

PROGRAM

Sunday, 26 July 2015

17:00 – 21:00 Registration and welcome refreshment

Location: Pyramida Hotel - lobby

Monday, 27 July 2015

08:00 – 08:30

Opening addresses

*Location: Pyramida Hotel Lecture Hall
(chairperson: Václav Špička)*

08:30 – 10:00

1 Session: Quantum thermodynamics

*Location: Pyramida Hotel Lecture Hall
(chairperson: Saar Rahav)*

08:30 – 09:00

Christopher Jarzynski: *Thermodynamics in the presence of large system-environment coupling*

09:00 – 09:30

David Jennings: *Thermodynamics in extreme quantum regimes*

09:30 – 10:00

Gershon Kurizki: *Quantum resources may boost the performance of heat machines*

10:00 – 10:20

Coffee break

10:20 – 12:10

2 session: Quantum measurement

*Location: Pyramida Hotel Lecture Hall
(chairperson: Hans De Raedt)*

10:20 – 10:50

Andrew Jordan: *The quantum road most taken*

10:50 – 11:20

Paul Kwiat: *Making weak measurements stronger*

11:20 – 11:50

Wolfgang Belzig: *Non-Markovian weak measurements in quantum transport*

11:50 – 12:10

Lawrence S. Schulman: *Quantum mechanics, special states and experiment*

12:10 – 13:00

Lunch

13:00 – 14:30

3 session: Quantum experiments

*Location: Pyramida Hotel Lecture Hall
(chairperson: David Vitali)*

13:00 – 13:30

Markus Arndt: *Quantum optics experiments with biomolecular matter*

13:30 – 14:00

Jakob Reichel: *Many-body entanglement of ultracold atoms in optical fiber microcavities*

14:00	–	14:30	Marco Gramegna:	<i>Time emerging from quantum entanglement: Illustration of a first experimental approach</i>
14:30	–	14:50	Coffee break	
14:50	–	16:50	4 session: Foundations of quantum physics	
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<i>Location: Pyramida Hotel Lecture Hall</i>				
<i>(chairperson: Ana María Cetto)</i>				
14:50	–	15:20	Gerard 't Hooft:	<i>The cellular automaton interpretation of quantum mechanics</i>
15:20	–	15:50	Gerard J. Milburn:	<i>Time and temperature in quantum physics</i>
15:50	–	16:20	Roger Balian:	<i>Minimalist principles needed to interpret ideal quantum measurements</i>
16:20	–	16:50	Shmuel Gurvitz:	<i>Does the measurement take place when nobody observes it?</i>
16:50	–	17:50	Free time and transfer to Wallenstein Palace	
17:50	–	22:30	Guided tour and Welcome party	
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<i>Location: Wallenstein Palace and its Garden</i>				
17:50	–	19:20	Guided tour through the Wallenstein Palace	
19:30	–	22:30	Welcome party in the Wallenstein Palace Garden	

Tuesday, 28 July 2015

08:00 – 10:00

1 session: Cold atoms

Location: Pyramida Hotel Lecture Hall

(chairperson: Linda Reichl)

- 08:00 – 08:30 Georgy Shlyapnikov: *Many-body physics with ultracold quantum gases in disorder*
- 08:30 – 09:00 Frédéric Chevy: *Counterflowing superfluid mixtures*
- 09:00 – 09:30 Michel Brune: *Dipole interactions in a cold Rydberg gas for quantum simulation*
- 09:30 – 10:00 Rainer Blatt: *Quantum information science with trapped Ca^+ ions*

10:00 – 10:20 Coffee break

10:20 – 12:10

2 session: Entanglement

Location: Pyramida Hotel Lecture Hall

(chairperson: Jakob Reichel)

- 10:20 – 10:50 Nicolas Gisin: *“Macroscopic” entanglement*
- 10:50 – 11:20 Jonathan Lavoie: *Light-matter micro-macro entanglement*
- 11:20 – 11:50 Yeong-Cherng Liang: *Exploring the limits of quantum nonlocality with entangled photons*
- 11:50 – 12:10 Thomas L. Schmidt: *Detecting nonlocal Cooper pair entanglement by optical Bell inequality violation*

12:10 – 13:00 Lunch

13:00 – 14:40

3 session - A parallel: Topological states of matter

Location: Pyramida Hotel Lecture Hall A

(chairperson: Thomas Vojta)

- 13:00 – 13:30 Ady Stern: *The making and breaking of non-abelian anyons*
- 13:30 – 14:00 Yigal Meir: *Edge reconstruction and spontaneous time reversal symmetry breaking in topological insulators*
- 14:00 – 14:20 Sam T Carr: *Emergent topological properties in interacting 1D systems with spin-orbit coupling*

14:20 – 14:40 Nathan Goldman: *Creating topological matter in cold atomic gases: The Chern-number measurement*

13:00 – 14:40 **3 session - B parallel: Quantum information**

Location: Pyramida Hotel Lecture Hall B

(chairperson: Michael Kastner)

13:00 – 13:30 Giuseppe Falci: *Adiabatic manipulation of architectures of multilevel artificial atoms*

13:30 – 14:00 Elisabetta Paladino: *Quantum control of two-qubit gates via dynamical decoupling filtering of $1/f$ noise*

14:00 – 14:20 Alex Retzker: *Increasing sensing resolution with error correction*

14:20 – 14:40 Wilfred G. van der Wiel: *Evolution of a disordered nanoparticle network into Boolean logic*

13:00 – 14:40 **3 session - C parallel: Quantum transport**

Location: Pyramida Hotel Conference Room 3

(chairperson: Yaroslav Blanter)

13:00 – 13:30 David K Ferry: *Conductance fluctuations in semiconductors*

13:30 – 14:00 James Freericks: *Theoretical description of pump/probe experiments in electron-phonon coupled superconductors*

14:00 – 14:20 Irena Knezevic: *Quantum cascade lasers: A nonequilibrium physics playground*

14:20 – 14:40 Frithjof Anders: *Spin noise in the anisotropic central spin model*

14:40 – 15:00 Coffee break

15:00 – 16:40 **4 session - A parallel: Many body physics**

Location: Pyramida Hotel Lecture Hall A

(chairperson: Dietrich Belitz)

15:00 – 15:30 Jens Eisert: *10 people in the room, 10 opinions on many-body localisation*

15:30 – 16:00 Maxim G Vavilov: *Response to a local quench of a system near many body localization*

16:00	–	16:20	Meydi Ferrier:	<i>Universality of non-equilibrium fluctuations in strongly correlated quantum liquids</i>
16:20	–	16:40	Bryan Dalton:	<i>Grassmann phase space theory for fermions</i>
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15:00	–	16:40	4 session - B parallel: Astrophysics and cosmology	
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<i>Location: Pyramida Hotel Lecture Hall B</i>				
<i>(chairperson: Mordehai Milgrom)</i>				
15:00	–	15:30	Pavel Kroupa:	<i>The emergence of super massive black holes and their correlation with galaxy properties</i>
15:30	–	16:00	Philipp Haslinger:	<i>Atom-interferometry limits on dark energy</i>
16:00	–	16:20	Theo M. Nieuwenhuizen:	<i>Neutrino dark matter and turbulence in the plasma: A perfect couple</i>
16:20	–	16:40	Nader Inan:	<i>The interaction of gravitational waves with superconductors</i>
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15:00	–	16:40	4 session - C parallel: Quantum transport	
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<i>Location: Pyramida Hotel Conference Room 3</i>				
<i>(chairperson: Michael Thorwart)</i>				
15:00	–	15:30	Uri Peskin:	<i>Coherent and incoherent control of single molecule junctions: Steady states and beyond</i>
15:30	–	16:00	Fabio Taddei:	<i>Improving thermoelectric conversion with multi-terminal superconducting systems</i>
16:00	–	16:20	Mauro Antezza:	<i>Non-equilibrium quantum manipulation: From robust entanglement to quantum thermal machines</i>
16:20	–	16:40	Andrea Hofmann:	<i>Out-of equilibrium thermodynamics with single electron counting experiments</i>
16:40	–	18:30	Free time and transfer to Simon and Juda	
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18:30	–	21:30	Evening session: Public lecture of Marlan Scully and concert	
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<i>Location: St. Simon and Juda Church</i>				
<i>(chairperson: Peter Keefe, Václav Špička)</i>				
18:30	–	18:45	Music introduction and opening address	

18:45 – 20:00 Public lecture
18:45 – 19:45 **Marlan O. Scully:** *The photon sheds light on the quantum*
19:45 – 20:00 Discussion after the lecture of Marlan Scully
20:00 – 20:20 Break
20:20 – 21:30 **Concert of classical music**

Wednesday, 29 July 2015

08:00 – 10:00 **1 session: Nonequilibrium statistical physics**

Location: Pyramida Hotel Lecture Hall

(chairperson: Christopher Jarzynski)

08:00 – 08:30 Udo Seifert: *Universal thermodynamic inequalities for biomolecular processes*

08:30 – 09:00 Ivan M. Khaymovich: *Stochastic thermodynamics in single electron circuits*

09:00 – 09:30 Peter Hänggi: *Quantum fluctuation theorems: The state of the art*

09:30 – 10:00 Yuli Nazarov: *Rényi entropy flows from quantum heat engines*

10:00 – 10:20 Coffee break

10:20 – 12:10 **2 session - A parallel: General physics**

Location: Pyramida Hotel Lecture Hall A

(chairperson: Roger Balian)

10:20 – 10:50 Amir Ordacgi Caldeira: *Testing time reversal symmetry in artificial atoms*

10:50 – 11:20 Luiz Davidovich: *Quantum metrology: Towards the ultimate precision limits in parameter estimation*

11:20 – 11:50 Alexander Unzicker: *On the origin of the constants c and h*

11:50 – 12:10 Jiří J. Mareš: *Infiniteness – a fundamental misconception in physics*

10:20 – 12:10 **2 session - B parallel: Biological systems, quantum physics**

Location: Pyramida Hotel Lecture Hall B

(chairperson: Joan Vaccaro)

10:20 – 10:50 Reinhard Lipowsky: *From in-vitro to in-vivo kinetics of biomolecular machines via kinetic distance minimization*

10:50 – 11:20 Ofer Biham: *Competition, feedback and fluctuations in transcriptional and post-transcriptional regulatory networks in cells*

- 11:20 – 11:50 Andrei Khrennikov: *Quantum-like modeling of cognition: On violation of Aumann theorem*
- 11:50 – 12:10 Michael J W Hall: *Can quantum phenomena be modelled via interactions between many classical worlds?*

10:20 – 12:10 **2 session - C parallel: Quantum transport**

Location: Pyramida Hotel Conference Room 3

(chairperson: Uri Peskin)

- 10:20 – 10:50 Michael Thorwart: *Iterative path integral approach to nonequilibrium quantum transport*
- 10:50 – 11:20 Michael Thoss: *Quantum transport in molecular junctions: Vibrational effects and time-dependent phenomena*
- 11:20 – 11:50 Michele Campisi: *Nonequilibrium fluctuations in quantum heat engines: Theory, example, and possible solid state experiments*
- 11:50 – 12:10 Rafael Sánchez: *Three terminal quantum Hall thermoelectrics*

12:10 – 13:00 Lunch

13:00 – 14:40 **3 session - A parallel: Optomechanics**

Location: Pyramida Hotel Lecture Hall A

(chairperson: Yaroslav Blanter)

- 13:00 – 13:30 Andrew Armour: *Quantum non-linear dynamics of photons and Cooper-pairs in a Josephson junction-cavity system*
- 13:30 – 14:00 Pascal Simon: *Quantum electrodynamics of quantum conductors in micro-waves cavity*
- 14:00 – 14:20 Oriol Romero-Isart: *Near-field levitated quantum optomechanics with nanodiamonds*
- 14:20 – 14:40 Alexia Auffèves: *Reversible work extraction in a hybrid opto-mechanical system*

13:00 – 14:40 **3 session - B parallel: Cold atoms**

Location: Pyramida Hotel Lecture Hall B

(chairperson: Frédéric Chevy)

13:00	–	13:30	Linda E. Reichl:	<i>Sound mode decay in Bose-Einstein condensates</i>
13:30	–	14:00	Fernando Sols:	<i>Hawking radiation from sonic black holes in flowing atom condensates</i>
14:00	–	14:20	Nir Navon:	<i>Exploring the dynamics of BEC in a box potential</i>
14:20	–	14:40	Jean-Philippe Brantut:	<i>Quantum point contacts for cold atoms</i>

13:00 – 14:40 **3 session - C parallel: Quantum transport**

Location: Pyramida Hotel Conference Room 3

(chairperson: James Freericks)

13:00	–	13:30	Howard J. Carmichael:	<i>Time-local master equations: The coherently driven qubit with delayed coherent feedback</i>
13:30	–	14:00	Ilya Sinayskiy:	<i>Microscopic derivation of open quantum Brownian motion</i>
14:00	–	14:20	Michael Marthaler:	<i>Switching between stable states in quantum systems far from equilibrium</i>
14:20	–	14:40	Vyacheslavs Kashcheyevs:	<i>Shaping of on-demand electron wavepackets by tunnel-barrier design</i>
14:40	–	15:00	Coffee break	

15:00 – 17:00 **4 session - A parallel: Optomechanics**

Location: Pyramida Hotel Lecture Hall A

(chairperson: Andrew Armour)

15:00	–	15:30	Yaroslav M. Blanter:	<i>Non-linear microwave optomechanics</i>
15:30	–	16:00	Vittorio Peano Cavaola:	<i>Topological phases of sound and light in an optomechanical array</i>
16:00	–	16:20	David Vitali:	<i>Probing deformed commutators with macroscopic harmonic oscillators</i>
16:20	–	16:40	Nikolai Kiesel:	<i>Thermodynamic cycles using levitated optomechanics</i>
16:40	–	17:00	Jason Twamley:	<i>Engineering mesoscopic quantum systems using quantum magneto-mechanics</i>

15:00 – 17:00 **4 session - B parallel: Spins, quantum transport**

Location: Pyramida Hotel Lecture Hall B

(chairperson: Fernando Sols)

15:00	–	15:30	Kenji Maeda:	<i>Ultracold molecules: Quantum simulation of many-body spin and dipolar systems</i>
15:30	–	16:00	Oren Tal:	<i>Controlling spin transport and magnetoresistance at the atomic scale</i>
16:00	–	16:20	Etienne Maréchal:	<i>Dipolar chromium atoms: Spin dynamics in optical lattices and thermodynamics</i>
16:20	–	16:40	Boris Fine:	<i>Nonsecular resonances of interacting nuclear spins in solids</i>
16:40	–	17:00	Andrei D. Zaikin:	<i>Noise and full counting statistics of quantum phase slips</i>
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15:00	–	17:00	4 session - C parallel: Thermalisation	
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<i>Location: Pyramida Hotel Conference Room 3</i>				
<i>(chairperson: Joachim Ankerhold)</i>				
15:00	–	15:30	Vladimir G Zelevinsky:	<i>Quantum chaos and thermalization in a mesoscopic many-body system</i>
15:30	–	16:00	Gregoire Ithier:	<i>Thermalisation of a quantum system from first principles</i>
16:00	–	16:20	Lea F Santos:	<i>Relaxation process of interacting quantum systems</i>
16:20	–	16:40	Doron Cohen:	<i>Minimal models for superfluidity and thermalization</i>
16:40	–	17:00	Hyunggyu Park:	<i>Energetics and efficiency of an information engine</i>
17:00	–	18:30	Free time and transfer to Rudolfinum	
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18:30	–	21:30	Evening session: Public lecture of Gerard 't Hooft and concert	
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<i>Location: Rudolfinum - Dvořák's Hall</i>				
<i>(chairperson: Peter Keeffe, Václav Špička)</i>				
18:30	–	18:45	Music introduction and opening address	
18:45	–	20:00	Public lecture	
18:45	–	19:45	Gerard 't Hooft:	<i>The quantum deep down</i>
19:45	–	20:00	Discussion after the lecture of Gerard 't Hooft	
20:00	–	20:20	Break	
20:20	–	21:30	Concert of classical music	

Thursday, 30 July 2015

08:00 – 10:00

1 session: Electrons, photons, optomechanics

Location: Pyramida Hotel Lecture Hall

(chairperson: Michel Brune)

08:00 – 08:30 Daniel Esteve: *Quantum optics with microwave photons in superconducting circuits*

08:30 – 09:00 Joachim Ankerhold: *Charge transfer meets circuit quantum electrodynamics: From Coulomb blockade to nonlinear quantum dynamics*

09:00 – 09:30 Christoph Bruder: *Quantum synchronization*

09:30 – 10:00 Christian Schönenberger: *Cooper-pair splitting and spectroscopy in quantum dot devices with superconducting charge injectors*

10:00 – 10:20 Coffee break

10:20 – 12:10

2 session: Many body physics

Location: Pyramida Hotel Lecture Hall A

(chairperson: Ted Kirkpatrick)

10:20 – 10:50 Giorgio Parisi: *Low temperature behaviour of supercooled liquids in the quantum regime*

10:50 – 11:20 Thierry Martin: *Interactions and charge fractionalization in an electronic Hong-Ou-Mandel interferometer*

11:20 – 11:50 Michael Pollak: *Many body effects in strongly disordered electronic systems*

11:50 – 12:10 Igor Lerner: *The role of duality in a 1D transport of interacting particles through a constriction*

12:10 – 13:00 Lunch

13:00 – 14:40

3 session - A parallel: Phase transitions

Location: Pyramida Hotel Lecture Hall A

(chairperson: Igor Lerner)

13:00 – 13:30 Thomas Vojta: *How random is topological disorder? Phase transitions and localization on random lattices*

13:30	–	14:00	Ted Kirkpatrick:	<i>Scaling at quantum phase transitions: General concepts with applications to clean metallic ferromagnets</i>
14:00	–	14:20	Dietrich Belitz:	<i>Scaling at quantum phase transitions: Disordered quantum ferromagnets</i>
14:20	–	14:40	Pavel Holba:	<i>Ehrenfest classification of phase transitions and phase diagrams</i>
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13:00	–	14:40	3 session - B parallel: Spin systems, superconductivity	
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<i>Location: Pyramida Hotel Lecture Hall B</i>				
<i>(chairperson: Andrei Zaikin)</i>				
13:00	–	13:30	Nadav Katz:	<i>Quantifying and controlling superconducting circuits</i>
13:30	–	14:00	Yoram Alhassid:	<i>Mesoscopic superconductivity in nanoscale metallic grains</i>
14:00	–	14:20	Gilles Montambaux:	<i>Geometric effects on the orbital magnetism</i>
14:20	–	14:40	Jan von Delft:	<i>DMFT+NRG study of spin-orbital separation in a three-band Hund's metal</i>
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13:00	–	14:30	3 session - C parallel: Foundations of quantum physics	
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<i>Location: Pyramida Hotel Conference Room 3</i>				
<i>(chairperson: Kristel Michielsen)</i>				
13:00	–	13:30	Gregg Jaeger:	<i>Conceptualizing measurement</i>
13:30	–	14:00	Ana María Cetto:	<i>Contribution of the vacuum fluctuations to blackbody radiation</i>
14:00	–	14:30	Ehtibar Dzhafarov:	<i>Contextuality in systems with measurement errors and signaling</i>
14:40	–	15:00	Coffee break	
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15:00	–	16:00	4 session - A parallel: Quantum information, entanglement	
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<i>Location: Pyramida Hotel Lecture Hall A</i>				
<i>(chairperson: Elisabetta Paladino)</i>				
15:00	–	15:20	Mazyar Mirrahimi:	<i>Cat-qubits: A new protocol for quantum information processing with superconducting circuits</i>
15:20	–	15:40	Erhan Saglamyurek:	<i>A multiplexed quantum light-matter interface for fiber-based quantum networks</i>

15:40	–	16:00	Michael Kastner:	<i>Propagation of correlations and entanglement in long-range lattice models</i>
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15:00	–	16:00	4 session - B parallel: Quantum optics	
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<i>Location: Pyramida Hotel Lecture Hall B</i>				
<i>(chairperson: Marc Cheneau)</i>				
15:00	–	15:20	Radim Filip:	<i>Nonlinear operations with quantum states of light</i>
15:20	–	15:40	Serge Rosenblum:	<i>Demonstration of deterministic photon-photon interactions with a single atom</i>
15:40	–	16:00	Carsten Robens:	<i>Quantum walks with neutral atoms</i>
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15:00	–	16:00	4 session - C parallel: Quantum thermodynamics	
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<i>Location: Pyramida Hotel Conference Room 3</i>				
<i>(chairperson: Marlan Scully)</i>				
15:00	–	15:20	Peter David Keefe:	<i>Bardeen hysteresis: A quantum mechanical basis for the second law?</i>
15:20	–	15:40	Daniel P. Sheehan:	<i>Breakdown of the second law of thermodynamics in heterogeneous gas-surface reactions: Theory and experiment</i>
15:40	–	16:00	Dragos-Victor Anghel:	<i>The BCS theory in the fractional exclusion statistics formalism</i>
16:00	–	16:20	Free time	
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16:20	–	18:00	Special talks	
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<i>Location: Pyramida Hotel Lecture Hall</i>				
<i>(chairperson: Pavel Kroupa, Václav Špička)</i>				
16:20	–	17:00	Francois Hammer:	<i>Dark matter probes at different astronomical scales</i>
17:00	–	17:40	Mordehai Milgrom:	<i>Scale invariance at low accelerations: An alternative to dark matter</i>
17:40	–	18:00	Discussion	
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18:00	–	20:00	Poster session and refreshment	
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<i>Location: Pyramida Hotel - first floor</i>				
20:00	–	21:00	Free time and transfer to St. Vitus Cathedral	

21:00 – 22:10 **Concert of classical music**

Location: Prague Castle - St. Vitus Cathedral

Friday, 31 July 2015

08:00 – 10:00 **1 session: Nonequilibrium statistical physics**

Location: Pyramida Hotel Lecture Hall

(chairperson: Jürgen Stockburger)

08:00 – 08:30 Hermann Grabert: *Response of dissipative quantum systems to driven bath modes*

08:30 – 09:00 Ulrich Weiss: *Functional integral approach to time-dependent heat exchange in open quantum systems*

09:00 – 09:30 Alfredo Levy Yeyati: *Electron-phonon interactions and quantum noise in molecular junctions*

09:30 – 10:00 Andrew White: *Going down drains into blind alleys: From reality to causality in the quantum world*

10:00 – 10:20 Coffee break

10:20 – 12:10 **2 session - A parallel: Fluctuations**

Location: Pyramida Hotel Lecture Hall A

(chairperson: Christopher Jarzynski)

10:20 – 10:50 Liliana Arrachea: *Time-resolved heat transport and extended thermoelectrics for ac-driven quantum systems*

10:50 – 11:20 Yasuhiro Utsumi: *Fluctuation theorem for a small engine and magnetization switching by spin torque*

11:20 – 11:50 Jerzy Łuczka : *Efficiency of the SQUID ratchet*

11:50 – 12:10 Saar Rahav: *Stochastic pumps of interacting particles*

10:20 – 12:10 **2 session - B parallel: Quantum transport**

Location: Pyramida Hotel Lecture Hall B

(chairperson: James Freericks)

10:20 – 10:50 Angus MacKinnon: *Transport in a quantum shuttle*

10:50 – 11:20 Gianluca Stefanucci: *NEGF approach to pump-probe photoabsorption spectroscopy*

11:20	–	11:50	Jürgen T. Stockburger:	<i>Nonequilibrium steady states in open quantum systems: Stochastic mapping and exact results</i>
11:50	–	12:10	Peter Schmitteckert:	<i>Electronic transport through interacting nano structures: beyond the scattering state solution</i>
10:20	–	12:10	<hr/> 2 session - C parallel: Physics of graphene <hr/>	
			<i>Location: Pyramida Hotel Conference Room 3</i> <i>(chairperson: Yoram Alhassid)</i>	
10:20	–	10:50	Mike Guidry:	<i>SO(8) fermion dynamical symmetry and quantum Hall states for graphene in a strong magnetic field</i>
10:50	–	11:20	Ralf Schützhold:	<i>Giant magneto-photoelectric effect in suspended graphene</i>
11:20	–	11:50	Efrat Shimshoni:	<i>Collective edge modes near the onset of a graphene quantum spin Hall state</i>
11:50	–	12:10	Alessandro De Martino:	<i>Electric-dipole-induced universality for Dirac fermions in graphene</i>
12:10	–	13:00	Lunch	
13:00	–	14:30	<hr/> 3 session: Quantum optics <hr/>	
			<i>Location: Pyramida Hotel Lecture Hall</i> <i>(chairperson: Wolfgang Schleich)</i>	
13:00	–	13:30	Marlan O. Scully:	<i>Single photon superradiance and subradiance</i>
13:30	–	14:00	Norbert Kroo:	<i>Surface plasmon assisted electron pairing in gold at room temperature</i>
14:00	–	14:30	Tamar Seideman:	<i>Coherent alignment in complex systems</i>
14:30	–	14:50	Coffee break	
14:50	–	16:20	<hr/> 4 session: General physics <hr/>	
			<i>Location: Pyramida Hotel Lecture Hall</i> <i>(chairperson: Marlan Scully)</i>	
14:50	–	15:20	Marc Cheneau:	<i>Atomic Hong-Ou-Mandel experiment</i>
15:20	–	15:50	Ulf Leonhardt:	<i>Cosmology in the laboratory</i>

- 15:50 – 16:20 Dirk Bouwmeester: *Knots of light, gravitational radiation, and plasma*
- 16:20 – 17:30 Free time and transfer to Břevnov Monastery
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- 17:30 – 23:00 **Conference dinner and concert**
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- Location: Břevnov Monastery*
- 17:30 – 18:00 Welcome
- 18:00 – 19:30 Guided tour through Břevnov monastery
- 19:30 – 21:00 First part of the conference dinner
- 21:00 – 22:00 **Concert of classical music in the St. Margaret Church**
- 22:00 – 23:00 Second part of the conference dinner

Saturday, 1 August 2015

08:00 – 10:00 **1 session: Nonequilibrium statistical physics**

Location: Pyramida Hotel Lecture Hall

(chairperson: Michael Thoss)

- 08:00 – 08:30 Juan Carlos Cuevas: *Near-field radiative heat transfer at the nanoscale*
- 08:30 – 09:00 Michael Galperin: *Energy transport and heating in molecular junctions*
- 09:00 – 09:30 Rudolf Hilfer: *Experimental implications of Bochner-Levy-Riesz diffusion*
- 09:30 – 10:00 Marcelo Lozada-Cassou: *Molecular recognition and information theory in the self-assembling of charged particles*

10:00 – 10:20 Coffee break

10:20 – 12:00 **2 session: General physics**

Location: Pyramida Hotel Lecture Hall

(chairperson: Dirk Bouwmeester)

- 10:20 – 10:50 Wolfgang Schleich: *The Stefan-Boltzmann law: Two classical laws give a quantum one*
- 10:50 – 11:20 Kimball A. Milton: *Negative Casimir entropies in nanoparticle interactions*
- 11:20 – 11:40 Mikhail Baranov: *Majorana fermions in atomic-wire networks - realization of non-Abelian anyons*
- 11:40 – 12:00 Joan A. Vaccaro: *Quantum mechanism that makes time different to space*

12:00 – 13:00 Lunch

13:00 – 14:30 **3 session: Quantum physics**

Location: Pyramida Hotel Lecture Hall

(chairperson: Jonathan Lavoie)

- 13:00 – 13:30 Mikko Möttönen: *Discoveries of magnetic-monopole analogues in Bose-Einstein condensates*

13:30	–	14:00	Hans De Raedt:	<i>Quantum theory as a description of robust experiments: Derivation of the Pauli equation</i>
14:00	–	14:30	Kristel F Michielsen:	<i>Disillusion: Quantum Cheshire cat is an illusion</i>
14:30	–	14:50	Coffee break	
14:50	–	15:30	4 session: General physics	
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<i>Location: Pyramida Hotel Cinema Hall</i>				
<i>(chairperson: Peter Keefe)</i>				
14:50	–	15:10	Mario Krenn:	<i>Twisted photon entanglement through turbulent air across Vienna</i>
15:10	–	15:30	Václav Špička:	<i>Non-equilibrium dynamics: Initial conditions and asymptotic evolution</i>
15:30	–	16:00	Closing and refreshment	
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<i>Location: Pyramida Hotel Cinema Hall</i>				