

INTERNATIONAL CONFERENCE ON QUANTUM TECHNOLOGIES

July 13-17, 2011 Moscow



Conference Organizing Committee

- **Alexey Ustinov** (Karlsruhe Institute of Technology) –Chair
- **Eugene Demler** (Harvard University)
- **Alexander Lvovsky** (University of Calgary)

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- **Alexey Akimov** (Lebedev Physics Institute, RQC)
- **Valery Galkin** (RQC)

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- **Eugene Demler** (Harvard University)
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- **Wolfgang Ketterle** (Massachusetts Institute of Technology)
- **Alexei Kitaev** (California Institute of Technology)
- **Mikhail Lukin** (Harvard University)
- **William Phillips** (Joint Quantum Institute, University of Maryland)
- **Carl Williams** (National Institute of Standards and Technology, Gaithersburg)
- **Peter Zoller** (Institute for Quantum Optics and Quantum Information, Innsbruck)

Conference links

- Conference web site: www.conference.icqt.org; e-mail: conferenceRQC@icqt.org

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July 13 – Wednesday

8:50 – 9:00	Opening word		Conference Organizers
9:00 – 9:35	Alex Kuzmich	Quantum memories for telecom networks and trapping and lasercooling 229 Th	Georgia Institute of Technology
9:35 – 10:10	Fedor Jelezko	Single spins in diamond: quantum registers and atomic sensors	Universität Ulm, Institut für Quantenoptik
10:10 – 10:45	<i>Coffee break</i>		
10:45 – 11:20	Vyacheslav Dobrovitski	Quantum dynamics and quantum control of spins in diamond	Ames Laboratory
11:20 – 11:55	Sergey Frolov	Quantum Information Processing Based on Semiconductor Nanowires	Delft University of Technology
11:55 – 12:30	Pavel Bushev	Rare earth spin ensemble to interface microwave and optical photons	Karlsruhe Institute of Technology
12:30 – 14:00	<i>Lunch break</i>		
14:00 – 14:35	Leonid Levitov	Generating Entanglement and Squeezed States of Nuclear Spins in Quantum Dots	Massachusetts Institute of Technology
14:35 – 15:10	Gerd Schön	Lasing and transport in circuit QED	Karlsruhe Institute of Technology
15:10 – 15:45	Boris Blinov	Long-distance entanglement of trapped ions	University of Washington
15:45 – 16:20	<i>Coffee break</i>		
16:20 – 16:55	Sergey Zibrov	From Alkali Atoms to NV centers: Applications of Quantum Effects in Atomic Clocks, Magnetometers, and Protection of Valuable Documents	Lebedev Physics Institute
16:55 – 17:30	Nikolai Kolachevsky	Laser cooled thulium atoms and ultra-stable lasers for optical atomic clocks	Lebedev Physics Institute
17:30 – 19:30	Poster section		
19:30	<i>Dinner</i>		

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July 14 – Thursday

9:00 – 9:35	Carl Williams	Two-Component Ultracold Atom Mixtures in Optical Lattices	NIST
9:35 – 10:10	Alexey Gorshkov	Photon-Photon Interactions via Rydberg Blockade	California Institute of Technology
10:10 – 10:45	<i>Coffee break</i>		
10:45 – 11:20	Igor Ryabtsev	Quantum information with single atoms and photons in Novosibirsk	Institute of Semiconductor Physics, Novosibirsk
11:20 – 11:55	Tilman Pfau	Coherent control of dense Rydberg gases	University of Stuttgart
11:55 – 12:30	Martin Zwierlein	Universal Thermodynamics and Spin Transport in a Strongly Interacting Fermi Gas	Massachusetts Institute of Technology
12:30 – 14:00	<i>Lunch break</i>		
14:00 – 14:35	Jörg Schmiedmayer	Relaxation dynamics in many body quantum system	Technical University of Vienna
14:35 – 15:10	Andrey Maltsev	Oscillating solutions and solitons in the patterns of cold atoms.	Landau Institute for Theoretical Physics
15:10 – 15:45	Alexei Kitaev	Majorana qubits	California Institute of Technology
15:45 – 16:20	<i>Coffee break</i>		
16:20 – 16:55	Ehud Altman	Quantized pumping and topological Bose insulators	Weizmann Institute
16:55 – 17:30	Lev Pitaevskii	Collective oscillations of a BEC system in the presence of an artificial non-Abelian gauge field	Università di Trento, Kapitza Institute
17:30 – 19:30	Poster Section		
19:30	<i>River excursion + light dinner</i>		

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July 15 – Friday

9:00 – 10:00

Welcome coffee

10:00 – 10:15

Tommaso Calarco

RQC project

University of Ulm

10:15 – 11:20

Welcome Talks

11:20 – 12:00

Coffee break, press conference

Section on New Frontiers of Quantum Optical Science

12:00 – 12:45

Mikhail Lukin

Opportunities and perspectives of quantum technologies in the future

Harvard University

12:45 – 13:30

Hongkun Park

Optoplasmonic Engineering of Light-Matter Interactions

Harvard University

13:30 – 14:15

Christopher Monroe

Quantum networks with atoms, phonons, and photons

University of Maryland

14:15 – 15:40

Lunch break

15:40 – 16:15

Artur Ekert

In the wake of quantum cryptography

Centre for Quantum Technologies, Singapore

16:15 – 16:45

John Doyle

The Interesting Case of the Cold Molecule; the Big Bangs, Quantum Bump-tum, and Biology

Harvard University

16:45 – 17:00

Coffee break

17:00 – 17:35

Vlad Shalaev

Engineering photonic density of states with metamaterials

Purdue University

17:35 – 18:10

Alexey Zheltikov

Photonic-crystal fibers in ultrafast lightwave technologies

Moscow State University

19:00

Theater and concerts (individually organized), night

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Moscow excursion

July 16 –Saturday

9:00 – 9:35	Evgeni Ilichev	Multi-qubit superconducting systems	Institute of Photonic Technology, Jena
9:35 – 10:10	Valery Ryazanov	Josephson π -junctions and their applications in digital and quantum logics	Institute of Solid State Physics, Chernogolovka
10:10 – 10:45	<i>Coffee break</i>		
10:45 – 11:20	Vladimir Manucharyan	Quantum coherence of the fluxonium superconducting artificial atom	Harvard University
11:20 – 11:55	Yuri Pashkin	Coupling nanomechanics to the quantum bits	NEC Nano Electronics Research Laboratories
11:55 – 12:30	Yuri Makhlin	Quantum measurements for superconducting quantum bits	Landau Institute for Theoretical Physics
12:30 – 14:00	<i>Lunch break</i>		
14:00 – 14:35	Oleg Astafiev	Quantum optics on Josephson-junction quantum circuits in open 1D space	NEC Nano Electronics Research Laboratories
14:35 – 15:10	Arkady Fedorov	Benchmarking a Teleportation Circuit realized in Circuit QED	ETH Zurich
15:10 – 15:45	Eugene Polzik	Field and force measurements beyond standard quantum limits	Niels Bohr Institute, University of Copenhagen
15:45 – 16:20	<i>Coffee break</i>		
16:20 – 16:55	Georgiy Shlyapnikov	Novel states of fermionic polar molecules	Universite Paris-Sud
16:55 – 17:30	Olga Kocharovskaya	Quantum interference effects in interaction of resonant radiation with a frequency modulated atomic medium	Texas A&M University
17:30	<i>Closing word</i>		

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19:30

Dinner

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July 17 – Sunday

Departure of participants, excursions (Kremlin),
International Advisory Board meetings
