Center for Theoretical Physics of Complex Systems

Institute for Basic Science

International Workshop

Open Quantum Dynamics and Thermodynamics

March 22 — 26, 2021

All time give in the workshop program refer to the time zone KST

Program

Monday, March 22

15:00 – 15:20 Sergej Flach, PCS IBS
Opening address

15:20 – 16:15 Sai Vinjanampathy, IIT Bombay, India
Generalized measure of Quantum Synchronisation

16:15 – 16:55 Marti Perarnau-Llobet, University of Geneva, Switzerland
Optimal cycles for finite-time Carnot engines

16:55 – 17:45 Prasanna Venkatesh, IIT Gandhinagar, India
Quantum Statistical Enhancement of the Collective Performance of Multiple Bosonic Engines

Tuesday, March 23

15:00 – 15:55 Jae Dong Noh, University of Seoul, Korea
Fluctuation-dissipation theorem for Hamiltonian eigenstates

15:55 – 16:35 Gabriele De Chiara, Queen's University Belfast, UK
Thermodynamic consistency of master equations

16:35 – 17:25 Dario Poletti, SUTD, Singapore
Giant spin current rectification

17:30 – 19:00 Poster Session *(hosted on Gather.town)*

Wednesday, March 24

15:00 – 15:55 Armen Allahverdyan, A.I.A. Nat'l Science Lab., Armenia

Work Extraction from Fluid Flow: The Analog of Carnot's Efficiency

15:55 – 16:35 Luis A. Correa, University of Exeter, UK

Local master equations bypass the secular approximation

16:35 – 17:35 *IBS Physics Colloquium @ Daejeon*

Jian-Sheng Wang, National Univ. of Singapore, Singapore

Quantum master equation approach to transport

Thursday, March 25

15:00 – 15:55 Gentaro Watanabe, Zhejiang University, China
Universal Bounds for Fluctuations in Small Heat Engines

15:55 – 16:35 Mark Mitchison, Trinity College Dublin, Ireland
Charging a quantum battery with linear feedback control

16:35 – 17:25 Haitao Quan, Peking University, China
Path integral approach to work and heat in quantum Brownian motion model

17:30 – 19:00 Poster Session (*hosted on Gather.town)*

Friday, March 26

15:00 – 15:55 Ali Rezakhani, Sharif University of Technology, Iran

Correlation-Picture Approach to Open-Quantum-System Dynamics

15:55 – 16:35 Aurelia Chenu, University of Luxembourg, Luxemborug

Shortcuts of open quantum systems for thermalization and squeezing

16:35 – 17:25 Dong Hee Kim, GIST, Korea

Structure of light cone spreading in the strongly disordered Heisenberg XXZ chain