

## Program of the conference “Frontiers in Physics of Quantum Materials”

### Monday, June 23

09.00 – 09.15	Opening
09.15 – 09.55	Andrey Chubukov. Spin/valley orders and superconductivity in Bernal bilayer graphene
09.55 – 10.35	Leni Bascones. Heavy Fermions and Cascades in Twisted Bilayer Graphene: New Results
10.35 – 11.05	Coffee break
11.05 – 11.45	Matthias Scheurer. Superconductivity in chiral bands
11.45 – 12.25	Elio König. Topologically enabled superconductivity and possible applications to rhombohedral graphene
12.30 – 14.30	Lunch / Discussions
14.30 – 15.10	Harry Westfahl Jr. From Quantum Glasses to a Fourth-Generation Synchrotron Light Source: A Personal Journey Inspired by Joerg Schmalian
15.10 – 15.50	Markus Müller. New insight into quantum glasses: The mean field Heisenberg glass and its collective modes
15.50 – 16.20	Coffee break
16.20 – 17.00	Roderich Moessner. Many-body cages: disorder-free glassiness from flat bands in Fock space, and many-body Rabi oscillations
17.00 – 17.40	Gabriel Kotliar. DFT+G and its surprising connection to DMFT

### Tuesday, June 24

09.00 – 09.40	Paul Canfield. Collapsed tetragonal phase transitions as canaries
09.40 – 10.20	Premi Chandra. Light-Induced Orders that Oscillate in Space and Time
10.20 – 10.50	Coffee break
10.50 – 11.30	Peter Orth. Nonlinear interrogation of quantum materials: why higher order response tells you more
11.30 – 12.10	Cristian Batista. Kinetic Energy Frustration as a New Paradigm for Correlated Metals
12.15 – 14.30	Lunch / Discussions
14.30 – 15.10	Rastko Sknepnek. Active Matter as a framework for modelling physics of life
15.10 – 15.50	Sergey Syzranov. Hidden energy scale and the effects of quenched disorder in geometrically frustrated magnets
15.50 – 16.20	Coffee break
16.20 – 19.00	Poster session

### Wednesday, June 25

09.00 – 09.40	Subir Sachdev. The foot, the fan, and the pseudogap
09.40 – 10.20	Peter Wölfle. Hidden charge order in strongly correlated electron systems
10.20 – 10.50	Coffee break
10.50 – 11.30	Erez Berg. Strange metallic transport in disordered strongly correlated systems
11.30 – 12.10	Steven Kivelson. Superpuddles

12.15 – 14.30	Lunch / Discussions
14.30 – 15.10	Natalia Perkins. Probing Fractionalized Excitations in Kitaev Spin Liquids via Phonon Dynamics
15.10 – 15.50	Piers Coleman. Axionic Tunneling into a Topological Kondo Insulator
15.50 – 16.20	Coffee break
16.20 – 17.00	Matthias Vojta. Fractionalized superconductivity from Majorana glue
17.00 – 17.40	Liliana Arrachea. Bogoliubov Fermi energies and topological properties of two-dimensional superconducting heterostructures
19.00 – ...	Conference Dinner

## Thursday, June 26

09.00 – 09.40	Thomas Vojta. Critical behavior and amplitude mode at the superfluid-insulator transition in amorphous systems
09.40 – 10.20	Maxim Dzero. Schmid-Higgs mode in superconductors with pair-breaking scattering
10.20 – 10.50	Coffee break
10.50 – 11.30	Roland Willa. Finite-momentum pairing in a magnetic multi-band superconductor
11.30 – 12.10	Laura Classen. Angle-tuned quantum criticality in moiré Dirac semimetals
12.15 – 14.30	Lunch / Discussions
14.30 – 15.10	Anna Böhrer. Orders and fluctuations in FeSe under physical and chemical pressure
15.10 – 15.50	Elena Hassinger. Two-phase superconductivity out of an unconventional order in CeRh <sub>2</sub> As <sub>2</sub>
15.50 – 16.20	Coffee break
16.20 – 17.00	Dan Sheehy. Analog gravity in condensed matter and cold atom systems
17.00 – 17.40	Sam Carr. Curious thermodynamics in frustrated Ising models

## Friday, June 27

09.00 – 09.40	Andrew Mackenzie. Thermodynamic studies of the unconventional superconductor Sr <sub>2</sub> RuO <sub>4</sub>
09.40 – 10.20	Roser Valenti. Why scanning tunneling spectroscopy of Sr <sub>2</sub> RuO <sub>4</sub> sometimes doesn't see the superconducting gap?
10.20 – 10.50	Coffee break
10.50 – 11.30	Hilary Noad. Stress-strain relation of quantum materials under uniaxial pressure
11.30 – 12.10	Ian Fisher. Hyperfine interactions and quantum criticality near a field-tuned ferroquadrupole quantum critical point
12.15 – 13.40	Lunch / Discussions
13.40 – 14.20	Wulf Wulfhchel. Surprises in the superconductivity of the two-band superconductor Pb
14.20 – 15.00	Alex Levchenko. Superconducting Diode Effect
15.00 – 15.30	Coffee break
15.45 – 17.30	<i>Physics colloquium (Gaede Lecture Hall):</i> P. Wolynes. Energy Landscapes: From Glasses to the Intelligence of Biomolecules
17.30 – ...	Reception ( <i>Foyer of the Gaede Lecture Hall</i> ).