17th International Laser Physics Workshop (LPHYS'08)

June 30 – July 4, 2008, Trondheim, Norway

PROGRAM

http://www.lasphys.com

17th International Laser Physics Workshop
(LPHYS'08)
June 30 – July 4, 2008, Trondheim, Norway

ORGANIZED BY:

A.M. Prokhorov General Physics Institute, Russian Academy of Sciences (RAS), Moscow, Russia
Norwegian University of Science and Technology (NTNU), Trondheim, Norway
The international journal Laser Physics
The international journal Laser Physics Letters
International Laser Center, Moscow State University, Moscow, Russia

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Helge Weman	Department of Electronics and Telecommunications, NTNU

Background

The seventeenth annual International Laser Physics Workshop (LPHYS'08) will be held from June 30 to July 4, 2008 in Norwegian University of Science and Technology, Trondheim, Norway. LPHYS'08 continues a series of Workshops held in Dubna 1992, Dubna/Volga river tour 1993, New York 1994, Moscow/Volga river tour (jointly with NATO SILAP Workshop) 1995, Moscow 1996, Prague 1997, Berlin 1998, Budapest 1999, Bordeaux 2000, Moscow 2001, Bratislava 2002, Hamburg 2003, Trieste 2004, Kyoto 2005, Lausanne 2006, and León (Mexico) 2007.

The total number of participants is expected to be about 400. In the past, participation was typically from over 30 countries.

Proceedings

The Workshop materials accepted by the Steering and Advisory & Program Committees (plenary, invited, and contributed) will be published in # 2 and in # 4 of the international journal Laser Physics, 2009 (vol. 19). The total length of manuscript, including figures, tables and references, is limited to twenty-five pages. The rules of the manuscript preparation can be found on the Laser Physics web site:

http://www.lasphys.com

Two hard copies (no e-mail versions of papers please) of manuscripts to be published in the Laser Physics journal can be either given to Prof. Igor V. Yevseyev, the Deputy Editor-in-Chief of Laser Physics, during LPHYS'08 or mailed to:

Prof. Igor V. Yevseyev
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Moscow State Engineering Physics Institute
31, Kashirskoe Shosse
Moscow 115409
Russia

Two hard copies of your manuscripts are to be received by the Editorial Office of the journal Laser Physics in Moscow not later than on October 1, 2008.

Please point out the number of your report according to the Program of the Workshop.

The Steering Committee of LPHYS'08 kindly asks the participants to simultaneously send the e-mail versions of their manuscripts to the following e-mail address: lphys08@lasphys.com.

The possible rapid publication of your scientific results in the journal Laser Physics Letters

The Steering Committee of LPHYS'08 would like to bring your attention to the following possibility. If you feel that your manuscript deserves super-rapid publication, you can send it only by e-mail staffeditor@lasphys.com to another journal, the journal Laser Physics Letters. In case your manuscript receives positive reports of referees, its on-line version will appear two weeks after the acceptance of the paper. The information concerning your manuscript submission and instructions for manuscript preparation for the journal Laser Physics Letters can be found on:

http://www.lasphys.com

Scientific Seminars

The Workshop consists of the following seminars (organized by the respective co-chairs) which feature invited plenary talks, invited lectures, contributed and poster reports. The official Workshop language is English.

Seminar 1 **Modern Trends in Laser Physics**

Co-Chairs: **Thomas Feurer** (Switzerland), **Franz X. Kärtner** (USA), **Fredrik Laurell** (Sweden), and **Kirill A. Prokhorov** (Russia)

Seminar 2 **Strong Field & Attosecond Physics**

Co-Chairs: **Wilhelm Becker** (Germany), **Jens Biegert** (Spain), and **Mikhail V. Fedorov** (Russia)

Seminar 3 **Biophotonics**

Co-Chairs: **Sergey A. Gonchukov** (Russia), **Jürgen Lademann** (Germany), and **Mikael Lindgren** (Norway)

Seminar 4 **Physics of Lasers**
Co-Chairs: **Markus Pollnau** (The Netherlands), **Gunnar Rustad** (Norway), and **Ivan A. Shcherbakov** (Russia)

Seminar 5 **Nonlinear Optics and Spectroscopy**
Co-Chairs: **See Leang Chin** (Canada), **Christos Flytzanis** (France), and **Vladimir A. Makarov** (Russia)

Seminar 6 **Physics of Cold Trapped Atoms**
Co-Chairs: **Lev P. Pitaevskii** (Italy), **Vyacheslav I. Yukalov** (Russia), and **Eugene Zaremba** (Canada)

Seminar 7 **Quantum Information and Computation**
Co-Chairs: **Marco Genovese** (Italy), **Sergey P. Kulik** (Russia), and **Leong Chuan Kwek** (Singapore)

Seminar 8 **Laser Nanotechnologies**
Co-Chairs: **Pavel K. Kashkarov** (Russia), **Vitali I. Konov** (Russia), and **Helge Weman** (Norway)

Seminar 9 **Fiber Lasers**
Co-Chairs: **Evgeni M. Dianov** (Russia), **Hans G. Limberger** (Switzerland), and **David N. Payne** (UK)

Meeting Format and Location of the Events

Closing Remarks	July 4	18.50-19.00	Hall # R1
Plenary Sessions (PS)			
	June 30	09.00-09.45	Hall # R1
	June 30	09.45-10.30	Hall # R1
	July 1	09.00-09.45	Hall # R1
	July 1	09.45-10.30	Hall # R1
	July 2	09.00-09.45	Hall # R1
	July 2	09.45-10.30	Hall # R1
	July 3	09.00-09.45	Hall # R1
	July 3	09.45-10.30	Hall # R1
	July 4	09.00-09.45	Hall # R1
Seminar 1			
	June 30	11.00-18.50	Hall # R8
	July 1	11.00-18.50	Hall # R8
	July 2	11.00-18.50	Hall # R8
	July 3	11.00-18.50	Hall # R8
	July 4	09.45-18.50	Hall # R3
Seminar 2			
	June 30	11.00-18.50	Hall # R2
	July 1	11.00-18.50	Hall # R2
	July 2	11.00-18.50	Hall # R2
	July 3	11.00-18.50	Hall # R2
	July 4	09.45-18.50	Hall # R2
Seminar 3			
	July 3	11.00-18.50	Hall # R9
	July 4	09.45-18.50	Hall # R9
Seminar 4			
	June 30	11.00-18.50	Hall # R9
	July 1	11.00-18.50	Hall # R9
	July 2	11.00-18.50	Hall # R9
	July 3	14.00-18.50	Hall # R3
Seminar 5			
	June 30	11.00-18.50	Hall # R4
	July 1	11.00-18.50	Hall # R4
Seminar 6			
	June 30	11.00-18.50	Hall # R1
	July 1	11.00-18.50	Hall # R1
	July 2	11.00-18.50	Hall # R1

	July 3	11.00-18.50	Hall # R1
	July 4	09.45-18.50	Hall # R1
Seminar 7			
	June 30	11.00-18.50	Hall # R5
	July 1	11.00-18.50	Hall # R5
	July 2	11.00-18.50	Hall # R5
	July 3	11.00-18.50	Hall # R5
	July 4	09.45-18.50	Hall # R5
Seminar 8			
	July 2	11.00-18.50	Hall # R4
	July 3	11.00-12.45	Hall # R3
	July 4	09.45-18.50	Hall # R8
Seminar 9			
	July 3	11.00-18.50	Hall # R4
	July 4	09.45-18.50	Hall # R4
Poster Sessions			
	July 1	19.00-20.00	Seminars 1-3
	July 2	19.00-20.00	Seminars 4-9

Scientific Program – Schedule

Monday, June 30, 2008						
	Hall # R1	**Hall # R2**	**Hall # R5**	**Hall # R8**	**Hall # R9**	**Hall # R4**
09.00-09.45	**PS1: Bass**					
09.45-10.30	**PS2: Kärtner**					
10.30-11.00	**Coffee Break**					
11.00-12.45	Seminar 6.1	Seminar 2.1	Seminar 7.1	Seminar 1.1	Seminar 4.1	Seminar 5.1
12.45-14.00	**Lunch**					
14.00-16.15	Seminar 6.2	Seminar 2.2	Seminar 7.2	Seminar 1.2	Seminar 4.2	Seminar 5.2
16.15-16.45	**Coffee Break**					
16.45-18.50	Seminar 6.3	Seminar 2.3	Seminar 7.3	Seminar 1.3	Seminar 4.3	Seminar 5.3
19.30-21.00	**Welcome Party**					

Tuesday, July 1, 2008						
	Hall # R1	**Hall # R2**	**Hall # R5**	**Hall # R8**	**Hall # R9**	**Hall # R4**
09.00-09.45	**PS3: Vodopyanov**					
09.45-10.30	**PS4: Hulet**					
10.30-11.00	**Coffee Break**					
11.00-12.45	Seminar 6.4	Seminar 2.4	Seminar 7.4	Seminar 1.4	Seminar 4.4	Seminar 5.4
12.45-14.00	**Lunch**					
14.00-16.15	Seminar 6.5	Seminar 2.5	Seminar 7.5	Seminar 1.5	Seminar 4.5	Seminar 5.5
16.15-16.45	**Coffee Break**					
16.45-18.50	Seminar 6.6	Seminar 2.6	Seminar 7.6	Seminar 1.6	Seminar 4.6	Seminar 5.6
19.00-20.00	**Poster Session**					

Wednesday, July 2, 2008						
	Hall # R1	**Hall # R2**	**Hall # R5**	**Hall # R8**	**Hall # R9**	**Hall # R4**
09.00-09.45	**PS5: Harris**					
09.45-10.30	**PS6: Shapiro**					
10.30-11.00	**Coffee Break**					
11.00-12.45	Seminar 6.7	Seminar 2.7	Seminar 7.7	Seminar 1.7	Seminar 4.7	Seminar 8.1
12.45-14.00	**Lunch**					
14.00-16.15	Seminar 6.8	Seminar 2.8	Seminar 7.8	Seminar 1.8	Seminar 4.8	Seminar 8.2
16.15-16.45	**Coffee Break**					
16.45-18.50	Seminar 6.9	Seminar 2.9	Seminar 7.9	Seminar 1.9	Seminar 4.9	Seminar 8.3
19.00-20.00	**Poster Session**					

Thursday, July 3, 2008							
	Hall # R1	**Hall # R2**	**Hall # R5**	**Hall # R8**	**Hall # R9**	**Hall # R4**	**Hall # R3**
09.00-09.45	**PS7: Fermann**						
09.45-10.30	**PS8: Huber**						
10.30-11.00	**Coffee Break**						
11.00-12.45	Seminar 6.10	Seminar 2.10	Seminar 7.10	Seminar 1.10	Seminar 3.1	Seminar 9.1	Seminar 8.4
12.45-14.00	**Lunch**						
14.00-16.15	Seminar 6.11	Seminar 2.11	Seminar 7.11	Seminar 1.11	Seminar 3.2	Seminar 9.2	Seminar 4.10
16.15-16.45	**Coffee Break**						
16.45-18.50	Seminar 6.12	Seminar 2.12	Seminar 7.12	Seminar 1.12	Seminar 3.3	Seminar 9.3	Seminar 4.11

Friday, July 4, 2008							
	Hall # R1	**Hall # R2**	**Hall # R5**	**Hall # R8**	**Hall # R9**	**Hall # R4**	**Hall # R3**
09.00-09.45	**PS9: Kurtsiefer**						
09.45-10.30	Seminar 6.13	Seminar 2.13	Seminar 7.13	Seminar 8.5	Seminar 3.4	Seminar 9.4	Seminar 1.13
10.30-11.00	**Coffee Break**						
11.00-12.45	Seminar 6.14	Seminar 2.14	Seminar 7.14	Seminar 8.6	Seminar 3.5	Seminar 9.5	Seminar 1.14
12.45-14.00	**Lunch**						
14.00-16.15	Seminar 6.15	Seminar 2.15	Seminar 7.15	Seminar 8.7	Seminar 3.6	Seminar 9.6	Seminar 1.15
16.15-16.45	**Coffee Break**						
16.45-18.50	Seminar 6.16	Seminar 2.16	Seminar 7.16	Seminar 8.8	Seminar 3.7	Seminar 9.7	Seminar 1.16
18.50-19.00	**Closing Remarks**						

Plenary Sessions

Monday, June 30
PLENARY SESSION (PS1)

Chair: J.H. Eberly (USA)

09.00-09.45 **Michael Bass** (Orlando, USA)
Gain Guided, Index Anti Guided Fiber Lasers

PLENARY SESSION (PS2)

Chair: K.A. Prokhorov (Russia)

09.45-10.30 **Franz X. Kärtner** (Cambridge, USA)
Femtosecond Lasers: Tools for Attosecond Science

Tuesday, July 1
PLENARY SESSION (PS3)

Chair: H.G. Limberger (Switzerland)

09.00-09.45 **Konstantin L. Vodopyanov** (Stanford, CA, USA)
New Light from Gallium Arsenide: Efficient THz-Wave Generation from Periodically-Inverted GaAs

PLENARY SESSION (PS4)

Chair: V.I. Yukalov (Russia)

09.45-10.30 **Randall G. Hulet** (Houston, USA)
Pairing and Superfluidity in an Atomic Fermi Gas

Wednesday, July 2
PLENARY SESSION (PS5)

Chair: M.V. Fedorov (Russia)

09.00-09.45 **Stephen E. Harris** (Stanford, CA, USA)
Generation of Biphotons with Controllable Waveforms

PLENARY SESSION (PS6)

Chair: S.P. Kulik (Russia)

09.45-10.30 **Jeffrey H. Shapiro** (Cambridge, MA, USA)
Imaging with Phase-Sensitive Light: What Is Quantum and What Is Not

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Thursday, July 3

PLENARY SESSION (PS7)

Chair: G. Huber (Germany)

09.00-09.45 **Martin E. Fermann** (Ann Arbor, MI, USA)
Ultrafast Fiber Lasers in Advanced Technology and Science

PLENARY SESSION (PS8)

Chair: M. Pollnau (The Netherlands)

09.45-10.30 **Günter Huber** (Hamburg, Germany)
Diode Pumped Solid-State Lasers in the Near Infrared and Visible Spectral Region

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Friday, July 4

PLENARY SESSION (PS9)

Chair: O. Hunderi (Norway)

09.00-09.45 **Christian Kurtsiefer** (Singapore, Singapore)
What Can You Do with Photonic Qubits?

Friday, July 4

Closing Remarks

Chair: V.I. Yukalov (Russia)

18.50-19.00

Seminar 1
Modern Trends in Laser Physics

Monday, June 30

Seminar 1.1
Chair: F. Laurell (Sweden)

11.00-11.25	1.1.1 J.H. Eberly and B.D. Clader (Rochester, NY, USA) *Two-pulse area theorems: pure and mixed state media*
11.25-11.50	1.1.2 M.G. Raymer and C.C. Leary (Eugene, Oregon, USA) *Single-photon spin-orbit interaction in optical fiber*
11.50-12.10	1.1.3 P. Saari (Tartu, Estonia) *Airy pulse – a new member of family of localized waves*
12.10-12.30	1.1.4 G. Koganov and R. Shuker (Beer Sheva, Israel) *Phase sensitive quantum interference phenomena on ac Stark allowed transitions*
12.30-12.50	1.1.5 S.T. Müller, D.V. Magalhães, A. Bebeachibuli, K.M.F. Magalhães, and V.S. Bagnato (São Carlos, Brazil) *A mathematical model for the contrast of the Ramsey Fringes for an expanding cloud of cold atoms*
12.45-14.00	**Lunch**

Seminar 1.2
Chair: K.M.F. Magalhães (Brazil)

14.00-14.25	1.2.1 S.I. Bozhevolnyi (Odense M, Denmark) *Subwavelength waveguiding by surface plasmon polaritons*
14.25-14.50	1.2.2 S. Blair (Salt Lake City, UT, USA) *Nonlinear optics of sub-wavelength apertures*
14.50-15.15	1.2.3 A.K. Popov (Stevens Point, WI, USA), S.A. Myslivets (Krasnoyarsk, Russia), and V.M. Shalaev (West Lafayette, IN, USA) *Coherent control in negative-index metamaterials*
15.15-15.35	1.2.4 V. Sandoghdar (Zurich, Switzerland) *Cavity-free coherent coupling of photons and emitters*
15.35-15.55	1.2.5 P. Bermel, Zh. Wang, Y. Chong, A. Rodriguez, J.D. Joannopoulos, and M. Soljačić (Cambridge, MA USA) *Novel phenomena in nonlinear photonic crystals*
15.55-16.15	1.2.6 P. Hommelhoff (Garching, Germany, and Stanford, USA), C. Kealhofer, S. Foreman, and M. Kasevich (Stanford, CA, USA) *Extreme localization of electrons in space and time*
16.15-16.45	**Coffee break**

Seminar 1.3
Chair: N.N. Rubtsova (Russia)

16.45-17.10	1.3.1 B. Jacobsson, V. Pasiskevicius, and F. Laurell (Stockholm, Sweden) *Spectral control of solid-state lasers using volume Bragg gratings*
17.10-17.35	1.3.2 U.N. Singh (Hampton, VA, USA) *Overview of NASA's laser risk reduction program towards technology maturation for Earth and Mars remote sensing application from space*
17.35-18.00	1.3.3 M. Jelinek, T. Kocourek (Prague and Kladno, Czech Republic), and J. Kadlec (Brno, Czech Republic) *Hybrid laser- magnetron technology for carbon composite coating*

18.00-18.20 1.3.4 D.E. Gen, K.B. Chernyshov, Yu.V. Shemouratov, K.A. Prokhorov, G.Yu. Nikolaeva, P.P. Pashinin, A.A. Kovalchuk, A.N. Klyamkina, and P.M. Nedorezova (Moscow, Russia)
Raman structural study of copolymers of propylene with high olefins

18.20-18.40 1.3.5 A. Semerok (Paris, France) and V. Konov (Moscow, Russia)
Laser ablation of graphite tiles by microsecond laser pulses

18.40-19.00 1.3.6 A. Okhrimchuk, V. Mezentsev, H. Schmitz, and I. Bennion (Birmingham, United Kingdom)
Cascaded nonlinear absorption of femtosecond laser pulses in dielectrics

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Tuesday, July 1

Seminar 1.4
Symposium: Coherent Control of the Fundamental Processes in Optics
Chair: M. Fleischhauer (Germany)

11.00-11.30 1.4.1 M.S. Zubairy (College Station, Texas, USA and Doha, Qatar)
Optical sub-wavelength lithography: with and without entanglement

11.30-12.00 1.4.2 W.P. Schleich (Ulm, Germany)
Factorisation of numbers, Schrödinger cats and the Riemann hypothesis

12.00-12.25 1.4.3 Y. Shih (Baltimore, MD, USA)
The physics of ghost imaging

12.25-12.50 1.4.4 U. Leonhard (North Haugh, St Andrews, Fife, UK) and T.G. Philbin (Erlangen, Germany)
Transformation optics

12.45-14.00 **Lunch**

Seminar 1.5
Symposium: Coherent Control of the Fundamental Processes in Optics
Chair: W.P. Schleich (Germany)

14.00-14.30 1.5.1 M.O. Scully (College Station, TX, USA)
XUV coherent Raman superradiance

14.30-15.00 1.5.2 H. Rabitz (Princeton, USA)
Hiking over quantum control landscapes

15.00-15.25 1.5.3 G. Kurizki, N. Bar-Gill, N. Erez, and G. Gordon (Rehovot, Israel.)
Quantum interferometry based on translational-internal entanglement

15.25-16.50 1.5.4 V.M. Akulin (Orsay, France)
Multipartite entanglement in atomic ensembles, description and control

16.50-16.15 1.5.5 H. Lee (Button Rouge, LU, USA)
Heisenberg-limited optical interferometry: a universal detection scheme

16.15-16.45 **Coffee break**

Seminar 1.6
Jointly with Symposium on Coherent Control of the Fundamental Processes in Optics
Chair: O. Kocharovskaya (USA)

16.45-17.15 1.6.1 C.H. Keitel, J. Evers, C. Müller (Heidelberg, Germany), Y.I. Salamin (Sharjah, United Arab Emirates), Z. Harman, A. Pálffy (Heidelberg, Germany), T. Bürvenich (Frankfurt am Main, Germany), and A. Shahbaz (Heidelberg, Germany)
Laser-induced particle acceleration and controlled nuclear quantum dynamics

17.15-17.45 1.6.2 J.J. Carroll (Youngstown, Ohio, USA)
Survey of recent tests of induced depletion for nuclear isomers

17.45-18.10 1.6.3 K.M. Spohr, M. Shaw, W. Galster (KWD Ledingham), L. Robson, J.M. Yang, P. McKenna, T. McCanny, J.J. Melone, K.U. Amthor, F. Ewald, B. Liesfeld, H. Schwoerer, and R. Sauerbrey (Paisley, Scotland, UK and Yena, Germany)
Production of nuclear isomers via bremsstrahlung radiation of high intsensity laser generated electrons

18.10-18.30 1.6.4 A. Pálffy, J. Evers, and C.H. Keitel (Heidelberg, Germany)
Quantum nucleonics with photons and electrons

18.30-18.50 1.6.5 A.A. Zadernovsky (Moscow, Russia)
Two-quantum stimulated emission of gamma radiation

Wednesday, July 2

Seminar 1.7
Symposium: Coherent Control of the Fundamental Processes in Optics
Chair: G. Welch (USA)

11.00-11.30 1.7.1 M.D. Lukin (Cambridge, MS, USA)
Quantum nanophotonics

11.30-12.00 1.7.2 P. Anisimov, C. O'Brien, F. Vagizov (College Station, TX, USA), E. Kuznetsova (Cambridge, MS, USA), R. Akhmedzhanov, Y. Radeonychev (Nizhny Novgorod, Russia), and O. Kocharovskaya (College Station, TX, USA)
Coherent control of the atomic optical and nuclear gamma-ray transitions in solids

12.00-12.25 1.7.3 I. Lorgeré, T. Chanelière, J.-L. Le Gouët, A. Louchet (Orsay, France), O. Guillot Noel, R. Marino, and P. Goldner (Paris, France)
Nuclear spin optical control via superhyperfine interaction in rare-earth-doped crystals

12.25-12.50 1.7.4 O. Guillot-Noëla, P. Goldnera, F. Beaudouxa, Y. Le Dua, J. Vincenta, J. Lejaya, A. Amarib, A. Waltherb, L. Rippeb, S. Kröllb, and T. Chanelièrec (Paris, France; Lund, Sweden; Orsay, France)
Efficient electromagnetically induced transparency in a new praseodymium doped compound: Pr:$La_2(WO_4)^{3-}$

12.45-14.00 **Lunch**

Seminar 1.8
Symposium: Coherent Control of the Fundamental Processes in Optics
Chair: M. Lukin (USA)

14.00-14.30 1.8.1 P. Hemmer, S. Zubairy (College Station, TX, USA), J. Wrachtrup, and F. Jelezko, (Stuttgart, Germany)
EIT, dopplerons, and other quantum optical techniques for sub-wavelength imaging

14.30-15.00 1.8.2 A. Delfan, C. La Mela, M. Underwood, P. Marzlin, S.A. Moiseev, and W. Tittel (Calgary, Canada)
Combining quantum memory with state manipulation

15.00-15.25 1.8.3 Y. Yang, J. Xu, H. Chen, and S.-Y. Zhu (Shanghai, China and Hong Kong, China)
Quantum interference enhancement with left-handed materials

15.25-15.50 1.8.4 A.D. Wilson-Gordon, T. Zigdon, and H. Friedman (Ramat Gan, Israel)
Pump-probe spectroscopy in degenerate two-level atoms with arbitrary strong fields

15.50-16.15 1.8.5 J.C. Howell, R.M. Camacho, P.V. Setu, and C. Broadbent (Rochester, NY, USA)
Applications of slow and stopped light

16.15-16.45 **Coffee break**

Seminar 1.9
Chair: F.X. Kärtner (USA)

16.45-17.10 1.9.1 A. Materny (Bremen, Germany)
Nonlinear four-wave mixing techniques in femtosecond time-resolved spectroscopy - the advantages of a complex tool

17.10-17.35 1.9.2 N. Picqué, G. Guelachvili (Paris, France), E. Sorokin (Vienna, Austria), and I.T. Sorokina (Trondheim, Norway)
Frequency combs for high-resolution spectroscopy in the infrared

17.35-18.00 1.9.3 D. Braje, M. Kirchner, T. Fortier, L. Hollberg, and S. Diddams (Boulder, CO, USA)
Filtering the femtosecond frequency comb to spectrally-resolvable frequency spacing and applications thereof

18.00-18.20 1.9.4 D.N. Papadopoulos, M. Hanna, F. Druon, P. Georges (Palaiseau, France), Y. Zaouter (Talence and Pessac, France), E. Cormier (Talence, France), and E. Mottay (Pessac, France)
Direct amplification and compression of femtosecond pulses in ytterbium-doped fibers

18.20-18.40 1.9.5 N. Gallaher, B. Resan, E. Coadou, S. Petersen, A. Thomas, P. Walther, R. Viselga, J.-M. Heritier, J. Chilla, W. Tulloch, and A. Fry (Santa Clara, CA, USA)
Performance advances in ultrashort pulse Ti:Sapphire oscillators pumped by optically pumped semiconductor (OPS) pump lasers

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Thursday, July 3

Seminar 1.10
Symposium: Coherent Control of the Fundamental Processes in Optics
Chair: U. Leonhard (Germany)

11.00-11.25 1.10.1 J.P. Marangos, L. Chipperfield, C. Ruiz-Mendez, R. Torres, S. Baker, J. Robinson, and J.W.G. Tisch (London, UK)
Controlling and measuring structure with sub-optical cycle electron dynamics in a strong field

11.25-11.50 1.10.2 L. Hollberg, Z. Barber, D. Braje, S.A. Diddams, T. Fortier, V. Gerginov, M. Kirchner, Y. LeCoq, N. Lemke, V. Mbele, S. Meyer, C.W. Oates, N. Poli, Q. Quraishi, J. Stalnaker, C. Tanner, A. Weiner, and S. Xiao (Boulder, CO, USA)
Precisely controlled lasers for probing atoms and other applications

11.50-12.15 1.10.3 M.P. Ledbetter and D. Budker (Berkeley, CA, USA)
Application of all-optical atomic magnetometers to nuclear magnetic resonance of microfluidic samples

12.15-12.40 1.10.4 M. Viteau, A. Chotia (Orsay, France), M. Allegrini (Pisa, Italy), N. Bouloufa, O. Dulieu, D. Comparat, and P. Pillet (Orsay, France)
Optical pumping and vibrational cooling of molecules

12.45-14.00 **Lunch**

Seminar 1.11

Symposium: Coherent Control of the Fundamental Processes in Optics

Chair: P. Hemmer (USA)

14.00-14.30 1.11.1 A. Tyryshkin, S. Shankar, S.A. Lyon (Princeton, USA), J.J.L. Morton, R. Brown, A. Ardavan (Oxford, UK), T. Schenkel, and J.W. Ager (Berkeley, USA)
Using dynamical decoupling to preserve the coherence of spin qubits in selicon

14.30-15.00 1.11.2 M. Fleischhauer, Z. Kurucz (Kaiserslautern, Germany), M.D. Lukin (Cambrdige, USA), J. Taylor (Cambridge, USA), and M. Sørensen (Copenhagen, Denmark)
Protection of qubits in quatum-dot nuclear-spin memories

15.00-15.25 1.11.3 S.F. Yelin, T. Bragdon, R. Rajapakse (Storrs, CT, USA), and A.-M. Rey (Cambridge, MS, USA)
Single-photon non-linearities using polar molecules

15.25-15.50 1.11.4 M. Afzelius, C. Simon, H. de Riedmatten, and N. Gisin (Geneva, Switzerland)
Novel quantum memory based on atomic frequency comb

15.50-16.15 1.11.5 A.I. Lvovsky, J. Appel, E. Figueroa, D. Korystov, and M. Lobino (Calgary, Canada)
Quantum memory for squeezed light

16.15-16.45 **Coffee break**

Seminar 1.12

Chair: K. Prokhorov (Russia)

16.45-17.10 1.12.1 T. Südmeyer, A.-R. Bellancourt, D.J.H.C. Maas, B. Rudin, M. Golling, and U. Keller (Zurich, Switzerland)
Vertical integration of ultrafast semiconductor lasers

17.10-17.35 1.12.2 F. Rana, F.A. Ahmad, and C. Manolatou (Ithaca, NY, USA)
Frontiers in semiconductor lasers: from the ultrafast to the ultrasmall

17.35-18.00 1.12.3 S. Moore, L. O'Faolain, T.F. Krauss (St. Andrews, UK), T. Stomeo (St. Andrews, UK and Lecce, Italy), M. Kamp (Würzburg, Germany), and H. Benisty (Palaiseau, France)
Wavelength and mode control in semiconductor lasers with photonic crystal waveguides

18.00-18.25 1.12.4 Y.J. Ding (Bethlehem, PA, USA)
From accumulation to removal of hot longitudinal-optical phonons in GaN-based heterostructures

18.25-18.50 1.12.5 E.A. Vinogradov, B.N. Mavrin, N.N. Novikova, V.A. Yakovlev, and D.M. Popova (Troitsk, Moscow Region)
Lattice dynamics of A^2B^6 semiconductor crystals

18.50-19.15 1.12.6 Yu.E. Lozovik (Troitsk Moscow region)
Coherent phases and collective phenomena in graphene and graphene nanostructures

Friday, July 4

Seminar 1.13
Symposium: Coherent Control of the Fundamental Processes in Optics
Chair: J. Marangos (UK)

09.45-10.10 1.13.1 G.R. Welch, A. Sokolov, X. Wang, and A. Zhang (College Station, TX, USA)
CARS and FAST-CARS detection of biological molecules such as glucose and cholesterol.

10.10-10.35 1.13.2 I.Sh. Averbukh, M.Y. Vilensky, and Y. Prior (Rehovot, Israel)
Feedback-controlled non-resonant laser cooling

10.30-11.00 **Coffee break**

Seminar 1.14
Symposium: Coherent Control of the Fundamental Processes in Optics
Chair: A. Belyanin (USA)

11.00-11.25 1.14.1 T. Kubis and P. Vogl (Garching, Germany)
Predictive quantum theory of current and optical gain in quantum cascade lasers

11.25-11.55 1.14.2 H.M. Gibbs (Tucson, AZ, USA)
Semiconductor cavity QED

11.55-12.20 1.14.3 G. Khitrova (Tucson, AZ, USA)
Radiatively coupled fibonacci quantum wells

12.20-12.45 1.14.4 L.V. Butov (San Diego, CA, USA)
Excitons in coupled quantum wells

12.45-14.00 **Lunch**

Seminar 1.15
Symposium: Coherent Control of the Fundamental Processes in Optics
Chair: G. Khitrova (USA)

14.00-14.30 1.15.1 A. Belyanin, Y. Cho, F. Xie, V.R. Chaganti (College Station, USA), M. Belkin, and F. Capasso (Cambridge, MA, USA)
Extending the spectral range of quantum cascade lasers with resonant intracavity nonlinear mixing

14.30-15.00 1.15.2 L.V. Keldysh (College Station, TX, USA and Moscow, Russia)
Electroabsorption in semiconductors under the strong THz pulses

15.00-15.25 1.15.3 C. Weber and A. Wacker (Lund, Sweden)
Coherence and its dephasing in quantum dots and quantum cascade lasers

15.25-15.50 1.15.4 M.A. Belkin, F. Capasso (Cambridge, MA, USA), F. Xie, A. Belyanin (College Station, TX, USA), M. Fischer, A. Wittmann, and J. Faist (Zurich, Switzerland)
Room-temperature terahertz sources based on intra-cavity difference-frequency generation in mid-infrared quantum cascade lasers

15.50-16.15 1.15.5 P. Kumar and O.-K. Lim (Evanston, USA)
Noise-free signal amplification in optical fiber

16.15-16.45 **Coffee break**

Seminar 1.16
Jointly with Symposium on Coherent Control of the Fundamental Processes in Optics
Chair: I. Lorgeré (France)

16.45-17.10	1.16.1 I. Novikova, N.B. Phillips (Williamsburg, VR, USA), and A.V. Gorshkov (Cambridge, MS, USA) *Optimal control of light storage and retrieval*
17.10-17.35	1.16.2 D. Strekalov, A. Matsko, A. Savchenkov, and N. Yu (Los Angelos, CA, USA) *Counting microwave photons at room temperature*
17.35-18.00	1.16.3 V.O. Lorenz (Boulder, Colorado, USA, presently Oxford, UK) *Non-Markovian dynamics in a dense atomic vapor*
18.00-18.20	1.16.4 N.N. Rubtsova, V.N. Ishchenko, S.A. Kochubei, E.B. Khvorostov (Novosibirsk, Russia), and I.V. Yevseyev (Moscow, Russia) *"Usual" and collision induced photon echo in Ytterbium vapor*
18.20-18.40	1.16.5 S.A. Moiseev (Calgary, Canada and Kazan, Russia) *Raman-echo-quantum memory*
18.40-19.00	1.16.6 Y.V. Radeonychev, V.A. Polovinkin (Nizhny Novgorod, Russia), and O. Kocharovskaya (College Station, TX, USA) *Pulse shaping via modulation of resonant absorption*

Poster Session, Tuesday, July 1

Chair: G.Yu. Nikolaeva (Russia)

P1.1	H. Jelínková, J. Šulc (Prague, Czech Republic), W. Ryba-Romanowski (Wrocław, Poland), and T. Lukasiewicz (Warsaw, Poland) *1.6 μm microchip lasers*
P1.2	V.V. Marinyuk and D.B. Rogozkin (Moscow, Russia) *Effects of non-diffusive wave propagation in coherent backscattering from turbid media*
P1.3	L.E. Semenova, G.Yu. Nikolaeva, P.P. Pashinin, and K.A. Prokhorov (Moscow, Russia) *The treatment of the hyper-Raman scattering by 2LO phonons in semiconductors with equal effective masses of electrons and holes*
P1.4	D.E. Gen, K.A. Prokhorov, G.Yu. Nikolaeva, P.P. Pashinin, A.A. Kovalchuk, A.N. Klyamkina, and P.M. Nedorezova (Moscow, Russia) *Raman study of copolymers of propylene with 1-butene*
P1.5	E.A. Sagitova, K.A. Prokhorov, N.D. Merekalova, V.A. Gerasin, P.P. Pashinin (Moscow, Russia), P. Donfack, and A. Materny (Bremen, Germany) *Interlayer structure of fillers for polymer-clay nanocomposites revealed by Raman scattering*
P1.6	N.V. Znamenskiy, Yu.V. Malyukin, Yu.V. Orlov, and A.Yu. Shashkov (Moscow, Russia) *Superradiance of praseodymium ions doped into LaF_3 matrix under liquid helium temperature*

P1.7 P. Anisimov (College Station, USA), R. Akhmedzhanov, A. Bondartsev, L. Gushchin, N. Zharova (Nizhny Novgorod, Russia), and O. Kocharovskaya (College Station, USA)
Measurement of the Nd^{3+} ion pair interaction in Nd^{3+}:LaF_3 using electromagnetically induced transparency

P1.8 M.P. Hill, L.A.M. Johnson, J.P. Cotter, and B.T.H. Varcoe (Leeds, UK)
A test of Lorentz Invariance using precision spectroscopy

P1.9 M.P. Hill, L.A.M. Johnson, J.P. Cotter, and B.T.H. Varcoe (Leeds, UK)
Precision spectroscopy using EIT in an atomic beam

P1.10 N.N. Rubtsova, E.B. Khvorostov, D.V. Ledovskikh (Novosibirsk, Russia), and V.A. Reshetov (Togliatti, Russia)
Coherent control of photon echo and free polarization decay in vapor

Seminar 2
Strong-field and attosecond physics

Monday, June 30

Seminar 2.1
Chair: H. Reiss (USA)

11.00-11.30 2.1.1 K. Ledingham (Glasgow, UK; Dresden, Germany)
What is the future for ultra-high intensity laser science?

11.30-12.00 2.1.2 E. Goulielmakis, M. Schultze (Garching, Germany), M. Hofstetter, M. Uiberacker (Munich, Germany), J. Gagnon (Garching, Germany), V. Yakovlev, U. Kleineberg (Munich, Germany), and F. Krausz (Garching, Germany)
Sub-100-attosecond pulses

12.00-12.30 2.1.3 A.V. Mitrofanov, A.J. Verhoef (Vienna, Austria), E.E. Serebryannikov, A.M. Zheltikov (Moscow, Russia), and A. Baltuška (Vienna, Austria)
Spectral signatures of attosecond ionization dynamics

12.45-14.00 **Lunch**

Seminar 2.2
Chair: M. Ivanov (Canada)

14.00-14.30 2.2.1 M. Nisoli (Milano, Italy)
Isolated attosecond pulses for atomic and molecular physics

14.30-15.00 2.2.2 K. Yamanouchi (Tokyo, Japan)
Ultrafast hydrogen migration in molecules in intense laser fields: new frontiers in attosecond chemistry

15.00-15.30 2.2.3 Th. Uphues, A.L. Cavalieri, M. Uiberacker, M. Schultze (Garching, Germany), M.F. Kling (Amsterdam, The Netherlands), V. Yakovlev (Garching, Germany), N. Mueller (Bielefeld, Germany), N.M. Kabachnik (Bielefeld, Germany; Moscow, Russia), M.J.J. Vrakking (Amsterdam, The Netherlands), U. Heinzmann (Bielefeld, Germany), M. Drescher (Hamburg, Germany), and F. Krausz (Garching, Germany)
Attosecond-time-resolved experiments from the gas phase to solids

15.30-16.00 2.2.4 T. Fordell, E. Mansten, M. Swoboda, T. Remetter, J.M. Dahlström, K. Klünder, J. Mauritsson, and A. L'Huillier (Lund, Sweden)
The Lund attosecond pulse source

16.15-16.45 **Coffee break**

Seminar 2.3
Chair: E. Goulielmakis (Germany)

16.45-17.15 2.3.1 P. Johnsson, W. Siu, A. Rouzee, Y. Huismans (Amsterdam, The Netherlands), F. Lépine (Villeurbanne, France), T. Marchenko (Palaiseau Cedex, France), S. Düsterer, N. Stojanovic, F. Tavella, A. Azima (Hamburg, Germany), M. Kling, I. Znakovskaya (Garching, Germany), R. Treusch (Hamburg, Germany), A. Gijsbertsen, and M.J.J. Vrakking (Amsterdam, The Netherlands)
Ultrafast electron dynamics studied using attosecond and free electron lasers

17.15-17.45	2.3.2 M.Yu. Emelin, M.Yu. Ryabikin, and A.M. Sergeev (Nizhny Novgorod, Russia) *High-order harmonic generation by intense few-cycle laser pulse: long-distanse propagation effects*
17.45-18.15	2.3.3 S. Varró (Budapest, Hungary) *Attosecond electron pulses from interference of above-threshold de Broglie waves*
18.15-18.45	2.3.4 I.V. Shutov and A.S. Chirkin (Moscow, Russia) *Generation of higher optical harmonics and forming of subfemtosecond light pulses in aperiodical nonlinear photonic crystal*

Tuesday, July 1

Seminar 2.4
Chair: W. Becker (Germany)

11.00-11.30	2.4.1 T. Kanai, E.J. Takahashi, Y. Nabekawa, and K. Midorikawa (Saitama, Japan) *High-order harmonic generation in mixed gases*
11.30-12.00	2.4.2 D.B. Milošević, E. Hasović, S. Odžak, M. Busuladžić, A. Gazibegović-Busuladžić (Sarajevo, Bosnia and Herzegovina), and W. Becker (Berlin, Germany) *New results in above-threshold ionization and high-order harmonic generation of atomic and molecular systems*
12.00-12.30	2.4.3 A.M. Popov, M.A. Tikhonov, O.V. Tikhonova, and E.A. Volkova (Moscow, Russia) *Comparative analysis of the strong-field ionization of the quantum systems with Coulomb and short-range potential*
12.45-14.00	**Lunch**

Seminar 2.5
Chair: K. Yamanouchi (Japan)

14.00-14.30	2.5.1 L. Plaja and J.A. Pérez-Hernández (Salamanca, Spain) *A quantitative S-matrix description of the high-order harmonic generation in the midinfrared: the physics beneath the scaling laws*
14.30-14.55	2.5.2 M.V. Frolov, N.L. Manakov (Voronezh, Russia), and A.F. Starace (Lincoln, NE, USA) *Wavelength scaling of energy-integrated high-harmonic yield: threshold phenomena and bound state symmetry dependence*
14.55-15.25	2.5.3 O. Smirnova, S. Patchkovskii, and M. Ivanov (Ottawa, Canada) *High harmonic generation spectroscopy of polyatomic molecules*
15.25-15.50	2.5.4 I.A. Gonoskov, A.A. Gonoskov, I.A. Kazachenko, and M.Yu. Ryabikin (Nizhny Novgorod, Russia) *Dispersion relations for interpretation of two-center interference in hhg from diatomic molecules*
15.50-16.15	2.5.5 A. Cerkic and D.B. Milošević (Sarajevo, Bosnia and Herzegovina) *The role of incoherent scattering in laser-induced and laser-assisted processes*
16.15-16.45	**Coffee break**

Seminar 2.6
Chair: H. Kono (Japan)

16.45-17.15 2.6.1 Ye. Prior, Sh. Fleischer, and I.Sh. Averbukh (Rehovot, Israel)
Strong field selective manipulations in molecular mixtures

17.15-17.45 2.6.2 B. Manschwetus, T. Nubbemeyer , K. Gorling, G. Steinmeyer, U. Eichmann, H. Rottke, and W. Sandner (Berlin, Germany)
Strong laser field fragmentation of H_2 : Coulomb explosion without double ionization

17.45-18.15 2.6.3 B. Manschwetus, Z. Ansari, M. Böttcher, H. Rottke, W. Sandner (Berlin, Germany), A. Verhoef, M. Lezius (Garching, Germany), G.G. Paulus (College Station, TX, USA), A. Saenz (Berlin, Germany), and D.B. Milošević (Sarajevo, Bosnia and Herzegovina)
Strong field ionization of a two-center atomic system: the role of interference

18.15-18.45 2.6.4 U. Saalmann (Dresden, Germany)
Rescattering in strong fields: from atoms to clusters

Wednesday, July 2

Seminar 2.7
Chair: Ch. Keitel (Germany)

11.00-11.30 2.7.1 M. Boca, V. Florescu (Bucharest, Romania), and M. Gavrila (Amsterdam, The Netherlands)
Generalized space-translated Dirac equation and its equivalent Pauli form for superintense laser-atom interaction

11.30-12.00 2.7.2 C. Müller, C. Deneke, M. Ruf, K.Z. Hatsagortsyan, and Ch.H. Keitel (Heidelberg, Germany)
Lepton pair production in high-frequency laser fields

12.00-12.30 2.7.3 Q. Su, T. Cheng, S.P. Bowen, C.C. Gerry, and R. Grobe (Normal, IL, USA)
Classical and quantum features in electron-positron pair creation process

12.45-14.00 **Lunch**

Seminar 2.8
Chair: M. Gavrila (The Netherlands)

14.00-14.30 2.8.1 E. Lötstedt, A. Di Piazza, U.D. Jentschura, K.Z. Hatsagortsyan, and C.H. Keitel (Heidelberg, Germany)
Non-perturbative QED effects in laser-matter interaction

14.30-14.55 2.8.2 A.M. Fedotov and K.Yu. Korolev (Moscow, Russia)
Pair creation by a strong tightly focused linearly polarized electromagnetic pulse

14.55-15.20 2.8.3 T. Nakajima (Kyoto, Japan)
Carrier-envelope phase of a phase-locked polychromatic field

15.20-15.50 2.8.4 H.-J. Kull (Aachen, Germany)
Non-instantaneous electron-ion collisions in a strong laser field

15.50-16.15 2.8.5 I.A. Burenkov, A.M. Popov, O.V. Tikhonova, and E.A. Volkova (Moscow, Russia)
Interference features of the field-induced ionization and rescattering in atomic systems in few-cycle laser pulse

16.15-16.45 **Coffee break**

Seminar 2.9
Chair: V.P. Krainov (Russia)

16.45-17.15 2.9.1 F. Pegoraro (Pisa, Italy) and S.V. Bulanov (Kyoto-fu, Japan; Moscow, Russia)
Ion acceleration and stability in the radiation pressure dominated regime

17.15-17.45 2.9.2 D.S. Uryupina, K.A. Ivanov, N. Morshedian, R.V. Volkov, and A.B. Savel'ev (Moscow, Russia)
Nanosecond pre-pulse control of femtosecond laser-plasma interaction at the surface of melted metals

17.45-18.15 2.9.3 T.C. Pesch and H.-J. Kull (Aachen, Germany)
Propagation of periodic and quasiperiodic large-amplitude electromagnetic waves in relativistic plasmas

18.15-18.45 2.9.4 E.Yu. Echkina, I.N. Inovenkov (Moscow, Russia), T.Zh. Esirkepov (Dolgoprudnyi, Russia; Kyoto, Japan), Y. Fukuda, K. Yamakawa, J. Koga, (Kyoto, Japan), and S.V. Bulanov (Moscow, Russia; Kyoto, Japan)
Propagation of the high power laser pulse in multicomponent cluster targets

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Thursday, July 3

Seminar 2.10
Chair: K. Taylor (UK)

11.00-11.30 2.10.1 H. Kono, N. Niitu, K. Nakai (Sendai, Japan), Ts. Kato (Tokyo, Japan), and R. Islam (Glasgow, UK)
New aspects of intense-field ionization of C_{60} and H_2: theoretical investigation by TDDFT and time-dependent multiconfiguration theory

11.30-12.00 2.10.2 D. Bauer (Heidelberg, Germany), S.V. Popruzhenko (Heidelberg, Germany; Moscow, Russia), and M. Ruggenthaler (Heidelberg, Germany)
C_{60} in strong laser fields: collective and geometry effects

12.00-12.30 2.10.3 V.P. Krainov and A.V. Sofronov (Dolgoprudnyi, Russia)
Hard X-ray emission by clusters in an intense femtosecond laser field at the collective photo-recombination

12.45-14.00 **Lunch**

Seminar 2.11
Chair: A.M. Popov (Russia)

14.00-14.30 2.11.1 K.T. Taylor, J.S. Parker, L.R. Moore, K.J. Meharg, and G.S.J. Armstrong (Belfast, UK)
Two-electron systems in intense laser fields from Ti:sapphire to x-ray wavelengths

14.30-15.00 2.11.2 W. Becker (Berlin, Germany), C. Figueira de Morisson Faria (London, UK), P.J. Ho (Argonne, IL, USA), X. Liu (Wuhan, People's Republic of China), and H. Rottke (Berlin, Germany)
Laser-induced nonsequential double and multiple ionization of atoms: dynamics vs. kinematics

15.00-15.30 2.11.3 N.I. Shvetsov-Shilovski, S.P. Goreslavski (Moscow, Russia), S.V. Popruzhenko (Moscow, Russia; Heidelberg, Germany), and W. Becker (Berlin, Germany)
Nonsequential double ionization by elliptically polarized laser field: the role of long orbits

15.30-16.00 2.11.4 C. Figueira de Morisson Faria; T. Shaaran (London, UK), X. Liu (Wuhan, China), and W. Yang (London, UK; Shanghai, China)
Quantum interference in laser-induced nonsequential double ionization in diatomic molecules: the role of alignment and orbital symmetry

16.15-16.45 **Coffee break**

Seminar 2.12

Chair: H-J. Kull (Germany)

16.45-17.15 2.12.1 W. Becker (Heidelberg, Germany)
Non-sequential double ionization

17.15-17.45 2.12.2 S.L. Haan, Z.S. Smith, and J.S. VanDyke (Grand Rapids, MI, USA)
Recollision excitation, correlated electron pairs, and high-energy electrons in classical ensemble studies of double ion

17.45-18.15 2.12.3 H. Schröder and M. Schultze (Garching, Germany)
Creation and depletion of successive charge states of Argon within the focal volume of fs laser pulses

18.15-18.45 2.12.4 K. Ueda, M. Okunishi, and G. Prümper (Sendai, Japan)
Electron emission from atoms and molecules in intense laser fields

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Friday, July 4

Seminar 2.13

Chair: K. Ueda (Japan)

09.45-10.15 2.13.1 W. Sandner, M.P. Kalachnikov, P.V. Nickles, M. Schnürer, T. Sokollik, S. Steinke, S. Ter-Avetisian (Berlin, Germany), M. Amin, T. Toncian, O. Willi (Düsseldorf, Germany), and A. Andreev (Berlin, Germany; St. Petersburg, Russia)
„*Proton streak deflectometry*“*: spatio-temporal measurement of ultra-high fields in laser particle acceleration*

10.30-11.00 **Coffee break**

Seminar 2.14

Chair: D.B. Milošević (Bosnia and Herzegovina)

11.00-11.30 2.14.1 O. Smirnova and M. Ivanov (Ottawa, Canada),
Time and space-resolved dynamics of non-adiabatic tunneling

11.30-12.00 2.14.2 A.S. Kornev, I.Yu. Kretinin, and B.A. Zon (Voronezh, Russia)
Correction to tunneling theory in atoms

12.00-12.30 2.14.3 V. Strelkov (Moscow, Russia), E. Mével, and E. Constant (Talence, France)
Isolated attopulse production by spatial shaping of femtosecond laser beam

12.45-14.00 **Lunch**

Seminar 2.15

Chair: S. Haan (USA)

14.00-14.30 2.15.1 H.R. Reiss (Berlin, Germany; Washington, DC, USA)
Novel phenomena in ionization by very-low-frequency strong fields

14.30-15.00 2.15.2 A.S. Kornev (Voronezh, Russia), Yu.M. Tchuvil'sky (Moscow, Russia), and B.A. Zon (Voronezh, Russia)
Nuclear excitation by atomic electron rescattering in relativistic laser field

15.00-15.30 2.15.3 C. Ruiz Mendez (London, UK; Dresden, Germany) and A. Becker (Dresden, Germany)
Evolution of the momentum distributions of doubly charged helium ions in a strong and short laser pulse

15.30-16.00 2.15.4 M.V. Frolov, N.L. Manakov, and E.M. Zanozina (Voronezh, Russia)
Keldysh theory of laser detachment for an arbitrary laser ellipticity and angular momentum of an initial bound state

16.15-16.45 **Coffee break**

Seminar 2.16

Chair: H. Schröder (Germany)

16.45-17.15 2.16.1 S. Bivona, G. Bonanno, R. Burlon and C. Leone (Palermo, Italy)
Photodetachment of F^- by short laser pulses. Comparison between experiments and numerical results

17.15-17.45 2.16.2 S.P. Andreev and T.V. Pavlova (Moscow, Russia)
Oscillation of absorption of laser radiation in semiconductors with sharply anisotropic effective mass of electrons in quantizing magnetic fields

17.45-18.15 2.16.3 V.S. Rastunkov and V.P. Krainov (Dolgoprudnyi, Russia)
Photoelectron angular distributions at the ionization of atoms by intense sub-one-cycle laser pulses

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Poster Session, Tuesday, July 1

Chair: M.A. Efremov (Russia)

P2.1 N.A. Shahbaz, C. Müller, T.J. Bürvenich (Frankfurt, Germany), and Ch.H. Keitel (Heidelberg, Germany)
Laser-induced nuclear probing and excitation via muonic atoms

P2.2 I.A. Burenkov and O.V. Tikhonova (Moscow, Russia)
Interference effects in the laser-stimulated Bremsstrahlung for wide in momentum representation electron wave packets

P2.3 M. Busuladžić, A. Gazibegović-Busuladžić (Sarajevo, Bosnia and Herzegovina), D.B. Milošević (Sarajevo, Bosnia and Herzegovina; Berlin, Germany), and W. Becker (Berlin, Germany)
Ionization of diatomic molecules by a strong laser field with linear or elliptical polarization

P2.4 A. Gazibegović-Busuladžić (Sarajevo, Bosnia and Herzegovina), D.B. Milošević (Sarajevo, Bosnia and Herzegovina; Berlin, Germany), and W. Becker (Berlin, Germany)
Saturation effects in HATI: electron spectra dependence on the temporal pulse shape

P2.5 A.V. Gets and V.P. Krainov (Dolgoprudnyi, Russia)
Angular distributions of atomic ions at the irradiation of large atomic clusters by intense femtosecond laser pulses

P2.6 A.V. Gulyaev and O.V. Tikhonova (Moscow, Russia)
Specific features of the linear gas medium polarization response in the problem of few-cycle laser pulse propagation

P2.7 E. Hasović (Sarajevo, Bosnia and Herzegovina), D.B. Milošević (Sarajevo, Bosnia and Herzegovina; Berlin, Germany), and W. Becker (Berlin, Germany)
SFA simulation of above-threshold ionization of rare gases by few-cycle laser fields

P2.8 A.S. Kornev and B.A. Zon (Voronezh, Russia)
Maximal relativistic energy for rescattered electron

P2.9 S. Odžak (Sarajevo, Bosnia and Herzegovina) and D.B. Milošević (Sarajevo, Bosnia and Herzegovina; Berlin, Germany)
Strong-field approximation for molecular high-order harmonic generation: the influence of the laser-field dressing of the bound states on the interference pattern in harmonic spectra

P2.10 M.V. Fedorov, A.I. Artemiev (Moscow, Russia), D.N. Klochkov (Tula, Russia), K.B. Oganesyan, M.L. Petrosyan (Yerevan, Armenia), M. Scully, and Yu.V. Rostovtsev (Collage Station, TX, USA)
The threshold conditions for FELWI

P2.11 M.L. Petrosyan, L.A. Gabrielyan, K.B. Oganesyan, Yu.R. Nazaryan, Yu.A. Garibyan, M.A. Oganesyan (Yerevan, Armenia), M.V. Fedorov, A.I. Artemiev (Moscow, Russia), D.N. Klochkov (Tula, Russia), S.M. Fedorov (Moscow, Russia)
The undulator radiation in terahertz region

P2.12 J.A. Pérez-Hernández and L. Plaja (Salamanca, Spain)
A quantitative-accurate s-matrix model for the description high-order harmonic generation in helium

P2.13 E.M. Sarkisyan, S.G. Gevorkyan, K.B. Oganesyan, M.L. Petrosyan, K.G. Petrosyan (Yerevan, Armenia)
Diamond Synthesis possibility investigation using CO_2 laser radiation

P2.14 P.E. Pyak, V.V. Kim and V.I. Usachenko (Tashkent, Uzbekistan)
Intensity-dependent orientation behavior of single ionization rates for laser-irradiated molecular dimmers

P2.15 P.E. Pyak, V.V. Kim and V.I. Usachenko (Tashkent, Uzbekistan)
On relative contribution of strong-field ionization from inner molecular valence shells in f2 to total ionization yield

P2.16 V. Musakhanyan (Yerevan, Armenia)
Wave functions in quantum electrodynamics and classical initial conditions

P2.17 C. Yuce (Turkey)
An analytically solvable model for strong field matter interaction

P2.18 A.V. Glushkov (Odessa, Ukraine; Troitsk, Russia)
QED theory of the strong atom-laser and nucleus-laser interaction

P2.19 O.Yu. Khetseliuss (Odessa, Ukraine), A.V. Glushkov (Odessa, Ukraine; Troitsk, Russia), and S.V. Malinovskaya (Odessa, Ukraine)
On discharge of metastable nuclei during muon capture in laser pulse and high power gamma sources

Seminar 3
Biophotonics

Thursday, July 3

Seminar 3.1
Chairs: J. Lademann (Germany)

11.00-11.30 3.1.1 A. Yousif, M. Strassl, and E. Wintner (Vienna, Austria)
Innovative oral laser application

11.30-11.55 3.1.2 A.B. Solovieva (Moscow, Russia)
Polymers in photodynamic therapy: nanoscale complexes of amphiphilic polymers with photoditazion for skin burn and festering wound therapy

11.55-12.20 3.1.3 E.N. Sobol, A.B. Shekhter, O.L. Zakharkina, A.E. Guller, and A.I. Omeltchenko (Troitsk, Russia)
Laser engineering of spine discs

12.20-12.45 3.1.4 I.V. Meglinski (Cranfield, England)
Coherent effects of multiple scattering: biomedical applications

12.45-14.00 **Lunch**

Seminar 3.2
Chairs: V. Bagnato (Brazil)

14.00-14.25 3.2.1 Q. Su, S.D. Campbell, I.L. Goodin, and R. Grobe (Normal, USA)
Theoretical and experimental studies of decomposition based imaging and its limitations

14.25-14.50 3.2.2 G. Giubileo, A. Puiu, M. Tomasi, F. Dell'Unto, and A. Fagnani (Rome, Italy)
High resolution laser based detection of ammonia

14.50-15.15 3.2.3 T. Mangeat, C.E. Caille, M. Perrin, W. Boireau, C. Pieralli, and B. Wacogne (Besançon, France)
Cold/Silica thin film for biosensors applications: surface plasmon resonance and metal enhanced fluorescence

15.15-15.35 3.2.4 V.V. Barun and A.P. Ivanov (Minsk, Belarus)
Sieve effect in biological tissues and blood as a tool for diagnosing structural parameters of erythrocytes and capillaries

15.35-15.55 3.2.5 I.M. Pelivanov, M.I. Barskaya, N.B. Podymova, T.D. Khokhlova, and A.A. Karabutov (Moscow, Russia)
Opto-acoustic method of direct measurement of light absorption coefficient in highly scattered media

15.55-16.15 3.2.6 M. Arronte, E. Ortega-Martinez, L. Ponce, E. De Posada, and T. Flores (Altamira, Mexico)
Acoustic response during nopal spines and glochids laser ablation

16.15-16.45 **Coffee break**

Seminar 3.3
Chairs: R. Salathe (Switzerland)

16.45-17.10 3.3.1 G. Gelikonov, V. Gelikonov, V. Romashov, and S. Ksenofontov (Nizhny Novgorod, Russia)
Optical systems for cross-polarized endoscopic optical coherence tomography

17.10-17.35	3.3.2 V.A. Kamensky, V.I. Plekhanov, A.G. Orlova, M.S. Kleshnin, I.I. Fiks, I.V. Turchin, I.V. Balalaeva, M.V. Shirmanova (Nizhny Novgorod, Russia), and A.P. Savitsky (Moscow, Russia) *Fluorescence diffuse tomography setup for detection of tumors labeled with fluorescent proteins and quantum dots in small animals*
17.35-18.00	3.3.3 J. Lademann (Berlin, Germany), J. Shevtsova (Moscow, Russia), A. Patzelt, H. Richter (Berlin, Russia), N. Gladkova (Nizhny Novgorod, Russia), S. Gonchukov (Moscow, Russia), W. Sterry (Berlin, Moscow), A. Sergeev (Nizhny Novgorod, Russia), and U. Blume-Peytavi (Berlin, Russia) *Application of optical coherent tomography for the in vivo determination of changes in the hair cross section and diameter during treatment with glucocorticosteroids – a simple method for screening of doping substances?*
18.00-18.25	3.3.4 V.I. Plekhanov, A.G. Orlova, I.I. Fiks, M.S. Kleshnin, V.A. Kamensky, and I.V. Turchin (Nizhny Novgorod, Russia) *Apply frequency-domain diffuse optical tomography for breast cancer detection purposes*
18.25-18.50	3.3.5 G. Gelikonov, V. Gelikonov, and P. Shilyagin (Nizhny Novgorod, Russia) *k-Space linearized optical spectrometer for spectral domain optical coherence tomography*

Friday, July 4

Seminar 3.4

Chairs: M. Lindgren (Norway)

09.45-10.10	3.4.1 V.N. Bagratashvili (Troitsk, Russia) *Osteogenesis on surface selective laser sintered bioresorbable scaffolds*
10.10-10.30	3.4.2 V.V. Volkov, I.A. Shikunova, V.N. Kurlov, E.V. Rostova, and V.B. Loschenov (Moscow, Russia) *Interstitial laser therapy with sapphire capillary needle*
10.30-11.00	**Coffee break**

Seminar 3.5

Chairs: P. French (UK)

11.00-11.25	3.5.1 V.B. Loschenov (Moscow, Russia) *Laser spectroscopic methods of nanophotosensitizers research*
11.25-11.45	3.5.2 A.P. Popov (Moscow, Russia), S. Haag, M. Meinke, J. Lademann (Berlin, Germany), A.V. Priezzhev (Moscow, Russia), and R. Myllylä (Oulu, Finland) *Generation of free radicals on porcine skin and glass plates under UV irradiation in presence of titanium dioxide nanoparticles*
11.45-12.05	3.5.3 M.E. Darvin, S. Haag, M. Meinke, W. Sterry, and J. Lademann (Berlin, Germany) *Determination of the formation of free radicals in human skin by resonance Raman spectroscopy and electron paramagnetic resonance spectroscopy*
12.05-12.25	3.5.4 A.V. Ryabova, A.A. Stratonnikov, S.U. Vasilchenko, A.I. Volkova, O.L. Kaiya, A.E. Ermakov, and V.B. Loschenov (Moscow, Russia) *Light scattering regimes along the optical axis in bio-optical media*

12.25-12.45 3.5.5 A.N.S. Rastelli, M.I.B. Bernardi, A.C. Hernandes, and V.S. Bagnato (San Carlos, Brazil)
Fluorescence of an experimental dental composite resins with different TiO_2 nanoparticles fraction by spectroscopy technique

12.45-14.00 **Lunch**

Seminar 3.6

Chairs: V. Bagratashvili (Russia)

14.00-14.25 3.6.1 P. French (London, UK)
Multidimensional fluorescence imaging

14.25-14.50 3.6.2 D. Chorvat Jr., M. Danko, G. Kollarikova, E. Papajova, and I. Lacik (Bratislava, Slovakia)
Time-resolved fluorescence study of dynamics and immobilization of fluorescent probes in hydrogels

14.50-15.15 3.6.3 E.S. Estracanholli, J.R. Vicente, F.C. Menezes, M.M. Costa, C. Kurachi, and V.S. Bagnato (San Carlos, Brazil)
Ex vivo determination of time of death by fluorescence spectroscopy

15.15-15.35 3.6.4 M.L. Sinyaeva, S.Yu. Vasilchenko, Ad.A. Mamedov, A.I. Volkova, V.B. Loschenov, and V.I. Konov (Moscow, Russia)
Application of the nanoparticles of teeth enamel damages diagnostics

15.35-15.55 3.6.5 D.N. Bakhmutov, O.V. Voytenok, and S.A. Gonchukov (Moscow, Russia)
Early caries examination to the naked-eye

15.55-16.15 3.6.6 D.P. Jacomassi, A.N.S. Rastelli, and V.S. Bagnato (San Carlos, Brazil)
Laser speckle contrast ratio for photopolymerization shrinkage measurement

16.15-16.45 **Coffee break**

Seminar 3.7

Chairs: S. Gonchukov (Russia)

16.45-17.10 3.7.1 R.P. Salathe, F. Merenda, and J-M. Fournier (Lausanne, Switzerland)
Laser tweezers arrays for life science applications

17.10-17.35 3.7.2 C. Pieralli, C. Attoui, W. Boireau, and B. Wacogne (Besançon, France)
Low cost optical detection of DNA hybridization on biochips

17.35-18.00 3.7.3 N.I. Smith, Y. Kumamoto, J. Ando, K. Fujita, and S. Kawata (Osaka, Japan)
Cell contraction, signalling and action potentials evoked by femtosecond laser irradiation

18.00-18.25 3.7.4 A.V. Priezzhev, A.V. Bykov, A.K. Indukaev (Moscow, Russia), and R. Myllylä (Oulu, Finland)
Analyte sensing with ultrashort laser pulse reflectometry from biotissue phantoms

18.25-18.50 3.7.5 S.F. Timashev, R.M. Yulmetyev, S.A. Demin, O.Yu. Panischev, and Yu.S. Polyakov (Moscow, Russia)
Identification of photosensitive epilepsy using the flicker-noise spectroscopy of magnetoencephalogram

Poster Session, Tuesday, July 1

Chair: S. Gonchukov (Russia)

P3.1 H. Jelínková, J. Šulc, T. Dostálová, P. Koranda, M. Němec, and J. Racek (Prague, Czech Republic)
Bracket debonding by mid-infrared laser radiation

P3.2 I. Kleps, M. Simion, A. Bragaru, M. Miu, T. Ignat, L. Ruta, and C. Mihailescu (Bucharest, Romania)
Microarray imaging from artefacts to standardization

P3.3 A.K. Anosov, S.A. Gonchukov, A.A. Markolia, M.V. Moshnin, O.O. Parenago, O.I. Pokrovsky (Moscow, Russia)
To a problem of PUVA therapy efficiency

P3.4 V.N. Khristoforov (Moscow, Russia)
The device for quantum resonant physiotherapy

P3.5 O. Minet and U. Zabarylo (Berlin, Germany)
Measurement of the optical properties of finger joints in vivo

P3.6 M. Simion, I. Kleps, A. Bragaru, M. Miu, T. Ignat, and L. Ruta (Bucharest, Rumania)
Laser scanning calibration for porous silicon substrate used in microarray technology

P3.7 S.A. Gonchukov, Yu.M. Levakhina, and V.M. Yermachenko (Moscow, Russia)
Microscope on the basis of laser with irradiation injection

P3.8 R.C.M.C. Ferraz, J. Ferreira, P.F.C. Menezes, C.H. Sibata, O. Castro e Silva Jr., and V.S. Bagnato (San Carlos, Brazil)
Mathematical models applied a threshold dose of light in photodynamic therapy, measuring damage necrosis

P3.9 G. Nicolodelli, R.F.Z. Lizarelli, M.M. Costa, and V.S. Bagnato (San Carlos, Brazil)
Study of the dynamics of ablation in PMMA with the laser operating in the regime of femtoseconds

P3.10 J. Ferreira, C. Grecco, P.F.C. Menezes, R. Mattosinho, S. Zucoloto, O. Castro e Silva Jr., and V.S. Bagnato (San Carlos, Brazil)
Correlation between the photostability and photodynamic efficiency for different photosensitizers

Seminar 4
Physics of Lasers

Monday, June 30

Seminar 4.1 Spectroscopy of doped laser materials

Chair: M. Pollnau (The Netherlands)

11.00-11.30 4.1.1 P.J. Deren (Wroclaw, Poland)
Spectroscopy of laser crystals

11.30-12.00 4.1.2 W. Ryba-Romanowski (Wrocław, Poland)
Energy-transfer processes in laser crystals

12.00-12.30 4.1.3 Ò. Silvestre (Tarragona, Spain), S. Rivier (Berlin, Germany), X. Mateos (Tarragona, Spain), V. Petrov (Berlin, Germany), M. Cinta Pujol (Tarragona, Spain), U. Griebner, R. Maria Solé (Berlin, Germany), J. Massons (Tarragona, Spain), M.T. Borowiec, A. Szewczyk, M.U. Gutowska (Warsaw, Poland), M. Massot, A. Salazar (Bilbao, Spain), S. Vernay, D. Rytz (Idar-Oberstein, Germany), M. Aguiló, and F. Díaz (Tarragona, Spain)
Epitaxially grown rare-earth-ion-activated monoclinic double tungstates

12.30-12.45 4.1.4 L.I. Ivleva, I.S. Voronina, L.Yu. Berezovskaya, V.V. Osiko (Moscow, Russia), and K. Polgar (Budapest, Hungary)
The effect of dopants on optical and laser properties of scheelite crystals

12.45-14.00 **Lunch**

Seminar 4.2 Laser materials

Chair: T. Basiev (Russia)

14.00-14.30 4.2.1 H.P. Jenssen (Orlando, USA) and A. Cassanho (Tarpon Springs, USA)
Solid state optical elements based on fluoride crystals

14.30-15.00 4.2.2 J.L. Doualan, P. Camy, A. Benayad, V. Ménard, R. Moncorgé (Caen, France), J. Boudeile, J. Didierjean, F. Druon, F. Balembois, and P. Georges (Palaisea, France)
Luminescence, thermal and laser properties of Yb^{3+} doped (Ca, Sr, Ba) F_2 single crystals for high power laser applications

15.00-15.30 4.2.3 R. Peters, S. Fredrich-Thornton, C. Hirt, K. Petermann, and G. Huber (Hamburg, Germany)
Thin-disc lasers on the basis of highly Yb-doped garnets and sesquioxides

15.30-16.00 4.2.4 J. Boudeile, D.N. Papadopoulos, M. Hanna, F. Druon, P. Georges (Palaiseau, France), P.-O. Petit, P. Goldner, B. Viana (Paris, France), and D. Ritz (Idar-Oberstein, Germany)
Ultrashort pulses high power diode pumped laser based on a new ytterbium doped $CaGdAlO_4$ crystal

16.00-16.15 4.2.5 N.N. Il'ichev, V.P. Danilov, V.P. Kalinushkin, M.I. Studenikin, P.V. Shapkin, and A.S. Nasibov (Moscow, Russia)
Study of room-temperature $ZnSe:Fe^{2+}$ 4.6-μm superluminescence laser

16.15-16.45 **Coffee break**

Seminar 4.3 Laser materials

Chair: K. Petermann (Germany)

16.45-17.15 4.3.1 T. Basiev (Moscow, Russia)
New Raman crystals and Raman lasers

17.15-17.45 4.3.2 T. Taira (Okazaki, Japan)
Ceramic microchip lasers

17.45-18.15 4.3.3 M. Jelínek (Prague, Czech Republic)
Growth of optical waveguides by pulsed laser deposition

18.15-18.45 4.3.4 N.V. Kuleshov, N.A. Tolstik, and V.E. Kisel (Minsk, Belarus)
Novel efficient Er, Yb:YAB laser crystal

Tuesday, July 1

Seminar 4.4 Mid-infrared lasers

Chair: G. Rustad (Norway)

11.00-11.30 4.4.1 E.H. Bernhardi, C. Bollig (Pretoria, South Africa), M. Eichhorn (Saint-Louis, France), M.J.D. Esser (Pretoria, South Africa), P. Fuhrberg (Katlenburg-Lindau, Germany), A. Hirth, C. Kieleck, M. Schellhorn (Saint-Louis, France), and K. Scholle (Katlenburg-Lindau, Germany)
High-power diode-pumped 2 micron lasers

11.30-12.00 4.4.2 B.M. Walsh (Hampton, USA)
A review of Tm and Ho doped materials; spectroscopy and lasers

12.00-12.15 4.4.3 J.K. Jabczyński, L. Gorajek, W. Zendzian, J. Kwiatkowski (Warsaw, Poland), H. Jelinkova, J. Sulc, and M. Nemec (Prague, Czech Republic)
Tunable, high peak power, high repetition rate, diode pumped Tm:YLF laser

12.15-12.45 4.4.4 M. Dubinskii (Adelphi, USA)
Recent advances in Er-doped solid-state lasers

12.45-14.00 **Lunch**

Seminar 4.5 Laser concepts and architectures, I

Chair: U. Wittrock (Germany**)**

14.00-14.30 4.5.1 W.A. Clarkson, J.W. Kim, D. Shen, and J.K. Sahu (Southampton, United Kingdom)
Fiber-laser-pumped Erbium solid-state lasers

14.30-15.00 4.5.2 E. Heumann, A. Richter, and G. Huber (Hamburg, Germany)
Visible and UV solid state lasers based on Pr^{3+}-doped materials

15.00-15.30 4.5.3 M.J. Damzen, A. Minassian, S. Chard, and D. Farrell (London, UK)
High power bounce geometry slab lasers

15.30-16.00 4.5.4 M. Ostermeyer (Potsdam-Golm, Germany)
Improvement in brightness and frequency stability in short pulse high power Nd:YAG-MOPA systems

16.00-16.15 4.5.5 H. Kofler, J. Tauer, and E. Wintner (Vienna, Austria)
Development of a laser spark plug

16.15-16.45 **Coffee break**

Seminar 4.6 Laser concepts and architectures, II

Chair: W.A. Clarkson (UK)

16.45-17.15 4.6.1 U. Wittrock, P. Welp, and S. Verpoort (Steinfurt, Germany)
Deformable mirrors for adaptive laser resonators

17.15-17.45 4.6.2 D. Kracht, L. Winkelmann, O. Puncken, B. Schulz, S. Wagner, M. Hildebrandt, M. Frede, and P. Weßels (Hannover, Germany)
Solid state lasers for gravitational wave detection

17.45-18.15 4.6.3 J. Speiser (Stuttgart, Germany)
Thin disk laser – power and energy scaling

18.15-18.45 4.6.4 V.V. Apollonov (Moscow, Russia)
"Impulsar": experimental and theoretical investigation

18.45-19.00 4.6.5 G.A. Bufetova, D.A Nikolaev, I.A. Shcherbakov, and V.B. Tsvetkov (Moscow, Russia)
Temperature distribution in axially pumped active laser disk elements

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Wednesday, July 2

Seminar 4.7 Short-pulse lasers
Chair: M. Ostermeyer (Germany)

11.00-11.30 4.7.1 A.A. Lagatsky, C.T.A. Brown, and W. Sibbett (Scotland, UK)
Enhanced operation of compact mode-locked oscillators

11.30-12.00 4.7.2 T. Südmeyer, S.V. Marchese, C.R.E. Baer, A.G. Engqvist, M. Golling, D.J.H.C. Maas, and U. Keller (Zurich, Switzerland)
Modelocked femtosecond thin disk lasers with >10 J pulse energy

12.00-12.30 4.7.3 A. Sennaroglu (Istanbul, Turkey; Massachusetts, USA), U. Demirbas, F.X. Kaertner, and J.G. Fujimoto (Massachusetts, USA)
Development of efficient, low-cost femtosecond solid-state lasers in the near infrared

12.30-12.45 4.7.4 H. Çankaya (Istanbul, Turkey), J.G. Fujimoto (Massachusetts, USA), and A. Sennaroglu (Istanbul, Turkey)
Low-threshold, 12-MHz, multipass-cavity femtosecond Cr^{4+}:forsterite laser

12.45-14.00 **Lunch**

Seminar 4.8 Frequency conversion
Chair: B. Luther-Davies (Australia)

14.00-14.30 4.8.1 E. Lippert, H. Fonnum, G. Arisholm, G. Rustad, S. Nicolas, M. Haakestad, and K. Stenersen (Kjeller, Norway)
High power infrared parametric oscillators

14.30-15.00 4.8.2 M. Henriksson (Linköping, Stockholm, Sweden), L. Sjöqvist (Linköping, Sweden), V. Pasiskevicius, and F. Laurell (Stockholm, Sweden)
Narrow bandwidth high power IR OPOs with volume Bragg gratings

15.00-15.30 4.8.3 O.L. Antipov, O.N. Eremeykin (Nizhny Novgorod, Russia), Yu.N. Frolov, G.M. Mischenko (Sarov, Russia), A.A. Novikov (Nizhny Novgorod, Russia), A.P. Savikin, V.V. Sharkov (Nizhny Novgorod, Russia), S.D. Velikanov (Sarov, Russia), N.G. Zakharov, and A.P. Zinoviev (Nizhny Novgorod, Russia)
High-efficiency mid-IR parametric oscillators pumped by solid-state and fiber lasers

15.30-16.00 4.8.4 A. Dergachev (Massachusetts, USA)
High-power, high-energy mid-infrared laser system

16.15-16.45 **Coffee break**

Seminar 4.9 Frequency conversion
Chair: N. Ilichev (Russia)

16.45-17.15 4.9.1 P. Schunemann (Nashua, USA)
The development of nonlinear materials for mid-infrared OPOs

17.15-17.45 4.9.2 M. Ebrahim-Zadeh (Barcelona, Spain)
Optical parametric oscillators: technology and applications

17.45-18.15 4.9.3 V. Pasiskevicius, C. Canalias, and F. Laurell (Stockholm, Sweden)
Advances in structuring technology and applications of nonlinear materials from $KTiOPO_4$ family

18.15-18.45 4.9.4 P. Blau, S. Pearl, M. Katz, M.B. Oron, and S. Acco (Yavne, Israel)
Recent advancement in frequency conversion using quasi phase matched materials

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Thursday, July 3

Seminar 4.10 Waveguide and disk lasers

Chair: A.A. Lagatsky (UK)

14.00-14.30 4.10.1 D.P. Shepherd, N.K. Daga, R. Geng, D.C. Hanna, H.S.S. Hung, and J. Prawiharjo (Southampton, UK)
Adaptive pulse shaping of ultrafast mid-IR optical parametric oscillators

14.30-15.00 4.10.2 B. Luther-Davies, D.-Y. Choi, A. Prasad, R. Wang, D. Bulla, C. Zha (Canberra, Australia), M. Pelusi, V. Ta'eed (Sydney, Australia), M.R.E. Lamont (Canberra, Australia), L. Fu, D.J. Moss, K. Finsterbusch, H.C. Nguyen, and B.J. Eggleton (Sydney, Australia)
All-optical signal processing at high bit rates in chalcogenide glass waveguides

15.00-15.30 4.10.3 F. Ay (Enschede, The Netherlands)
Bragg gratings in dielectric waveguides by focused ion beam milling

15.30-16.00 4.10.4 P. Klopp, F. Saas, and U. Griebner (Berlin, Germany)
Optically pumped semiconductor disk laser generating sub-300-fs pulses

16.00-16.15 4.10.5 K. Seger (Stockholm, Sweden), J. Rautiainen (Tampere, Finland), V. Pasiskevicius (Stockholm, Sweden), and O.G. Okhotnikov (Tampere, Finland)
Narrowband intracavity frequency-doubled semiconductor disk laser with a volume Bragg grating

16.15-16.45 **Coffee break**

Seminar 4.11 Pulsed lasers

Chair: G. Bufetova (Russia)

16.45-17.00 4.11.1 N.N. Rubtsova (Novosibirsk, Russia), N.V. Kuleshov, V.E. Kisel' (Minsk, Belarus), A.A. Kovalev (Novosibirsk, Russia), S.V. Kurilchik (Minsk, Belarus), V.V. Preobrazhenski, M.A. Putyato, O.P. Pchelyakov, and T.S. Shamirzaev (Novosibirsk, Russia)
Self-mode-locking of Nd^{3+}: $KGd(WO_4)_2$ laser by all-semiconductor all-in-one mirror

17.00-17.15 4.11.2 V.E. Kisel, S.V. Kurilchik (Minsk, Belarus), S.A. Smirnova (Alexandrov, Russia), and N.V. Kuleshov (Minsk, Belarus)
Passively mode-locked Yb^{3+}:$YAlO_3$ laser

17.15-17.30 4.11.3 D. Braunstein and R. Shuker (Beer sheva, Israel)
Dressed states analysis of lasing without population inversion in a three-level ladder scheme: approximate analytic time dependent solutions

Poster Session, Wednesday, July 2

Chair: N.S. Kozlova (Russia)

P4.1. V.M. Yermachenko, E.N. Karykin, K.E. Korotkov, A.P. Kuznetsov, V.N. Petrovskiy, and G.I. Kozin (Moscow, Russia)
Regimes of generation Nd:YAG laser with a semiconductor pumping at injection weak radiation

P4.2 O.A. Buzanov, N.S. Kozlova, and E.V. Zabelina (Moscow, Russia)
Growth and optical quality of Langasite and Langatate

P4.3 A.A. Sirotkin (Moscow, Russia), L. Di Labio (Bern, Switzerland), A.I. Zagumennyi, Yu.D. Zavartsev, S.A. Kutovoi, V.I. Vlasov (Moscow, Russia), W. Lüthy, T. Feurer (Bern, Switzerland), A.A. Onushchenko (St. Petersburg, Russia), and I.A. Shcherbakov (Moscow, Russia)
Mode-locked and Q-switched diode pumped lasers of c-cut Nd:$Gd_{0.7}Y_{0.3}VO_4$, Nd:YVO_4, and Nd:$GdVO_4$ at 1.06 μm with PbS-quantum dots as saturable absorbers

P4.4 K. Kopczynski, J. Mlynczak, Z. Mierczyk, R. Piramidowicz, P. Gdula, M. Malinowski (Warsaw, Poland), J. Sarnecki (Wolczynska, Poland), J. Jagielski (Wolczynska, Swierk/Otwock, Poland), and A. Stonert (Swierk/Otwock, Poland)
Laser properties of double doped Nd^{3+}+Yb^{3+}:YAG channel waveguides

P4.5 V.E. Kisel, N.V. Kuleshov, E. Gulevich, and N. Kondratyuk (Minsk, Belarus)
Efficient Yb^{3+}:KYW femtosecond laser with harmonic generators

P4.6 V.B. Morozov, A.N. Olenin, V.G. Tunkin, and D.V. Yakovlev (Moscow, Russia)
On power scaling of diode-pumped pulsed picosecond Nd:YAG laser

P4.7 V.B. Morozov, A.N. Olenin, V.G. Tunkin, and D.V. Yakovlev (Moscow, Russia)
Synchronization of pulsed electro-optically controlled picosecond lasers with arbitrary cavities

Seminar 5
Nonlinear Optics and Spectroscopy

Monday, June 30

Seminar 5.1
Chair: P. Di Trapani (Lithuania)

11.00-11.25 5.1.1 Y.S. Kivshar, S.M. Saltiel, D.N. Neshev, R. Fischer, and W. Krolikowski (Canberra, Australia)
Transverse second-harmonic generation in periodic and random media

11.25-11.50 5.1.2 V.A. Makarov and I.A. Perezhogin (Mosow, Russia)
Transversal structure of the light beam at sum-frequency, generated from the surface of isotropic gyrotropic medium in case of arbitrary geometry of pump incidence

11.50-12.15 5.1.3 V.A. Makarov, I.A. Perezhogin, and N.N. Potravkin (Mosow, Russia)
Elliptically polarized solitons in isotropic medium with spatial dispersion of cubic nonlinearity

12.15-12.40 5.1.4 E. Nippolainen (Kuopio, Finland), A.I. Grachev (St. Petersburg, Russia), and A.A. Kamshilin (Kuopio, Finland)
Optical orientation of dipolar centers: theory, experiment, application

12.40-14.00 **Lunch**

Seminar 5.2
Chair: Y. Kivshar (Australia)

14.00-14.25 5.2.1 T.G. Philbin, C. Kuklewicz, S. Robertson, S. Hill, F. Konig, and U. Leonhardt (St Andrews, UK)
Fiber-optical analogue of the event horizon

14.25-14.50 5.2.2 A. Efimov (Los Alamos, USA)
Challenges and opportunities in coherent supercontinuum generation in nonlinear waveguides

14.50-15.05 5.2.3 E.A. Kuzin, M. Bello-Jiménez, N. Korneev, B. Ibarra-Escamilla, A. Flores-Rosas, M. Duran-Sanchez, and O. Pottiez (Puebla, México)
The use of NOLM for investigations of initial development of supercontinuum in fibers with anomalous dispersion

15.05-15.30 5.2.4 S. Boscolo, S.K. Turitsyn, A.I. Latkin, and R. Bhamber (Birmingham, United Kingdom)
Recent progress in nolinear fiber-based optical pulse shaping and manipulation

15.30-15.55 5.2.5 V.I. Kovalev, R.G. Harrison (Edinburgh, UK), J.C. Knight (Bath, UK), and N.E. Kotova (Moscow, Russia)
Slow light in optical fiber using stimulated brillouin scattering: towards multi-gigabyte per second data rates

15.55-16.10 5.2.6 G. Strömqvist, V. Pasiskevicius, and C. Canalias (Stockholm, Sweden)
Picosecond stimulated backward Raman scattering in periodically poled $KTiOPO_4$

16.10-16.45 **Coffee break**

Seminar 5.3
Chair: G. Steinmeyer (Germany)

16.45-17.10 5.3.1 V.G. Arakcheev, V.N. Bagratashvili, V.B. Morozov, A.N. Olenin, V.K. Popov, and A.A. Valeev (Moscow, Russia)
Spectral features of near-critical carbon dioxide in nano-porous glass

17.10-17.35 5.3.2 D.C. Dumitras (Bucharest, Romania)
Laser photoacoustic spectroscopy for sensitive trace gas measurements

17.35-18.00 5.3.3 B. Dietzek (Jena, Germany), B. Brüggemann (Berlin, Germany), P. Persson, T. Pascher, and A. Yartsev (Lund, Sweden)
On the excited-state multidimensionality in Cyanines

18.00-18.25 5.3.4 E.M. Vartiainen (Lappeenranta, Finland) and K.-E. Peiponen (Joensuu, Finland)
Maximum entropy method in analysis of nonlinear optical spectra

18.25-18.40 5.3.5 K.-E. Peiponen (Joensuu, Finland) and E.M. Vartiainen (Lappeenranta, Finland)
Kramers-Kronig relations in nonlinear optical and terahertz spectroscopy

18.40-18.55 5.3.6 M. Sahrai (Tabriz, Iran)
Dynamical behaviour of the absorption and the dispersion in a four level EIT medium

Tuesday, July 1

Seminar 5.4
Chair: V.A. Makarov (Russia)

11.00-11.25 5.4.1 S.L. Chin (Quebec, Canada)
Why is filamentation so interesting?

11.25-11.50 5.4.2 J.-C. Diels, A. Aceves, X. Xu, D. Mirell, J. Yeak, and A. Sukhinin (Albuquerque, USA)
Launching filaments from vacuum

11.50-12.15 5.4.3 Y. Cheng and Z.Z. Xu (Shanghai, China)
Femtosecond filamentation with infrared pump pulses

12.15-12.40 5.4.4 Faccio (Como, Italy), A. Couairon (Palaiseau, France), and P. Di Trapani (Vilnius, Lithuania)
Spontaneous and controlled spatial and spatio-temporal dynamics in filaments with Gaussian and Bessel-like beams

12.45-14.00 **Lunch**

Seminar 5.5
Chair: S.L. Chin (Canada)

14.00-14.25 5.5.1 G. Steinmeyer, C. Krüger, and A. Demircan (Berlin, Germany)
Space-time structure of few-cycle light bullets generated by self-compression in white-light filament

14.25-14.50 5.5.2 L. Berge (Bruyeres-le-Chatel, France)
Super-compressed light bullets generated by coupled femtosecond pulses

14.50-15.15 5.5.3 O.G. Kosareva, N.A. Panov (Moscow, Russia), J.-F. Daigle, Y. Kamali, C. Marceau (Quebec, Canada), A.B. Savelev, V.P. Kandidov (Moscow, Russia), and S.L. Chin (Quebec, Canada)
Spatial control of pulse self-compression due to filamentation in air

15.15-15.40 5.5.4 S. Tzortzakis (Heraklion, Greece)
Femtosecond filamentation and THz science

15.40-16.05 5.5.5 Y. Petit, P. Béjot, L. Bonacina, J. Kasparian, M. Moret, and J.-P. Wolf (Geneve, Switzerland)
Ultrafast gaseous "half-wave plate"

16.05-16.20 5.5.6 D.S. Uryupina, M.V. Kurilova, A.V. Mazhorova, S.R. Gorgutsa, R.V. Volkov, O.G. Kosareva, and A.B. Savelev (Moscow, Russia)
Spectra broadening and ultra-short pulse generation during filamentation of femtosecond laser pulse in atomic and molecular gases

16.20-16.45 **Coffee break**

Seminar 5.6

Chair: S. Tzortzakis (Greece)

16.45-17.10 5.6.1 W. Watanabe (Osaka, Japan)
Femtosecond filamentary modifications in bulk polymer materials

17.10-17.35 5.6.2 N. Zhang, W. Liu, Z. Xu, M. Wang, and X. Zhu (Tianjin, China)
Propelling micro beads with femtosecond light bullets

17.35-18.00 5.6.3 K. Jamshidi-Ghaleh (Tabriz, Iran)
Intense femtosecond laser pulses interaction with ULE glass: nonlinear responses and optical limiting effect

18.00-18.25 5.6.4 S. Uemura (Ibaraki, Japan)
Stable Kerr-lens mode-locking of a diode-pumped Yb:YAG laser

18.25-18.50 5.6.5 B. Luther-Davies, V.Z. Kolev (Canberra, Australia), and M.V. Duering (Aachen, Germany)
Optical parametric amplifiers for the generation of infrared and visible coherent light

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Poster Session, July 2

Chair: O.G. Kosareva (Russia)

P5.1 A.V. Glushkov, S.V. Malinovskaya, and O. Khetselius (Odessa, Ukraine)
Spectra of the O-like multicharged ions in a thermalized plasma and manifestation of the new laserelectron nuclear spectral effects in atomic and molecular systems

P5.2 O. Khetselius, A.V. Glushkov, and A.V. Loboda (Odessa, Ukraine)
Diagnostics of elementary processes in a collisionally pumped plasma and search of the optimal plasma parameters for X-ray lasing: Ne-and Ar-like ions

P5.3 R.S. Alnayli (Dewania-Alzora, Iraq)
Investigation on development of KDP Q-switches for high power solid-state laser

P5.4 V.M. Gordienko, P.M. Mikheev, and F.V. Potemkin (Moscow, Russia)
Influence of plasma on third harmonic generation in dielectrics at laser intensity of the order of 10^{13} W/cm^2

P5.5 D. Pentaris, N. Merlemis (Patras, Greece), V. Vaicaitis (Vilnius, Lithuania), and T. Efthimiopoulos (Patras, Greece)
Coherent emissions from K atoms - two-photon $^4S_{1/2}$-$^6S_{1/2}$ femtosecond single laser interaction

P5.6 B. Dietzek, S. Tschierlei, R. Hanf, G. Hermann (Jena, Germany), A. Yartsev, T. Pascher, V. Sundström (Lund, Sweden), J. Popp, and M. Schmitt (Jena, Germany)
Photoinduced dynamics of protochlorophyllide a

P5.7 O.V. Borovkova, V.E. Lobanov, A.P. Sukhorukov, and A.K. Sukhorukova (Moscow, Russia)
Managed discrete diffraction in 1D and 2D cascaded induced lattices

P5.8 M.G. Gladush, V.K. Roerich, and A.A. Panteleev (Moscow, Russia)
Spectral properties of intrinsic optical bistability

P5.9 V.E. Lobanov and A.P. Sukhorukov (Moscow, Russia)
Few-cycle optics with dispersion-managed quadratic crystals

Seminar 6
Physics of Cold Trapped Atoms

Monday, June 30

Seminar 6.1
Chairs: P. Hannaford (Australia) and M. Weitz (Germany)

11.00-11.30 6.1.1 M. Inguscio (Firenze, Italy)
Anderson localization of a BEC and beyond

11.30-12.00 6.1.2 P. Bouyer, J. Billy, V. Josse, Zh. Zuo, A. Bernard, B. Hambrecht, P. Lugan, D. Clèment, L. Sanchez-Palencia, and A. Aspect (Orsay, France)
Direct observation of Anderson localization of matter-waves in a controlled disorder

12.00-12.25 6.1.3 D.A.W. Hutchinson (Dunedin, New Zealand), K.V. Krutitsky (Duisburg, Germany), W.-X. Wang (Dunedin, New Zealand and Shandong, China), and Cl. Adolphs (Dunedin, New Zealand)
Supression and enhancement of localisation in disordered optical lattices through inter- particle interactions

12.25-12.45 6.1.4 K. Das (Bronx, USA)
Investigating mesoscopic transport with ultracold atoms

12.45-14.00 **Lunch**

Seminar 6.2
Chairs: P. Bouyer (France) and M. Inguscio (Italy)

14.00-14.30 6.2.1 P. Hannaford, M. Singh, M. Volk, A. Akulshin, A. Sidorov, and R. McLean (Melbourne, Australia)
Magnetic lattice for ultracold atoms and BECs on an atom chip

14.30-15.00 6.2.2 M. Weitz (Bonn, Germany)
Quantum transport of atoms in optical lattices of variable spatial symmetry

15.00-15.30 6.2.3 T. Roscilde (Lyon, France)
Detecting correlated phases and transitions of cold bosons in optical potentials

15.30-15.50 6.2.4 R. Schmied, T. Roscilde, V. Murg, P. Hauke, D. Porras, and J.I. Cirac (Garching, Germany)
Quantum simulation of frustrated spin models using trapped ions in optical lattices

15.50-16.10 6.2.5 J. Meisner, J. Dziarmaga (Krakòw, Poland and Los Alamos, USA), and W.H. Zurek (Los Alamos, USA)
Winding up by a quench: insulator to superfluid phase transition in a ring of BEC's

16.15-16.45 **Coffee break**

Seminar 6.3
Chairs: D.A.W. Hutchinson (New Zealand) and Ch. Weiss (Germany)

16.45-17.15 6.3.1 V. Pokrovsky (College Station, USA and Chernogolovka, Russia) and T. Nattermann (Cologne, Germany)
Weakly interacting Bose gas in strongly disordered media and traps

17.15-17.45 6.3.2 V.A. Yurovsky (Tel Aviv, Israel)
Mechanisms of thermalization in two-dimensional optical lattices

17.45-18.15 6.3.3 V. Penna, P. Buonsante (Torino, Italy), S.M. Giampaolo, F. Illuminati (Salerno, Italy), and A. Vezzani (Parma, Italy)
Mixtures of strongly interacting bosons in optical lattices

18.15-18.45 6.3.4 V.I. Yukalov and E.P. Yukalova (Dubna, Russia)
Cold atoms in double-well optical lattices

Tuesday, July 1

Seminar 6.4

Chairs: R.G. Hulet (USA) and L.P. Pitaevskii (Italy and Russia)

11.00-11.30 6.4.1 E. Braaten (Columbus, USA)
Exact relations for a strongly-interacting Fermi gas from the operator product expansion

11.30-12.00 6.4.2 S. Giorgini (Povo, Italy)
Phase diagram of a polarized Fermi gas at zero temperature

12.00-12.25 6.4.3 Y. Castin, M. Jona-Lasinio, and L. Pricoupenko (Paris, France)
The three-body problem for fermions close to a p-wave Feshbach resonance

12.25-12.45 6.4.4 P. Zhang and M. Ueda (Tokyo, Japan)
The viational calculation of scattering amplitude between two p-wave Feshbach molecules

12.45-14.00 **Lunch**

Seminar 6.5

Chairs: E. Braaten (USA) and S. Giorgini (Italy)

14.00-14.30 6.5.1 F. Schreck, E. Wille, F.M. Spiegelhalder, G. Kerner, D. Naik, A. Trenkwalder, G. Hendl, R. Grimm (Innsbruck, Austria), T.G. Tiecke, J.T.M. Walraven (Amsterdam, Netherlands), S.J.J.M.F. Kokkelmans (Eindhoven, Netherlands), E. Tiesinga, and P.S. Julienne (Gaithersburg, USA)
Exploring an ultracold Fermi-Fermi mixture: interspecies Feshbach resonances of ^{6}Li-^{40}K

14.30-15.00 6.5.2 G.V. Shlyapnikov (Orsay, France)
New physics with Fermi mixtures

15.00-15.30 6.5.3 L. Salasnich (Padova, Italy)
Dynamical Josephson effect with superfluid Fermi atoms across a Feshbach resonance

15.30-15.50 6.5.4 M. Tezuka and M. Ueda (Tokyo, Japan)
Harmonically-trapped imbalanced Fermi condensates: a density-matrix renormalization group study

15.50-16.10 6.5.5 S. Giraud and R. Combescot (Paris, France)
Normal state of highly polarized Fermi gases: full many-body treatment

16.15-16.45 **Coffee break**

Seminar 6.6

Chairs: L. Salasnich (Italy) and J. Tempere (Belgium)

16.45-17.15 6.6.1 M.O. Scully (College Station, USA)
The laser-BEC analogy: The interplay between optical and statistical physics

17.15-17.45 6.6.2 J. Tempere, S.N. Klimin, and J.T. Devreese (Antwerpen, Belgium)
Fluctuation effects in imbalanced Fermi superfluids

17.45-18.15 6.6.3 M. Yu. Kagan and S.L. Ogarkov (Moscow, Russia)
BSC-BEC crossover in p-wave resonance superfluids

18.15-18.45 6.6.4 M. Urban (Orsay, France)
Coupling between collective motion and quasiparticle excitations in superfluid trapped Fermi gases

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Wednesday, July 2

Seminar 6.7

Chairs: V.I. Balykin (Russia) and A. Smerzi (Italy)

11.00-11.30 6.7.1 L.P. Pitaevskii (Povo, Italy and Moscow, Russia)
General approach to solitons dynamics and stability

11.30-12.00 6.7.2 V.S. Bagnato, E.A.L. Henn, J.A. Seman (Sao Carlos, Brazil), G. Roati (Firenze, Italy), P. Castilho, E.P. Olimpio, K.M.F. Magalhaes (Sao Carlos, Brazil), and V.I. Yukalov (Dubna, Russia)
Excitations in BEC by an off-axis oscillating field: vortex, anti-vortex and evidences of quantum turbulence

12.00-12.25 6.7.3 M. Brewczyk, T. Karpiuk (Białystok, Poland), M. Gajda, and K. Rzążewski (Warsaw, Poland)
Decay of multiply charged vortices at nonzero temperatures

12.25-12.45 6.7.4 M. Guilleumas, M. Abad, R. Mayol, and M. Pi (Barcelona, Spain)
Vortices in dipolar condensates

12.45-14.00 **Lunch**

Seminar 6.8

Chairs: Y. Castin (France) and M. Yamashita (Japan)

14.00-14.30 6.8.1 B. Svistunov (Amherst, USA), K. Van Houcke (Amherst, USA and Gent, Belgium), E. Kozik, and N. Prokof'ev (Amherst, USA and Zurich, Switzerland)
Diagrammatic Monte Carlo

14.30-15.00 6.8.2 A. Kuklov (Staten Island, USA)
Bose-Einstein condensation of multi-component bosons close to high symmetry point: mean field versus exact results

15.00-15.30 6.8.3 A. Smerzi (Povo, Italy) and L. Pezze (Palaiseau, France)
Quantum interferometry at the Heisenberg limit with Bose-Einstein condensates

15.30-15.50 6.8.4 K.M.F. Magalhaes, R. Muhammad, R.R. Paiva, R. Shiozaki, J. Weiner (Sao Carlos, Brazil), A L. Oliveira (Santa Katarina, Brazil), and V.S. Bagnato (Sao Carlos, Brazil)
Photo-associative Ionization of cold Na-atoms: repulsive states and their interplay on the ion production rate

15.50-16.10 6.8.5 B. Őztop, M.Ő. Oktel (Ankara, Turkey), Ő.E. Műstecaplioglu (Istanbul, Turkey), and L. You (Atlanta, USA)
Quantum correlations of spin-1 atoms in an optical lattice

16.15-16.45 **Coffee break**

Seminar 6.9

Chairs: A. Kuklov (USA) and H.-C. Nägerl (Austria)

16.45-17.15 6.9.1 D. Petrov (Orsay, France)
Weakly bound heteronuclear dimers

17.15-17.45 6.9.2 B. Wu (Beijing, China)
From Bose-Einstein condensate to all-optical switch: nonlinear systems under periodic driving

17.45-18.15 6.9.3 C.L. Pando L. (Puebla, Mexico) and E.J. Doedel (Montreal, Canada)
Resonant behaviour in a ring of BEC in the presence of a single onsite defect

18.15-18.45 6.9.4 S. Wallentowitz (Santiago, Chile) and A.B. Klimov (Guadalajara, Mexico)
Photodetection using Bose-condensed atoms in a micro trap

Thursday, July 3

Seminar 6.10

Chairs: V.S. Bagnato (Brazil) and F. Schreck (Austria)

11.00-11.30 6.10.1 V.I. Balykin, A.E. Afanasiev, and P.N. Melentiev (Troitsk, Russia)
Atom surface trap

11.30-12.00 6.10.2 H.-C. Nägerl (Innsbruck, Austria)
Matter-wave interference due to interactions

12.00-12.25 6.10.3 X. Leyronas (Paris, France)
Superfluid equation of state of dilute composite bosons

12.25-12.45 6.10.4 S.T. Rittenhouse, N.P. Mehta, J.P. Dincao, and Ch.H. Greene (Boulder, USA)
Illuminating 3- and 4-body scattering with hyperspherical coordinates

12.45-14.00 **Lunch**

Seminar 6.11

Chairs: V. Penna (Italy) and T. Roscilde (France)

14.00-14.30 6.11.1 A. Hemmerich (Hamburg, Germany)
Optical lattice with a staggered magnetic field

14.30-15.00 6.11.2 A. Pelster (Essen, Germany), H. Enoksen (Trondheim, Norway), A. Hoffmann (Munchen, Germany), M. Ohliger, and E. Santos (Berlin, Germany)
Green's function approach to the Bose-Hubbard model for finite temperatures

15.00-15.30 6.11.3 M. Yamashita (Kanagawa, Japan) and M.W. Jack (Rotorua, New Zealand)
Number squeezing of an array of Bose-Einstein condensates trapped in a 1D optical lattice

15.30-15.50 6.11.4 O.E. Alon, A.I. Streltsov, and L.S. Cederbaum (Heidelberg, Germany)
Bosons and mixtures in optical lattices and traps by the multi-orbital mean-field approach

15.50-16.10 6.11.5 K.V. Krutitsky (Duisburg, Germany)
Ultracold bosons in lattices with binary disorder

16.15-16.45 **Coffee break**

Seminar 6.12

Chairs: A. Hemmerich (Germany) and A. Pelster (Germany)

16.45-17.15 6.12.1 Ch. Weiss and N. Teichmann (Oldenburg, Germany)
Differences between mean-field dynamics and N-particle quantum dynamics as a signature of entanglement

17.15-17.45 6.12.2 J. Liu and L.-B. Fu (Beijing, China)
Quantum entanglement manifestation of transition to nonlinear self-trapping for Bose- Einstein condensates in a symmetric double well

17.45-18.15 6.12.3 M.K. Olsen, A.J. Ferris, M.J. Davis, and E. Cavalcanti (Brisbane, Australia)
Practical detection of continuous variable entanglement with mesoscopic number of bosons

18.15-18.45 6.12.4 V.O. Nesterenko (Dubna, Russia), A.N. Novikov (Tver, Russia and Dubna, Russia), and F.F. de Souza Cruz (Florianopolis, Brazil)
Dynamics of multi-component Bose-Einstein condensate: transport and geometric phases

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Friday, July 4

Seminar 6.13
Chair: B. Svistunov (USA)

09.45-10.10 6.13.1 A. Minguzzi (Grenoble, France)
Dynamical aspects of mesoscopic quantum gases

10.10-10.30 6.13.2 I.B. Mekhov (Saint Petersburg, Russia and Innsbruck, Austria) and H. Ritsch (Innsbruck, Austria)
Quantum optics with quantum gases

10.30-11.00 **Coffee break**

Seminar 6.14
Chairs: J.L. Bohn (USA) and G.V. Shlyapnikov (France)

11.00-11.30 6.14.1 E. Zaremba and A. Collin (Kingston, Canada)
Quantum corrections to the semiclassical distribution of a Bose-condensed gas at finite temperature

11.30-12.00 6.14.2 K. Ziegler (Augsburg, Germany)
Quantum phases and phase separation in atomic mixtures

12.00-12.25 6.14.3 A. Okopińska and P. Kościk (Kielce, Poland)
Two-boson correlations in various quantum traps

12.25-12.45 6.14.4 A.I. Streltsov, O.E. Alon, and L.S. Cederbaum (Heidelberg, Germany)
Attractive physics of attractive BEC: From collapse to fragmentation

12.45-14.00 **Lunch**

Seminar 6.15
Chairs: V.A. Yurovsky (Israel) and E. Zaremba (Canada)

14.00-14.30 6.15.1 Yu.E. Lozovik, A.G. Semenov, N.S. Voronova (Troitsk, Russia), and M. Willander (Linkoping, Sweden)
Trapping and condensation of cavity polaritons

14.30-15.00 6.15.2 J.L. Bohn, R.M. Wilson, and S. Ronen (Boulder, USA)
Coming together, falling apart: Instability in a dipolar BEC

15.00-15.30 6.15.3 I. Lesanovsky, A. Micheli, G. Pupillo, and P. Zoller (Innsbruck, Austria)
Mesoscopic dipolar crystals of Rydberg-dressed atoms

15.30-15.50	6.15.4 M.L. Chiofalo (Grenoble, France and Pisa, Italy), S. De Palo (Trieste, Italy), E. Orignac (Lyon, France), and R. Citro (Lyon, France and Salerno, Italy) *The low-energy excitation spectrum of one-dimensional dipolar quantum gases*
15.50-16.10	6.15.5 P. Deuar (Orsay, France), M.A. Baranov (Innsbruck, Austria), and G.V. Shlyapnikov (Orsay, France) *Excitations in dipolar Fermi gases below BCS critical temperature*
16.15-16.45	**Coffee break**

Seminar 6.16

Chairs: B. Wu (China) and K. Ziegler (Germany)

16.45-17.15	6.16.1 M. Gajda (Warszawa, Poland) *Fluctuations of weakly interacting Bose-Einstein condensate*
17.15-17.45	6.16.2 V.V. Kocharovsky (College Station, USA) and Vl.V. Kocharovsky (Nizhny Novgorod, Russia) *Microscopic mechanism of phase transitions*
17.45-18.15	6.16.3 V. Romero-Rochin (Mexico, Mexico) *Hartree-Fock analysis of trapped ultracold boson fluids, BEC and superfluidity*
18.15-18.35	6.16.4 M.A. Efremov, L. Plimak, B. Berg, W.P. Schleich (Ulm, Germany), M.Yu. Ivanov (Ottawa, Canada), and G.V. Shlyapnikov (Paris, France) *Novel resonant states in three-body problem*
18.35-18.50	General Discussion

Poster Sessions, Wednesday, July 2

Chairs: M. Gajda (Poland) and V.I. Yukalov (Russia)

P6.1	V.S. Bagnato, E.R.F. Ramos, E.A.L. Henn, J.A. Seman, M.A. Caracanhas, K.M.F. Magalhaes (Sao Carlos, Brazil), and V.I. Yukalov (Dubna, Russia) *Time modulation of scattering length in a BEC: coherent mode excitation and critical effects*
P6.2	A. Bezett and P.B. Blakie (Dunedin, New Zealand) *Applications of the projected Gross-Pitaevskii equation*
P6.3	P. Capuzzi (Buenos Aires, Argentina), M. Guilleumas (Barcelona, Spain), and D.M. Jezek (Buenos Aires, Argentina) *Stationary array of vortices in nonrotating Bose-Einstein Condensates*
P6.4	S. Duan and W. Chua (Beijing, China) *Three-level structure design and optically controlled current in coupled quantum dots*
P6.5	D.M. Jezek and H.M. Cataldo (Buenos Aires, Argentina) *Vortex dynamics in Bose-Einstein condensates: Numerical calculations*
P6.6	N.A. Matveeva, A.V. Taichenachev, A.M. Tumaikin, and V.I. Yudin (Novosibirsk, Russia) *Semiclassical consideration of laser cooling of atoms in nondissipative optical lattice*
P6.7	V.S. Melezhik (Dubna, Russia), P. Schmelcher, and S. Saeidian (Heidelberg, Germany) *Novel phenomena in ultracold atom-atom scattering in waveguides*

P6.8 A.N. Novikov (Tver, Russia) and V.O. Nesterenko (Dubna, Russia)
Dynamics and geometric phases in multi-component Bose-Einstein condensate

P6.9 B. Olmos, R. Gonzalez-Furez (Granada, Spain), I. Lesanovsky, and P. Zoller (Innsbruck, Austria)
Collective excitations of a Rydberg gas in a ring lattice

P6.10 D.J. Papoular (Orsay, France), G.E. Astrakharchik (Barselona, Spain), D.S. Petrov (Orsay, France), C. Salomon (Paris, France), and G.V. Shlyapnikov (Orsay, France)
Crystalline phase of strongly interacting Fermi mixtures

P6.11 K.B. Oganesyan, S.G. Gevorkian, K.G. Petrosyan, and E.M. Sarkisyan (Yerevan, Armenia)
Bifermionic condensates in optical lattices

P6.12 E.M. Sarkisyan, S.G. Gevorkian, K.B. Oganesyan, and K.G. Petrosyan (Yerevan, Armenia)
Raman coupling and Cooper pairing in cold atomic Fermi gases

Seminar 7
Quantum Information and Quantum Computation

Monday, June 30

Seminar 7.1
Chair: L.C. Kwek (Singapore)

11.00-11.25 7.1.1 B. Sanders, Z. Wang, K.-P. Marzlin, and S. Moiseev (Calgary, Canada)
Giant cross-phase modulation for two slowed co-propagating pulses

11.30-11.55 7.1.2 G. Björk, J. Almlöf, and I. Sainz (Kista, Sweden)
Efficiency of quantum coding and error corrections

12.00-12.20 7.1.3 T. Oshima (Cambridge, UK)
Adiabatic passages on spin chains

12.25-12.45 7.1.4 O. Pfister (Charlottesville, USA), N. Menicucci (Brisbane, Australia), and S. Flammia (Waterloo, Canada)
One-way quantum computing in the optical frequency comb

12.45-14.00 **Lunch**

Seminar 7.2
Chair: M. Genovese (Italy)

14.00-14.25 7.2.1 F. De Martini (Roma, Italy)
Macroscopic quantum entanglement in light reflection from Bose-Einstein condensates

14.30-14.55 7.2.2 D. Strekalov, A. Matsko, A. Savchenkov, and E. Savchenkova (Pasadena, USA)
Photonic delay lines, field concentrators and black holes

15.00-15.25 7.2.3 D. Oi and E. Andersson (Edinburgh, UK)
Efficient implementation of generalized measurements

15.30-15.50 7.2.4 A. Khrennikov (Vaxjo, Sweden)
The Bell inequality: physics meets probability

15.55-16.15 7.2.5 A. Lvovsky, J. Appel, G. Campbell, E. Figueroa, D. Korystov, M. Lobino, and A. Macrae (Calgary, Canada)
Electromagnetically-induced transparency for quantum optical information processing

16.15-16.45 **Coffee break**

Seminar 7.3
Chair: F. De Martini (Italy)

16.45-17.10 7.3.1 N. Beaudry, T. Moroderand, and N. Lutkenhaus (Waterloo, Canada)
Squashing models for optical measurements in quantum communication

17.15-17.35 7.3.2 S.-Y. Baek, Y. Cheong, and Y.-H. Kim (Pohang, Korea)
Minimal disturbance measurement without post-selection

17.40-18.00 7.3.3 M. Genoni, M. Paris (Milano, Italy), and K. Banaszek (Torun, Poland)
Quantifying the non-Gaussian character of a quantum state

18.05-18.25 7.3.4 A. Politi, M. Cryan, J. Rarity, S. Yu, and J. O'Brien (Bristol, UK)
Quantum information science with photons on a chip

18.30-18.50 7.3.5 P. Nyman (Vaxjo, Sweden)
A compact program code for simulations of quantum algorithms in classical computers

Seminar 7.4
Chair: F. Wong (USA)

11.00-11.25 7.4.1 U. Andersen (Lyngby, Denmark), G. Leuchs, R. Dong , D. Elser , J. Milanovic, Ch. Wittmann (Erlangen, Germany), J. Corney, P. Drummond, and J. Heersink (Brisbane, QLD 4072, Australia)
Squeezing of light in optical fibres – the interplay of non-linearities, dispersion and phonon scattering

11.30-11.55 7.4.2 T. Ralph (Brisbane, Australia), E. Huntington, T. Symul, H. Chrzanowski, and P.K. Lam (Canberra, Australia)
Fock states and Kitten states characterisation using only continuous variables Gaussian resources

12.00-12.20 7.4.3 L. Krivitsky, U. Andersen (Lyngby, Denmark), R. Dong, Ch. Wittmann, and G. Leuchs (Erlangen, Germany)
Covariance measurement of squeezed light

12.25-12.45 7.4.4 N. Korolkova, T. Tyc, L. Mišta, D. Menzies, and G. Sinclair (St. Andrews, UK)
Entanglement distribution: new concepts and the continuous variable toolbox

12.45-14.00 **Lunch**

Seminar 7.5
Chair: G. Björk (Sweden)

14.00-14.25 7.5.1 S. Nagano, A. Syouji, Y. Sugiura, H. Suzuki, K. Edamatsu (Sendai, Japan), R. Shimizu (Kawaguchi, Japan), and K. Suizu (Nagoya, Japan)
Generation of polarization entanglement from type-II quasi-phase-matched parametric down-conversion

14.30-14.55 7.5.2 G. Vallone, A. Rossi, F. De Martini, and P. Mataloni (Roma, Italy)
Realization of quantum computation algorithms with cluster states of two photons and many qubits

15.00-15.25 7.5.3 J. Torres (Barcelona, Spain)
Engineering the frequency properties of entangled photons: why to do it and how to do it

15.30-15.50 7.5.4 Yu. Mikhailova, P. Volkov, and M. Fedorov (Moscow, Russia)
Extremely high spectral entanglement of biphoton states in the type-I spontaneous parametric down conversion

15.55-16.15 7.5.5 Y. Miyamoto, M. Takeda, Sh. Takeuchi, D. Kawase, and K. Sasaki (Sapporo, Japan)
Observing quantum correlation of photons in Laguerre Gauss modes using Gouy phase

16.15-16.45 **Coffee break**

Seminar 7.6
Chair: P. Mataloni (Italy)

16.45-17.05 7.6.1 D. Mogilevtsev (Minsk, Belarus), J. Řeháček, and Z. Hradil (Olomouc, Czech Republic)
Tomography for quantum diagnostics

17.10-17.30 7.6.2 G. D'Ariano (Pavia, Italy)
New tools for quantum estimation: quantum combs and quantum testers

17.35-17.55 7.6.3 J. Řeháček (Olomouc, Czech Republic) and B.-G. Englert (Singapore, Singapore)
Optimal extraction of information from quantum pyramids

18.00-18.20 7.6.4 M. Abdel-Aty (Bahrain, Bahrain)
Monitoring entangled states and decoherence of Josephson charge qubits

18.25-18.50 7.6.5 W. Mauerer, M. Avenhaus, K. Laiho, A. Eckstein, W. Helwig, and C. Silberhorn (Erlangen, Germany)
Photon number resolved state reconstruction and spectral properties of quantum states

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Wednesday, July 2

Seminar 7.7
Chair: G. Leuchs (Germany)

11.00-11.25 7.7.1 E. Giacobino (Paris, France)
Quantum field storage in an atomic medium

11.30-11.55 7.7.2 U. Andersen (Lyngby, Denmark), R. Dong, M. Lassen, G. Leuchs (Erlangen, Germany), R. Filip (Olomouc, Czech Republic), J. Niset, and N. Cerf (Brussels, Belgium)
Combating erasure noise - entanglement distillation and correction coding

12.00-12.20 7.7.3 H. de Riedmatten, B. Lauritzen, J. Minář, I. Usmani, M. Staudt, C. Ottaviani, C. Simon, M. Afzelius, and N. Gisin (Geneva, Switzerland)
Solid state quantum memories for quantum repeaters

12.25-12.45 7.7.4 A. Kalachev (Kazan, Russia), A. Amari, A. Walther, and S. Kröll (Lund, Sweden)
Towards optical quantum storage on subradiant states in an extended atomic ensemble

12.45-14.00 **Lunch**

Seminar 7.8
Chair: K. Banaszek (Poland)

14.00-14.25 7.8.1 M. Paternostro, M.S. Kim (Belfast, UK), F. Ciccarello, G.M. Palma, and M. Zarcone (Palermo, Italy)
Efficient extraction of atomic singlet states via photonic mediators

14.30-14.55 7.8.2 F. Huber (Munich, Germany), T.M. Khoon, S.A. Aljunid, B. Chng, Z. Chen, G. Maslennikov, and C. Kurtsiefer (Singapore, Singapore)
Interfacing light and single atom with a lens

15.00-15.25 7.8.3 M. Bina, F. Casagrande, and A. Lulli (Milano, Italy)
Entanglement and decoherence in a solvable system of N driven atoms equally coupled to a dissipative cavity mode

15.30-15.50 7.8.4 G. Hétet, B. Buchler, M. Hsu, J. Longdell, M. Sellars, H.-A Bachor and P.K. Lam (Canberra, Australia)
Information storage in Rubidium via gradient echo and EIT

15.55-16.15 7.8.5 S. Varró (Budapest, Hungary)
Binary photons

16.15-16.45 **Coffee break**

Seminar 7.9
Chair: E. Giacobino (France)

16.45-17.05 7.9.1 U. Dorner, B. Smith, J. Lundeen, I. Walmsley (Oxford, UK), W. Wasilewski (Warsaw, Poland), R. Demkowicz-Dobrzanski, and K. Banaszek (Torun, Poland)
Realistic quantum-enhanced phase estimation

17.10-17.30 7.9.2 I. Degiovanni (Torino, Italy), M. Paris (Milano, Italy), M. Bondani, E. Puddu, and A. Andreoni (Como, Italy)
Multimode-thermal-seeded parametric-down-conversion: source properties and application to ghost imaging experiments

17.35-17.55 7.9.3 M. Genovese, G. Brida, A. Meda, and I. Ruo-Berchera (Turin, Italy)
Tailoring PDC speckle structure for application to quantum imaging of weak objects

18.00-18.20 7.9.4 O. Alibart, P. Aboussouan, A. Martin, M. Tournier, V. Cristofori, P. Baldi, M.P. De Micheli, D. Ostrowsky, and S. Tanzilli (Nice, France)
Integrated optics for quantum communications toolbox

Thursday, July 3

Seminar 7.10
Chair: H.-K. Lo (Canada)

11.00-11.25 7.10.1 R. Kumar, M. Lucamarini, G. Di Giuseppe, R. Natali, G. Mancini, and P. Tombesi (Camerino, Italy)
Two-way quantum key distribution at telecom wavelength

11.30-11.55 7.10.2 J. Duligall, K. Harrison, B. Munro, and T. Spiller (Bristol, UK)
Quantum key distribution for consumer applications

12.00-12.20 7.10.3 S.-Y. Lee, S.-W. Ji, H.-W. Lee (Daejeon, Korea), J.-W. Lee (Seoul, Korea), and J. Bergou (New York, USA)
Quantum key distribution using vacuum-one-photon qubits: maximum number of transferable bits per particle

12.25-12.45 7.10.4 T. Honjo, O. Tadanaga, K. Inoue, Y. Nishida, M. Asobe, H. Takesue, H. Kamada (Atsugi-shi, Japan), S. Nam, R. Hadfield, B. Baek (Colorado, USA), S. Miki, M. Fujiwara, M. Sasaki, Z. Wang (Tokyo, Japan), Q. Zhang, and Y. Yamamoto (Stanford, USA)
Entanglement-based BBM92 QKD experiment using superconducting single photon detectors

12.45-14.00 **Lunch**

Seminar 7.11
Chair: P. Tombesi (Italy)

14.00-14.25 7.11.1 H.-K. Lo (Toronto, Canada)
Quantum key distribution: security proof and quantum hacking

14.30-14.55 7.11.2 F. Wong, T. Kim, J. Shapiro, and R. Garcia-Patron (Cambridge, USA)
Physical simulation of individual attacks against BB84 using single-photon two-qubit quantum logic

15.00-15.25 7.11.3 S. Molotkov (Chernogolovka, Russia)
Achievable limits of fiber-optic quantum cryptography

15.30-15.50 7.11.4 X. Tang, A. Mink, L. Ma, T. Chang, H. Xu, O. Slattery, B. Hershman (Gaithersburg, USA)
High-speed fiber-based quantum key distribution networks

15.55-16.15 7.11.5 H. Zbinden (Geneve, Switzerland)
High speed QKD

16.15-16.45 **Coffee break**

Seminar 7.12 Round Table

Chairs: M.R. Wahiddin (Malaysia), H. Zbinden (Switzerland), and S. Molotkov (Russia)

16.45-16.55 7.12.1 M. Wahiddin (Kuala Lumpur, Malaysia)
Overview 1

16.55-17.05 7.12.2 S. Molotkov (Chernogolovka, Russia)
Overview 2

17.05-17.10 7.12.3 H. Zbinden (Geneva, Switzerland)
Overview 3

17.15-17.40 7.12.4 A. Mink (Gaithersburg, USA)
QKD Infrastructure

17.45-18.20 7.12.5 T. Länger (Vienna, Austria), S. Ghernaouti–Hélie (Lausanne, Switzerland), and G. Lenhart (Sophia Antipolis, France)
SECOQC / ETSI open initiative for standardisation of quantum cryptography and quantum technologies

18.25-18.50 7.12.6 Discussion

18.50-18.55 7.12.7 M. Wahiddin (Kuala Lumpur, Malaysia)
Summary

Friday, July 4

Seminar 7.13

Chair: A. Lvovsky (Canada)

9.45-10.05 7.13.1 A. Acin (Castelldefels, Spain)
Quantum correlations and device-independent quantum information protocols

10.10-10.30 7.13.2 P. Mosley, J. Lundeen, B. Smith, A. U'Ren, C. Silberhorn, and I. Walmsley (Oxford, UK)
Direct production of pure heralded ultrafast single photons

Seminar 7.14

Chair: Z. Hradil (Czech Republic)

11.00-11.25 7.14.1 V. Samartsev, A. Kalachev, D. Kalashnikov, A. Kalinkin, and A. Shkalikov (Kazan, Russia)
Biphoton spectroscopy of impurity crystals

11.30-11.55 7.14.2 T. Yu and J. Eberly (Rochester, USA)
Negative entangle measure, and constants of motion

12.00-12.20 7.14.3 F. Illuminati (Torino, Italy)
Recent advances in entanglement theory and its applications to quantum information and quantum technologies

12.25-12.45 7.14.4 L.C. Kwek, X.L. Feng, and C.H. Oh (Singapore, Singapore)
Dynamically proportional geometric phase

12.45-14.00 **Lunch**

Seminar 7.15

Chair: Y.-H. Kim (Korea)

14.00-14.30	7.15.1 A. Černoch, J. Soubusta, L. Bartůšková, M. Dušek, and J. Fiurášek (Olomouc, Czech Republic) *Experimental realization of linear-optical partial SWAP gates and partial symmetrization device for polarization states of photons*
14.35-15.05	7.15.2 J. Shaari, M. Wahiddin (Kuala Lumpur, Malaysia), and S. Mancini (Camerino, Italy) *Blind encoding into qudits*
15.10-15.40	7.15.3 A. Acín, A. Ferraro (Barcelona, Spain), N. Cerf, and J. Niset (Brussels, Belgium) *Multimode non-locality using homodyne measurements*
15.45-16.15	7.15.4 I. Spielman (Gaithersburg, USA) *Computation and simulation using ultracold rubidium 87*
16.15-16.45	**Coffee break**

Seminar 7.16

Chair: C.H. Oh (Singapore)

16.45-17.05	7.16.1 S. Polyakov, M. Eisaman, E. Goldschmidt, J. Fan, A. Migdall (Gaithersburg, USA), and M. Hohensee (Cambridge, USA) *Toward a solid-state, DLCZ type quantum repeater*
17.10-17.30	7.16.2 G. Giovanelli (Bologna, Italy) and N. Antonietti (Torino, Italy) *Quantum communication in modeled atmospheres*
17.35-17.55	7.16.3 Z. Zhang and P.L. Voss (Metz, France) *A path towards 10 Gb/s continuous variable QKD*
18.00-18.20	7.16.4 X.-L. Feng, C. Wu, M.Q. Chen, and C. Oh (Singapore, Singapore) *Quantum gate operation in the DFS of cavity QED*
18.25-18.45	7.16.5 K. Matsumoto (Tokyo, Japan) *Anisotropic estimation of noisy channels*
18.45-18.50	S. Kulik (Moscow, Russia) *Closing remarks*

Poster Session, Wednesday, July 2

Chair: S. Kulik (Russia)

P7.1	V. Makarov (Pohang, South Korea) *How Eve can control a passively-quenched single-photon detector*
P7.2	G. Sinclair, D. Menzies, and N. Korolkova (St Andrews, UK) *The effective cross-Kerr Hamiltonian in atomic rubidium*
P7.3	V. Makarov (Trondheim, Norway), Y.-S. Kim, Y.-C. Jeong, and Y.-H. Kim (Pohang, South Korea) *17 m free-space quantum key distribution*
P7.4	P. Volkov, Yu. Mikhailova, and M. Fedorov (Moscow, Russia) *Spectral entanglement in parametric down conversion with non-degenerate frequencies*
P7.5	A. Anisimov and Y. Mazurenko (St. Petersburg, Russia) *Four-state QKD protocol implementation by the method of subcarrier transmission of quantum information*

P7.6 M. Wahiddin (Kuala Lumpur, Malaysia), A. Shurupov, S. Straupe, and S.P. Kulik (Moscow, Russia)
Experimental demonstration of QKD deterministic protocol based on polarized biphotons

P7.7 S. Straupe and S. Kulik (Moscow, Russia)
Non-Abelian geometric phase and its manifestation in the polarization transformations of two-mode biphotons

P7.8 E. Moreva and I. Tikhonov (Moscow, Russia)
Optimal quantum tomography for ququart state reconstruction

P7.9 V. Averchenko, T. Golubeva (St. Petersburg, Russia), and C. Fabre (Paris, France)
Multimode quantum dense coding and quantum teleportation on the basis of the single-mode degenerate OPO

P7.10 D. Kalashnikov (Kazan, Russia), V. Karassiov, K. Katamadze, S. Kulik, and A. Solov'ev (Moscow, Russia)
Generation of frequency-polarized photon pairs in spatial-heterogeneous ferroelectrics

P7.11 K. Samburskaya and T. Golubeva (St. Petersburg, Russia)
Temporal and spatial squeezed light of multi-pixel source of DOPO array in near and far field

P7.12 D. Sych and G. Leuchs (Erlangen, Germany)
QKD with multiletter alphabets forming regular polygons in phase space

P7.13 R. Dermez and S. Ozen (Afyonkarahisar, Turkey)
Higher dimensional entangled qudits in a trapped three-level ion

P7.14 S. Varró (Budapest, Hungary)
Correlations in single-photon experiments

P7.15 S. Kulik (Moscow, Russia)
Quantum state engineering with ququarts

Seminar 8
Laser Nanotechnologies

Wednesday, July 2

Seminar 8.1 Lasers and laser-active nanomaterials

Chairs: P.K. Kashkarov (Russia) and H. Hamaguchi (Japan)

11.00-11.25 8.1.1 A. Driessen and M. Pollnau (Enschede, The Netherlands)
Rare-earth-ion-doped materials and resonant structures for active integrated optics

11.25-11.50 8.1.2 A. Apolonski (Garching, Germany)
Femtosecond light and electron sources at MHz repetition rates for nanoscience

11.50-12.15 8.1.3 E.D. Obraztsova, A.V. Tausenev, M.A. Solodyankin, A.I. Chernov, V.I. Konov, S.V. Garnov, N.N. Il'ichev, P.G. Kryukov, E.M. Dianov (Moscow, Russia), and A.S. Lobach (Chernogolovka, Moscow region, Russia)
Carbon nanotube-based saturable absorbers for a wide class of mid-infrared solid state lasers

12.15-12.30 8.1.4 R. Bugge, M. Breivik, and B.O. Fimland (Trondheim, Norway)
GaSb-based 2.4 μm laser fabrication

12.30-12.55 8.1.5 K. Atlasov, K.F. Karlsson, P. Gallo, A. Rudra, B. Dwir, and E. Kapon (Lausanne, Switzerland)
Quantum-wire lasers based on photonic-crystal nanocavities

12.55-14.00 **Lunch**

Seminar 8.2 Nanophotonics and nanocomposite materials

Chair: V.I. Konov (Russia) and W. Marine (France)

14.00-14.25 8.2.1 K. Sakoda, T. Kuroda, T. Mano, T. Ochiai, K. Kuroda, N. Ikeda, Y. Sugimoto, S. Ohkouchi, K. Asakawa (Tsukuba, Japan), and N. Koguchi (Como, Italy)
Controlled emission lifetime of GaAs quantum dots embedded in photonic crystal microcavities

14.25-14.50 8.2.2 M. Sentis, P. Delaporte, D. Grojo, T. Sarnet, R. Torres (Marseille, France), H. Etienne, L. Roux, F. Torregrosa, V. Vervisch (Peynier, France), S. Martinuzzi (Marseille, France), S. Bastide, M. Halbwax (Thiais, France), D. Guay, and A. Péreira (Varennes (Québec), Canada)
Surface nanostructuring by pulsed laser ablation

14.50-15.05 8.2.3 G.K. Svendsen, H. Weman, and J. Skaar (Trondheim, Norway)
Modal reflection properties of nanowire waveguides

15.05-15.30 8.2.4 S. Korovin and V. Pustovoi (Moscow, Russia)
Nonlinear optical properties of nanosilicon composite materials

15.30-15.55 8.2.5 V.N. Bagratashvili (Troitsk, Moscow Region, Russia)
Laser and supercritical fluid synthesis of polymer nanocomposites

15.55-16.10 8.2.6 L.A. Golovan, S.V. Zabotnov, N.A. Piskunov, V.Y. Timoshenko, P.K. Kashkarov, (Moscow, Russia), S.V. Yakunin, Yu.V. Gromov, M.A. Kopylovsky, and V.Ya. Gayvoronsky (Kiev, Ukraine)
Enhanced two-photon absorption and nonlinear refraction in birefringent mesoporous silicon films

16.10-16.25 8.2.7 V.G. Arakcheev, V.B. Morozov, A.A. Valeev (Moscow, Russia), V.N. Bagratashvili, and V.K. Popov (Troitsk, Moscow Region, Russia)
CARS diagnostics of carbon dioxide confined in nanopores

16.25-16.45 **Coffee break**

Seminar 8.3 Methods and instruments

Chair: H. Weman (Norway) and M. Schmitt (Germany)

16.45-17.10 8.3.1 C.T.A. Brown, X. Tsampoula, D. Stevenson, C. McDougall, F.J. Gunn-Moore, and K. Dholakia (St Andrews, UK)
Enhanced techniques for laser induced optical transfection and photoporation of cells.

17.10-17.35 8.3.2 K.A. Serrels, E. Ramsay, R.J. Warburton, and D.T. Reid (Edinburgh, Scotland)
Nanoscale microscopy of silicon integrated circuits.

17.35-18.00 8.3.3 H.-O. Hamaguchi (Tokyo, Japan)
Molecular near-field effect in resonance hyper-raman scattering and detection of ensembles of single molecules

18.00-18.25 8.3.4 R. De La Rue , A. Khokhar, R. Dylewicz, M. Strain, N. Johnson, M. Sorel, F. Rahman, B. Lahiri, A. Samarelli, A. Md Zain (Glasgow, Scotland, U.K.), and M. Gnan (Bologna, Italy)
Strongly confined guided-wave photonic structures with nano-scale control for linear and non-linear functionality

18.25-18.40 8.3.5 A.G. Zhdanov, M.D. Khokhlova, E.V. Lyubin, I.V. Soboleva, and A.A. Fedyanin (Moscow, Russia)
Optical tweezers for magnetic micro- and nanoparticles diagnostics and planar nanostructures fabrication

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Thursday, July 3

Seminar 8.4 New functionalities

Chair: D.T. Reid (UK) and J.R. Rabeau (Australia)

11.00-11.25 8.4.1 M. Schmitt, P. Rösch, J. Popp (Jena, Germany), and V. Deckert (Dortmund, Germany)
SERS a prospective tool in nanobiophotonics

11.25-11.50 8.4.2 V.I. Yukalov, E.P. Yukalova (Dubna, Russia), V.K. Henner (Louisville, KY, USA), and P.V. Kharebov (Perm, Russia)
Coherent spin radiation by magnetic nanomaterials

11.50-12.15 8.4.3 I.I. Vlasov, V.G. Ralchenko, V.I. Konov (Moscow, Russia), O.I. Lebedev, and E. Goovaerts (Antwerpen, Belgium)
Hybrid carbon nanostructures in nitrogenated ultrananocrystalline diamond films

12.15-12.30 8.4.4 D.A. Sidorov-Biryukov, A. Fernandez, L. Zhu, A. Pugzlys, A. Baltuška (Vienna, Austria), F.Ö. Ilday, (Ankara, Turkey), J.C. Knight, (Bath, UK), and A.M. Zheltikov (Moscow, Russia)
Pulse-pedestal discrimination by a soliton effect in a highly nonlinear photonic-crystal fiber

12.30-12.45 8.4.5 I.V. Fedotov, A.B. Fedotov, E.E. Serebryannikov, and A.M. Zheltikov (Moscow, Russia)
Spectral transformation of laser pulses in nanochannel waveguides and dispersion-nanomanaged photonic-crystal fibers

12.45-14.00 **Lunch**

Friday, July 4

Seminar 8.5 Photonic crystals

Chair: K. Sakoda (Japan) and M. Sentis (France)

9.45-10.10 8.5.1 C. López (Madrid, Spain)
Photonic crystals and photonic glasses by selfassembly

10.10-10.35 8.5.2 N. Le Thomas and R. Houdré (Lausanne, Switzerland)
Below the light line Fourier space imaging of planar photonic crystals

10.35-11.00 **Coffee break**

Seminar 8.6 Quantum dots, nanowires, and nanotubes

Chair: C. López (Spain) and R. Houdré (Switzerland)

11.00-11.25 8.6.1 H. Kuzmany (Wien, Austria)
Resonant laser Raman spectroscopy for structural and electronic analysis of single-walled carbon nanotubes

11.25-11.40 8.6.2 A.F. Moses, T.B. Hoang, D.L. Dheeraj, B.O. Fimland, and H. Weman (Trondheim, Norway), K.F. Karlsson, and P.O. Holtz (Linköping, Sweden)
Investigation of the structural and optical properties of single GaAs/GaAsSb/GaAs nanowire quantum dots

11.40-12.05 8.6.3 M.H.M. van Weert, N. Akopian, F. Kelkensberg, M.P. van Kouwen, U. Perinetti, V. Zwiller, L.P. Kouwenhoven (Delft, The Netherlands), M.T. Borgström, R. Algra, and E.P.A.M. Bakkers (Eindhoven, The Netherlands)
Optical addressing a spin state in a single nanowire quantum dot

12.05-12.30 8.6.4 K.F. Karlsson, Q. Zhu, V. Troncale, D.Y. Oberli, E. Pelucchi, A. Rudra, and E. Kapon (Lausanne, Switzerland)
Optical polarization: features and controllability of site-controlled quantum dots

12.30-12.55 8.6.5 T.B. Hoang, A. Mishra, L.V. Titova, L.M. Smith, H. Jackson, J.M. Yarrison-Rice (Cincinnati, Ohio, USA), H.J. Joyce, Q. Gao, H.H. Tan, C. Jagadish, Y. Kim, (Canberra, Australiua), and A.O. Govorov (Athens, OH, USA)
Optical properties of single core-shell GaAs/AlGaAs and InP semiconductor nanowires

12.55-14.00 **Lunch**

Seminar 8.7 Laser nanostructuring, nanoprocessing, and nanoengineering

Chair: G. Cerullo (Italy) and V.N. Bagratashvili (Russia)

14.00-14.25 8.7.1 V.I. Konov, V.V. Kononenko, T.V. Kononenko, S.M. Pimenov, M.S. Komlenok, V.P. Pashinin (Moscow, Russia), and V. Romano (Bern, Switzerland)
Laser induced surface and bulk nanostructuring of diamond materials

14.25-14.50 8.7.2 P.K. Kashkarov (Moscow, Russia)
Nanostructured solids as new photonic media.

14.50-15.15	8.7.3 B.N. Chichkov (Hannover, Germany) *3D laser-based nanoengineering of polymeric materials*
15.15-15.40	8.7.4 T.V. Kononenko, V.I. Konov (Moscow, Russia), P. Alloncle, M. Sentis (Marseille, France) *Laser induced forward transfer of nanoparticles based on blistering of thin metal film*
15.40-16.05	8.7.5 W. Marine (Marseille, France) *Synthesis and nonlineare properties of nanohybrid materials prepared by femtoseconde laser ablation in liquid medium*
16.15-16.45	**Coffee break**

Seminar 8.8 Advanced technologies and methods

Chair: V.I. Yukalov (Russia) and H. Kuzmany (Ausitra)

16.45-17.10	8.8.1 G. Cerullo, R. Osellame, R. Martinez-Vazquez, P. Laporta, and R. Ramponi (Milano, Italy) *Femtosecond micromachining as an enabling tool for optofluidics*
17.10-17.35	8.8.2 E.I. Kauppinen (Helsinki, Finland) *Carbon nanobud™-a novel nanomaterial: synthesis, structure, field emission and transport properties*
17.35-18.00	8.8.3 A. Gaál, I. Bugár, T. Pálszegi, V. Szőcs, I. Capek, L. Fialová, A. Šatka, and F. Uherek (Bratislava, Slovakia) *Transient absorption study of colloidal metal nanoparticles*
18.00-18.15	8.8.4 P.N. Melentiev and V.I. Balykin (Troitsk, Moscow region, Russia) *Atom optics as alternative approach to nanolithography on a surface*
18.15-18.40	8.8.5 J.R. Rabeau (Sydney, Australia) *Single colour centres in diamond nanocrystals*

Poster Session, Wednesday, July 2

Char: E.D. Obraztsova (Russia)

P8.1	S.V. Zabotnov, L.A. Golovan, A.A. Ezhov, A.E. Dokukina, N.E. Maslova, V.Yu. Timoshenko, V.I. Panov, and P.K. Kashkarov (Moscow, Russia) *Nanoparticle formation under femtosecond laser pulse action on monocrystalline and porous silicon surfaces*
P8.2	Yu.E. Lozovik, S.P. Merkulova, A.V. Klyuchnik, A.A. Kolesnikov, and A.L. Merkulov (Troitsk, Moscow region, Russia) *Apertureless near field laser nanotechnology*
P8.3	A.V. Glushkov (Odessa, Ukraine, Troitsk, Moscow region, Russia) *Advanced laser nano-technologies for cleaning the semiconductor materials*

Seminar 9
Fiber Lasers

Thursday, July 3

Seminar 9.1
Chairs: D.N. Payne (UK) and H.G. Limberger (Switzerland)

11.00-11.35 9.1.1 A.B. Alekseyev (Wuppertal, Germany)
Radiative properties of the BiO and BiO^+ free molecules and bismuth–doped silica glass

11.35-12.00 9.1.2 S.V. Firstov, I.A. Bufetov, A.M. Smirnov, E.M. Dianov (Moscow, Russia), V.F. Khopin, and A.N. Guryanov (Nizhny Novgorod, Russia)
Time-resolved spectroscopy of Bi-doped silica-based fibers

12.00-12.25 9.1.3 V.V. Dvoyrin, V.M. Mashinsky, and E.M. Dianov (Moscow, Russia)
"Yellow" CW frequency-doubled fiber lasers

12.25-12.45 9.1.4 C. Ban, H.G. Limberger (Lausanne, Switzerland), V.M. Mashinsky, V.V. Dvoyrin, L.I. Bulatov, and E.M. Dianov (Moscow, Russia)
ArF excimer laser induced refractive index changes in Bi-Al-doped silica optical fiber

12.45-14.00 **Lunch**

Seminar 9.2
Chairs: E.M. Dianov (Russia) and A.B. Alekseyev (Germany)

14.00-14.20 9.2.1 I.A. Bufetov, K.M. Golant, S.V. Firstov, A.V. Kholodkov, A.V. Shubin, and E.M. Dianov (Moscow, Russia)
Bismuth activated alumosilicate optical fibers fabricated by SPCVD technology

14.20-14.40 9.2.2 S.V. Firstov, I.A. Bufetov, E.M. Dianov (Moscow, Russia), V.F. Khopin, A.A. Umnikov, and A.N. Guryanov, (Nizhny Novgorod, Russia)
Optical gain of Bi-doped aluminosilicate fibers codoped with Ge and Ti

14.40-15.15 9.2.3 R.F. Wu, B.S. Tan, T.Y. Ng, P.B. Phua, and Lindy Chia (Singapore, Singapore)
Monolithic, high power Yb-doped fiber lasers with spectral beam combination

15.15-15.50 9.2.4 A.A. Fotiadi (Mons, Belgium; St.Petersburg, Russia), O.L. Antipov (Nizhny Novgorod, Russia), and P. Mégret (Mons, Belgium)
Mechanism of electronic index change in ytterbium-doped laser fibers under pumping and signal amplification

15.50-16.15 9.2.5 I.A. Lobach, S.A. Babin, S.I. Kablukov, and E.V. Podivilov (Novosibirsk, Russia)
Modelling of the mode coupling effects in a multi-core fiber

16.15-16.45 **Coffee break**

Seminar 9.3
Chairs: R.F. Wu (Singapore) and A.A. Fotiadi (Belgium)

16.45-17.20 9.3.1 J.C. Travers, A.B. Rulkov, B.A. Cumberland, S.V. Popov, and J.R. Taylor (London, UK)
Enhancement and extension of high average power supercontinuum generation in photonic crystal fibres and tapers

17.20-17.55 9.3.2 S.K. Turitsyn (Birmingham, UK)
New applications of ultra-long fibre lasers

17.55-18.20 9.3.3 M. Dubinskii, J. Zhang (Adelphi, MD, USA), and I. Kudryashov (Cranbury, NJ, USA)
Power scaling of single-frequency, resonantly cladding-pumped, Yb-free, LMA EDFA

18.20-18.45 9.3.4 S.A. Babin, A.K. Dmitriev, A.S. Dychkov, S.I. Kablukov, A.A. Lugovoy, M.A. Nikulin, and Yu.Ya. Pecherskii (Novosibirsk, Russia)
DFB fiber laser with low amplitude and frequency noise level

Friday, July, 4

Seminar 9.4

Chairs: S.K. Turitsyn (UK) and S.A. Babin (Russia)

9.45-10.10 9.4.1 M.A. Solodyankin, E.D. Obraztsova, A.S. Lobach, V.I. Konov, and E.M. Dianov (Moscow, Russia)
Ring cavity Tm-doped fiber laser mode-locked with a carbon nanotube absorber

10.10-10.35 9.4.2 B. Ibarra-Escamilla, E.A. Kuzin, M. Duran-Sanchez (Puebla, Mexico), and O. Pottiez (Leon, Mexico)
All-fiber passive mode-locked laser to generate ps pulses based in a symmetrical NOLM

10.35-11.00 **Coffee break**

Seminar 9.5

Chairs: V.P. Efremov (Russia) and V.V. Dvoyrin (Russia)

11.00-11.25 9.5.1 S.V. Muraviov, A.V. Andrianov, A.V. Kim (Nizhny Novgorod, Russia), U.G. Akhmetshin, V.A. Bogatyrjov, and V.M. Mashinsky (Moscow, Russia)
Generation of ultrashort optical pulse tuned down to 2.4 μm using GeO_2–based core fiber

11.25-11.50 9.5.2 A.V. Kir'yanov, Y.O. Barmenkov (Leon, Mexico), P. Perez-Millan, and M.V. Andres (Valencia, Spain)
Self-pulsing regimes of an Erbium all-fiber laser: An analysis of Er^{3+} excited-state absorption and intra-cavity nonlinear lensing as relevant self-pulsing mechanisms

11.50-12.15 9.5.3 O. Pottiez (Leon, Mexico), B. Ibarra-Escamilla, and E.A. Kuzin (Puebla, Mexico)
High-energy pulses from a figure-8 fiber laser with normal net dispersion

12.15-12.40 9.5.4 H. Arellano-Sotelo, Y.O. Barmenkov, and A.V. Kir'yanov (Leon, Mexico)
Improvement for basic Sagnac's fiber interferometers response

12.45-14.00 **Lunch**

Seminar 9.6

Chairs: I.A. Bufetov (Russia) and A.V. Kir'yanov (Mexico)

14.00-14.25 9.6.1 M.A. Melkumov, S.V. Firstov, I.A. Bufetov, E.M. Dianov (Moscow, Russia), M.V. Yashkov, A.Yu. Laptev, and A.N. Gur'yanov (Nizhny Novgorod, Russia)
Energy transfer efficiency in Yb-Er phosphosilicate glass fibers

14.25-14.50	9.6.2 V.P. Efremov, E.M. Dianov, V.E. Fortov, A.A. Frolov, and I.A. Bufetov (Moscow, Russia) *Different types of fiber glass distraction under intensive laser beam*
14.50-15.25	9.6.3 V.I. Kovalev (Edinburgh, UK; Moscow, Russia) and R.G. Harrison (Edinburgh, UK) *Spectral self-phase conjugation via SBS and its application for coherence restoration and coherent beam combining of fiber amplifier array*
15.25-15.50	9.6.4 S.A. Babin, M.A. Nikulin, and I.S. Shelemba (Novosibirsk, Russia) *Simple technique for nonlinearity compensation of a tunable erbium laser*
15.50-16.15	9.6.5 V.I. Kovalev (Edinburgh, UK; Moscow, Russia), R.G. Harrison (Edinburgh, UK), and J.D. Simonotto (Newcastle upon Tyne, UK) *On the emergence and collapse of coherent periodic signal in stochastic stimulated emission from fiber laser sources with weak feedback*

Poster Session, Wednesday, July 2

Chair: V.M. Yermachenko (Russia)

P9.1	B.I. Denker, E.M. Dianov, B. Galagan, and S. Sverchkov (Moscow, Russia) *The emission excitation spectra of Bi - doped phosphate based glasses*
P9.2	V.M. Yermachenko, V.S. Mezhevov, V.N. Petrovskiy, and P.Yu. Shaglov (Moscow, Russia) *Peculiarities of regimes generation powerful single-mode fiber laser*

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