

Program HMF-23



Monday morning

8h50: Opening

9h00: Invited talk - **Philip Kim**

Quantum Hall Bilayer Exciton Condensation in Graphene

9h30: T. Szkopek

Large magnetoresistance by Pauli blockade in hydrogenated graphene

9h45: M. V. Durnev

Chiral edge photogalvanic effect in graphene in the quantum Hall regime

10h00: Jeanie Lau

Spin and Charge Transport in Few-Layer Graphene and Phosphorene

10h15: Erik Henriksen

Proximity Effects in Graphene/ α - RuCl_3 Heterostructures

10h30: Coffee break

11h00: Invited talk - **Andrea Young**

Fractional Chern insulators in graphene heterostructures

11h30: Invited talk - **Yuanbo Zhang**

Quantum Hall Effect in Two-dimensional Electron System in Black Phosphorus

12h00: Buffet lunch

Monday afternoon

14h00: Invited talk - **Go Yusa**

Optically imaged stripes in fractional quantum Hall fluid

14h30: Invited talk - **Benoît Fauqué**

Thermodynamic and transport properties of graphite

15h00: Toshihiro Taen

Thickness and gate-voltage dependence on B induced phase transition in graphite

15h15: Ngoc Han Tu

Coupling between quantum Hall edge channels across bulk 2D electron systems

15h30: Xiaomeng Liu

Observation of interlayer anyon pairing through fractional quantum Hall drag

15h45: Scott Crooker

Exciton Rydberg States & Dielectric Environment Effects in Monolayer Semiconductors

16h00: Coffee break

16h30: Shotgun session (chair - Marek Potemski)

(3 minute/3 slide oral presentation to advertise your poster)

18h30: Posters + cocktail dinatoire

Tuesday morning

9h00: Invited talk - **Nigel Hussey**

Dark excitons meet Tomonaga-Luttinger liquid: emergence of a real-space symmetry axis in the magnetoresistance of $\text{Li}_{0.9}\text{Mo}_6\text{O}_{17}$

9h30: L. E. Golub

Magnetoinduced photocurrents in Weyl semimetals

9h45: T. Khouri

Quantum oscillations due to magnetic breakdown in the nodal line semi-metal ZrSiS

10h00: D. Smirnov

Landau level spectroscopy of coupled Weyl points: a case study of semimetal NbP

10h15: S. Wiedmann

Electron-hole tunneling in the nodal line semi-metal HfSiS

10h30: Coffee break

11h00: Invited talk - **Amalia Coldea**

Tuning competing electronic states and superconductivity using chemical and applied pressure in a family of compensated semimetals, $\text{FeSe}_{1-x}\text{S}_x$

11h30: Invited talk - **Paolo Sessi**

Edge states in topological crystalline insulators: a new approach towards robust 1D modes

12h00: Buffet lunch

Tuesday afternoon

14h00: Invited talk - **Ross McDonald**

Topological Metals in the Quantum Limit

14h30: Invited talk - **Thomasz Story**

Dirac surface and interface states in topological crystalline insulators

15h00: K.S. Denisov

Topological Hall effect in different microscopic regimes

15h15: Francesca Telesio

Strong anisotropic in-plane magneto-transport in a few-layer bP FET

15h30: K. Rubi

Transport properties of 2DEG at the LaAlO₃/SrTiO₃ interface with varying carrier density

15h45: Ryuichi Masutomi

Crossover from a complex stripe phase to a helical phase in multiple one-atomic-layer films

16h00: Coffee break

16h30: Shotgun session (chair - Nigel Hussey)

(3 minute/3 slide oral presentation to advertise your poster)

18h30: Posters + cocktail dinatoire

Wednesday

- 9h00:** Invited talk - **Matthew Yankowitz**
Ambipolar Landau levels and strong band-selective carrier interactions in monolayer WSe_2
- 9h30:** Cory Dean
Bandstructure engineering with patterned dielectric superlattices
- 9h45:** L. Szulakowska
Effective interaction, bandgap renormalization and massive Dirac Fermion excitons in magnetic field
- 10h00:** Bernhard Urbaszek
Fine structure of dark exciton in WSe_2 monolayers in perpendicular magnetic field
- 10h15:** M.R. Molas
Magneto-photoluminescence spectroscopy of excited exciton states in h-BN encapsulated monolayer WSe_2 and MoS_2
- 10h30:** Coffee break
- 11h00:** Invited talk - **Ning Wang**
Probing unconventional Landau levels with strong interactions and quantum Hall ferromagnet states in atomically thin WSe_2 and MoS_2
- 11h30:** Invited talk - **Mikhail Glazov**
Excitons and trions in 2D semiconductors based on transition metal dichalcogenides
- 12h00:** Excursion + packed lunch
- 19h00:** Conference Banquet - Hotel Dieu

Thursday morning

9h00: Invited talk - **Tony Heinz**

Probing and controlling excitations in transition metal dichalcogenides with magnetic fields

9h30: Ashish Arora

Unraveling interlayer excitons in a bulk two-dimensional semiconductor at high B

9h45: Johannes Holler

Valley polarization dynamics of interlayer excitons in 2D crystal heterostructures at high B

10h00: Anatolie Mitioğlu

Magneto-optical investigation of strained 2D WSe_2 monolayers

10h15: Artur Slobodeniuk

Intra- and interlayer optical transitions at $K\pm$ points of TMD multilayers

10h30: Coffee break

11h00: Invited talk - **Guenna Gusev**

Quantized edge transport at $\nu = 0$ quantum Hall state

11h30: Invited talk - **Alexey Suslov**

Electron puddling in the extreme quantum limit of strontium titanate

12h00: Buffet lunch

Thursday afternoon

- 14h00:** Invited talk - Alessandro Surrente
Magneto-optics of excitons in metal halide perovskites
- 14h30:** Invited talk - **Ana Akrap**
Magneto-optical spectroscopy of 3D Dirac semimetals
- 15h00:** Marcel Naumann
Quantum limit of a single Fermi surface pocket - CoSb_3 at high B
- 15h15:** M. Shahrokhvand
Quantum limit thermopower in the metallic semiconductor InSb
- 15h30:** D. K. Efetov
High-speed bolometry from Johnson noise detection of hot electrons in cavity-coupled graphene
- 15h45:** F. D. Parmentier
Ballistic electrons splashing down in a Fermi sea
- 16h00:** Coffee break
- 16h30:** A. V. Gorbunov
Transport of optically pumped spin in magnetized 2D electron system
- 16h45:** Josef Oswald
Exchange mediated compressible stripes in the integer quantum Hall effect regime: A possible need for a new interpretation even after 25 years
- 17h00:** V. I. Gavrilenko
Landau level spectroscopy of $\text{HgTe}/\text{CdHgTe}$ QWs in high magnetic fields up to 34 T
- 17h15:** M. Zudov
Quantum Hall stripes: high density regime and a new feature
- 17h30:** End of session

Friday morning

9h00: Invited talk - **Benjamin Béri**

Majorana fermions in mesoscopic systems

9h30: Y.B. Lyanda-Geller

Parafermions and Majorana fermions in domain walls of quantum Hall ferromagnets

9h45: F. Appugliese

Magneto-transport of 2DEGs ultrastongly coupled to vacuum fields - probed by weak microwave irradiation

10h00: Shaowen Chen

Competing Fractional Quantum Hall and Electron Solid Phases in Graphene

10h15: Mario Novak

Study of nodal-line Dirac semimetal ZrSiS along c-direction by angular magnetoresistance and mapping of the Q2D Fermi pocket

10h30: Coffee break

11h00: Invited talk - **Leah Weiss**

Triplet Pairs in Organic Semiconductors

11h30: Invited talk - **Oleg Makarovskiy**

InSe based heterostructures at high magnetic fields

12h00: Closing