

WOST VI (2025) - Detailed Schedule

Note: all times are in CEST (GMT +2)



Monday 12th May

Quantum thermodynamics

Session Chair: Gonzalo Manzano / Léa Bresque

2:15 pm – Welcome (Tom Ouldridge)

2:20 pm – Tutorial

Gabriel Landi: Quantum trajectories and stochastic excursions of thermal machines

3:30 pm – Invited talk

Nicole Fabbri: Quantum correlations and non-classical work distribution with spins in diamond

4:00 pm – Lightning talk

Kohei Yoshimura: Force-current structure of nonequilibrium thermodynamics in open quantum systems

4:15 pm – Lightning talk

Loris Maria Cangemi: Probing quantum anomalous heat flow using mid-circuit measurements

4:30 pm – break

4:45 pm – Lightning talk

Paolo Abiuso: On the Planckian time of thermalization

5:00 pm – Lightning talk

Alexssandre de Oliveira Junior: Heat as witness of quantum properties

5:15 pm – Lightning talk

Greeshma Oruganti: Strong-Coupling Quantum Thermodynamics for Lattice Gauge Theories

5:30 pm – Invited talk

Robert Whitney: No work from equilibrium fluctuations: revisiting Maxwell's demon with a quantum trapdoor

5:45 pm – Invited talk

Liliana Del Carmen Arrachea: Heat-to-motion conversion for quantum active matter

Website: wostmeeting.org

WOST VI Committees

Operations - Tom Ouldridge (chair), David Sivak, Jan Korbel, Jeremy Guntoro

Scientific – Jordan Horowitz (chair), Takahiro Sagawa, Tan Van Vu, Saar Rahav, Edgar Roldán, Udo Seifert, Patrick Pietzonka, Gonzalo Manzano, Léa Bresque, David Wolpert, Cigdem Yalcin

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Tuesday 13th May

Foundations of stochastic thermodynamics

Session chair: Takahiro Sagawa / Tan Van Vu

2:20 pm – Tutorial

Asuka Takatsu: Optimal Transport and Thermodynamics

3:30 pm – Invited talk:

Patrick Potts: The second law of thermodynamics - From macroscopic to stochastic thermodynamics including information

4:00 pm – Lightning talk

Euijoon Kwon: From Thermodynamic Uncertainty Relations to Speed Limits: A Unified Perspective on Thermodynamic Tradeoffs

4:15 pm – Lightning talk

Pedro Harunari: Mutual linearity of nonequilibrium network currents

4:30 pm – break

4:45 pm – Lightning talk

Artemy Kolchinsky: Generalized free energy and excess entropy production for active systems

5:00 pm – Lightning talk

Nicolas Barros: Probabilistic work extraction on a classical oscillator beyond the 2nd law

5:15 pm – Lightning talk

Andrea Auconi: Nonequilibrium relaxation inequality on short timescales

5:30 pm – Invited talk

Krzysztof Ptaszynski: Nonequilibrium fluctuation-response relations: identities and bounds

6:00 pm – Invited talk

Dominik Hahn: Quantum Many-Body Jarzynski Equality & Dissipative Noise

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Wednesday 14th May

Biophysics /active matter

Session chair: Udo Seifert / Patrick Pietzonka

3:00 pm – Invited talk

Jonathan Rodenfels: Energetics of Biological Systems

3:30 pm – Invited talk

Sarah Loos: Moving with minimum effort – Optimal work protocols for systems with memory

4:00 pm – Lightning talk

Rick Bebon: Model-free inference of memory in single-molecule time-series of multi-domain protein conformational dynamics

4:15 pm – Lightning talk

Jonas Berx: Positional information trade-offs in boundary-driven systems

4:30 pm – break

4:45 pm – Lightning talk

Ramón Nartallo-Kaluarachchi: A structural perspective on nonequilibrium brain network dynamics

5:00 pm – Lightning talk

Janik Schüttler: Active particles in moving traps: minimum work protocols and information efficiency of work extraction

5:15 pm – Lightning talk

Trevor GrandPre: Model-free inference of the irreversibility from time-series data

5:30 pm – Invited talk

Sreekanth K. Manikandan: Localizing entropy production in cellular processes

6:00 pm – Invited talk

William Jacobs: Nonequilibrium dynamics at condensate interfaces

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Thursday 15th May

Physics / Chemistry

Session chair: Saar Rahav / David Sivak

3:00 pm – Invited talk

Keiji Saito: Inverse thermodynamic uncertainty relation and entropy production

3:30 pm – Invited talk

Ivan Di Terlizzi: Kinetic Inference of Entropy Production

4:00 pm – Lightning talk

Yikuan Zhang: Geometry of Optimal Control in Chemical Reaction Networks in the Adiabatic Limit

4:15 pm – Lightning talk

Davide Santolin: Dissipative metastability: a stochastic thermodynamics approach

4:30 pm – break

4:45 pm – Lightning talk

Wade Hodson: Thermophoresis of a tracer particle via coarse-graining of an explicit nonequilibrium medium

5:00 pm – Lightning talk

Jeremy Guntoro: Information Transduction in Non-equilibrium Templated Polymerization: Interplay between Heterogeneity and Separation

5:15 pm – Lightning talk

Evan Piephoff: On the First-Passage Time Fluctuation Theorem in Complex Biomolecular Networks

5:30 pm – Invited talk

Timo Betz: Particle mean back relaxation as a quantity to infer the level of activity in living cells

6:00 pm – Invited talk

Heiner Linke: An artificial motor protein that walks along a DNA track

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Friday 16th May

Information processing / computation

Session chair: Cigdem Yalcin / David Wolpert

3:00 pm – Invited talk

Brenda Rubenstein: Storage and Computation Using Small Molecules and Their Reaction Networks

3:30 pm – Invited talk

Shantanu Chakrabartty: Thermodynamics of Neuromorphic Learning

4:00 pm – Lightning talk

Syed Yunus Ali: Geometric Brownian information engine: Upper bound of the achievable work under feedback control

4:15 pm – Lightning talk

Miguel Aguilera: Inferring entropy production in high-dimensional systems using correlation functions

4:30 pm – break

4:45 pm – Lightning talk

Mahran Yousef: Circuit complexity theory for thermodynamic resource costs

5:00 pm – Lightning talk

Aram Ebtekar: Foundations of algorithmic thermodynamics

5:15 pm – Lightning talk

Songela Chen: Controlling dissipation of bit erasure in stochastic logic circuits

5:30 pm – Invited talk

Francesco Caravelli: Thermodynamic Mismatch Cost of computing machines

6:00 pm – Invited talk

Surya Ganguli: TBA

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