

# Preliminary program

## Workshop on stochastic thermodynamics II

Note: all times in Santa Fe local time - Mountain Daylight Time (UTC -6h)

**Thursday 13th May 2021**

### Tutorials

Chair: Gülce Kardeş

<b>7:00 AM Tutorial</b>	<b>Jordan Horowitz</b>	<i>Introduction to stochastic thermodynamics</i>
8:00 AM	Q&A	
8:20 AM	<i>break</i>	
<b>8:30 AM Tutorial</b>	<b>Philipp Strasberg</b>	<i>Introduction to quantum stochastic thermodynamics</i>
9:30 AM	Q&A	
9:50 AM	<i>break</i>	
<b>10:00 AM Tutorial</b>	<b>David Wolpert</b>	<i>Stochastic thermodynamics of information processing</i>
11:00 AM	Q&A	

**Monday 17th May 2021**

### Physics and Chemistry

Chair: Massimiliano Esposito

<b>7:00 AM</b>	Organization committee	<i>Welcome and introduction</i>
<b>7:15 AM Colloquium</b>	<b>Todd Gingrich</b>	<i>TBA</i>
7:45 AM	Q&A	
<b>8:00 AM Invited</b>	<b>Gianmaria Falasco</b>	<i>TBA</i>
8:20 AM	Q&A	
<b>8:30 AM Invited</b>	<b>Sergio Ciliberto</b>	<i>TBA</i>
8:50 AM	Q&A	
<b>9:00 AM Discussion</b>		<i>discussion session</i>
9:45 AM	<i>break</i>	
<b>10:00 AM Lightning</b>	<b>David Hartich</b>	<i>Emergent memory and kinetic hysteresis in strongly driven networks</i>
10:10 AM	Q&A	
<b>10:15 AM Lightning</b>	<b>Megan Engel</b>	<i>Machine learning for optimal control of nonequilibrium systems</i>
10:25 AM	Q&A	
<b>10:30 AM Lightning</b>	<b>Benjamin Kuznets-Speck</b>	<i>Dissipation bounds the amplification of transition rates far from equilibrium</i>
10:40 AM	Q&A	
<b>10:45 AM Invited</b>	<b>Andre Barato</b>	<i>TBA</i>
11:05 AM	Q&A	
<b>11:15 AM Invited</b>	<b>John Bechhoefer</b>	<i>TBA</i>
11:35 AM	Q&A	

**Tuesday 18th May 2021**

## Biophysics

Chair: Christopher Jarzynski

7:00 AM	Colloquium Felix Ritort	TBA
7:30 AM	Q&A	
7:45 AM	Invited Ralf Eichhorn	TBA
8:05 AM	Q&A	
8:15 AM	Invited Frank Jülicher	TBA
8:35 AM	Q&A	
8:45 AM	Discussion	<i>discussion session</i>
9:30 AM	break	
9:45 AM	Lightning Yuqing Qiu	<i>A strong non-equilibrium bound for sorting of crosslinkers on growing biopolymers</i>
9:55 AM	Q&A	
10:00 AM	Lightning Florian Oltsch	<i>Phase separation provides a mechanism to reduce noise in cells</i>
10:10 AM	Q&A	
10:15 AM	Lightning Dominic Skinner	<i>Improved bounds on entropy production in living systems</i>
10:25 AM	Q&A	
10:30 AM	Invited David Sivak	TBA
10:50 AM	Q&A	
11:00 AM	Invited Jenny Poulton	TBA
11:20 AM	Q&A	

**Wednesday 19th May**

## Active matter/Biophysics

Chair: Udo Seifert

7:00 AM	Colloquium Michael Cates	<i>Informatic versus thermodynamic entropy production in active systems</i>
7:30 AM	Q&A	
7:45 AM	Invited Thomas Speck	TBA
8:05 AM	Q&A	
8:15 AM	Invited Nikta Fakhri	TBA
8:35 AM	Q&A	
8:45 AM	Discussion	<i>discussion session</i>
9:30 AM	break	
9:45 AM	Lightning Laura Tociu	<i>Inferring dissipation from static structure in active matter</i>
9:55 AM	Q&A	
10:00 AM	Lightning Etienne Fodor	<i>Thermodynamic cycles with active matter</i>
10:10 AM	Q&A	
10:15 AM	Lightning Trevor GrandPre	<i>Entropy production fluctuations encode collective behavior in active matter</i>
10:25 AM	Q&A	
10:30 AM	Invited Saar Rahav	TBA
10:50 AM	Q&A	
11:00 AM	Invited Sridivya Iyer-Biswas	TBA
11:20 AM	Q&A	

**Thursday 20th May**

# Quantum stochastic thermodynamics

Chair: Henrik Wilming

7:00 AM	Colloquium	Janet Anders	TBA
7:30 AM		Q&A	
7:45 AM	Lightning	Yosuke Mitsuhashi	<i>Complete passivity under symmetry constraints</i>
7:55 AM		Q&A	
8:00 AM	Lightning	Andreu Riera-Campenya	<i>Quantum systems correlated with a finite bath: nonequilibrium dynamics and thermodynamics</i>
8:10 AM		Q&A	
8:15 AM	Lightning	Maria Popovic	<i>Non-equilibrium quantum thermodynamics with time-evolving matrix product operators</i>
8:25 AM		Q&A	
8:30 AM	Invited	Jukka Pekola	TBA
8:50 AM		Q&A	
9:00 AM	Discussion		<i>discussion session</i>
9:45 AM		break	
10:00 AM	Invited	Nicole Yunger Halpern	TBA
10:20 AM		Q&A	
10:30 AM	Invited	Eric Lutz	<i>Thermodynamics of weakly measured quantum systems</i>
10:50 AM		Q&A	
11:00 AM	Invited	Sebastian Deffner	<i>Energetic cost of Hamiltonian quantum gates</i>
10:20 AM		Q&A	

Friday 21st May

# Information processing and computation

Chair: David Wolpert

7:00 AM	Colloquium	Schin-Ichi Sasa	TBA
7:30 AM		Q&A	
7:45 AM	Lightning	Kanqiao Liu	<i>Thermodynamic uncertainty relations for arbitrary initial states</i>
7:55 AM		Q&A	
8:00 AM	Lightning	Van Tuan Vo	<i>Unified approach to classical speed limit and thermodynamic uncertainty relation</i>
8:10 AM		Q&A	
8:15 AM	Lightning	Jannik Ehrich	<i>Tight bounds on hidden entropy production from partially observed dynamics</i>
8:25 AM		Q&A	
8:30 AM	Invited	Edgar Roldán	<i>Thermodynamics of gambling demons</i>
8:50 AM		Q&A	
9:00 AM		WOST III announcement	
9:15 AM	Discussion		<i>discussion session</i>
10:00 AM		break	
10:15 AM	Invited	Vijay Balasubramanian	TBA
10:35 AM		Q&A	
10:45 AM	Invited	Andreas Dechant	TBA
11:05 AM		Q&A	
11:15 AM	Invited	Susanne Still	TBA
11:35 AM		Q&A	
11:45 AM		Organization committee	<i>Concluding remarks</i>