Quantum Thermodynamics: Coherence, Flux, and Heat Engine Efficiency
MIT, Room 4-270

SATURDAY, OCTOBER 10, 2015

Session I: Quantum Heat Engines I

8:30-8:50 Registration

8:50-9:00 Opening Remarks

9:00-9:50 Marlan Scully, Texas A&M University
Quantum Thermodynamics: Recent Results and Open Questions

9:50-10:20 Dazhi Xu , Massachusetts Institute of Technology
Non-equilibrium behaviours of the quantum heat engine: Polaron effects and time-dependent control

10:20-10:40 **Coffee Break**

Session II: Quantum Heat Engines II

10:40-11:30 Ronnie Kosloff, Hebrew University of Jerusalem
Quantum equivalence and quantum signatures in heat engines and refrigerators

11:30-12:00 Erez Boukobza, University of Tel Aviv
Thermodynamics of light-matter interactions: attenuation and amplification, the Carnot limit and beyond

12:00 PM **LUNCH BREAK**

Session III: Quantum Coherence

1:00-1:50 Tobias Brandes, University of Berlin
From quantum phase transitions to Maxwell's demon

1:50-2:20 Javier Cerrillo, University of Berlin
Non-Markovian Quantum Transport in the Strong Coupling Regime

2:20-2:40 **Coffee Break**

Session IV: Light-Harvesting Energy Transfer

2:40-3:30 Andreas Buchleitner, University of Freiburg
Transport on network-like structures-from light-harvesting to boson sampling

3:30-4:00 Aurélia Chenu, University of Toronto
Quantum Dynamics of Photosynthetic Light-Harvesting Complexes

4:00 PM **POSTER SESSION-Room 4-265**

Quantum Thermodynamics: Coherence, Flux, and Heat Engine Efficiency
MIT, Room 4-270

SUNDAY, OCTOBER 11, 2015

Session V: Quantum Transport

9:00-9:50 Michael Thoss, University of Erlangen-Nuremberg
Quantum transport in molecular junctions: Vibrational effects and Transient Phenomena

9:50-10:20 Mattia Walschaers, Albert-Ludwigs University of Freiburg
Enhanced Currents of Non-interacting Indistinguishable Particles

10:20-10:50 Chern Chuang, Massachusetts Institute of Technology
Quantum transport in spin ladders and exciton lattices

10:50-11:10 **Coffee Break**

Session VI: Quantum Heat Engines III

11:10-11:40 Adolfo del Campo, University of Massachusetts, Boston
A Many-Particle Quantum Heat Engine

11:40-12:10 Martin Bruderer, Institute for Theoretical Physics, Ulm University
Controlled heat transport and heat engines at the nanoscale

12:10-12:40 Konstantin Dorfman, University of California, Irvine
Characterizing quantum coherence enhanced Quantum Heat Engines by multidimensional Raman Spectroscopy

12:45 **Closing Remarks**