

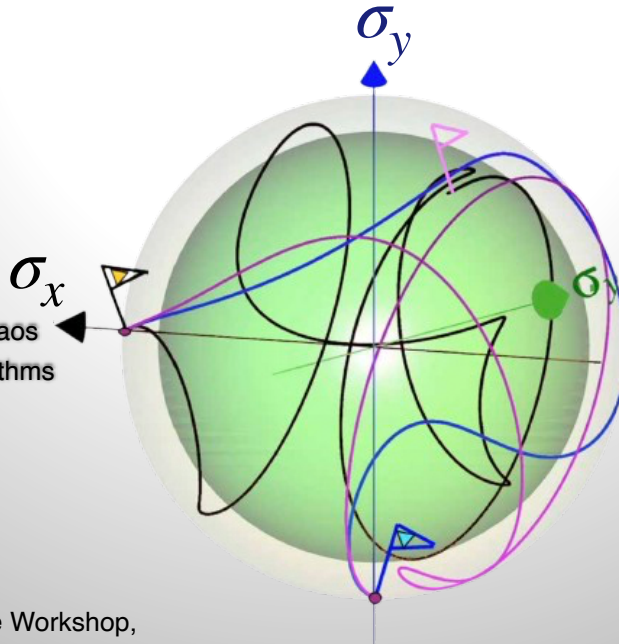
QUANTUM COMPUTING, COMPLEXITY AND CONTROL

INTERNATIONAL WORKSHOP July 28 – August 1, 2025

This conference aims to bring together industry and academia to pursue the frontiers of quantum computing, harnessing recent developments in quantum control and the quantum complexity of physical processes. Specifically, the event aims to foster the exchange of ideas between experts working on Krylov subspace methods in quantum dynamics (including topics such as operator growth and Krylov complexity), quantum control assisted by shortcuts to adiabaticity (counter-diabatic driving, adiabatic gauge potential), and the development of quantum algorithms for quantum computing assisted by counter-diabatic driving (DCQO, DCQA, etc.).

Topics include:

- ▶ Quantum Complexity
- ▶ Krylov subspace methods
- ▶ Quantum dynamics and chaos
- ▶ Quantum Computing algorithms
- ▶ Quantum control
- ▶ Counter-diabatic driving
- ▶ Adiabatic Gauge Potential



To apply for participation in the Workshop, complete the online application form by **June 20, 2025**.

For further information, see pcs.ibs.re.kr or contact the PCS Visitor Program at pcs@ibs.re.kr

Invited Speakers

Alexei Andrianov (Korea)
Marin Bukov (Germany)
Tilen Cadez (Korea)
Hugo Camargo (Korea)
Lincoln Carr (USA)
Lucas Céleri (Spain)
Xi Chen (Spain)
Barbara Dietz (Korea)
András Grabarits (Luxembourg)
Alicia Hamma (Italy)
Kohei Kawabata (Japan)
Keun-Young Kim (Korea)
Vaibhav Madhok (India)
Kaushik Paul (Spain)
Anatoli Polkovnikov (USA)
Masaki Tezuka (Japan)
Kazutaka Takahashi (Luxembourg)
Jing Yang (Sweden)

Scientific Coordinators

Budhaditya Bhattacharjee (Korea)
Adolfo del Campo (Luxembourg)
Sergej Flach (Korea)

Organizers

Gileun Lee (Korea)