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

NUS National University of Singapore | Department of Materials Science & Engineering, College of Design and Engineering

Quantum Design

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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	**Hyunyong 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	**Zhaogang Dong** (Singapore University of Technology and Design) *Toward High-Dimensional Photonic Meta-Devices via Nanoscale Light–Matter Interaction Engineering*
17:00 - 17:30	**Sergio De La Barrera** (University of Toronto) *In-situ control of twisted 2D interfaces with scanning van der Waals microscopy*

Program

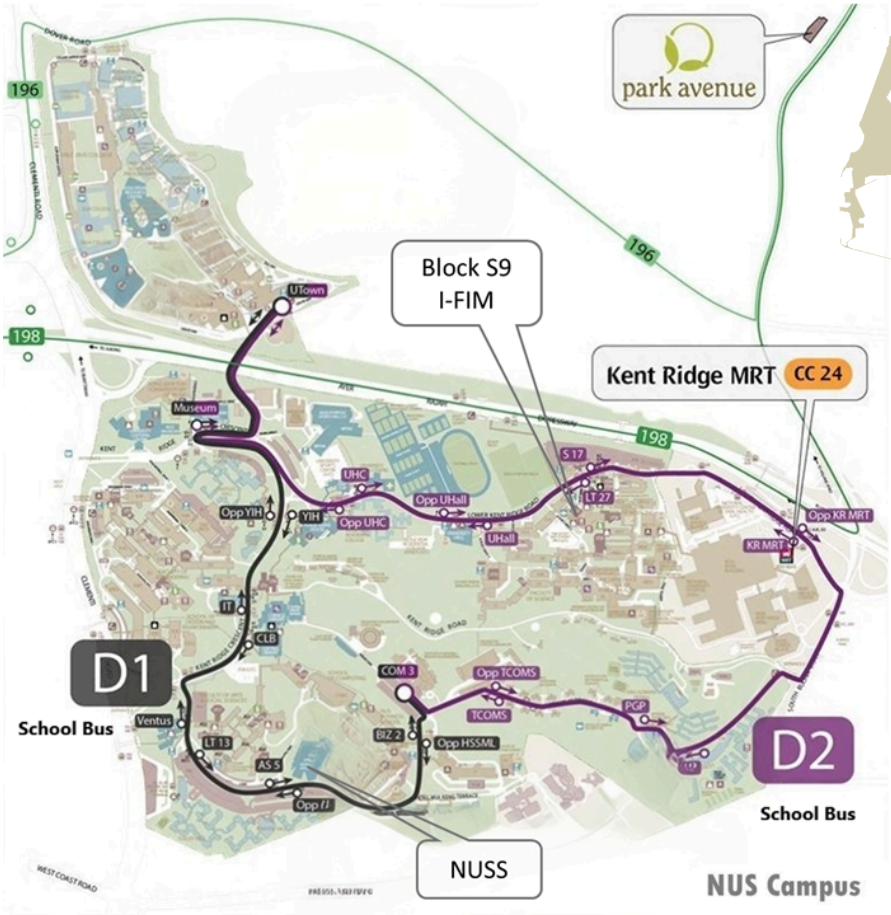
Tuesday, 25 August 2026

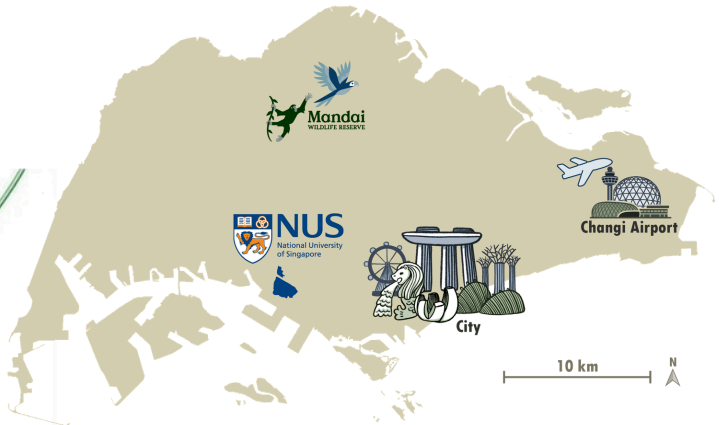
9:00 - 9:30	**Jieun Lee** (Seoul National University) *Strain-programmable exciton diffusion in moiré heterostructures*
9:30 - 10:00	**Yiling Yu** (Wuhan University) *Novel Excitonic Luminescence and Transport Properties of 2D Semiconductors Arising from High-Excitation Fermi Phase Transitions*
10:00 - 10:30	**Sanghoon Chae** (Nanyang Technological University, NTU) *Electrically Tunable Nonlinear Photonics Enabled by Integrated vdW Ferroelectric Materials*
10:30 - 11:00	**Break**
11:00 - 11:30	**William Neils** (Quantum Design USA) *Applications on OptiCool Low-Vibration Optical Cryostat with Superconducting Magnet*
11:30 - 12:00	**Ivan Iorsh** (Queen's University) *Magnetic switching of self-hybridized exciton-polaritons in CrSBr photonic crystal slabs*
12:00 - 12:30	**Valentyn Volkov** (XPANCEO) *CrSBr van der Waals Crystals: From Colossal Excitonic Response to Ultracompact Photonic Architectures*
12:30 - 14:00	**Lunch and Lab Tour #2**
14:00 - 14:30	**Xiaodong Cui** (University of Hong Kong, HKU) *Modulation of excitons in TMD heterostructures*
14:30 - 15:00	**Xinwei Li** (National University of Singapore, NUS) *Rotational anisotropy Raman spectrometer for high-sensitivity crystallographic symmetry analysis*
15:00 - 15:30	**Maciej Koperski** (National University of Singapore, NUS) *Single photon emitters in 2D materials – from deterministic creation to device integration*
15:30 - 16:00	**Break**
16:00 - 16:30	**Justin Song** (Nanyang Technological University, NTU) *Correlated Quantum Nonlinearities*
16:30 - 17:00	**Katsumasa Yoshioka** (NTT Basic Research Labs) *Ultrafast optoelectronics in van der Waals heterostructures enabled by on-chip THz electronics*
17:00 - 17:30	**Ekaterina Khestanova** (Institute of Materials Science of Barcelona, ICMAB-CSIC) *Electron transport and THz characterization of 2D and other materials*
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) *Electrically tunable moiré hybridization in twist-with-a-spacer structures*
9:30 - 10:00	**Ilya Belopolski** (Nanyang Technological University, NTU) *Semimetal electronics*
10:00 - 10:30	**Ahmet Avsar** (National University of Singapore, NUS) *Gate-Tunable, Interaction-driven Transport in a 2D Semiconductor*
10:30 - 11:00	**Break**
11:00 - 11:30	**Ivan Verzhbitskiy** (Quantum Innovation Centre, QINC of A*STAR) *Anisotropic Layered Semiconductors for Quantum Technologies*
11:30 - 12:00	**Gao Bo** (Quantum Design Oxford) *Applications on QD Oxford Dilution Refrigerator Proteox*
12:00 - 12:15	**Closing Remarks**
12:15 - 14:00	**Lunch & Departure**





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