

# Program

## Sunday, 2 February 2020

17:00 – 21:00 Registration

from 18:30 *BUFFET SUPPER / Informal get together*

## Monday, 3 February 2020

08:00 – 09:00 *BREAKFAST*

09:00 – 09:20 Philipp Strasberg **Welcome**  
Marti Perarnau-Llobet

09:20 – 10:20 Géraldine Haack **An efficient Aharonov-Bohm quantum heat engine: Fundamentals of thermoelectricity and applications**

10:20 – 10:50 *COFFEE BREAK*

### First slot Contributed Talks (Chair: Géraldine Haack)

10:50 – 11:15 Cecilia Chiaracane **Quasiperiodic quantum heat engines with a mobility edge**

11:15 – 11:40 Paolo Andrea Erdman **Maximum power and corresponding efficiency for two-level heat engines and refrigerators: optimality of fast cycles**

11:40 – 12:05 Patrice Camati **Autonomous Maxwell's demon in a cavity QED system**

12:05 – 12:30 Armin Tavakoli **Autonomous entanglement engines**

12:30 – 12:40 **Conference Photo** (in front of the Lecture Hall)

12:40 *LUNCH*

# Program

Monday, 3 February 2020

(Chair: Gabriel Landi)

14:00 – 15:00	Javier Cerrillo	<b>Open Quantum Systems: Noise, Decoherence, Memory</b>
15:00 – 15:15	Stefan Jorda	<b>About the Wilhelm and Else Heraeus Foundation</b>
15:15 – 15:45	<i>COFFEE BREAK</i>	
15:45 – 18:45	Poster Session	
19:00	<i>DINNER</i>	

# Program

**Tuesday, 4 February 2020**

08:00            *BREAKFAST*

(Chair: Philipp Strasberg)

09:20 – 10:20    Henrik Wilming            **Equilibration and thermalization in many-body systems**

10:20 – 10:50    *COFFEE BREAK*

Second slot Contributed Talks (Chair: Henrik Wilming)

10:50 – 11:15    Faraj Bakhshinezhad      **Thermodynamically optimal creation of correlations**

11:15 – 11:40    Krzysztof Ptaszynski      **Thermodynamics of Quantum Information Flows**

11:40 – 12:05    Camille Lombard Latune      **Negative contributions to entropy production induced by quantum coherences**

12:05 – 12:30    Luis Pedro Garcia-Pintos      **Speed limits to quantum thermodynamics**

12:30            *LUNCH*

14:00 – 16:30    Excursion to the « Löwenburg »

16:30 – 17:00    *COFFEE BREAK*

Third slot Contributed Talks (Chair: Philippe Faist)

17:00 – 17:25    Daniel Reiche            **Quantum Thermodynamics of Atom-Surface Interactions in Nonequilibrium Steady-States**

17:25 – 17:50    Mohammad Mehboudi      **Bath-induced correlations lead to sub-shot-noise thermometry precision**

17:50 – 18:15    Mathias Jørgensen        **Tight bound on finite-resolution quantum thermometry at low temperatures**

18:30            *DINNER*

# Program

Wednesday, 5 February 2020

08:00            *BREAKFAST*

(Chair: Javier Cerrillo)

09:20 – 10:20    Markus Müller            **Thermodynamics as a resource  
theory: versions of the second law(s)**

10:20 – 10:50    *COFFEE BREAK*

Fourth slot Contributed Talks (Chair: Markus Müller)

10:50 – 11:15    Lennart Dabelow            **Relaxation theory for perturbed  
many-body quantum systems**

11:15 – 11:40    Carlos Alberto Parra Murillo            **On non-ergodic environments and  
ETH in open quantum systems**

11:40 – 12:05    Jonas Richter            **Impact of eigenstate thermalization  
on the route to equilibrium**

12:05 – 12:30    Carlo Sparaciari            **Bounding the resources for  
thermalizing many-body localized  
systems**

12:30            *LUNCH*

# Program

Wednesday, 5 February 2020

Fifth slot Contributed Talks (Chair: Mohammad Mehboudi)

14:00 – 14:25	Paul Menczel	<b>Thermodynamics of Cyclic Quantum Amplifiers</b>
14:25 – 14:50	Pierre Nazé	<b>Optimal protocols for quantum Ising model under weak driving</b>
14:50 – 15:15	Philippe Faist	<b>Asymptotic Reversibility of Thermal Operations for Interacting Quantum Spin Systems</b>
15:15 – 15:45	<i>COFFEE BREAK</i>	
15:45 – 17:00	Time for discussions	
17:00 – 18:30	Ben Martin	<b>What's Happening to Our Universities?</b>
18:30	<i>HERAEUS DINNER at the Physikzentrum (cold &amp; warm buffet, with complimentary drinks)</i>	

# Program

Thursday, 6 February 2020

08:30            *BREAKFAST*

Sixth slot Contributed Talks (Chair: Patrice Camati)

09:30 – 09:55    Mark Mitchison            **A spin heat engine coupled to a harmonic oscillator flywheel**

09:55 – 10:20    Noufal Jaseem Poovakkattil            **Quantum Synchronization in Nano-scale Heat Engines**

10:20 – 10:50    *COFFEE BREAK*

Seventh slot Contributed Talks (Chair: Mark Mitchison)

10:50 – 11:15    Gabriel Teixeira Landi            **Thermodynamic uncertainty relations from exchange fluctuation theorems**

11:15 – 11:40    Matteo Scandi            **Quantum work statistics close to equilibrium**

11:40 – 12:05    Ricardo Puebla            **Shortcuts-to-adiabaticity protocols for a robust generation of non-classical states in spin-boson systems**

12:05 – 12:15    Philipp Strasberg  
Marti Perarnau-Llobet            **Poster awards and closing remarks**

12:20            *LUNCH*

End of the seminar and departure