

## Thursday, 16 October

9:00-9:30 **Immanuel BLOCH** (CIFAR / MPI-MPQ, Garching)  
Realizing and probing topological Bloch bands with ultracold atoms

9:30-10:00 **Bart LUDBROOK** (CIFAR / MP-UBC Centre)  
Evidence for superconductivity in Li-decorated graphene

10:00-10:30 **Kateryna FOYEVSTOVA** (CIFAR / MP-UBC)  
Similarities and differences between bismuthates and nickelates

### 10:30-11:30 Coffee Break

11:30-12:00 **Marcel FRANZ** (CIFAR / UBC)  
Strongly interacting Majorana fermions

12:00-12:30 **Andreas SCHNYDER** (MPI-FKF, Stuttgart)  
Reflection symmetry protected topological semimetals and nodal superconductors

### 12:30-14:30 Lunch

14:30-15:00 **Emilia MOROSAN** (Rice Univ.)  
The novel itinerant antiferromagnet TiAu

15:00-15:30 **Antonio SANNA** (MPI-Halle)  
Density functional theory for superconductors: recent developments and applications

15:30-16:00 **Robert GREEN** (CIFAR / MP-UBC Centre)  
Resonant x-ray reflectometry of the two dimensional electron gas LaAlO<sub>3</sub>/SrTiO<sub>3</sub> interfaces

16:00-18:00 POSTER SESSION & COFFEE BREAK

### 18:00-19:30 Dinner

19:30-20:30 POSTER SESSION

## Friday, 17 October

8:30-9:00 **Yoshi MAENO** (CIFAR / Kyoto Univ.)  
Overview of current issues in Sr<sub>2</sub>RuO<sub>4</sub>

9:00-9:30 **Ed TAYLOR** (CIFAR / McMaster Univ.)  
Topological edge states in Sr<sub>2</sub>RuO<sub>4</sub>

9:30-10:00 **Elena HASSINGER** (MPI-CPFS, Dresden)  
Anisotropy of thermal conductivity in Sr<sub>2</sub>RuO<sub>4</sub>

### 10:00-11:00 Coffee Break

11:00-11:30 **Graeme LUKE** (CIFAR / McMaster Univ.)  
Penetration depth in Sr<sub>2</sub>RuO<sub>4</sub>

11:30-12:00 **Andrea DAMASCELLI** (CIFAR / UBC)  
ARPES studies of Sr<sub>2</sub>RuO<sub>4</sub>

12:00-12:30 **Tom TIMUSK** (CIFAR / McMaster Univ.)  
Optical studies of ruthenates

### 12:30-14:30 Lunch

14:30-15:00 **Dirk van der MAREL** (Univ. of Geneva)  
Fermi liquid and beyond in Sr<sub>2</sub>RuO<sub>4</sub>

15:00-15:30 **Jernej MRAVLJE** (Ljubljana)  
Hund's metal picture of the normal state in ruthenates

15:30-16:00 **Philipp GEGENWART** (Univ. of Augsburg)  
Low-energy properties of CaRuO<sub>3</sub> - elusive Landau quasiparticles

16:00-18:00 POSTER SESSION & COFFEE BREAK

### 18:00-19:30 Dinner (CIFAR / UBC)

19:30-20:30 POSTER SESSION

Focus session on ruthenates

LECTURE HALL 2 D5  
MPI for Solid State Research

PROGRAM

# Joint CIFAR – Max Planck Society Quantum Materials Meeting

October 13 – 17, 2014

Max Planck – UBC Center for Quantum Materials  
Canadian Institute for Advanced Research  
Gordon and Betty Moore Foundation



**CIFAR**  
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**MOORE**  
FOUNDATION



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## Monday, 13 October

9:00-9:45 **Bernhard KEIMER** (MPI-FKF, Stuttgart)  
Welcome

Overview of QM research at MPI

9:45-10:00 **Denis THÉRIEN** (CIFAR)  
Overview of CIFAR

10:00-10:30 **Louis TAILLEFER**  
(CIFAR / Univ. de Sherbrooke)  
Overview of QM research at CIFAR

10:30-11:30 **Coffee Break**

11:30-11:45 **Dusan PEJAKOVIC**  
(Gordon and Betty Moore Foundation)  
Overview of EPIQS initiative at  
Moore Foundation

11:45-12:15 **James ANALYTIS** (Univ. of California, Berkeley)  
Magnetoresistance near a  
quantum critical point

12:30-14:30 **Lunch**

14:30-15:00 **Claudia FELSER** (MPI-CPfS, Dresden)  
Topologic superconductors in  
Heusler compounds

15:00-15:30 **Stephen JULIAN** (CIFAR / Univ. of Toronto)  
High-pressure studies of strongly  
correlated states in  $\text{Sr}_3\text{Ru}_2\text{O}_7$   
and  $\text{FeCrAs}$

15:30-16:00 **Fazel TAFTI** (CIFAR / Univ. de Sherbrooke)  
Pressure studies of iron-based  
superconductor  $\text{XFe}_2\text{As}_2$

16:00-18:00 POSTER SESSION & COFFEE BREAK

18:00-19:30 **Dinner**

19:30-20:30 POSTER SESSION

## Tuesday, 14 October

9:00-9:30 **Subir SACHDEV** (CIFAR / Harvard Univ.)  
Microstructure of charge order  
in the cuprates

9:30-10:00 **Cyril PROUST** (CIFAR / Univ. de Toulouse)  
Fermi surface reconstruction by charge  
order in the cuprates

10:00-10:30 **Mathieu Le TACON** (MPI-FKF, Stuttgart)  
Charge density wave in cuprate  
high- $T_c$  superconductors

10:30-11:30 **Coffee Break**

11:30-12:00 **Eduardo da SILVA NETO** (CIFAR / UBC)  
Charge order in hole- and electron-  
doped cuprates probed by resonant  
x-ray scattering

12:00-12:30 **Olivier CYR-CHOINIÈRE**  
(CIFAR / Univ. de Sherbrooke)  
Nematicity in the cuprates

12:30-14:30 **Lunch**

14:30-15:00 **Walter METZNER** (MPI-FKF, Stuttgart)  
Non-Fermi liquid signatures of  
nematic criticality

15:00-15:30 **Andrea CAVALLERI** (MPSD, Hamburg)  
Light-induced superconductivity  
in the cuprates

15:30-16:00 **Joe CHECKELSKY** (MIT, Cambridge)  
Quantum Hall states in  
topological insulators

16:00-18:00 POSTER SESSION & COFFEE BREAK

18:00-19:30 **Dinner**

19:30-20:30 POSTER SESSION

## Wednesday, 15 October

9:00-9:30 **Peter ARMITAGE** (Johns Hopkins Univ.)  
Shining low-frequency light on  
quantum magnets: Ising spin chains,  
quantum spin ice, and spin-orbital liquids

9:30-10:00 **Leon BALENTS**  
(CIFAR / Univ. of California, Santa Barbara)  
Liquid states of quantum magnets

10:00-10:30 **Michel GINGRAS** (CIFAR / Univ. of Waterloo)  
Rare-earth magnetic pyrochlore oxides:  
moving beyond the Ising era

10:30-11:30 **Coffee Break**

11:30-12:00 **Hidenori TAKAGI** (MPI-FKF, Stuttgart)  
3D Dirac materials

12:00-12:30 **Giniyat KHALIULLIN** (MPI-FKF, Stuttgart)  
Magnetism and doping effects in  
spin-orbit coupled Mott insulators

12:30-14:30 **Lunch**

14:30-15:00 **Liu Hao TJENG** (MPI-CPfS, Dresden)  
 $\text{Fe}_3\text{O}_4$  thin films: from worse to  
better than the bulk

15:00-15:30 **Hans BOSCHKER** (MPI-FKF, Stuttgart)  
Electron-phonon coupling and the  
superconducting phase diagram  
of the  $\text{LaAlO}_3$ - $\text{SrTiO}_3$  interface

15:30-16:00 **Takayuki HARADA** (MPI-FKF, Stuttgart)  
Ferromagnetism and conductivity in  
atomically thin  $\text{SrRuO}_3$

16:00-17:30 POSTER SESSION & COFFEE BREAK

17:30-18:00 Transfer by bus to Ludwigsburg

18:00-20:00 **Dinner (Restaurant Krauthof)**

20:00-21:00 **Louis TAILLEFER & Bernhard KEIMER**  
Prospects for CIFAR-MPI Collaboration

21:00 Transfer to hotels

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