ISNTT 2024

International School and Symposium on Nanodevices and quanTum Technologies

December 2-6, 2024, NTT Atsugi R&D Center/Atsugi Kanagawa Japan

The International School and Symposium on Nanodevices and quanTum Technologies (ISNTT 2024) on the latest developments in physics and technologies of nanoscale quantum and photonic devices. The symposium, organized by NTT Basic Research Laboratories (NTT BRL), will host invited and contributed presentations at the NTT Atsugi R&D center in Japan from December 2 to 6, 2024.

The BRL School will be held as a part of ISNTT 2024. The school will host tutorial lectures for selected graduate students, who will be financially supported, and it will give an opportunity for them to present their research at ISNTT 2024.

This symposium brings together leading academics, scientists, and students with NTT BRL researchers to foster communications and collaborations.

Scope of Symposium

- Quantum communication and networks
- Quantum computations and simulations
- Quantum metrology and sensing
- Quantum dynamics and coherent control in nanodevices
- Hybrid quantum systems
- Mesoscopic superconductivity

- Transport and optical properties of nanostructures
- Attosecond phenomena and lightwave-driven quantum phenomena
- Topological materials and quantum Hall systems
- Spintronics and spin related phenomena
- Physics in 2D materials

BRL School Topic

Quantum information (Theory and Experiment)

BRL School Lecturers

To be announced

Submission of Papers

Submission Deadline: 2 September 2024

Please see the conference website for details of the submission detail.

Organizing Committee

K. Oguri
H. Takesue
Y. Kunihashi (BRL School)

Program Committee

K. Azuma (chair)
S. Endo
T. Honjo
Y. Tanaka
H. Toida
Y. Shinohara
T. Wakamura

Steering Committee

N. Kumada (chair)
Y. Shinohara
H. Tamura
T. Wakamura

Keynote Speakers (Tentative)

Richard Jozsa — University of Cambridge

"Classically simulatable quantum computations – a perspective on the origin of QC power"

Invited Speakers (Tentative)

Davide Bacco — University of Florence

"Advances in quantum communications: from single photon sources to multidimensional quantum states."

Cui-Zu Chang — Pennsylvania State University

"Electrical switching of the edge current chirality in quantum anomalous Hall insulators"

Emmanuel Flurin — Université Paris-Saclay

"TBA"

Sophie Guéron — Université Paris-Saclay

"Detecting topological edge states with mesoscopic physics"

Mikhail Ivanov — Max Born Institute

"Lightwave PHz valleytronics"

Xavier Marie — Université de Toulouse

"Optical control of the exciton properties in atomically thin transition metal dichalcogenides"

Takashi Oka — The University of Tokyo

"Floquet engineering of Dirac electrons and new non-equilibrium states"

Preden Roulleau — CEA Saclay

"Emission and coherent control of Levitons in graphene"

Volodymyr V. Sivak —Google Quantum AI

"TBA"

Shuntaro Takeda — The University of Tokyo

"Time-multiplexed programmable continuous-variable photonic quantum computing"

Xiao Yuan — University of Peking

"Quantum advantage for near-term and fault-tolerant quantum computers"

Qiang Zhang — University of Science and Technology of China (USTC)

"Recent experimental progress in quantum communication"

Further Information

The symposium homepage will be periodically updated. Please, visit our web site at:

https://www.brl.ntt.co.jp/event/isntt2024/