

# Sessions & Talks QTD 2023

MONDAY 17 July 2023

## Session 1

Chair: Nicole Yunger Halpern (University of Maryland)

Time	Name	Affiliation	Title
9:00-9:40	Registration and welcome words by the organizers		
9:40-10:15	Ronnie Kosloff	The Hebrew University of Jerusalem	Thermodynamically Consistent Quantum control
10:15-11:00	Coffee Break		

## Session 2

Chair: Maximilian P. E. Lock (TU Wien)

Time	Name	Affiliation	Title
11:00-11:35	Aurélia Chenu	University of Luxembourg	Quantum dynamics in noisy systems: from chaos to control
11:35-11:55	Federico Cerisola	University of Oxford	Accounting for thermal quantum effects in magnetic materials modelling
11:55-12:15	Patrick Potts	University of Basel	Optical coherent feedback control of a mechanical oscillator
12:15-13:45	Lunch Break (self-organized)		

## Session 3

Chair: Andrew N. Jordan (Chapman University and the University of Rochester)

Time	Name	Affiliation	Title
13:45-14:20	Ville Maisi	Lund University	Microwave photodetection and energetics in a double quantum dot absorber
14:20-14:40	Iva Březinová	TU Wien	Thermal reduced density matrices from eigenstates of mixed systems
14:40-15:00	Nathan Keenan	Trinity College Dublin	Evidence of Kardar-Parisi-Zhang scaling on a digital quantum simulator
15:00-15:45	Coffee Break		

## Session 4

Chair: Paolo Andrea Erdman (The Free University of Berlin)

Time	Name	Affiliation	Title
15:45-16:20	Zala Lenarčič	Jožef Stefan Institute	Generalized Gibbs ensembles in dissipative nearly integrable systems
16:20-16:40	Alessandro Braggio	NEST Pisa	Thermoelectricity in particle-hole symmetric systems
16:40-17:00	Rishabh Upadhyay	Aalto University	Flux tunable on-chip microwave diode

TUESDAY 18 July 2023

**Session 5**

**Chair:** Martí Perarnau-Llobet (University of Geneva)

Time	Name	Affiliation	Title
9:00-9:35	Silvia Pappalardi	University of Cologne	The Eigenstate Thermalization Hypothesis and Free Probability
9:35-09:55	Maximilian P. E. Lock	TU Wien	Quantum measurements and equilibration: the emergence of objective reality via entropy maximisation
9:55-10:15	Ian Ford	University College London	Stochastic entropy production in quantum measurement using Markovian quantum state diffusion

10:15-11:00	Coffee Break
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**Session 6**

**Chair:** Eric Lutz (University of Stuttgart)

Time	Name	Affiliation	Title
11:00-11:35	Norbert Linke	Duke Univ. /Univ. of Maryland	Finite-temperature states on a trapped-ion quantum computer
11:35-11:55	Daniel Pijn	University of Mainz	Probing Quantum Thermodynamics with Trapped-Ion Qubits
11:55-12:15	Hiroyasu Tajima	University of Electro-Communications Tokyo	Universal trade-off structure between symmetry, irreversibility and quantum coherence

12:15-13:45	Lunch Break (self-organized)
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**Session 7**

**Chair:** Janet Anders (University of Exeter & University of Potsdam)

Time	Name	Affiliation	Title
13:45-14:20	Iman Marvian	Duke University	Energy-Conserving Quantum Circuits
14:20-14:40	Fei Meng	City University of Hong Kong	The nonequilibrium cost of accurate information processing
14:40-15:00	Salambô Dago	University of Vienna	Thermodynamic of information: benefits and specificities of underdamped micro-systems for experimental demonstrations

15:00-15:45	Coffee Break
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**Session 8**

**Chair:** Karen Hovhannisyán (University of Potsdam)

Time	Name	Affiliation	Title
15:45-16:20	Naoto Shiraishi	University of Tokyo	The problem of thermalization in isolated quantum many-body systems
16:20-16:40	Irene D'Amico	University of York	Experimental Correlation-Boosted Quantum Engine
16:40-17:00	Martí Perarnau-Llobet	University of Geneva	Three different perspectives on Landauer principle with finite resources

18:00-21:00	Poster Session (TU Wien Festsaal)
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## WEDNESDAY 19 July 2023

### Session 9

Chair: Ralph Silva (ETH Zürich)

Time	Name	Affiliation	Title
9:00-9:35	Simone Gasparinetti	Chalmers University of Technology	Autonomous, thermally driven reset of a superconducting qubit based on a quantum absorption refrigerator
9:35-09:55	Oisín Culhane	Trinity College Dublin	Powering an autonomous clock with quantum electromechanics
09:55-10:15	Michael Kewming	Trinity College Dublin	Quantum clock precision studied with a superconducting circuit

10:15-11:00	Coffee Break
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### Session 10

Chair: Benjamin Yadin (University of Siegen)

Time	Name	Affiliation	Title
11:00-11:35	Rosa López	University of the Balearic Islands	The significance of quantum effects in optimizing engine performances
11:35-11:55	Marek Gluza	Nanyang Technological University	Mechanisms for the emergence of Gaussian correlations
11:55-12:15	Yi-Zheng Zhen	University of Science and Technology of China	Finite-Time Landauer Principle for Bit Reset

12:15	Lunch Break (self-organized)
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	Free afternoon for discussions, sightseeing, etc. (self-organized)
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19:00-22:00	Conference Dinner (Heuriger Schübel-Auer, Kahlenberger Str. 22, 1190 Wien)
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# THURSDAY 20 July 2023

## Session 11

Chair: M. Hamed Mohammady (Université Libre de Bruxelles)

Time	Name	Affiliation	Title
9:00-9:35	Obinna Abah	Newcastle University	Energetic cost of controlling multipartite quantum systems
9:35-09:55	Artur Widera	University of Kaiserslautern	Indication of a phase transition in time during the relaxation of an open quantum system
09:55-10:15	Ariane Soret	University of Luxembourg	Thermodynamic consistency of driven quantum optical master equations

10:15-11:00	Coffee Break
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## Session 12

Chair: Patrick Potts (University of Basel)

Time	Name	Affiliation	Title
11:00-11:35	Olivier Maillet	CEA Paris-Saclay	Thermodynamic probe of the insulating regime of a Josephson junction
11:35-11:55	Ludovico Tesser	Chalmers University of Technology, Gothenburg	Quantum thermodynamics for future solar cells
11:55-12:15	Rafael Sánchez	Universidad Autónoma de Madrid	Interaction induced nonlocal thermoelectric response with quantum Hall edge states
12:20-12:35	Iliia Khomchenko	Skolkovo Institute of Science and Technology	Voltage-amplified heat rectification in SIS junctions

12:35-14:05	Lunch Break (self-organized)
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## Session 13

Chair: Mohammad Mehboudi (TU Wien)

Time	Name	Affiliation	Title
14:05-14:25	Julia Boeyens	University of Siegen	Probe thermometry with continuous measurements
14:25-14:45	Sindre Brattegard	Trinity College Dublin	Thermometry by correlated dephasing of impurities in a 1D Fermi gas
14:45-15:05	Maximilian Prüfer	TU Wien	Information extraction from quantum many-body systems

15:05-15:50	Coffee Break
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## Session 14

Chair: Pharnam Bakhshinezhad (TU Wien)

Time	Name	Affiliation	Title
15:50-16:10	Marcin Łobejko	University of Gdansk	The Second Law in quantum thermodynamics – from symmetry to generic quantum batteries and non-thermal resources
16:10-16:30	Cyril Elouard	Université de Lorraine	Extending the laws of thermodynamics for arbitrary autonomous quantum systems

16:30-17:30	Panel Discussion
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FRIDAY 21 July 2023

**Session 15**

**Chair:** Gabriel T. Landi (University of Rochester)

<b>Time</b>	<b>Name</b>	<b>Affiliation</b>	<b>Title</b>
9:00-9:35	Tan Vu	RIKEN, Tokyo	Geometric characterization for cyclic heat engines far from equilibrium
9:35-09:55	Parvinder Solanki	IIT Bombay	Seeding Crystallization in Time
09:55-10:15	Mohammadamin Tajik	TU Wien	Experimental observation of curved light-cones in a quantum field simulator

10:15-11:00	Coffee Break
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**Session 16**

**Chair:** Tom Rivlin (TU Wien)

<b>Time</b>	<b>Name</b>	<b>Affiliation</b>	<b>Title</b>
11:00-11:20	Thomas Hewitt	University of Birmingham	Quantum Thermodynamics in Ultracold Mixtures - Towards Single Atom Quantum Heat Engines
11:20-11:40	Eloisa Cuestas	OIST, Okinawa	Making statistics work: a quantum engine in the BEC-BCS crossover
11:40-12:00	Alexssandre de Oliveira Jr.	Jagiellonian University, Kraków	Geometric structure of thermal cones
12:00-12:20	Andrea Solfanelli	SISSA Trieste	Quantum heat engine with long-range advantages

12:20-12:35	Closing Words
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