

Magneto-Optics in Quantum Light and Matter Conference 2026

Institute for Functional Intelligent Materials
National University of Singapore

24 - 26 August 2026
at NUS, Block S9, Level 7

Plenary Speaker

Nuh Gedik

Massachusetts Institute
of Technology – USA



Welcome to the Magneto-Optics in Quantum Light and Matter Conference 2026 – an intensive three-day event dedicated to exploring the forefront research in magneto-optics. Here, we are spotlighting the latest advancements in the study of quantum light, quantum states of matter, and light-matter interaction in low-dimensional materials, especially phenomena emerging at experimental extremes (high magnetic fields, cryogenic temperatures, ultrafast timescales, and nanoscale spatial resolutions), while sparking new ideas and collaborations.

Organizing Committee

Denis Bandurin
NUS

Sanghoon Chae
NTU

Mengkun Liu
Stony Brook
University

Stefano Spagna
Quantum Design

Leo Ding
Quantum Design
Singapore



Department of Materials Science
& Engineering
College of Design and Engineering



Quantum Design



Institute for Functional
Intelligent Materials



Quantum Design
SINGAPORE

Program

Monday, 24 August 2026

8:30 - 9:00

Registration

9:00 - 9:15

Opening Remarks

Denis Bandurin (National University of Singapore)

Mengkun Liu (Stony Brook University)

William Neils (Quantum Design)

9:15 - 10:15

Plenary Lecture

Nuh Gedik (Massachusetts Institute of Technology, MIT)

Driving Quantum Matter with THz Fields: From Hidden Superfluid Plasmons to Metastable Magnetism

10:15 - 11:00

Group Photo and Break

11:00 - 11:30

Hyunyoung Choi (Seoul National University)

Ultrafast magneto-optics of Bose-Fermi mixtures in two-dimensional materials

11:30 - 12:00

Goki Eda (National University of Singapore, NUS)

Magnetic layer photogalvanic effect in PT-symmetric antiferromagnet

12:00 - 12:30

Yang Hyunsoo (National University of Singapore, NUS)

Spin accumulation imaging and THz magnon dynamics

12:30 - 14:00

Lunch and Lab Tour #1

14:00 - 14:30

Kin Chung Fong (Northeastern University)

Listening to the sound of superfluid

14:30 - 15:00

Gil-Ho Lee (Pohang University of Science and Technology, POSTECH)

Understanding and Engineering Graphene-based Josephson Junctions

15:00 - 15:30

Shuigang Xu (Westlake University)

Quantum anomalous Hall effect in strongly correlated rhombohedral graphene

15:30 - 16:00

Break

16:00 - 16:30

Petr Stepanov (University of Notre Dame)

Bulk photovoltaic effects in 2D heterostructures probed by nanoscale optical excitation

16:30 - 17:00

Mengkun Liu (Stony Brook University)

HERO (Hall Edge Rectification Optical) Nanoscopy

17:00 - 17:30

Sergio De La Barrera (University of Toronto)

In-situ control of twisted 2D interfaces with scanning van der Waals microscopy

17:30 - 18:00

William Neils (Quantum Design USA)

Applications on OptiCool Low-Vibration Optical Cryostat with Superconducting Magnet

Program

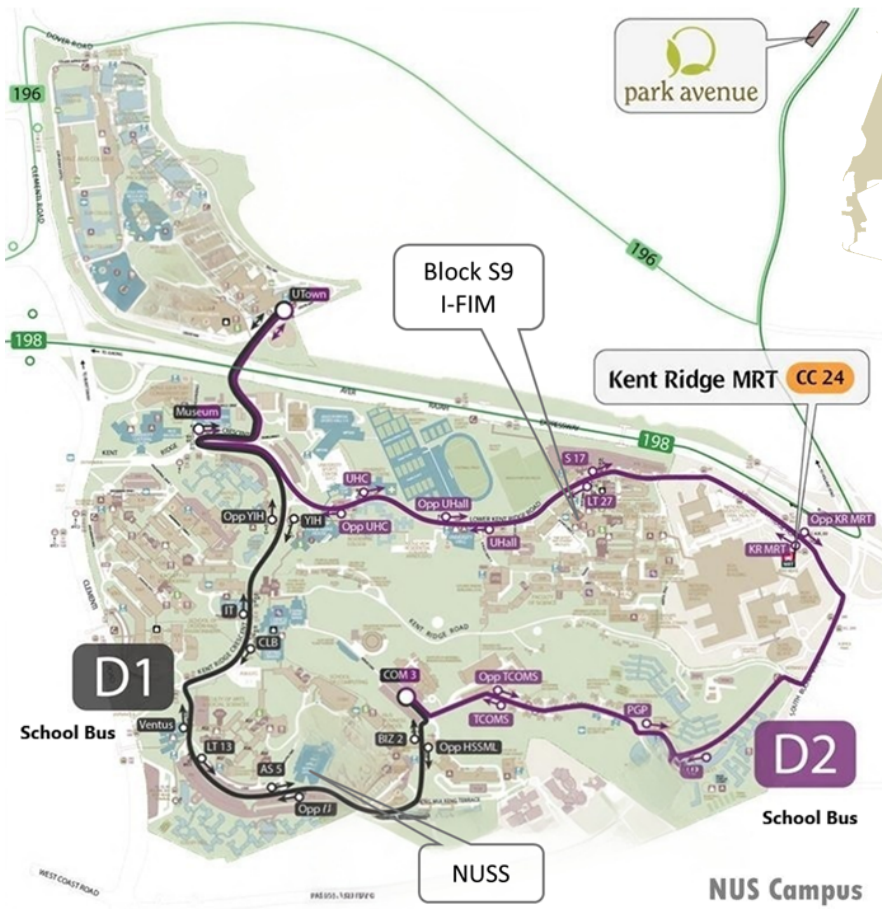
Tuesday, 25 August 2026

9:00 - 9:30	Jieun Lee (Seoul National University) <i>Strain-programmable exciton diffusion in moiré heterostructures</i>
9:30 - 10:00	Yiling Yu (Wuhan University) <i>Novel Excitonic Luminescence and Transport Properties of 2D Semiconductors Arising from High-Excitation Fermi Phase Transitions</i>
10:00 - 10:30	Sanghoon Chae (Nanyang Technological University, NTU) <i>Electrically Tunable Nonlinear Photonics Enabled by Integrated vdW Ferroelectric Materials</i>
10:30 - 11:00	Break
11:00 - 11:30	Su Rui (Nanyang Technological University, NTU) <i>Engineering Exciton-Polariton Spins in Microcavities</i>
11:30 - 12:00	Ivan Iorsh (Queen's University) <i>Magnetic switching of self-hybridized exciton-polaritons in CrSBr photonic crystal slabs</i>
12:00 - 12:30	Valentyn Volkov (XPANCEO) <i>CrSBr van der Waals Crystals: From Colossal Excitonic Response to Ultracompact Photonic Architectures</i>
12:30 - 14:00	Lunch and Lab Tour #2
14:00 - 14:30	Xiaodong Cui (University of Hong Kong, HKU) <i>Modulation of excitons in TMD heterostructures</i>
14:30 - 15:00	Xinwei Li (National University of Singapore, NUS) <i>Rotational anisotropy Raman spectrometer for high-sensitivity crystallographic symmetry analysis</i>
15:00 - 15:30	Maciej Koperski (National University of Singapore, NUS) <i>Single photon emitters in 2D materials – from deterministic creation to device integration</i>
15:30 - 16:00	Break
16:00 - 16:30	Justin Song (Nanyang Technological University, NTU) <i>Correlated Quantum Nonlinearities</i>
16:30 - 17:00	Katsumasa Yoshioka (NTT Basic Research Labs) <i>Ultrafast optoelectronics in van der Waals heterostructures enabled by on-chip THz electronics</i>
17:00 - 17:30	Ekaterina Khestanova (Institute of Materials Science of Barcelona, ICMAB-CSIC) <i>Electron transport and THz characterization of 2D and other materials</i>
18:00 - 21:00	Conference Dinner (Restaurant: NUSS - The Scholar, within NUS campus)

Program

Wednesday, 26 August 2026

9:00 - 9:30	Alexey Berdyugin (National University of Singapore, NUS) <i>Electrically tunable moiré hybridization in twist-with-a-spacer structures</i>
9:30 - 10:00	Ilya Belopolski (Nanyang Technological University, NTU) <i>Semimetal electronics</i>
10:00 - 10:30	Ahmet Avsar (National University of Singapore, NUS) <i>Gate-Tunable, Interaction-driven Transport in a 2D Semiconductor</i>
10:30 - 11:00	Break
11:00 - 11:30	Ivan Verzhbitskiy (Quantum Innovation Centre, QINC of A*STAR) <i>Anisotropic Layered Semiconductors for Quantum Technologies</i>
11:30 - 12:00	Junbo Han (Huazhong University of Science and Technology, HUST) <i>Manipulating Magnetism and Optics via Proximity Effects in 2D Heterostructures</i>
12:00 - 12:30	Gao Bo (Quantum Design Oxford) <i>Applications on QD Oxford Dilution Refrigerator Proteox</i>
12:30 - 13:00	Closing Remarks
13:00 - 15:00	Lunch & Departure



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and program booklet

