poster Presenter Poster Presenter Poster Presenter Poster Presenter Poster Presenter Poster Presenter	Registered
HE, YU HOFFMAN, JENNIFER E HORMOZI, LAYLA HOU, CHANG-YU HSIEH, TIMOTHY H HSU, CHEN-HSUAN HUIJSE, LIZA HULET, RANDY HUNT, BENJAMIN M HUSSEY, NIGEL HWANG, HAROLD ILAN, RONI IYER, DEEPAK JUNEAU-FECTEAU, ALEXANDRE JURICIC, VLADIMIR KAKASHVILI, PAATA	HARVARD UNIVERSITY PENNSYLVANIA STATE UNIVERSITY CALTECH AND UC RIVERSIDE MIT UCLA PHYSICS HARVARD UNIVERSITY RICE UNIVERSITY MIT UNIVERSITY OF BRISTOL STANFORD UNIVERSITY UNIVERSITY OF CALIFORNIA, BERKELEY RUTGERS UNIVERSITY UNIVERSITÉ DE SHERBROOKE LORENTZ-INSTITUTE FOR THEORETICAL PHYSICS RUTGERS UNIVERSITY	Speaker Poster Presenter Poster Presenter Poster Presenter Poster Presenter Poster Presenter Speaker Poster Presenter Speaker Speaker Poster Presenter Discussion	Registered
HE, YU HOFFMAN, JENNIFER E HORMOZI, LAYLA HOU, CHANG-YU HSIEH, TIMOTHY H HSU, CHEN-HSUAN HUIJSE, LIZA HULET, RANDY HUNT, BENJAMIN M HUSSEY, NIGEL HWANG, HAROLD ILAN, RONI IYER, DEEPAK JUNEAU-FECTEAU, ALEXANDRE JURICIC, VLADIMIR KAKASHVILI, PAATA KALLIN, CATHERINE	HARVARD UNIVERSITY PENNSYLVANIA STATE UNIVERSITY CALTECH AND UC RIVERSIDE MIT UCLA PHYSICS HARVARD UNIVERSITY RICE UNIVERSITY MIT UNIVERSITY OF BRISTOL STANFORD UNIVERSITY UNIVERSITY OF CALIFORNIA, BERKELEY RUTGERS UNIVERSITY UNIVERSITÉ DE SHERBROOKE LORENTZ-INSTITUTE FOR THEORETICAL PHYSICS RUTGERS UNIVERSITY MCMASTER UNIVERSITY MAX PLANCK INSTITUTE FOR SOLID STATE	Speaker Poster Presenter Poster Presenter Poster Presenter Poster Presenter Poster Presenter Speaker Poster Presenter Speaker Speaker Poster Presenter Poster Presenter Poster Presenter Poster Presenter Poster Presenter Poster Presenter Discussion Leader	Registered

TECHNOLOGY

KHARITONOV, MAXIM	RUTGERS UNIVERSITY	Poster Presenter	Registered
KIM, PHILIP H	COLUMBIA UNIVERSITY	Speaker	Registered
KIM, YONG-BAEK	UNIVERSITY OF TORONTO	Speaker	Registered
KIM, EUN-AH	CORNELL UNIVERSITY	Speaker	Registered
KIVELSON, STEVEN A	STANFORD UNIVERSITY	Chair	Registered
KLIRONOMOS, ALEXIOS D	AMERICAN PHYSICAL SOCIETY	Attendee	Registered
KOTOV, VALERI	UNIVERSITY OF VERMONT	Attendee	Registered
LAU, CHUN NING JEANIE	UC-RIVERSIDE	Speaker	Registered
LEE, JUNHYUN	HARVARD UNIVERSITY	Poster Presenter	Registered
LEE, DUNG-HAI	UNIVERSITY OF CALIFORNIA, BERKELEY	Discussion Leader	Registered
LEVCHENKO, ALEX	MICHIGAN STATE UNIVERSITY	Poster Presenter	Registered
LINDNER, NETANEL H	CALIFORNIA INSTITUTE OF TECHNOLOGY	Poster Presenter	Registered
LIU, WENSHUO	RUTGERS UNIVERSITY	Poster Presenter	Registered
LONZARICH, GILBERT G	UNIVERSITY OF CAMBRIDGE	Speaker	Registered
LU, CHI-KEN	SIMON FRASER UNIVERSITY	Poster Presenter	Registered
LUICAN-MAYER, ADINA	RUTGERS UNIVERSITY	Poster Presenter	Registered
MACKENZIE , ANDREW	UNIVERSITY OF ST. ANDREWS	Speaker	Registered
MADHAVAN, VIDYA	BOSTON COLLEGE	Speaker	Registered
MAENO, YOSHITERU	KYOTO UNIVERSITY	Speaker	Registered
MAHMOUDIAN, SAMIYEH	NHMFL-FLORIDA STATE UNIVERSITY	Poster Presenter	Registered
MAITI, SAURABH	UNIVERSITY OF WISCONSIN-MADISON	Poster Presenter	Registered
MANDAL, IPSITA	UNIVERSITY OF CALIFORNIA LOS ANGELES	Poster Presenter	Registered
MASSEE, FREEK	CORNELL UNIVERSITY	Poster Presenter	Registered
MCKITTERICK, CHRIS B	YALE DEPARTMENT OF PHYSICS	Poster Presenter	Registered
MEETEI, OINAM NGANBA	OHIO STATE UNIVERSITY	Poster Presenter	Registered
MESAROS, ANDREJ	BOSTON COLLEGE	Poster Presenter	Registered
MILLER, JOHN H	UNIVERSITY OF HOUSTON	Poster Presenter	Registered
MOLENKAMP, LAURENS	PHYSIKALISCHES INSTITUT(EP3) DER UNIVERSITAET WUER	Speaker	Registered
MOLER, KATHRYN A	STANFORD UNIVERSITY	Attendee	Registered
MOORE, JOEL E	UNIVERSITY OF CALIFORNIA, BERKELEY	Speaker	Registered
MUNOZ FREGOSO, BENJAMIN	UNIVERSITY OF MARYLAND	Attendee	Registered
NEUPERT, TITUS	PAUL SCHERRER INSTITUTE	Poster Presenter	
NEVIDOMSKYY, ANDRIY	RICE UNIVERSITY	Poster Presenter	Registered
NOVOSELOV , KONSTANTIN	UNIVERSITY OF MANCHESTER	Speaker	Registered
ONG, N. PHUAN	PRINCETON UNIVERSITY	Speaker	Registered
ONG, TZE TZEN	RUTGERS UNIVERSITY	Poster Presenter	Registered
ORGAD, DROR	HEBREW UNIVERSITY	Attendee	Registered
PARK, SE YOUNG	COLUMBIA UNIVERSITY	Poster Presenter	Registered
PEJAKOVIC, DUSAN	GORDON AND BETTY MOORE FOUNDATION	Attendee	Registered
PESIN, DMYTRO	THE UNIVERSITY OF TEXAS AT AUSTIN	Poster Presenter	
PIXLEY, JEDEDIAH H	RICE UNIVERSITY	Poster Presenter	=
PROBER, DANIEL E	YALE UNIV.	Attendee	Registered

PROZOROV, RUSLAN	IOWA STATE UNIVERSITY	Attendee	Registered
PUNK, MATTHIAS	HARVARD UNIVERSITY	Poster Presenter	Registered
QI, YANG	TSINGHUA UNIVERSITY	Poster Presenter	Registered
QUADER, KHANDKER F	KENT STATE UNIVERSITY	Attendee	Registered
RADZIHOVSKY, LEO	UNIVERSITY OF COLORADO	Attendee	Registered
RAGHU, SRINIVAS	GLAM, STANFORD UNIVERSITY	Attendee	Registered
RAHMANI, ARMIN	LOS ALAOMS NATIONAL LAB	Poster Presenter	Registered
RAMIRES NEVES DE OLIVEIR, ALINE	RUTGERS UNIVERSITY	Poster Presenter	Registered
REBAR, DREW J	LOUISIANA STATE UNIVERSITY	Poster Presenter	Registered
REID, JEAN-PHILIPPE	UNIVERSITE DE SHERBROOKE	Poster Presenter	Registered
REIDY, KELLY E	KENT STATE UNIVERSITY	Poster Presenter	Registered
RISEBOROUGH, PETER S	TEMPLE UNIVERSITY	Attendee	Registered
ROY, RAHUL	UCLA	Attendee	Registered
ROY, BITAN	NATIONAL HIGH MAGNETIC FIELD LABORATORY	Poster Presenter	Registered
RUSSO, ANTONIO E	UNIVERSITY OF CALIFORNIA, LOS ANGELES	Poster Presenter	Registered
SACHDEV, SUBIR	HARVARD UNIVERSITY	Speaker	Registered
SALOVICH, NICHOLAI	UNIVERSITY OF ILLINOIS AT URBANA- CHAMPAIGN	Poster Presenter	Registered
SASAKI, SATOSHI	OSAKA UNIVERSITY	Poster Presenter	Registered
SAU, JAY D	HARVARD UNIVERSITY	Poster Presenter	Registered
SCHMALIAN, JOERG	KARLSRUHE INSTITUTE OF TECHNOLOGY	Vice Chair	Registered
SCHOTTDORF, MANUEL	RUTGERS UNIVERSITY	Poster Presenter	Registered
SEBASTIAN, SUCHITRA	CAVENDISH LABORATORY	Speaker	Registered
SEO, AMBROSE	UNIVERSITY OF KENTUCKY	Poster Presenter	Registered
SERADJEH, BABAK H	INDIANA UNIVERSITY	Poster Presenter	Registered
SHARMA, ANAND	UNIVERSITY OF VERMONT	Poster Presenter	Registered
SOUMYANARAYANAN, ANJAN	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Poster Presenter	Registered
SOW, CHANCHAL	INDIAN INSTUTUTE OF SCIENCE	Poster Presenter	Registered
STAJIC, JELENA	SCIENCE	Attendee	Registered
STANEV, VALENTIN	ARGONNE NATIONAL LABORATORY	Poster Presenter	Registered
STEGEN, ZACHARY A	FLORIDA STATE UNIVERSITY	Poster Presenter	Registered
TAILLEFER, LOUIS	UNIVERSITE DE SHERBROOKE	Speaker	Registered
TANG, EVELYN	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Poster Presenter	Registered
TEWARI, SUMANTA	CLEMSON UNIVERSITY	Attendee	Registered
THOMALE, RONNY	STANFORD UNIVERSITY	Attendee	Registered
THOMPSON, LARA	MIT	Poster Presenter	Registered
UCHOA, BRUNO	UNIVERSITY OF OKLAHOMA	Attendee	Registered
ULLOA, SERGIO E	OHIO UNIVERSITY	Poster Presenter	Registered
VAFEK, OSKAR	NATIONAL HIGH MAGNETIC FIELD LAB AND FSU	Speaker	Registered
VAKARYUK, VICTOR	ARGONNE NATIONAL LAB	Poster Presenter	Registered
VALDES AGUILAR, ROLANDO	JOHNS HOPKINS UNIVERSITY	Poster Presenter	Registered

VARMA, CHANDRA M	UC RIVERSIDE	Discussion Leader	Registered
VOZMEDIANO, MARIA H	CSIC	Poster Presenter	Registered
WAHL, PETER	MAX-PLANCK-INSTITUTE FOR SOLID STATE RESEARCH	Poster Presenter	Registered
WAKEHAM, NICK A	UNIVERSITY OF BRISTOL	Poster Presenter	Registered
WANG, ZHIQIANG	UNIVERSITY OF CALIFORNIA, LOS ANGELES	Poster Presenter	Registered
WANG, ZHENTAO	RICE UNIVERSITY	Attendee	Registered
WORTIS, RACHEL	TRENT UNIVERSITY	Poster Presenter	Registered
WU, JIANDA	RICE UNIVERSITY	Poster Presenter	Registered
WU, WEIDA	RUTGERS UNIVERSITY	Speaker	Registered
WU, LIANG	JOHNS HOPKINS UNIVERSITY	Poster Presenter	Registered
YACOBY, AMIR	HARVARD UNIVERSITY	Speaker	Registered
YAZDANI, ALI	PRINCETON UNIVERSITY	Speaker	Registered
YEE, MICHAEL M	HARVARD UNIVERSITY	Poster Presenter	Registered
YOU, YIZHI	UNIVERSITY OF ILLINOIS AT URBANA- CHAMPAIGN	Attendee	Registered
ZELJKOVIC, ILIJA	HARVARD UNIVERSITY	Poster Presenter	Registered
176 Attendees			