

# 18th International Laser Physics Workshop (LPHYS'09)

July 13 – 17, 2009, Barcelona, Spain

## PROGRAM



ICFO<sup>R</sup>



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**18th International Laser Physics Workshop  
(LPHYS'09)  
July 13 – 17, 2009, Barcelona, Spain**

**ORGANIZED BY:**

*A.M. Prokhorov General Physics Institute, Russian Academy of Sciences  
(RAS), Moscow, Russia  
The Institute of Photonic Sciences (ICFO), Barcelona, Spain  
The international journal Laser Physics  
The international journal Laser Physics Letters  
International Laser Center, Moscow State University, Moscow, Russia*

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## Background

The eighteenth annual International Laser Physics Workshop (LPHYS'09) will be held from July 13 to July 17, 2009 in the World Trade Center Barcelona by the Institute of Photonic Sciences (ICFO), Barcelona, Spain. LPHYS'09 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, Leon (Mexico) 2007, and Trondheim 2008.

The total number of participants is expected to be about 600. In the past, participation was typically from over 30 countries.

## Proceedings

The Workshop accepted reports (plenary, invited, and contributed) will be published in the issues # 3 and # 5 of the international journal Laser Physics, 2010 (vol. 20). The total length of a 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 pages of the web site:

**[www.lasphys.com](http://www.lasphys.com)**.

The pdf files of the manuscripts for the Proceedings, to be published in Laser Physics, are to be sent to the following co-chairs of the scientific seminars:

Seminar 1: <b>Kirill A. Prokhorov</b>	e-mail: <a href="mailto:cyrpro@gpi.ru">cyrpro@gpi.ru</a>
Seminar 2: <b>Mikhail V. Fedorov</b>	e-mail: <a href="mailto:fedorov@iof.ran.gpi.ru">fedorov@iof.ran.gpi.ru</a>
Seminar 3: <b>Sergey A. Gonchukov</b>	e-mail: <a href="mailto:gonchukov@mephi.ru">gonchukov@mephi.ru</a>
Seminar 4: <b>Ivan A. Shcherbakov</b>	e-mail: <a href="mailto:bufetova@lsk.gpi.ru">bufetova@lsk.gpi.ru</a>
Seminar 5: <b>Vladimir A. Makarov</b>	e-mail: <a href="mailto:makarov@msu.ilc.edu.ru">makarov@msu.ilc.edu.ru</a>
Seminar 6: <b>Vyacheslav I. Yukalov</b>	e-mail: <a href="mailto:yukalov@theor.jinr.ru">yukalov@theor.jinr.ru</a>
Seminar 7: <b>Sergei P. Kulik</b>	e-mail: <a href="mailto:sergei.kulik@gmail.com">sergei.kulik@gmail.com</a>
Seminar 8: <b>Vitaly I. Konov</b>	e-mail: <a href="mailto:vik@nsc.gpi.ru">vik@nsc.gpi.ru</a>
Seminar 9: <b>Evgeni M. Dianov</b>	e-mail: <a href="mailto:iabuf@fo.gpi.ru">iabuf@fo.gpi.ru</a>

The Steering Committee of LPHYS'09 kindly asks participants to send the pdf files of their manuscripts to [lphys09@lasphys.com](mailto:lphys09@lasphys.com) simultaneously with sending the pdf files of their manuscripts to a co-chair of their seminar. The submitted manuscripts should contain your e-mail address and the number of your report according to the Program of the Workshop.

At the moment of sending your manuscript by e-mail, or better a week earlier, the authors are asked to send the Transfer of Copyright Agreement by an Express Mail to the following address:

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

Phone in Moscow: +7 499 148 27 80

The pdf files of your manuscripts are to be sent to the co-chairs of the scientific seminars not later than November 1, 2009.

All manuscripts undergo the standard reviewing procedure, after which the decision is taken on their acceptance or rejection.

You will receive the proofs of your accepted article not later than in January 2009 (if your article is scheduled for issue # 3), or not later than in March 2010 (if your article is scheduled for issue # 5).

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

The Steering Committee of LPHYS'09 would like to bring your attention to the following possibility. If you feel that your article deserves super-rapid publication, you can send it only by e-mail [staffeditor@lasphys.com](mailto: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: **Franz X. Kärtner** (USA), **Olga Kocharovskaya** (USA), and **Kirill A. Prokhorov** (Russia)

### **Seminar 2                      Strong Field & Attosecond Physics**

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

### **Dynamic Imaging-in memory of Prof. N.B. Delone symposium**

Co-Chairs: **Misha Ivanov** (UK) and **Albert Stolow** (Canada)

### **Seminar 3                      Biophotonics**

Co-Chairs: **Vanderlei S. Bagnato** (Brazil), **Sergey A. Gonchukov** (Russia), and **Jürgen Lademann** (Germany)

### **Seminar 4                      Physics of Lasers**

Co-Chairs: **Markus Pollnau** (The Netherlands), **Ivan A. Shcherbakov** (Russia), and **Thomas Südmeyer** (Switzerland)

### **Seminar 5                      Nonlinear Optics and Spectroscopy**

Co-Chairs: **See Leang Chin** (Canada), **Yuri Kivshar** (Australia), 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 Science**

Co-Chairs: **Marco Genovese** (Italy), **Sergei P. Kulik** (Russia), and **Leong Chuan Kwek** (Singapore)

### **Seminar 8                      Nanophotonics**

Co-Chairs: **Pavel K. Kashkarov** (Russia), **Vitaly I. Konov** (Russia), and **Jordi Martorell** (Spain)

### **Seminar 9                      Fiber Lasers**

Co-Chairs: **Miguel V. Andrés** (Spain), **Evgeni M. Dianov** (Russia), and **Hans G. Limberger** (Switzerland)

### Meeting Format and Location of the Events

Welcome Remarks	July 13	09.15-09.45	Hall # 1
Welcome Party	July 13	19.00-21.00	
Conference Dinner	July 15	20.30-23.00	
Closing Remarks	July 17	18.50-19.00	Hall # 1
Plenary Sessions (PS)			
	July 13	09.45-10.30	Hall # 1
	July 14	09.00-09.45	Hall # 1
	July 14	09.45-10.30	Hall # 1
	July 15	09.00-09.45	Hall # 1
	July 15	09.45-10.30	Hall # 1
	July 16	09.00-09.45	Hall # 1
	July 16	09.45-10.30	Hall # 1
	July 17	09.00-09.45	Hall # 1
Seminar 1			
	July 13	11.00-18.50	Hall # 4
	July 14	11.00-18.50	Hall # 4
	July 16	11.00-18.50	Hall # 4
	July 17	11.00-18.50	Hall # 4
Seminar 2			
	July 13	11.00-18.50	Hall # 1
	July 14	11.00-18.50	Hall # 1
	July 15	11.00-18.50	Hall # 1
	July 16	11.00-18.50	Hall # 1
	July 17	11.00-18.50	Hall # 1
Seminar 3			
	July 13	11.00-18.50	Hall # 5
	July 14	11.00-16.15	Hall # 5
	July 15	11.00-12.45	Hall # 4
Seminar 4			
	July 13	14.00-18.50	Hall # 6
	July 14	11.00-18.50	Hall # 6
	July 15	11.00-18.50	Hall # 6
	July 17	11.00-18.50	Hall # 6
Seminar 5			
	July 15	11.00-18.50	Hall # 5
	July 16	11.00-18.50	Hall # 5
	July 17	11.00-18.50	Hall # 5

Seminar 6

July 13	11.00-18.50	Hall # 3
July 14	11.00-18.50	Hall # 3
July 15	11.00-18.50	Hall # 3
July 16	11.00-18.50	Hall # 3
July 17	11.00-18.50	Hall # 3

Seminar 7

July 13	11.00-18.50	Hall # 2
July 14	11.00-18.50	Hall # 2
July 15	11.00-18.50	Hall # 2
July 16	11.00-18.50	Hall # 2
July 17	11.00-18.50	Hall # 2

Seminar 8

July 14	16.45-18.50	Hall # 5
July 15	14.00-18.50	Hall # 4
July 16	11.00-18.50	Hall # 6

Seminar 9

July 13	11.00-18.50	Hall # 6
July 17	11.00-12.45	Hall # 6

Poster Sessions

July 14	19.00-20.00	Seminars 1-4
July 16	19.00-20.00	Seminars 5-9

## Scientific Program – Schedule

<b>Monday, July 13, 2009</b>						
	<b>Hall # 1</b>	<b>Hall # 2</b>	<b>Hall # 3</b>	<b>Hall # 4</b>	<b>Hall # 5</b>	<b>Hall # 6</b>
<b>09.15-09.45</b>	<b>Welcome Remarks</b>					
<b>09.45-10.30</b>	<b>PS1: Krausz</b>					
<b>10.30-11.00</b>	<b>Coffee Break</b>					
<b>11.00-12.45</b>	Seminar 2.1	Seminar 7.1	Seminar 6.1	Seminar 1.1	Seminar 3.1	Seminar 9.1
<b>12.45-14.00</b>	<b>Lunch</b>					
<b>14.00-16.15</b>	Seminar 2.2	Seminar 7.2	Seminar 6.2	Seminar 1.2	Seminar 3.2	Seminar 9.2
<b>16.15-16.45</b>	<b>Coffee Break</b>					
<b>16.45-18.50</b>	Seminar 2.3	Seminar 7.3	Seminar 6.3	Seminar 1.3	Seminar 3.3	Seminar 9.3
<b>19.00-21.00</b>	<b>Welcome Party</b>					

<b>Tuesday, July 14, 2009</b>						
	<b>Hall # 1</b>	<b>Hall # 2</b>	<b>Hall # 3</b>	<b>Hall # 4</b>	<b>Hall # 5</b>	<b>Hall # 6</b>
<b>09.00-09.45</b>	<b>PS2: Panchenko</b>					
<b>09.45-10.30</b>	<b>PS3: Afonso</b>					
<b>10.30-11.00</b>	<b>Coffee Break</b>					
<b>11.00-12.45</b>	Seminar 2.4	Seminar 7.4	Seminar 6.4	Seminar 1.4	Seminar 3.4	Seminar 4.1
<b>12.45-14.00</b>	<b>Lunch</b>					
<b>14.00-16.15</b>	Seminar 2.5	Seminar 7.5	Seminar 6.5	Seminar 1.5	Seminar 3.5	Seminar 4.2
<b>16.15-16.45</b>	<b>Coffee Break</b>					
<b>16.45-18.50</b>	Seminar 2.6	Seminar 7.6	Seminar 6.6	Seminar 1.6	Seminar 8.1	Seminar 4.3
<b>19.00-20.00</b>	<b>Poster Session</b>					

<b>Wednesday, July 15, 2009</b>						
	<b>Hall # 1</b>	<b>Hall # 2</b>	<b>Hall # 3</b>	<b>Hall # 4</b>	<b>Hall # 5</b>	<b>Hall # 6</b>
<b>09.00-09.45</b>	<b>PS4: Ullrich</b>					
<b>09.45-10.30</b>	<b>PS5: Inguscio</b>					
<b>10.30-11.00</b>	<b>Coffee Break</b>					
<b>11.00-12.45</b>	Seminar 2.7	Seminar 7.7	Seminar 6.7	Seminar 3.6	Seminar 5.1	Seminar 4.4
<b>12.45-14.00</b>	<b>Lunch</b>					
<b>14.00-16.15</b>	Seminar 2.8	Seminar 7.8	Seminar 6.8	Seminar 8.2	Seminar 5.2	Seminar 4.5
<b>16.15-16.45</b>	<b>Coffee Break</b>					
<b>16.45-18.50</b>	Seminar 2.9	Seminar 7.9	Seminar 6.9	Seminar 8.3	Seminar 5.3	Seminar 4.6
<b>20.30-23.00</b>	<b>Conference Dinner</b>					

<b>Thursday, July 16, 2009</b>						
	<b>Hall # 1</b>	<b>Hall # 2</b>	<b>Hall # 3</b>	<b>Hall # 4</b>	<b>Hall # 5</b>	<b>Hall # 6</b>
<b>09.00-09.45</b>	<b>PS6: Corkum</b>					
<b>09.45-10.30</b>	<b>PS7: Longo</b>					
<b>10.30-11.00</b>	<b>Coffee Break</b>					
<b>11.00-12.45</b>	Symposium S.1	Seminar 7.10	Seminar 6.10	Seminar 1.7	Seminar 5.4	Seminar 8.4
<b>12.45-14.00</b>	<b>Lunch</b>					
<b>14.00-16.15</b>	Symposium S.2	Seminar 7.11	Seminar 6.11	Seminar 1.8	Seminar 5.5	Seminar 8.5
<b>16.15-16.45</b>	<b>Coffee Break</b>					
<b>16.45-18.50</b>	Symposium S.3	Seminar 7.12	Seminar 6.12	Seminar 1.9	Seminar 5.6	Seminar 8.6
<b>19.00-20.00</b>	<b>Poster Session</b>					

<b>Friday, July 17, 2009</b>						
	<b>Hall # 1</b>	<b>Hall # 2</b>	<b>Hall # 3</b>	<b>Hall # 4</b>	<b>Hall # 5</b>	<b>Hall # 6</b>
<b>09.00-09.45</b>	<b>PS8: Zukowski</b>					
<b>09.45-10.30</b>						
<b>10.30-11.00</b>	<b>Coffee Break</b>					
<b>11.00-12.45</b>	Seminar 2.10	Seminar 7.13	Seminar 6.13	Seminar 1.10	Seminar 5.7	Seminar 4.7
<b>12.45-14.00</b>	<b>Lunch</b>					
<b>14.00-16.15</b>	Seminar 2.11	Seminar 7.14	Seminar 6.14	Seminar 1.11	Seminar 5.8	Seminar 4.8
<b>16.15-16.45</b>	<b>Coffee Break</b>					
<b>16.45-18.50</b>	Seminar 2.12	Seminar 7.15	Seminar 6.15	Seminar 1.12	Seminar 5.9	Seminar 4.9
<b>18.50-19.00</b>	<b>Closing Remarks</b>					

## Plenary Sessions

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### Monday, July 13

#### Welcome Remarks

- 09.15-09.25 **Jens Biegert** (Co-chairman of LPHYS'09, Spain)  
09.25-09.30 **Dr. Montserrat Torné** (The Director General for International Cooperation, Spanish Ministry of Science and Innovation, Madrid, Spain)  
09.30-09.35 **Lluís Torner** (Director of ICFO, Barcelona, Spain)  
09.35-09.45 **Vladislav Ya. Panchenko** (Member of the Advisory & Program Committee of LPHYS'09, Russia)

#### PLENARY SESSION (PS1)

- Chair: M.V. Fedorov (Russia)  
09.45-10.30 **Ferenc Krausz** (Garching, Germany)  
*Attosecond Physics*
- 

### Tuesday, July 14

#### PLENARY SESSION (PS2)

- Chair: A.M. Zheltikov (Russia)  
09.00-09.45 **Vladislav Ya. Panchenko** (Moscow, Russia)  
*Laser Information Technologies for Medical Applications*

#### PLENARY SESSION (PS3)

- Chair: V.I. Konov (Russia)  
09.45-10.30 **Carmen N. Afonso** (Madrid, Spain)  
*Advanced Nanostructured Films for Integrated Optics*
- 

### Wednesday, July 15

#### PLENARY SESSION (PS4)

- Chair: W. Becker (Germany)  
09.00-09.45 **Joachim Ullrich** (Heidelberg, Germany)  
*Brilliant FEL Light: New Frontiers in AMO Research*

**PLENARY SESSION (PS5)**

Chair: V.I. Yukalov (Russia)

09.45-10.30

**Massimo Inguscio** (Florence, Italy)

*Quantum Simulation with Ultracold Atoms in Laser Lattices*

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**Thursday, July 16**

**PLENARY SESSION (PS6)**

Chair: J. Biegert (Spain)

09.00-09.45

**Paul B. Corkum** (Ottawa, Canada)

*Laser Induced Imaging of Molecular Structure-Tunneling Diffraction and Tomography*

**PLENARY SESSION (PS7)**

Chair: S.A. Gonchukov (Russia)

09.45-10.30

**Leonardo Longo** (Firenze, Italy)

*Non Surgical Laser and Light in the Treatment of Chronic Diseases*

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**Friday, July 17**

**PLENARY SESSION (PS8)**

Chair: S.P. Kulik (Russia)

09.00-09.45

**Marek Zukowski** (Gdansk, Poland)

*Multiphoton Entanglement*

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**Friday, July 17**

**Closing Remarks**

Chair: V.I. Yukalov (Russia)

18.50-19.00

**Seminar 1**  
**Modern Trends in Laser Physics**

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**Monday, July 13**

**Seminar 1.1**

**Chair:** N.N. Rubtsova (Russia)

- 11.00-11.25 1.1.1 Y.J. Ding (Bethlehem, USA)  
*Recent progress on parametric generation and amplification of monochromatic and broadband THz pulses*
- 11.25-11.50 1.1.2 M. Jelínek, T. Kocourek, K. Jurek, J. Mikšovský, J. Strnad, and M. Weiserová (Prague, Czech Republic)  
*Doped biocompatible layers prepared by laser*
- 11.50-12.10 1.1.3 A. Semerok, S.V. Fomichev (CEA Saclay, France), V. Konov, and M. Siniavsky (Moscow, Russia)  
*Laser ablation of tokamak graphite tiles by microsecond laser pulses*
- 12.10-12.30 1.1.4 A. Pirri, D. Alderighi, G. Toci, and M. Vannini (Sesto Fiorentino, Italy)  
*A ceramic based  $Yb^{3+}$ :YAG laser*
- 12.30-12.45 1.1.5 P. Jelger and F. Laurell (Stockholm, Sweden)  
*Spectral control for high power fiber lasers*
- 12.45-14.00 **Lunch**

**Seminar 1.2**

**Chair:** K.A. Prokhorov (Russia)

- 14.00-14.25 1.2.1 A. Materny, V. Namboodiri, M. Namboodiri, M. Oppermann, and G. Flachenecker (Bremen, Germany)  
*Surface enhancement of coherent anti-stokes Raman scattering*
- 14.25-14.50 1.2.2 M. Ritsch-Marte (Innsbruck, Austria)  
*Spatial light modulators in biomedical optics*
- 14.50-15.15 1.2.3 A. Volkmer (Stuttgart, Germany)  
*Coherent Raman scattering microscopy*
- 15.15-15.40 1.2.4 G.R. Welch, A. Sokolov, Xi Wang, and M. Zhi (College Station, TX, USA)  
*CARS and FAST-CARS detection of biological molecules such as glucose and cholesterol*
- 15.40-16.00 1.2.5 P.M. Pakhomov, S.D. Khizhnyak, and A.E. Tshmel (Tver, Russia)  
*Study on structure of different polyethylene materials by means of low-frequency Raman spectroscopy*
- 16.00-16.15 1.2.6 E.A. Sagitova, K.A. Prokhorov, G.Yu. Nikolaeva, V.A. Gerasin, N.D. Merekalova, E.M. Antipov, P.P. Pashinin (Moscow, Russia), P. Donfack, and A. Materny (Bremen, Germany)  
*Raman study and modeling of the states of  $CH_2$ -chains in confined nanosize space of modified clays*
- 16.15-16.45 **Coffee break**

**Seminar 1.3**

**Chair:** F.X. Kärtner (USA)

- 16.45-17.10 1.3.1 O. Chalus, Ph. Bates, M. Smolarski, and J. Biegert (Barcelona, Spain)  
*Mid-IR source based on OPCPA with 96fs and micro-Joule energy at 100kHz*

- 17.10-17.35 1.3.2 J. Sun, B.J.S. Gale and D.T. Reid (Edinburgh, UK)  
*Coherent pulse synthesis between an optical parametric oscillator and a femtosecond laser*
- 17.35-18.00 1.3.3 Th. Südmeyer, Ch. Kränkel, C.R.E. Baer, O.H. Heckl, C.J. Saraceno, M. Golling, R. Peters, K. Petermann, G. Huber, and U. Keller (Zurich, Switzerland)  
*Shorter pulses from femtosecond thin disk lasers*
- 18.00-18.20 1.3.4 P. Saari, H. Lukner, M. Löhmus, P. Piksarv (Tartu, Estonia), P. Bownan, and R. Trebino (Atlanta, GA, USA)  
*Directly recording diffraction phenomena in time domain*
- 18.20-18.35 1.3.5 P. Andrés (Burjassot, Spain), J. Lancis, P. Clemente, Ll. Martínez-Leon, O. Mendoza-Yero, and G. Mínguez-Vega (Castello, Spain)  
*Programmable spatial shaping of short femtosecond pulses*
- 18.35-18.50 1.3.6 V. Kubecek, M. Jelinek, M. Cech, and P. Hirsil (Prague, Czech Republic)  
*0.5 mJ quasi-continuously pumped picosecond Nd:GdVO<sub>4</sub> oscillator-amplifier system in bounce geometry*
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### Tuesday, July 14

#### Seminar 1.4

**Chair:** P. Hemmer (USA)

- 11.00-11.25 1.4.1 M.S. Zubairy, Q. Sun, and M. Al-Amri (College Station, Texas, USA)  
*Reversing the weak measurement of an arbitrary field*
- 11.25-11.50 1.4.2 A. Delfan, E. Saglamyurek, C. La Mela, and W. Tittel (Calgary, Canada)  
*Interferometry using photon-echoes for precision measurements and quantum communication*
- 11.50-12.15 1.4.3 S.-Y. Zhu, D.-W. Wang, and Z.-H. Li (Hong Kong, China)  
*Effect of vacuum modification on anti-zeno effect and Lamb shift*
- 12.15-12.35 1.4.4 S. Polyakov, N.B. Rutter, N. Malkova, G. Bryant, P.D. Lett, and A. Migdall (Denver, Colorado, USA)  
*Apparent superluminality, tunneling, and surface modes in single-photon traversal of dielectric bandgaps*
- 12.35-12.50 1.4.5 R. Shuker, A. Har-Tal, and G.A. Koganov (Beer Sheva, Israel)  
*Counterintuitive gain without inversion enhancement in pulsed fields sequence*

12.45-14.00 **Lunch**

#### Seminar 1.5

**Chair:** W. Tittel (Canada)

- 14.00-14.10 O. Kocharovskaya (College Station, Texas, USA)  
*To the memory of Ivan Lorgeré and Oliver Guillot-Noël*
- 14.10-14.35 1.5.1 P. Hemmer (College Station, Texas, USA)  
*Practical limits to sub-wavelength imaging*
- 14.35-14.55 1.5.2 P. Anisimov, C. O'Brien, S-Y. Gao, R. Akhmedzhanov, A. Bondartsev, L. Gushchin, Y. Radeonychev, V. Polovinkin, and O. Kocharovskaya (College Station, Texas, USA; Nizhny Novgorod, Russia)  
*New regimes and applications of quantum coherence effects in solids*
- 14.55-15.20 1.5.3 T. Halfmann (Darmstadt, Germany)  
*Optically driven atomic coherences: from the gas phase to the solid state*

- 15.20-15.40 1.5.4 V. Damon, V. Crozatier, J.-L. Le Gouët, and I. Lorigeré† (Orsay and Paris, France)  
*Time to frequency Fourier transform with photon echoes and frequency agile laser oscillators*
- 15.40-16.00 1.5.5 O. Guillot-Noël†, Ph. Goldner, F. Beaudoux, R. Marino, Y. Le Du, J. Lejay, A. Amari, A. Walther, L. Rippe, S. Kröll, T. Chanelière, and J.L. Le Gouët (Paris, France; Lund, Sweden; Orsay, France)  
*Predicting and tailoring the properties of three-level  $\Lambda$  systems in rare earth doped crystals for quantum memories*
- 16.00-16.15 1.5.6 R. Akhmedzhanov, A. Bondartsev, V. Chernov, L. Gushchin, and O. Kocharovskaya (Nizhny Novgorod, Russia; College Station, Texas, USA)  
*Coherent suppression of excited state absorption in  $\text{Nd}^{3+}:\text{LaF}_3$  crystal*
- 16.15-16.45 **Coffee break**
- Seminar 1.6**  
**Chair:** O. Kocharovskaya (USA)
- 16.45-17.10 1.6.1 N.B. Manson, L.J. Rogers, R.L. McMurtrie, R. Ahlefeldt, J.G. Bartholomew, M.P. Hedges, and M.J. Sellars (Canberra, Australia)  
*Optical centres in solids for quantum information processing and related applications*
- 17.10-17.35 1.6.2 K. Ichimura (Kawasaki, Japan)  
*Application of electromagnetically induced transparency in solids to quantum computation*
- 17.35-17.55 1.6.3 A. Amari, A. Walther, S. Kröll (Lund, Sweden), and A. Kalachev (Kazan, Russia)  
*Superradiance and slow light effects for quantum memories*
- 17.55-18.15 1.6.4 M. Xiao (Little Rock, Arkansas, USA)  
*Controlling linear and nonlinear optical properties in multi-level coherent atomic systems*
- 18.15-18.35 1.6.5 D.D. Yavuz, N.A. Proite, B. Unks, J.T. Green, D. Sikes, and J.P. Sheehan (Madison, Wisconsin, USA)  
*Refractive index enhancement in gases*
- 18.35-18.50 1.6.6 C. O'Brien and O. Kocharovskaya (College Station, Texas, USA)  
*Resonant enhancement of refractive index in rare-earth doped crystals via coherent control of excited state absorption*
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### Thursday, July 16

#### Seminar 1.7

**Chair:** H.J. Carmichael (New Zealand)

- 11.00-11.25 1.7.1 M. Scully and A. Svidzinsky (College Station and Princeton, USA)  
*Collective Lamb shift in single photon Dicke superradiance*
- 11.25-11.50 1.7.2 E.S. Polzik, J. Appel, P. Windpassinger, D. Oblak, U.B. Hoff, and N. Kjærgaard, (Copenhagen, Denmark)  
*Entanglement assisted atomic clocks*
- 11.50-12.10 1.7.3 R.F. O'Connell (Baton Rouge, Louisiana, USA)  
*Exact disentanglement calculations*

12.10-12.30 1.7.4 J. von Zanthier, A. Maser, U. Schilling, Ch. Thiel, Th. Bastin, E. Solano, and G.S. Agarwal (Erlangen, Germany; Liege, Belgium; Bilbao, Spain; Stillwater, USA)

12.30-12.50 1.7.5 V.M. Akulin, G. Bensky, E. Brion, and G. Kurizki (Orsay, France)  
*Coherence protection by dynamical decoupling pushed to the extreme*

12.45-14.00 **Lunch**

### **Seminar 1.8**

**Chair:** E.S. Polzik (Denmark)

14.00-14.25 1.8.1 H.J. Carmichael, S. Shamaiov, A.S. Parkins, and M.J. Collett (Auckland, New Zealand)

*Dissipative quantum phase transitions for photons and a single qubit*

14.25-14.50 1.8.2 L. Davidovich (Rio de Janeiro, Brazil)

*Entanglement and decoherence*

14.50-15.10 1.8.3 J. Zhang, X. Wei, G. Hernandez, and Y. Zhu (Miami, Florida, USA)  
*Manipulating atomic coherence and interference in a coupled atom-cavity system*

15.10-15.30 1.8.4 M. Afzelius, I. Usmani, A. Amari, B. Lauritzen, H. de Riedmatten, C. Simon, S. Kröll, and N. Gisin (Geneva, Switzerland; Lund, Sweden)

*Multi-mode solid-state storage device for photons*

15.30-15.55 1.8.5 Y. Shih (Baltimore, USA)

*Multi-photon interference of thermal light*

15.55-16.20 1.8.6 H. Rabitz (Princeton, USA)

*Hiking over quantum control landscapes and beyond*

16.15-16.45 **Coffee break**

### **Seminar 1.9**

**Chair:** G.R. Welch (USA)

16.45-17.10 1.9.1 J.S. Wurtele (Berkeley, USA)

*Perspectives on X-ray free electron lasers*

17.10-17.35 1.9.2 P. Lambropoulos, G.M. Makris, and A. Mihelic (Heraklion, Greece)  
*Atoms under strong XUV and soft-X-ray radiation*

17.35-17.55 1.9.3 P. Hommelhoff, M. Schenk, J. Hoffrogge, M. Krüger, and F. Najafi (Garching, Germany)

*New control over old particles – electrons in linear Paul traps and photonic structures*

17.55-18.20 1.9.4 A.D. Stone, H.E. Tureci, L. Ge, R. Tandy, and S. Rotter (New Haven, USA)

*An efficient ab initio approach to semiclassical multimode laser theory*

18.20-18.40 1.9.5 G. Van der Sande, S. Beri, L. Gelens, G. Mezosi, M. Sorel, G. Verschaffelt, and J. Danckaert (Brussels, Belgium)

*Dynamics of semiconductor ring lasers: theory and experiment*

18.40-19.00 1.9.6 D. Strekalov and N. Yu (Los Angeles, California, USA)  
*Optical comb from bichromatically pumped whispering gallery mode resonator*

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**Friday, July 17**

**Seminar 1.10**

**Chair:** A. Materny (Germany)

- 11.00-11.25 1.10.1 K. Hakuta, F.L. Kien, and K.P. Nayak (Tokyo, Japan)  
*Manipulating and controlling atoms and photons using optical nanofibers*
- 11.25-11.50 1.10.2 A.K. Popov (Neenah, WI, USA),  
*Metamaterials: negative phase velocity, nonlinear optics and transformable transparency*
- 11.50-12.15 1.10.3 V.M. Shalaev, A.V. Kildishev, V.P. Drachev, U.K. Chettiar, and W. Cai (West Lafayette, USA)  
*Transforming light and cloaking with photonic metamaterials*
- 12.15-12.35 1.10.4 A. Boltasseva (West Lafayette, USA)  
*Nanosculpturing metamaterials for nanophotonics*
- 12.35-12.50 1.10.5 H.J. El-Khozondar, R.J. El-Khozondar, M.M. Shabat, and A.W. Kock (Munich, Germany)  
*Coupling efficiency between a fiber and  $TM_0$  in an integrated isolator: polycrystalline magentooptical film and double negative material substrate*
- 12.45-14.00 **Lunch**

**Seminar 1.11**

**Chair:** J.S. Wurtele (USA)

- 14.00-14.25 1.11.1 P. Pillet (Orsay, France)  
*Broadband vibrational cooling of  $CS_2$  molecules*
- 14.25-14.45 1.11.2 Yu.E. Lozovik (Moscow, Russia)  
*Bose condensation and controlling of cavity polaritons. Polariton laser*
- 14.45-16.05 1.11.3 S. Fleischer, Y. Khodorkovsky, Y. Prior, and I. Sh. Averbukh (Rehovot, Israel)  
*Laser-controlled molecular propeller*
- 16.05-15.25 1.11.4 E.S. Fry and M. Cone (College Station, Texas, USA)  
*Integrating cavity ring-down spectroscopy*
- 15.25-15.45 1.11.5 N.N. Rubtsova, V.G. Gol'dort, V.N. Ishchenko, S.A. Kochubei, E.B. Khvorostov, D.V. Ledovskikh (Novosibirsk, Russia), and I.V. Yevseyev (Moscow, Russia)  
*Velocity dependent atomic and molecular collisions studied by coherent transients*
- 15.45-16.05 1.11.6 V. Ahufinger, J. Mompart, and R. Corbalán (Barcelona, Spain)  
*Optical engineering of matter waves*
- 16.05-16.20 1.11.7 P.A. Kalinin, V.V. Kocharovsky, V.V. Kocharovsky (Nizhny Novgorod, Russia)  
*Polariton mode lasing and Bose-condensate of dipolar excitons in heterostructures*
- 16.15-16.45 **Coffee break**

## Seminar 1.12

**Chairs:** A. Pálffy (Germany) and A.A. Zadernovsky (Russia)

- 16.45-17.10 1.12.1 S.T. Müller, R.F. Alves, A. Bebeachibuli, V.S. Bagnato, and D.V. Magalhães (São Carlos-SP, Brazil)  
*Brazilian microwave standards of time and frequency: a progress report*
- 17.10-17.30 1.12.2 J.P. Cotter and B.T.H. Varcoe (London, UK)  
*Precision test of Lorentz invariance using EIT*
- 17.30-17.55 1.12.3 J.J. Carroll (Youngstown, USA)  
*Studies of induced depletion for nuclear metastable states*
- 17.55-18.15 1.12.4 L.A. Rivlin and A.A. Zadernovsky (Moscow, Russia)  
*Nuclear gamma-ray laser: a comparative analysis of various schemes*
- 18.15-18.35 1.12.5 A. Pálffy, Ch.H. Keitel, and J. Evers (Heidelberg, Germany)  
*Coherent control and keV single-photon entanglement in nuclear forward scattering*
- 18.35-18.55 1.12.6 S.A. Karamian and J.J. Carroll (Dubna, Russia)  
*Possible depletion of isomers in perturbed atomic environments*
- 18.55-19.15 1.12.7 F.F. Karpeshin and M.B. Trzhaskovskaya (St. Petersburg, Russia)  
*Self-induced non-moessbauer depletion of the  $^{178m2}\text{Hf}$  isomer via resonance conversion*

## Poster Session, Tuesday, July 14

**Chair:** E.A. Sagitova (Russia)

- P1.1 K.B. Chernyshov, K.A. Prokhorov, G.Yu. Nikolaeva, E.A. Sagitova, P.P. Pashinin, A.A. Kovalchuk, A.N. Klyamkina, P.M. Nedorezova, V.A. Optov, and B.F. Shklyaruk (Moscow, Russia)  
*Polarized Raman study of copolymers of propylene with ethylene, 1-hexene, and 4-methyl-1-pentene*
- P1.2 J. Dimitrijević and D. Arsenović (Belgrade, Serbia)  
*Emergence of electromagnetically induced absorption in a perturbation solution of optical Bloch equations*
- P1.3 E.B. Khvorostov, V.G. Gol'dort, V.N. Ishchenko, S.A. Kochubei, N.N. Rubtsova, (Novosibirsk, Russia), and I.V. Yevseyev (Moscow, Russia)  
*Photon echo in Yb vapour generated by pulses of circular polarizations*
- P1.4 V.V. Marinyuk and D.B. Rogozkin (Moscow, Russia)  
*Impact of near-surface scattering on the intensity correlations in disordered media*
- P1.5 N. Pizzolato, A. Fiasconaro, D. Persano Adorno, B. Spagnolo (Palermo, Italy)  
*Escape dynamics of polymers driven by a periodic electric field*
- P1.6 Yu.V. Shemouratov, K.V. Vodopianov, K.A. Prokhorov, E.A. Sagitova, G.Yu. Nikolaeva, V.A. Gerasin, N.D. Merkalova, E.M. Antipov, P.P. Pashinin (Moscow, Russia), P. Donfack and A. Materny (Bremen, Germany)  
*Raman spectroscopy of hydrocarbons*
- P1.7 L.E. Semenova, P.P. Pashinin, K.A. Prokhorov, and E.A. Sagitova (Moscow, Russia)  
*The resonant two-phonon hyper-Raman scattering of light*

**Seminar 2**  
**Strong-field and attosecond physics**

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**Monday, July 13**

**Seminar 2.1**

**Chair:** J. Biegert (Spain)

- 11.00-11.25 2.1.1 H.C. Kapteyn and M.M. Murnane (Boulder, CO, USA)  
*Coherent X-rays from ultrafast lasers, and applications--attosecond science meets nonlinear optics*
- 11.25-11.50 2.1.2 T.V. Liseykina (Heidelberg, Germany; Novosibirsk, Russia),  
S. Pirner, and D. Bauer (Heidelberg, Germany)  
*Relativistic attosecond electron bunches from laser-illuminated droplets*
- 11.50-12.15 2.1.3 E. Goulielmakis (Garching, Germany), Z.H. Loh (Berkeley, CA,  
USA), A. Wirth, Z. Zherebtsov, M. Hofstetter (Garching, Germany),  
N. Rohringer (Livermore, CA, USA), R. Santra (Argonne, IL, Chicago, IL,  
USA) T. Pfeifer, U. Kleineberg (Berkeley, CA, USA), M.F. Kling  
(Garching, Germany), S.R. Leone (Berkeley, CA, USA), and F. Krausz  
(Garching, Germany; Berkeley, CA, USA)  
*Attosecond transient absorption spectroscopy*
- 12.15-12.40 2.1.4 T. Ruchon (Saclay, France; Lund, Sweden), E. Mansten, M. Swoboda,  
J.M. Dahlström, J. Mauritsson, A. L'Huillier (Saclay, France), J. Tate,  
M.B. Gaarde, K. Schafer (Baton Rouge, LA, USA), P. Eckle,  
A. Guandalini, M. Holler, F. Schapper, L. Gallmann, and U. Keller (Zurich,  
Switzerland)  
*Temporal and spectral characterization of long and short attosecond pulse trains*
- 12.45-14.00 **Lunch**

**Seminar 2.2**

**Chair:** E. Goulielmakis (Germany)

- 14.00-14.25 2.2.1 C.A. C.-Dreismann (Berlin, Germany)  
*Attosecond physics with neutrons and electrons: ultrafast entanglement and decoherence phenomena involving protons in condensed matter and molecules*
- 14.25-14.50 2.2.2 E.A. Pronin (Lincoln, NE, USA), M.V. Frolov, N.L. Manakov  
(Voronezh, Russia), and A.F. Starace (Lincoln, NE, USA)  
*Analytic theory of few-cycle XUV attosecond pulse photoionization of atoms*
- 14.50-15.15 2.2.3 T. Uphues, S. Zherebtsov, A. Wirth, E. Goulielmakis, M. Schultze,  
O. Herrwerth, M. Hofstetter, J. Gagnon, V. Yakovlev, I. Znakovskaya,  
U. Kleineberg (Garching, Germany), M.J.J. Vrakking (Amsterdam, The  
Netherlands), N.M. Kabachnik (Bielefeld, Germany; Moscow, Russia),  
M. Drescher (Hamburg, Germany), F. Krausz, and M.F. Kling (Garching,  
Germany)  
*Attosecond imaging of atomic processes*
- 15.15-15.40 2.2.4 M. Vrakking (Amsterdam, The Netherlands)  
*Attosecond time-resolved electron dynamics in molecules*

- 15.40-16.05 2.2.5 A. Zholents and G. Penn (Berkeley, CA, USA)  
*Obtaining two attosecond soft X-ray pulses with controlled time delay for X-ray stimulated Raman spectroscopy*
- 16.15-16.45 **Coffee break**
- Seminar 2.3**  
**Chair:** C.H. Keitel (Germany)
- 16.45-17.10 2.3.1 M.M. Murnane and H.C. Kapteyn (Boulder, CO, USA)  
*Ultrafast molecular dynamics probed by coherent electrons and X-rays*
- 17.10-17.35 2.3.2 I.V. Litvinyuk (Manhattan, KS, USA; Brisbane, Australia), S. De, D. Ray, N.G. Johnson, I. Bocharova, M. Magrakvelidze, F. Anis, B.D. Esry, L. Cocke (Manhattan, KS, USA), I. Znakovskaya, and M.F. Kling (Garching, Germany)  
*Dynamic field-free orientation of polar molecules by intense two-color femtosecond laser pulses*
- 17.35-18.00 2.3.3 B. Manschwetus, H. Rottke, G. Steinmeyer (Berlin, Germany), A. Czasch, L. Foucar, H. Schmidt-Böcking, R. Dörner (Frankfurt, Germany), and W. Sandner (Berlin, Germany)  
*Strong field ionization of two center, atom like systems at fixed internuclear separation*
- 18.00-18.25 2.3.4 H. Hultgren and I. Kivan (Freiburg, Germany)  
*Electron dynamics of diatomic molecular anions in a strong laser field*
- 18.25-18.50 2.3.5 M. Busuladzic, A. Gazibegovic-Busuladzic (Sarajevo, Bosnia and Herzegovina), D.B. Milosevic (Sarajevo, Bosnia and Herzegovina; Berlin, Germany), and W. Becker (Berlin, Germany)  
*Ellipticity dependence of high-order above-threshold ionization from aligned diatomic molecules*

## Tuesday, July 14

### Seminar 2.4

**Chair:** H. Reiss (USA, Germany)

- 11.00-11.25 2.4.1 L.D. Van Woerkom (Columbus, OH, USA)  
*Relativistic electron generation in solids with ultra-high intensity lasers*
- 11.25-11.50 2.4.2 C.H. Keitel, C. Müller, K.Z. Hatsagortsyan, H. Hetzheim, and M. Ruf (Heidelberg, Germany)  
*Laser-driven particle physics*
- 11.50-12.15 2.4.3 U. Eichmann, T. Nubbemeyer, H. Rottke, and W. Sandner (Berlin, Germany)  
*Acceleration of neutral atoms in strong laser fields*
- 12.15-12.40 2.4.4 A. Di Piazza, K.Z. Hatsagortsyan, and C.H. Keitel (Heidelberg, Germany)  
*Refractive QED effects in intense laser fields*
- 12.45-14.00 **Lunch**

### Seminar 2.5

**Chair:** H.C. Kapteyn (USA)

- 14.00-14.25 2.5.1 H. Kono, N. Niitu (Sendai, Japan), K. Nakai, T. Kato (Tokyo, Japan), and R. Islam (Glasgow, UK)  
*Theoretical investigation of nonadiabatic multielectron dynamics in intense-field ionization of  $H_2$  and  $C_{60}$*

- 14.25-14.50 2.5.2 K. Ueda, H. Fukuzawa, X.-J. Liu, K. Motomura, G. Prümper (Tohoku, Japan; Sayo, Japan), M. Okunishi, K. Shimada (Tohoku, Japan), H. Iwayama, K. Nagaya, H. Murakami, A. Sugishima, M. Yao (Sayo, Japan; Kyoto, Japan), N. Saito (Sayo, Japan; Tsukuba, Japan), A. Rudenko (Sayo, Japan; Hamburg, Germany), M. Kurka (Tohoku, Japan; Sayo, Japan; Heidelberg, Germany), K.-U. Kühnel (Sayo, Japan; Heidelberg, Germany), J. Ullrich (Sayo, Japan; Hamburg, Germany; Heidelberg, Germany), L. Foucar (Tohoku, Japan; Sayo, Japan; Frankfurt, Germany), A. Czasch, O. Jagutzki, H. Schmidt-Böcking, R. Dörner (Frankfurt, Germany), R. Feifel (Sayo, Japan; Uppsala, Sweden), A. Belkacem (Berkeley, CA, USA), T. Harada, M. Toyoda, M. Yanagihara, M. Yamamoto (Tohoku, Japan), M. Nagasono, A. Higashiya, T. Togashi, M. Yabashi, T. Ishikawa, H. Ohashi, and H. Kimura (Sayo, Japan)  
*Multiple ionization of atoms, molecules and clusters by intense extreme ultraviolet FEL pulses at Spring-8*
- 14.50-15.15 2.5.3 G.N. Gibson (Storrs, CT, USA)  
*Theoretical and experimental progress towards HHG and quantum tomography of excited states of molecules*
- 15.15-15.35 2.5.4 R. Taïeb, J. Caillat, and A. Maquet (Paris, France)  
*Tomographic imaging of molecular orbitals from high-order harmonic spectra: challenges in theory*
- 15.35-15.50 2.5.5 A.A. Gonoskov, I.A. Gonoskov, M.Yu. Emelin, M.Yu. Ryabikin (Nizhny Novgorod, Russia), and V.V. Strelkov (Moscow, Russia)  
*Polarization properties of high harmonic generation with elliptically polarized laser pulse: separation of quantum paths*
- 15.50-16.05 2.5.6 M.B. Smirnov (Moscow, Russia)  
*Short wavelength X-ray emission generated by highly excited cluster beams with elliptically polarized laser pulse*
- 16.05-16.20 2.5.7 B. Wang (Beijing, China), Y. Guo (Shanghai, China), Z.-C. Yan (New Brunswick, Canada; Harbin, China), and P. Fu (Beijing, China)  
*Frequency dependence of high-order above threshold ionization of molecule in intense laser field*
- 16.15-16.45 **Coffee break**
- Seminar 2.6**  
**Chair:** W. Becker (Germany)
- 16.45-17.10 2.6.1 J. Bouillet (Talence, France), Y. Zaouter, (Bordeaux, France; Pessac, France), J. Limpert (Jena, Germany), S. Petit, E. Mével, E. Constant, and E. Cormier (Bordeaux, France)  
*High order harmonic generation at 1 MHz directly driven by a fiber CPA system*
- 17.10-17.35 2.6.2 C. Serrat (Barcelona, Spain), D. Faccio (Barcelona, Spain; Como, Italy), A. Couairon (Palaiseau, France), P. Di Trapani (Como, Italy; Vilnius, Lithuania), and J. Biegert (Barcelona, Spain)  
*Propagation effects in high-order harmonic generation with bessel pulses*
- 17.35-18.00 2.6.3 M.V. Frolov, N.L. Manakov, T.S. Sarantseva (Voronezh, Russia), and A.F. Starace (Lincoln, NE, USA)  
*Analytic formulae for high-order harmonic generation*

- 18.00-18.25 2.6.4 L. Plaja, J.A. Pérez-Hernández, and L. Roso (Salamanca, Spain)  
*Harmonic generation beyond the strong-field approximation: mid-infrared yield scaling*
- 18.25-18.50 2.6.5 C. Vozzi, F. Calegari (Milan, Italy), F. Frassetto, L. Poletto (Padua, Italy), G. Sansone, P. Villoresi (Padua, Italy), M. Nisoli, S. De Silvestri, and S. Stagira (Milan, Italy)  
*High order harmonics driven by a self-phase-stabilized IR parametric source*
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### Wednesday, July 15

#### Seminar 2.7

**Chair:** A. Maquet (France)

- 11.00-11.25 2.7.1 F. Catoire (Columbus, OH, USA), C. Baga, (Columbus, OH, Stony Brook, NY, USA), G.G. Paulus (Jena, Germany; College Station, TX, USA), H.G. Muller (Amsterdam, The Netherlands), P. Agostini, and L.F. DiMauro (Columbus, OH, USA)  
*Strong field photoionization revisited*
- 11.25-11.45 2.7.2 S. Bivona, G. Bonanno, R. Burlon, and C. Leone (Palermo Italy)  
*Two-color ionization of hydrogen by short intense pulses*
- 11.45-12.05 2.7.3 A.M. Popov, O.V. Tikhonova, and E.A. Volkova (Moscow, Russia)  
*Low frequency strong-field ionization and excitation of hydrogen atom*
- 12.05-12.25 2.7.4 J.-C. Diels (Albuquerque, NM, USA)  
*Trying to get the CEO under control, as well as the CE*
- 12.25-12.45 2.7.5 J. Chen (Beijing, China), X. Liu (Wuhan, China), and Y. Cheng (Shanghai, China)  
*Interaction between atoms and intense mid-infrared laser field*
- 12.45-14.00 **Lunch**

#### Seminar 2.8

**Chair:** D. Bauer (Germany)

- 14.00-14.25 2.8.1 A. Mitrofanov, A.J. Verhoef, A. Baltuska (Vienna, Austria), E.E. Serebryannikov, A.M. Zheltikov (Moscow, Russia), J. Lumeau, and L.B. Glebov (Orlando, FL, USA)  
*Mapping of tunneling ionization using an optical two-color pump-probe technique*
- 14.25-14.50 2.8.2 A.M. Popov, O.V. Tikhonova, and E.A. Volkova (Moscow, Russia)  
*Carrier-envelope phase effects on atomic ionization and electron rescattering in an intense few-cycle laser pulse*
- 14.50-15.10 2.8.3 M. Okunishi, R. Itaya, K. Shimada, G. Praemumper, K. Ueda (Sendai, Japan), M. Busuladzic, A. Gazibegovic-Busuladzic (Sarajevo, Bosnia and Herzegovina), D.B. Milosevic (Sarajevo, Bosnia and Herzegovina; Berlin, Germany), and W. Becker (Berlin, Germany)  
*Two-source double-slit interference in angle-resolved high-order above-threshold ionization spectra of diatoms*
- 15.10-15.35 2.8.4 D.B. Milosevic (Sarajevo, Bosnia and Herzegovina; Berlin, Germany), A. Cerbic, B. Fetic, E. Hasovic, (Sarajevo, Bosnia and Herzegovina), and W. Becker (Berlin, Germany)  
*Low-frequency approximation for high-order above-threshold ionization*

- 15.35-15.55 2.8.5 M.V. Frolov, N.L. Manakov (Voronezh, Russia), and A.F. Starace (Lincoln, NE, USA)  
*Analytic formulas for above threshold ionization/detachment plateau spectra*
- 15.55-16.15 2.8.6 U. Saalmann (Dresden, Germany)  
*Anomalous ultrafast nanoplasma formation in doped helium droplets*
- 16.15-16.45 **Coffee break**
- Seminar 2.9**
- Chair:** D.B. Milosevic (Bosnia and Herzegovina)
- 16.45-17.10 2.9.1 F. Martin (Madrid, Spain)  
*Unravelling the autoionizing decay of H<sub>2</sub> doubly excited states with ultrashort laser pulses*
- 17.10-17.35 2.9.2 N.I. Shvetsov-Shilovski, S.P. Goreslavski, S.V. Popruzhenko (Moscow, Russia), and W. Becker (Berlin, Germany)  
*Mechanism and scaling of population trapping into Rydberg states in short laser pulses*
- 17.35-18.00 2.9.3 H. Reiss (Berlin, Germany; Washington, DC, USA)  
*Violation of conservation rules following from a change of electromagnetic gauge*
- 18.00-18.25 2.9.4 H.-J. Kull (Aachen, Germany) and M. Heinen (Jülich, Germany)  
*Radiation boundary conditions for the numerical solution of the 3D time-dependent Schrödinger equation with a localized interaction*
- 18.25-18.45 2.9.5 M. Krishnamurthy (Mumbai, India)  
*Size limited matter in intense laser fields*
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#### Thursday, July 16

#### Symposium “Dynamic imaging – in memory of Prof. N.B. Delone”

##### S1

**Chair:** S.P. Goreslavski (Russia)

- 11.00-11.25 S.1.1 M. Ivanov (London, UK)  
*What a great life!*
- 11.25-11.50 S.1.2 S.L. Chin (Quebec, Canada) and F.A. Ilkov (Sunnyvale, CA, USA)  
*Racing in the tunnel and walking through the memory lane*
- 11.50-12.15 S.1.3 A. Maquet (Paris, France)  
*Multiphoton Physics in the twentieth century*
- 12.15-12.40 S.1.4 A. Brixner (Würzburg, Germany)  
*Subdiffraction ultrafast space-time-resolved spectroscopy*
- 12.45-14.00 **Lunch**

##### S2

**Chair:** M.Yu. Ivanov (UK)

- 14.00-14.25 S.2.1 O.V. Smirnova (Berlin, Germany; Ottawa, Canada), S. Patchkovskii (Ottawa, Canada), Y. Mairesse (Ottawa, Canada; Bordeaux, France), N. Dudovich (Ottawa, Canada; Rehovot, Israel), D. Villeneuve, P. Corkum (Ottawa, Canada), and M.Yu. Ivanov (Ottawa, Canada; London, UK)  
*Time and space resolved high harmonic imaging of electron tunnelling from molecules*

- 14.25-14.50 S.2.2 A. Zaïr, M. Holler, A. Guandalini, F. Schapper (Zurich, Switzerland), T. Auguste (Saclay, France), E. Cormier (Bordeaux, France), A. Wyatt, A. Monmayrant, I.A. Walmsley (Oxford, UK), J. Biegert (Barcelona, Spain), L. Gallmann (Zurich, Switzerland), P. Salières (Saclay, France), and U. Keller (Zurich, Switzerland)  
*Quantum path interferences in high-harmonic generation*
- 14.50-15.15 S.2.3 H.J. Wörner, J.B. Bertrand, P.B. Corkum, and D.M. Villeneuve (Ottawa, Canada)  
*Attosecond homodyne interferometry of a chemical reaction*
- 15.15-16.40 S.2.4 P. Johnsson (Lund, Sweden)  
*Attosecond dynamics of electrons close to the ionization threshold*
- 16.40-16.05 S.2.5 R. Torres, T. Siegel, L. Brugnera, F. Frank, L. Chipperfield, D. Hoffmann, J.W.G. Tisch, and J.P. Marangos (London, UK)  
*Optimising fields for HHG*
- 16.15-16.45 **Coffee break**

### S3

**Chair:** A. Zaïr (UK)

- 16.45-17.10 S.3.1 R. Moshhammer (Heidelberg, Germany)  
*Fragmentation of atoms and molecules in cep stabilized laser pulses*
- 17.10-17.35 S.3.2 A. Saenz (Berlin, Germany)  
*Orientation dependence of molecular strong-field ionization and its importance for imaging*
- 17.35-18.00 S.3.3 J. Durá, R. de Nalda, J.G. Izquierdo, G.A. Amaral, and L. Bañares (Madrid, Spain)  
*Imaging the femtochemistry of molecules and clusters*
- 18.00-18.25 S.3.4 C.Z. Bisgaard (Ottawa, Canada; Copenhagen, Denmark), O.J. Clarkin (Ottawa, Kingston; Canada), G. Wu (Ottawa, Canada), A.M.D. Lee, (Ottawa, Kingston; Canada), O. Geßner, (Berkeley, CA, USA), C.C. Hayden (Livermore, CA, USA), and A. Stolow (Ottawa, Kingston; Canada)  
*Time-resolved 3D photoelectron imaging of electronic-for fixed-in-space molecules*
- 18.25-18.50 S.3.5 T. Möller (Berlin, Germany)  
*Ultrafast processes and imaging of clusters*

### Friday, July 17

#### Seminar 2.10

**Chair:** J. Peatross (USA)

- 11.00-11.25 2.10.1 S. Saugout, E. Charron, and C. Cornaggia (Saclay, France; Orsay, France)  
*Laser-induced multiple ionization and imaging of molecular nuclear structures*
- 11.25-11.50 2.10.2 W. Quan, X. Liu (Wuhan, China), and C.F.M. Faria (London, UK)  
*Non-sequential double ionization with polarization-gated pulses*
- 11.50-12.15 2.10.3 S.L. Haan, Z.S. Smith, K.N. Shomsky, and P.W. Plantinga (Grand Rapids, MI, USA)  
*Classical modeling of non-sequential double ionization: recollision, ionization, drift, and possible reattachment*

- 12.15-12.40 2.10.4 H.J. Wörner, J. Bertrand, H. Niikura, P. Corkum, and D. Villeneuve (Ottawa, Canada)  
*Looking at molecular structure and following molecular dynamics using high harmonic generation*
- 12.45-14.00 **Lunch**
- Seminar 2.11**  
**Chair:** S.L. Haan (USA)
- 14.00-14.20 2.11.1 T.C. Pesch and H.-J. Kull (Aachen, Germany)  
*Nonlinear coupling of ultra-intense electromagnetic and electrostatic waves in relativistic plasmas*
- 14.20-14.40 2.11.2 E. Persson, J. Burgdörfer, and S. Gräfe (Vienna, Austria),  
*Quantum control using trains of half-cycle pulses*
- 14.40-15.00 2.11.3 L. Canova, X. Chen, A. Trisorio, A. Jullien (Palaiseau, France),  
A. Assion, G. Tempea (Vienna, Austria), N. Forget, T. Oksenhendler (Orsay, France), and R. Lopez-Martens (Palaiseau, France)  
*Carrier-envelope phase control of using a transmission grating compressor and an AOPDF*
- 15.00-15.25 2.11.4 A. Shalit, Y. Paskover, and Y. Prior (Rehovot, Israel)  
*Single shot, combined time frequency four wave mixing*
- 15.25-15.50 2.11.5 J. Peatross, S. Glasgow, and M. Ware (Provo, UT, USA)  
*Single-electron light scattering in an intense laser focus*
- 15.50-16.10 2.11.6 V.S. Rastunkov and V.P. Krainov (Moscow, Russia)  
*Theory of high-order harmonic generation due to Brunel electron heating in relativistic laser interaction with overdense plasma*
- 16.15-16.45 **Coffee break**
- Seminar 2.12**  
**Chair:** A.M. Popov (Russia)
- 16.45-17.00 2.12.1 A.S. Kornev, E.B. Tulenko, and B.A. Zon (Voronezh, Russia)  
*Tunneling photoionization of an atomic d shell*
- 17.00-17.15 2.12.2 J.A. Pérez-Hernández, D. Hoffmann (London, UK), A. Zaïr, L.E. Chipperfield, L. Plaja, C. Ruiz (Salamanca, Spain), J.P. Marangos (London, UK), and L. Roso (Salamanca, Spain)  
*Controlling high-order harmonic cut-off extension using two delayed pulses of the same colour*
- 17.15-17.30 2.12.3 M.Yu. Emelin (Nizhny Novgorod, Russia)  
*High-order harmonic generation by femtosecond laser pulse in long medium*
- 17.30-17.45 2.12.4 I.A. Burenkov and O.V. Tikhonova (Moscow, Russia)  
*Different regimes of the laser-stimulated bremsstrahlung in intense ultrashort laser pulses*
- 17.45-18.00 2.12.5 S.P. Andreev, V.A. Nebogatov, and T.V. Pavlova (Moscow, Russia)  
*Broadening of cyclotron resonance line due to neutral impurities in two-dimensional semiconductors*
- 18.00-18.15 2.12.6 A.Yu. Okulov (Moscow, Russia)  
*Laser singular theta-pinch*
- 18.15-18.30 2.12.7 A.V. Flegel, M.V. Frolov, N.L. Manakov (Voronezh, Russia), and A.F. Starace (Lincoln, NE, USA)  
*Laser-induced resonant structure in electron-atom scattering*

**Poster Session, Tuesday, July 14****Chair:**

- P2.1. L. Arissian (Ottawa, Canada; College Station, TX, USA), C. Smeenk (College Station, TX, USA), and P. Corkum (Ottawa, Canada)  
*Study of tunnel ionization with circularly polarized light*
- P2.2. D.I. Bondar (Waterloo, Ottawa, Canada), W.-K. Liu (Waterloo, Canada), and M.Yu. Ivanov (London, UK)  
*Two-electron ionization in strong laser fields below intensity threshold*
- P2.3. C.F.M. Faria (London, UK)  
*Non-sequential double ionization in diatomic molecules: one- and two-center rescattering scenarios*
- P2.4. B. Fetic and D.B. Milosevic (Sarajevo, Bosnia and Herzegovina)  
*Numerical results for high-order above-threshold ionization spectra obtained by solving the time-dependent Schrödinger equation*
- P2.5. A. Gazibegovic-Busuladzic (Sarajevo, Bosnia and Herzegovina), D.B. Milosevic (Sarajevo, Bosnia and Herzegovina; Berlin, Germany), W. Becker (Berlin, Germany), B. Bergues, I.Yu. Kiyan, and H. Helm (Freiburg, Germany)  
*High-order above-threshold photodetachment from halogen ions: plateau in the electron energy spectra caused by the rescattered electrons*
- P2.6. A.H. Gevorgyan, K.B. Oganesyan, K.R. Allahverdyan, E.M. Arutyunyan, S.O. Arutyunyan, and A.G. Movsisyan (Yerevan, Armenia)  
*The peculiarities of radiation of photonic crystals with defect (isotropic or anisotropic)*
- P2.7. R. Gopal (Heidelberg, Germany), A. Rudenko, K. Simeonidis, K.-U. Kühnel, M. Kurka, C.-D. Schröter (Heidelberg, Germany), O. Herrwerth, Th. Uphues, M. Schultze, E. Goulielmakis, M. Uiberacker, (Garching, Germany) D. Bauer (Heidelberg, Germany), M. Lezius (Garching, Germany), R. Moshhammer (Heidelberg, Germany), M.F. Kling (Garching, Germany), and J. Ullrich (Heidelberg, Germany)  
*Three dimensional momentum imaging of electron wavepacket interferences in few cycle laser pulses*
- P2.8. C. Hernández-García, C. Méndez, I. Arias, J.R. Vázquez de Aldana, I.J. Sola, O. Varela, and L. Roso (Salamanca, Spain)  
*Spectral alignment of a phased-grating compressor for petawatt-class laser systems*
- P2.9. A.V. Gulyaev, O.V. Tikhonova (Moscow, Russia)  
*Propagation of the ultrashort laser pulses through the quantum nonlinear medium with resonant properties*
- P2.10. I. Innoventov, E. Echkina, and K. Instrumentov (Moscow, Russia)  
*Application of the multicriterion optimization techniques and hierarchy of computational models to the research of ion acceleration due to laser-plasma interaction*

- P2.11 M. Kremer, B. Fischer, B. Feuerstein (Heidelberg, Germany), V.L.B. de Jesus (Nilópolis-RJ, Brazil), A. Rudenko (Hamburg, Germany), C. Dieter Schröter, R. Moshhammer, and J. Ullrich (Heidelberg, Germany)  
*Molecular fragmentation of  $H_2$  with CEP stabilized laser pulses*
- P2.12 I.V. Litvinyuk (Manhattan, KS, USA; Brisbane, Australia), I. Bocharova, S. De, D. Ray, M. Magrakvelidze, U. Thumm, L. Cocke (Manhattan, KS, USA), and A. Alnaser (Sharjah, United Arab Emirates)  
*Time-resolved Coulomb explosion imaging of ultrafast nuclear dynamics induced in  $N_2$  and  $O_2$  by intense few-cycle laser pulses*
- P2.13 Y.H. Jiang (Heidelberg, Germany), A. Rudenko (Hamburg, Germany), M. Kurka, K.U. Kühnel, M. Toppin (Heidelberg, Germany), O. Herrwerth, M. Lezius, M. Kling (Garching, Germany), L. Foucar, M. Schöffler, K. Cole, B. Ullrich, N. Neumann, R. Dörner (Frankfurt, Germany), J. Pérez-Torres, E. Plésiat, F. Martín (Madrid, Spain), A. Cassimi (Caen, France), S. Düsterer, R. Treusch, M. Gensch (Hamburg, Germany), C.D. Schröter, R. Moshhammer, and J. Ullrich (Heidelberg, Germany)  
*Time-resolved molecular fragmentation at FLASH*
- P2.14 S. Odzak (Sarajevo, Bosnia and Herzegovina) and D.B. Milosevic (Sarajevo, Bosnia and Herzegovina; Berlin, Germany)  
*A new interference formula for high-order harmonic generation by arbitrary homonuclear diatomic molecular systems*
- P2.15 K.B. Oganesyan, A.S. Gevorkyan (Yerevan, Armenia), A.I. Artemiev, M.V. Fedorov, R.V. Karapetyan (Moscow, Russia), and J.K. McIver (Moscow, ID, USA)  
*A new type medium for generation of anomalous intensive transition radiation*
- P2.16 M.L. Petrosyan, K.B. Oganesyan, L.A. Gabrielyan, Y.R. Nazaryan, Y.A. Garibyan, M.A. Akopov, M.A. Oganesyan (Yerevan, Armenia), M.V. Fedorov, A.I. Artemiev, R.V. Karapetyan (Moscow, Russia), Y.V. Rostovtsev, and M.O. Scully (College Station, TX, USA)  
*Coherent Smith-Purcell radiation in millimetre wavelength region*
- P2.17 A. Rudenko (Hamburg, Germany), M. Kurka (Heidelberg, Germany), L. Foucar (Frankfurt, Germany), K.-U. Kühnel, Y.H. Jiang, Th. Ergler (Heidelberg, Germany), T. Havermeier, M. Smolarski, S. Schössler, K. Cole, M. Schöffler, R. Dörner (Frankfurt, Germany), T. Zouros (Heraklion, Greece), S. Düsterer, R. Treusch, M. Gensch, (Hamburg, Germany), C.D. Schröter (Heidelberg, Germany), R. Moshhammer, and J. Ullrich (Heidelberg, Hamburg, Germany)  
*Two-photon double ionization of He and Ne with intense VUV free-electron-laser pulses*
- P2.18 E.M. Sarkisyan (Yerevan, Armenia), Zh.S. Gevorkian (Yerevan, Armenia; Ashtarak, Armenia), V.H. Arakelian (Ashtarak, Armenia), and K.B. Oganesyan (Yerevan, Armenia)  
*Diffusive radiation in infrared region*
- P2.19 H. Moghaddasin, B. Shokri (Tehran, Iran), and M. Ghorbanalilu (Tabriz, Iran)  
*Theoretical study of superradiant amplification of an ultrashort laser pulse in a plasma by a counterpropagating laser pulse*

- P2.20 A. Sell, G. Krauss, R. Scheu, A. Leitenstorfer, and R. Huber (Konstanz, Germany)  
*Electro-optic sampling of phase-locked multi-THz pulses with field amplitudes of up to  $10^8$  MV/cm*
- P2.21 C.A. Trallero (Ottawa, Canada)  
*Wavelength scaling of high harmonic generation efficiency*
- P2.22 A.S. Kornev, E.B. Tulenko, and B.A. Zon (Voronezh, Russia)  
*Excitation of atomic multiplets in Rb multiple ion creation*
- P2.23 G. Zhu, J. Steinmann, M. Schuricke, J. Albrecht, A. Dorn (Heidelberg, Germany), I. Ben-Itzhak (Manhattan, KS, USA) T.J.M. Zouros (Heraklion, Crete, Greece), J. Colgan (Los Alamos, NM, USA), M.S. Pindzola (Auburn, AL, USA), and J. Ullrich (Heidelberg, Germany)  
*Controlling the double photoionization dynamics of Li atoms by optical pumping*
- P2.24 D. Persano Adorno and G. Ferrante (Palermo, Italy)  
*Polarization of the radiation emitted in semiconductors driven by far-infrared fields*
- P2.25 V.A. Kostin and N.V. Vvedenskii (Nizhny Novgorod, Russia)  
*Strong THz waves generated by gas ionization with axicon-focused femtosecond laser pulses*
- P2.26 A.A. Silaev and N.V. Vvedenskii (Nizhny Novgorod, Russia)  
*Excitation of the residual current in a plasma produced by a few-cycle laser pulse*
- P2.27 A.V. Glushkov (Odessa, Ukraine; Troitsk, Russia)  
*QED theory of laser-atom and laser-nucleus interaction: Stark effect and multi-photon phenomena*
- P2.28 A.V. Glushkov, S.V. Malinovskaya (Odessa, Ukraine; Troitsk, Russia), and A.V. Loboda (Odessa, Ukraine),  
*Raman scattering of the light on metastable levels of diatomics*
- P2.29 O.Yu. Khetselius (Odessa, Ukraine)  
*Atomic parity nonconservation in heavy atoms and observing P and PT violation using NMR shift in a laser beam*
- P2.30 V.I. Usachenko, P.E. Pyak, V.V. Kim (Tashkent, Uzbekistan), and S.-I. Chu (Lawrence, KS, USA)  
*Alignment-dependent effects in photoelectron angular distributions under strong-field ionization of laser-irradiated diatomic molecules*
- P2.31 A.A. Ionin, S.I. Kudryashov, L.V. Seleznev, D.V. Sinitsyn, and M.V. Fedorov (Moscow, Russia)  
*Tunnel ionization of air by superintense ultrashort laser pulses: a photoacoustic study*

### Seminar 3 Biophotonics

Monday, July 13

#### Seminar 3.1

**Chair:** S. Gonchukov (Russia)

- 11.00-11.25 3.1.1 L.V. Doronina, I.V. Fedotov, O.I. Ivashkina, M.A. Zots, K.V. Anokhin, Yu.M. Mikhailova, A.A. Lanin, A.B. Fedotov, (Moscow, Russia), M.N. Shneider, R.B. Miles (Princeton, USA), A.V. Sokolov, M.O. Scully (Texas, USA), and A.M. Zheltikov (Moscow, Russia)  
*The second law of thermodynamics, Maxwell's demons, photonic-crystal fibers, and optimal waveguide solutions for biophotonics*
- 11.25-11.45 3.1.2 V.A. Semchishen and A.V. Semchishen (Troitsk, Russia)  
*Cornea biomedical response on laser local ablation*
- 11.45-12.05 3.1.3 A.P. Sviridov (Troitsk, Russia), V. Chernomordik, M. Hassan, and A. Gandjbakhche (Bethesda, USA)  
*Visualization of biological texture by active polarization camera with correlation coefficient analyzer*
- 12.05-12.25 3.1.4 A.V. Korobtsov, S.P. Kotova, N.N. Losevsky, A.M. Mayorova, R.O. Klenov, and N.A. Klenova (Samara, Russia)  
*Application of laser tweezers for the study of erythrocytes mechanical properties*
- 12.25-12.45 3.1.5 I. Krasnikov, A. Seteikin (Blagoveshensk, Russia), and I. Bernhardt (Saarbruecken, Germany)  
*Simulation of red blood cell thermal reaction on laser radiation ( $\lambda=1064$  nm)*

12.45-14.00

**Lunch**

#### Seminar 3.2

**Chair:** J. Lademann (Germany)

- 14.00-14.25 3.2.1 A. Renier, T. Mangeat, H. Benalia, C.E. Caille, Ch. Pieralli, and B. Wacogne (Besançon, France)  
*Gold/Silica thin film for biosensors applications: surface plasmon resonance and metal enhanced fluorescence*
- 14.25-14.50 3.2.2 Y.L. Lim, R. Kliese (Queensland, Australia), T. Bosch (Toulouse, France), and A.D. Rakic (Queensland, Australia)  
*Multi-channel self-mixing sensor for fluid-flow mapping based on a monolithic VCSEL array*
- 14.50-15.15 3.2.3 P. Miskovsky, D. Jancura, Z. Nadova (Kosice, Slovakia), F. Sureau (Paris, France), V. Huntosova, L. Buriankova, and D. Buzova (Kosice, Slovakia)  
*Optical spectroscopy and imaging methods in a study of interaction of photosensitizer hypericin with LDL and mitochondria: implication for photodynamic therapy*
- 15.15-15.35 3.2.4 E. Borisova, B. Vladimirov, and L. Avramov (Sofia, Bulgaria)  
*Multispectral fluorescence detection of tumors in the upper and lower part of gastrointestinal tract*
- 15.35-15.55 3.2.5 A.B. Solovieva, P.I. Tolstih, V.A. Derbenev, N.N. Glagolev, and A.V. Ivanov (Moscow, Russia)  
*The combine laser and photodynamic treatment effects in vast purulent wound*

- 15.55-16.15 3.2.6 P. Pavlova (Plovdiv, Bulgaria), E. Borisova, L. Avramov, E. Petkova, and P. Troyanova (Sofia, Bulgaria)  
*Investigation of relations between skin cancer lesions' images and their fluorescent spectra*
- 16.15-16.45 **Coffee break**
- Seminar 3.3**  
**Chair:** B. Wacogne (France)
- 16.45-17.10 3.3.1 Z. Harman (Heidelberg, Germany), Y.I. Salamin (Sharjah, UAE), B. Galow, and Ch.H. Keitel (Heidelberg, Germany)  
*Strong-field laser acceleration of ions for cancer hadron therapy*
- 17.10-17.35 3.3.2 E.V. Zagaynova, M.A. Sirotkina, M.V. Shirmanova, V.V. Elagin, P.A. Agrba, V.A. Kamensky (Nizhny Novgorod, Russia), and V.A. Nadtochenko (Moscow, Russia)  
*OCT guided photothermal therapy of tumor with gold nanoparticles*
- 17.35-18.00 3.3.3 C. McDougall, D. Stevenson, F.J. Gunn-Moore, K. Dholakia, and C.T.A. Brown (St. Andrews, UK)  
*Optically assisted injection of gold nanoparticles into targeted mammalian cells*
- 18.00-18.25 3.3.4 I.V. Turchin, M.S. Kleshnin, I.I. Fiks, A.G. Orlova, I.V. Balalaeva, M.V. Shirmanova (Nizhny Novgorod, Russia), and A.P. Savitsky (Moscow, Russia)  
*Fluorescence diffuse tomography setup with a single source-detector pair for detection of tumors labeled with fluorescent proteins and quantum dots in small animals*
- 18.25-18.50 3.3.5 D.C. Dutu, D.C. Dumitras, M. Patachia, and C. Matei (Bucharest, Romania)  
*Calibration and artefact minimization in a two wavelength CW diffuse optical tomography system*

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### Tuesday, July 14

#### Seminar 3.4

**Chair:** P. Miskovsky (Slovakia)

- 11.00-11.25 3.4.1 D. Sharma, J. Leonard, and S. Haacke (Strasbourg, France)  
*Tryptophan's primary photoproduct in aqueous solution*
- 11.25-11.45 3.4.2 J.S. D'Souza, J.A. Dharmadhikari, A.K. Dharmadhikari (Mumbai, India), S. Minardi (Jena, Germany), A. Couairon (Palaiseau, France), B.J. Rao, and D. Mathur (Mumbai, India)  
*Effect of intense, ultrashort laser pulses on a DNA plasmid*
- 11.45-12.05 3.4.3 T.Yu. Mogilnaya, A. Botikov, and E.A. Saguitova (Moscow, Russia)  
*Research of superluminescence for the structures containing molecules of DNA viruses, by laser radiation*
- 12.05-12.25 3.4.4 A.N. Mahson, A.N. Baranov, N.B. Brandt, N.N. Brandt, G.A. Mironova, E.N. Novozilova, M.V. Novozilov, M.V. Scorikov, and V.I. Shirocorad (Moscow, Russia)  
*New approach to cancer diagnostics with correlation spectroscopy*

- 12.25-12.45 3.4.5 V.V. Salmin, A.B. Salmina, L.D. Zykova, A.A. Gotovko, A.A. Fursov, D.I. Laletin, G.V. Yudin, O.V. Frolova, M.A. Fursov, O.M. Shalakhanova, and A.S. Provorov (Krasnoyarsk, Russia)  
*Study of autofluorescence dynamics in excitable tissues at acute ischemia in situ*
- 12.45-14.00 **Lunch**
- Seminar 3.5**  
**Chair:** N. Brandt (Russia)
- 14.00-14.25 3.5.1 E.S. Estracanholli, C. Kurachi, J.R. Vicente, P.F. Menezes, and V.S. Bagnato (San Carlos, Brazil)  
*Determination of post-mortem interval using in situ tissue optical fluorescence*
- 14.25-14.50 3.5.2 M.E. Darvin (Berlin, Germany), C. Sandhagen, W. Koecher (Kassel, Germany), Yu. Shevtsova (Moscow, Russia), S. Schanzer, H. Richter, W. Sterry, and J. Lademann (Berlin, Germany)  
*Reflection spectroscopy as a non-invasive optical method for determination of the carotenoid concentration in the skin. Comparison with resonance Raman spectroscopy*
- 14.50-15.15 3.5.3 A.N. Bashkatov (Saratov, Russia)  
*Tissue optical properties*
- 15.15-15.35 3.5.4 A.V. Kondyurin and A.P. Sviridov (Troitsk, Russia)  
*Thermal interaction of laser radiation (1560 nm) with water of biological tissues*
- 15.35-15.55 3.5.5 E.A. Genina (Saratov, Russia)  
*Diffusion of immersion agents and dyes in tissues*
- 15.55-16.15 3.5.6 A.V. Sukhinina, D.N. Bakhmutov, and S.A. Gonchukov (Moscow, Russia)  
*Fluorescence diagnostics of periodontitis*
- 16.15-16.45 **Coffee break**
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### Wednesday, July 15

#### Seminar 3.6

**Chair:** V. Bagnato (Brazil)

- 11.00-11.25 3.6.1 J. Lademann, H. Richter, M. Darvin, H. Alborova, B. Humme, A. Patzelt (Berlin, Germany), A. Kramer, K. Weltmann, B. Hartmann, P. Hinz, and O. Lademann (Greifswald, Germany)  
*Investigation of the application of a plasma-jet in dermatology by laser scanning microscopy*
- 11.25-11.45 3.6.2 A. Semchishen, V. Seminogov (Troitsk, Russia), and M. Mrochen (Zurich, Switzerland)  
*Role of corneal surface roughness for contrast sensitivity after photorefractive surgery*
- 11.45-12.05 3.6.3 V.A. Simonova, E.V. Savateeva, V.Ya. Panchenko (Shatura, Russia), and A.A. Karabutov (Moscow, Russia)  
*Novel combined laser-ultrasonic and optoacoustic focused transducer array*
- 12.05-12.25 3.6.4 F. Eisa, E. Januts, T. Pöschinger, A. Perez, A. Langenbucher, and A. Douplik (Erlangen, Germany)  
*Studies on the optical properties and reproducibility of agar- and resin-stabilized tissue-like phantoms*

12.25-12.45 3.6.5 S.F. Timashev (Moscow, Russia), Yu.S. Polyakov (Ashland, USA), R.M. Yulmetyev, S.A. Demin, and O.Yu. Panishev (Kazan, Russia)  
*Analysis of cross-correlations in magnetoencephalogram responses to color-flickering stimuli with application to individual medicine*

**Poster Session, Tuesday, July 14**

**Chair:** S. Gonchukov (Russia)

- P3.1 N.A. Aksenova, N.N. Glagolev, P.S. Timashev (Troitsk, Russia), N.S. Melik-Nubarov, and A.B. Solovieva (Moscow, Russia)  
*Photocatalytic activity of the watersoluble porphyrins solubilized by pluronic F127*
- P3.2 L.T. Moryama, J.D. Vollet-Filho, C. Grecco, J. Ferreira, P.F. Campos de Menezes, R.P. Teles, and V.S. Bagnato (San Carlos, Brazil)  
*A real-time dosimetry for PDT: semi-empirical method for light distribution and fluorescence-based depth of necrosis prediction*
- P3.3 A.V. Ivanov, V.D. Rumjantseva, K.S. Shamkhalov, and I.P. Shilov (Moscow, Russia)  
*Infra-red luminescence diagnostics of neoplasm by means of rear-earth metal-complexes of porphyrins*
- P3.4 P. Koranda, J. Pokorný, H. Jelínková, O. Köhler, M. Němec (Prague, Czech Republic), M. Miyagi, and K. Iwai (Sendai, Japan)  
*Application of mid-infrared laser radiation for lithotripsy*
- P3.5 S.V. Kireev and S.L. Shnyrev (Moscow, Russia)  
*Iodine isotopes fluorescence in gases excited by radiation of semiconductor laser in spectral range 630-640 nm*
- P3.6 K.N. Afanasiev, V.G. Volostnikov, E.N. Vorontsov, A.V. Korobtsov, S.P. Kotova, V.V. Patlan, and E.V. Razueva (Samara, Russia)  
*Formation of the light fields in the shape of curves on the base of spiral-type-beam optics: details*
- P3.7 A. Anosov, S. Gonchukov, F. Lepeshkin, A. Markolia, M. Moshnin, O. Parenago, and O. Pokrovsky (Moscow, Russia)  
*Metoxypsoralens for PUVA therapy: extraction and properties*
- P3.8 L. Buriankova, D. Jancura, Z. Nadova (Kosice, Slovakia), M. Refregiers (Gif sur Yvette, France), J. Mikes, and P. Miskovsky (Kosice, Slovakia)  
*A synchrotron based IR spectroscopy detection of apoptosis in U-87 MG cells induced by hypericin*
- P3.9 Z. Nadova, V. Huntosova, L. Bryndzova, J. Mikes (Kosice, Slovakia), F. Sureau (Paris, France), and P. Miskovsky (Kosice, Slovakia)  
*Transport mode of photoactive drug hypericin into cells influences the mode of cell death*
- P3.10 T.I. Syreishchikova, Yu.A. Grysunov†, N.V. Smolina, A.A. Komar, M.G. Uzbekov, E.Yu. Misionzhnik, A.V. Molodetskich, and N.M. Maximova (Moscow, Russia)  
*Subnanosecond fluorescent spectroscopy of human serum albumin as a method of therapy efficiency estimation in anxious depression*
- P3.11 D. Chorvat, Jr., A. Mateasik, I. Lacik, and A. Chorvatova (Bratislava, Slovakia)  
*Analysis of complex multispectral fluorescence decay kinetics and its biomedical applications*

**Seminar 4**  
**Physics of Lasers**

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**Monday, July 13**

**Seminar 9.2, Joint session of 4<sup>th</sup> (4.0) and 9<sup>th</sup> (9.2) Seminars**

**Chair:** M.V. Andrés (Spain)

- 14.00-14.25 4.0.1 F. Fusari (St. Andrews, UK), B. Richards (Leeds, UK), A.A. Lagatsky (St. Andrews, UK), S. Vetter, S. Calvez (Glasgow, UK), M. Dawson (Leeds, UK), A. Jha (Glasgow, UK), W. Sibbett, and C.T.A. Brown (St. Andrews, UK)  
*Spectroscopic and lasing performance of Tm-doped Tellurite and Germanate glasses operating around 1.9- $\mu$ m wavelength*
- 14.25-14.40 9.2.1 V.I. Kovalev, N.E. Kotova (Edinburgh, UK; Moscow, Russia), and R.G. Harrison (Edinburgh, UK)  
*Effect of fiber's numerical aperture on temporal and spectral characteristics of a Brillouin fiber laser radiation*
- 14.40-14.55 9.2.2 A.V. Shubin, A.A. Rybaltovsky, A.L. Tomashuk, M.A. Melkumov (Moscow, Russia), M.V. Yashkov, A.N. Guryanov (Nizhny Novgorod, Russia), I.A. Bufetov, and E.M. Dianov (Moscow, Russia)  
*Photodarkening of Yb-doped fibers: the nature of the color centers and the effect of H<sub>2</sub>-loading*
- 14.55-15.10 9.2.3 S.V. Firstov, I.A. Bufetov, A.V. Shubin, A.M. Smirnov, L.D. Iskhakova (Moscow, Russia), V.F. Khopin, A.N. Guryanov (Nizhny Novgorod, Russia), and E.M. Dianov (Moscow, Russia)  
*The 2 W bismuth doped fiber lasers in the wavelength range 1300 – 1500 nm and variation of Bi-doped fiber parameters with core composition*
- 15.10-15.25 9.2.4 O. Pottiez, R. Grajales-Coutiño, C.-M. Carrillo-Delgado (Leon, Mexico), B. Ibarra-Escamilla, and E.A. Kuzin (Puebla, Mexico)  
*Generation of high-energy pulses from an all-normal-dispersion figure-8 fiber laser*
- 15.25-15.40 9.2.5 E.A. Kuzin (Puebla, Mexico), O. Pottiez (Leon, Mexico), B. Ibarra-Escamilla, M. Bello-Jimenez, A. Flores-Rosas, and M. Duran-Sanchez (Puebla, Mexico)  
*Removal of continuous wave component in a figure-eight fiber laser by using a nonlinear optical loop mirror*
- 15.40-15.55 9.2.6 A.G. Kuznetsov and S.A. Babin (Novosibirsk, Russia)  
*Q-switched fiber lasers with spectral control for various applications*
- 15.55-16.15 9.2.7 H. Ahmad and S.W. Harun (Kuala Lumpur, Malaysia)  
*Bismuth-based erbium doped fiber as a gain medium for L-band amplification and Brillouin fiber laser*
- 16.15-16.45 **Coffee break**

**Seminar 9.3, Joint session of 4<sup>th</sup> (4.0) and 9<sup>th</sup> (9.3) Seminars**

**Chair:** V.I. Kovalev (UK; Russia).

- 16.45-17.10 4.0.2 I. Pupeza, J. Rauschenberger (Garching, Germany), T. Eidam, F. Röser (Jena, Germany), B. Bernhardt, A. Ozawa, R. Holzwarth, Th. Udem (Garching, Germany), J. Limpert (Jena, Germany), A. Apolonski, T.W. Hänsch (Garching, Germany), A. Tünnermann (Jena, Germany), and F. Krausz (Garching, Germany)  
*High-power femtosecond enhancement cavities for XUV generation*

- 17.10-17.25 9.3.1 M. Durán-Sánchez, E.A. Kuzin (Puebla, Mexico), O. Pottiez (Leon, Mexico), M. Bello-Jiménez, B. Ibarra-Escamilla, A. Flores-Rosas, and J.L. Hernández-Rebollar (Puebla, Mexico)  
*Fine adjustment of cavity loss by Sagnac loop for a dual wavelength generation*
- 17.25-17.40 9.3.2 I.A. Bufetov, S.V. Firstov (Moscow, Russia), V.F. Khopin, A.N. Abramov, A.N. Guryanov (Nizhny Novgorod, Russia), and E.M. Dianov (Moscow, Russia)  
*Luminescence and gain properties of active optical centers formed in Pb-doped silica-based fibers*
- 17.40-17.55 9.3.3 A.V. Kir'yanov (Moscow, Russia; Leon, Mexico), S.M. Klimentov, and I.V. Mel'nikov (Moscow, Russia)  
*Specialty Yb fiber amplifier for Nd microchip laser: towards ~1-mJ, 1-ns output at 1-10 kHz repetition rate*
- 17.55-18.10 9.3.4 A. González-García, O. Pottiez, R. Grajales-Coutiño (Leon, Mexico), B. Ibarra-Escamilla, and E.A. Kuzin (Puebla, Mexico)  
*Switchable and tunable multi-wavelength Er-doped fiber ring laser using Sagnac filters*
- 18.10-18.25 9.3.5 I.S. Shelemba, S.A. Babin, A.E. Ismagulov, and E.V. Podivilov (Novosibirsk, Russia)  
*The role of modulation instability effect in the phase-sensitive OTDR sensor operation*
- 18.25-18.40 9.3.6 V.V. Dvoyrin, V.M. Mashinsky, E.M. Dianov (Moscow, Russia), A.A. Umnikov, and A.N. Guryanov (Nizhny Novgorod, Russia)  
*Lasers and amplifiers based on telecommunication fibers doped with bismuth*
- 18.40-18.55 9.3.7 L. de la Cruz-May (Campeche, Mexico), J.A. Álvarez-Chavez (Mexico, Mexico), E. Mejía-Beltrán (Leon, Mexico), H.L. Offerhaus (Enschede, The Netherlands), and A. Flores-Gil (Campeche, Mexico)  
*Optimal cavity design and modeling for high-radiance, double-clad, Yb<sup>+3</sup>-doped fiber lasers*

## Tuesday, July 14

### Seminar 4.1

**Chairs:** M. Pollnau (The Netherlands) and T. Südmeyer (Switzerland)

- 11.00-11.25 4.1.1 F. Druon, F. Friebe, J. Boudeile, D.N. Papadopoulos, M. Hanna (Paris-Sud, Palaiseau, France), P. Camy, J.L. Doualan, A. Benayad, R. Moncorgé (Caen, France), C. Cassagne, G. Boudebs (Angers, France), and P. Georges (Paris-Sud, Palaiseau, France)  
*Femtosecond oscillators based on Yb:CaF<sub>2</sub> and Yb:SrF<sub>2</sub>*
- 11.25-11.50 4.1.2 G. Andriukaitis, A. Pugžlys (Vienna, Austria), S. Ališauskas (Vienna, Austria; Vilnius, Lithuania), A. Baltuška (Vienna, Austria), L. Su, J. Xu, H. Li, R. Li (Shanghai, China), W.J. Lai, P.B. Phua (Singapore, Singapore), A. Marcinkevičius, M.E. Fermann (Ann Arbor, USA), L. Giniūnas, and R. Danielius (Vilnius, Lithuania)  
*Multi-mJ cw-pumped femtosecond pulse amplification in Yb,Na:CaF<sub>2</sub>*
- 11.50-12.15 4.1.3 J. Kawanaka, Y. Takeuchi, A. Yoshida, S.J. Pearce (Osaka, Japan), R. Yasuhara, T. Kawashima, and H. Kan (Osaka, Japan)  
*Highly efficient cryogenically-cooled Yb:YAG laser*

- 12.15-12.40 4.1.4 V. Petrov (Berlin, Germany), X. Mateos (Berlin, Germany; Tarragona, Spain), A. Schmidt, S. Rivier, U. Griebner (Berlin, Germany), H. Zhang, J. Wang, J. Li (Jina, China), and J. Liu (Qingdao, China)  
*Passive mode-locking of acentric Yb-doped borate crystals*
- 12.45-14.00 **Lunch**
- Seminar 4.2**
- Chair:** O.G. Okhotnikov (Finland)
- 14.00-14.25 4.2.1 T. Omatsu and K. Nawata (Chiba, Japan)  
*Sub-100W pico-second phase conjugate lasers*
- 14.25-14.50 4.2.2 M. Tokurakawa, A. Shirakawa, K. Ueda (Tokyo, Japan), H. Yagi, T. Yanagitani (Kagawa, Japan), A.A. Kaminskii (Moscow, Russia), R. Peters, S.T. Fredrich-Thornton, K. Petermann, and G. Huber (Hamburg, Germany)  
*Femtosecond diode-pumped Yb-doped crystal and ceramic lasers with high average power*
- 14.50-15.15 4.2.3 A.C. Tropper (Southampton, UK)  
*Mode-locked semiconductor lasers with sub-100fs pulses*
- 15.15-15.40 4.2.4 H. Byun, D. Pudo (Massachusetts, USA), S. Frolov, A. Hanjani, J. Shmulovich (South Plainfield, USA), E.P. Ippen, and F.X. Kärtner (Massachusetts, USA)  
*On-chip femtosecond Er-doped waveguide lasers*
- 15.40-16.05 4.2.5 F.M. Bain, A.A. Lagatsky, C.T.A. Brown, and W. Sibbett (St. Andrews, UK)  
*Diode-pumped double-tungstate waveguide lasers*
- 16.15-16.45 **Coffee Break**
- Seminar 4.3**
- Chair:** M.J. Withford (Australia)
- 16.45-17.10 4.3.1 T. Dekorsy (Konstanz, Germany), D. Bauer, J. Neuhaus (Konstanz, Schramberg, Germany), J. Kleinbauer, A. Killi, S. Weiler (Schramberg, Germany), M.D. Guina (Tampere, Finland), and D.H. Sutter (Schramberg, Germany)  
*Modelocked thin disk lasers with >20 μJ pulse energy*
- 17.10-17.35 4.3.2 O.G. Okhotnikov (Tampere, Finland)  
*Wavelength scalability with semiconductor disk lasers*
- 17.35-18.00 4.3.3 M. Abdou-Ahmed, M. Vogel, V. Onuseit, A. Voss, R. Weber, and Th. Graf (Stuttgart, Germany)  
*Radially polarized thin-disk laser with 1-kW power*
- 18.00-18.25 4.3.4 J. Speiser (Stuttgart, Germany)  
*High power TEM00 thin disk lasers*
- 18.25-18.50 4.3.5 E. Riedle, M. Bradler, Ch. Homann, and U. Megerle (Muenchen, Germany)  
*Supercontinuum generation in crystals: highly efficient and extremely broadband*

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## Wednesday, July 15

### Seminar 4.4

**Chair:** T. Dekorsy (Germany)

- 11.00-11.25 4.4.1 B.M. Walsh (Hampton, USA)  
*Dual wavelength lasers*
- 11.25-11.50 4.4.2 L. Glebov (Florida, USA)  
*Volume Bragg lasers*
- 11.50-12.15 4.4.3 P. Segonds, S. Joly, B. Boulanger (Grenoble, France), Y. Petit (Grenoble, France; Genève, Suisse ), C. Félix, B. Ménaert (Grenoble, France), and G. Aka (Paris, France)  
*Direct characterization of laser and self-doubling properties in low symmetry crystals using a sphere inserted in a cavity*
- 12.15-12.40 4.4.4 A.J. Kemp, P.W. Roth, A.J. Maclean, and D. Burns (Glasgow, UK)  
*Directly diode-pumped Ti:Sapphire lasers*

12.45-14.00 **Lunch**

### Seminar 4.5

**Chair:** P. Segonds (France)

- 14.00-14.25 4.5.1 T. Taira, J. Akiyama, and Y. Sato (Okazaki, Japan)  
*Fabrication and optical characterization of anisotropic laser ceramics*
- 14.25-14.50 4.5.2 M. Tonelli (Pisa, Italy)  
*Fluoride crystals: materials for laser and optoelectronic applications*
- 14.50-15.15 4.5.3 M. Dubinskii, N. Ter-Gabrielyan, and T. Sanamyan (Adelphi, USA)  
*Resonantly-pumped ~1.6- $\mu$ m laser performance of Pr<sup>3+</sup>-doped RbPb<sub>2</sub>Cl<sub>5</sub> (RPC)*
- 15.15-15.40 4.5.4 W. Ryba-Romanowski, G. Dominiak-Dzik, P. Solarz, R. Lisiecki (Wrocław, Poland), J. Pisarska, and W.A. Pisarski (Katowice, Poland)  
*Assessment of laser potential related to the <sup>4</sup>F<sub>9/2</sub> – <sup>6</sup>H<sub>13/2</sub> transition of Dy<sup>3+</sup> in crystals and glasses*
- 15.40-15.55 4.5.5 L.I. Ivleva, N.S. Kozlova (Moscow, Russia), and A.V. Kir'yanov (Moscow, Russia; Leon, Mexico)  
*Influence of electron irradiation on optical properties of scheelite crystals*
- 15.55-16.10 4.5.6 L.E. Li and L.N. Demyanets (Moscow, Russia)  
*High-temperature excitonic lasing of ZnO micro-, nanocrystalline powders*
- 16.15-16.45 **Coffee break**

### Seminar 4.6

**Chair:** A.J. Kemp (UK)

- 16.45-17.10 4.6.1 U. Weichmann, U. Mackens, and H. Moench (Aachen, Germany)  
*Blue diode pumped solid-state lasers for digital projection*
- 17.10-17.35 4.6.2 G. Strömqvist, V. Pasiskevicius, C. Canalias, and F. Laurell (Stockholm, Sweden)  
*Modifying stimulated Raman scattering by electric-field poling of ferroelectric crystals*
- 17.35-18.00 4.6.3 N.N. Il'ichev, P.V. Shapkin, E.S. Gulyamova (Moscow, Russia), A.V. Kir'yanov (Moscow, Russia; Leon, Mexico), and A.S. Nasibov (Moscow, Russia)  
*Efficient 2.5- $\mu$ m ZnSe:Cr<sup>2+</sup> laser with transverse laser pumping*

- 18.00-18.25 4.6.4 Y. Hirano (Kanagawa, Japan)  
*Planar-waveguide lasers and its applications*
- 18.25-18.50 4.6.5 M. Kaluza (Jena, Germany)  
*Diode-pumped Yb:CaF<sub>2</sub> laser with high peak power*
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**Friday, July 17**

**Seminar 4.7, Joint session of 4<sup>th</sup> (4.7) and 9<sup>th</sup> (9.4) Seminars**

**Chairs:** M.C. Pujol (Spain)

- 11.00-11.35 9.4.1 A. Jha, B.D.O. Richards, J. Lousteau, X. Jiang (Leeds, UK), Y. Tsang (Manchester, UK), F. Fusari, A. Lagatsky (St. Andrews, UK), D. Binks (Manchester, UK), T. Brown, and W. Sibbett (St. Andrews, UK)  
*Tm<sup>3+</sup>/Ho<sup>3+</sup>/Yb<sup>3+</sup> co-doped tellurite and heavy-metal oxide glass lasers*
- 11.35-11.50 9.4.2 M.E. Likhachev, K.V. Zotov, M.M. Bubnov (Moscow, Russia), D.S. Lipatov, M.V. Yashkov, and A.N. Guryanov (Nizhny Novgorod, Russia)  
*Properties of erbium doped fibers on the base of P<sub>2</sub>O<sub>5</sub>-Al<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub> glass*
- 11.50-12.05 9.4.3 C. Cuadrado-Laborde (Burjassot, Spain; La Plata, Argentina), M.V. Andrés, A. Díez, J.L. Cruz (Burjassot, Spain), and Yu.O. Barmenkov (Leon, Mexico)  
*Q-switched DFB fiber laser: brillouin sensor applications*
- 12.05-12.20 9.4.4 B. Ibarra-Escamilla (Puebla, Mexico), O. Pottiez (Leon, Mexico), E.A. Kuzin, M. Bello-Jimenez, A. Flores-Rosas, M. Duran-Sanchez (Puebla, Mexico), R. Grajales-Coutiño, and A. Gonzalez-Garcia (Leon, Mexico)  
*Pulse compression and pedestal reduction from a figure-8 fiber laser using a NOLM with a QWR*
- 12.20-12.45 4.7.1 M. Ams, G.D. Marshall, P. Dekker, and M.J. Withford (New South Wales, Australia)  
*Ultrafast laser fabrication of monolithic waveguide DFB lasers in bulk glasses*

12.45-14.00

**Lunch**

**Seminar 4.8**

**Chair:** N.N. Il'ichev (Russia)

- 14.00-14.25 4.8.1 M.C. Pujol, X. Mateos, J.J. Carvajal, J. Massons (Tarragona, Spain), V. Petrov (Berlin, Germany), A. Oleaga (Bilbao, Spain), M.T. Borowiec, A. Szewczyk, M.U. Gutowska (Warsaw, Poland), S. Vatik (Novosibirsk, Russia), A. Salazar (Bilbao, Spain), M. Aguiló, and F. Díaz (Tarragona, Spain)  
*Thermal and optical characterization of the monoclinic double potassium tungstates KRE(WO<sub>4</sub>)<sub>2</sub> (RE=Gd,Y,Yb and Lu) as laser hosts*
- 14.25-14.50 4.8.2 W.A. Pisarski, Ł. Grobelny, J. Pisarska (Katowice, Poland), R. Lisiecki, G. Dominiak-Dzik, and W. Ryba-Romanowski (Wrocław, Poland)  
*Laser spectroscopy of rare earth ions in lead borate glasses and transparent glass-ceramics*
- 14.50-15.05 4.8.3 P. Solarz, W. Ryba-Romanowski, G. Dominiak-Dzik, and R. Lisiecki (Wrocław, Poland)  
*Relaxation of excited states and "random-laser" phenomenon in K<sub>5</sub>Li<sub>2</sub>PrF<sub>10</sub>*
- 15.05-15.20 4.8.4 A. Pérez-Serrano (Palma de Mallorca, Spain), J. Javaloyes (Glasgow, UK), A. Scirè (Palma de Mallorca, Spain), and S. Balle (Esporles, Spain)  
*Travelling wave model for a ring laser*

- 15.20-15.45 4.8.5 M.E. Doroshenko (Moscow, Russia), H. Jelinkova, P. Koranda, J. Šulc (Prague, Czech Republic), T.T. Basiev, V.V. Osiko (Moscow, Russia), V.K. Komar, A.S. Gerasimenko, V.M. Puzikov (Kharkov, Ukraine), V.V. Badikov, D.V. Badikov (Krasnodar, Russia)  
*Mid-infrared laser properties of  $Cr^{2+}:ZnMgSe$  and  $Fe^{2+}:ZnSe$  crystals*
- 15.45-16.00 4.8.6 M.S. Torre (Tandil, Argentina) and C. Masoller (Barcelona, Spain)  
*Thermal effects in the polarization-resolved light-current characteristics of vertical-cavity surface-emitting lasers*
- 16.00-16.15 4.8.7 A. Nouiri (Oum El-Bouaghi, Algeria) and L. Baziz (Khechela, Algeria)  
*Nd:YAG laser ablation of recuperated and industrial aluminum alloys. Study of threshold ablation*
- 16.15-16.45 **Coffee break**
- Seminar 4.9**  
**Chair:** C. Masoller (Barcelona, Spain)
- 16.45-17.00 4.9.1 K. Staliunas (Terrassa, Spain), G.J. de Valcárcel, and E. Roldán (Burjassot, Spain)  
*Bistable phase locking of a laser by means of monochromatic signal injection*
- 17.00-17.15 4.9.2 E. Schwarz, I. Muri, S. Gross, J. Tauer, H. Kofler, and E. Wintner (Wien, Austria)  
*Laser-induced ignition for combustion engines*
- 17.15-17.30 4.9.3 K. Zitouni, F. Benharrats, A. Kadri (Oran, Algeria), and B. Gil (Montpellier, France)  
*Built-in strain and built-in electric field effects on the optical gain of  $Zn_{1-x}Cd_xO/ZnO$  quantum well lasers*
- 17.30-17.45 4.9.4 S.W. Harun (Kuala Lumpur, Malaysia), M.C. Paul (Kolkata, India), M.R.A. Moghaddam (Kuala Lumpur, Malaysia), S. Das, R. Sen, A. Dhar, M. Pal, S.K. Bhadra (Kolkata, India), and H. Ahmad (Kuala Lumpur, Malaysia)  
*Diode-pumped ytterbium-doped fiber laser with near 90% slope efficiency*
- 17.45-18.00 4.9.5 M.B. Alsous (Damascus, Syria)  
*Q-switch rise time effect in flash-pumped solid state lasers*

#### Poster Session, Tuesday, July 14

- Chair:** H. Jelínková (Prague, Czech Republic)
- P4.1. J. Šulc, H. Jelínková (Prague, Czech Republic)  
*Analytical model of CW pumped passively Q-switched laser*
- P4.2 G.A. Bufetova, A.D. Lyashedko, V.F. Seregin, V.B. Tsvetkov, and I.A. Shcherbakov (Moscow, Russia)  
*Temperature profile of the end pumped Nd:YAG zigzag slab laser*
- P4.3 C. Félix, P. Segonds (Grenoble, France), Y. Petit (Grenoble, France, Genève, Suisse ), S. Joly, and B. Boulanger (Grenoble, France)  
*Theoretical study of the first laser cavity made with a spherical gain medium inserted between two plane mirrors*
- P4.4 O.A. Buzanov, V.V. Geras'kin, N.S. Kozlova, and E.V. Zabelina (Moscow, Russia)  
*Growth and characterization of lanthanum gallium silicate family crystals*

- P4.5 L.E. Li and L.N. Demyanets (Moscow, Russia)  
*In-doped ZnO single crystals as a novel laser material*
- P4.6 M. Němec (Prague, Czech Republic), W. Zendzian (Warsaw, Poland),  
H. Jelínková (Prague, Czech Republic), J.K. Jabczynski (Warsaw, Poland),  
J. Šulc (Prague, Czech Republic), L. Gorajek, and J. Kwiatkowski  
(Warsaw, Poland)  
*Q-switched Er:YAG lasers resonantly pumped by erbium fiber laser*
- P4.7 J. Šulc, J. Novák, H. Jelínková (Prague, Czech Republic), K. Nejezchleb  
(Turnov, Czech Republic), and V. Škoda (Prague, Czech Republic)  
*1444 nm Q-switched pulse generator based on Nd:YAG/V:YAG microchip  
laser*

**Seminar 5**  
**Nonlinear Optics and Spectroscopy**  

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**Wednesday, July 15**

**Seminar 5.1**

**Chair:** V.A. Makarov (Russia)

- 11.00-11.25 5.1.1 S.L. Chin (Quebec, Canada)  
*Ultrafast birefringence in filaments*
- 11.25-11.50 5.1.2 Y. Petit, S. Henin (Geneve, Switzerland), W.M. Nakaema,  
A. Jochmann, S. Bock, S. Kraft (Dresden, Germany), J. Kasparian (Geneve,  
Switzerland), K. Stelmazczyk, P. Rohwetter (Berlin, Germany),  
U. Schramm (Dresden, Germany), J.-P. Wolf (Geneve, Switzerland),  
L. Wöste (Berlin, Germany), and R. Sauerbrey (Dresden, Germany)  
*Multi-filamentation of 100 TW-30 fs laser pulses*
- 11.50-12.15 5.1.3 O.G. Kosareva, N.A. Panov (Moscow, Russia), W. Liu (Nankai,  
China), J. Bernhardt, J.-F. Diagle (Quebec, Canada), A.B. Savel'ev,  
V.P. Kandidov (Moscow, Russia), and S.L. Chin (Quebec, Canada)  
*Intensity and energy limitations in single and multiple femtosecond filaments*
- 12.15-12.40 5.1.4 S. Eisenmann, J. Pepper, A. Zigler (Jerusalem, Israel), N. Gavish, and  
G. Fibich (Tel Aviv, Israel)  
*A simple method for obtaining regularized symmetrical filamentation patterns*
- 12.40-13.05 5.1.5 H. Zeng, J. Wu, X. Yang, H. Cai, Y. Peng, X. Bai, P. Lu, S. Yuan, and  
L. Ding (Shanghai, China)  
*Interaction of intense ultrashort filaments*

12.45-14.00

**Lunch**

**Seminar 5.2**

**Chair:** S.L. Chin (Canada)

- 14.00-14.25 5.2.1 F. Théberge, M. Châteauneuf, J. Dubois, G. Roy, and P. Mathieu  
(Quebec, Canada)  
*Ultrabroadband white-light laser: achievements and applications*
- 14.25-14.50 5.2.2 Zh. Xu and Y. Cheng (Shanghai, China)  
*Multiharmonic generation in gaseous media with mid-infrared femtosecond  
laser pulses*  
*Interaction of intense ultrashort filaments*
- 14.50-15.15 5.2.3 D. Faccio and S. Cacciatori (Como, Italy)  
*Analogous gravity and ultrashort laser pulse filamentation*
- 15.15-15.40 5.2.4 Y. Zhang (Nankai, China), Y. Chen (Quebec, Canada), S. Xu,  
C. Marceau (Quebec, Canada), W. Liu (Nankai, China), and S.L. Chin  
(Quebec, Canada)  
*Experimental characterization of THz wave generated by femtosecond laser  
filament in air*
- 15.40-16.05 5.2.5 J.-C. Diels, R. Fuentes, D. Mirell, J. Yeak, X. Xu (Albuquerque,  
USA), D. Faccio (Como, Italy), and P. di Trapani (Vilnius, Lithuania)  
*Air filaments and vacuum*

- 16.05-16.30 5.2.6 A. Zair, O. Varela, J.S. Roman, B. Alonso, I.J. Sola, C. Prieto, and L. Roso (Salamanca, Spain)  
*Femtosecond filamentation: a complete study of polarization dependence in atoms and molecules*
- 16.30-16.45 **Coffee break**
- Seminar 5.3**  
**Chair:** W. Liu (China)
- 16.45-17.10 5.3.1 V.A. Makarov, I.A. Perezhogin, and N.N. Potravkin (Moscow, Russia)  
*Transformation of polarization of light pulses in an isotropic medium with chirality-sensitive relaxation time of cubic nonlinearity*
- 17.10-17.35 5.3.2 I.A. Balakhnina, N.N. Brandt, A.Yu. Chikishev, and N.L. Rebrikova (Moscow, Russia)  
*Identification of the lead white on the XVIII century icon «Evangelist Mark» with laser Raman Spectroscopy*
- 17.35-18.00 5.3.3 S. Tzortzakis, D. Abdollahpour, D. Papazoglou, and S. Georgiou (Heraklion, Greece)  
*Femtosecond filamentation induced micro and nano-restructuring in the bulk of dielectrics and polymers*
- 18.00-18.25 5.3.4 W. Watanabe, and H. Mochizuki (Osaka, Japan)  
*Femtosecond filamentation in silicone rubber*
- 18.25-18.50 5.3.5 L. T. Vuong (Barcelona, Spain), A.A. Ishaaya (Beer-Sheva, Israel), B.G. Shim, S. Schrauth, A.L. Gaeta (Ithaca, NY USA)  
*Polarization rotation and geometric phase in the multiple-filamentation of vortex beams*
- 18.50-19.05 5.3.6 Zh. Song, Zh. Zhang, and T. Nakajima (Kyoto, Japan)  
*Transverse-mode dependence of femtosecond filamentation*

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**Thursday, July 16**

**Seminar 5.4**

**Chair:** S. Tzortzakis (Greece)

- 11.00-11.25 5.4.1 G. Steinmeyer, C. Brée, A. Demircan (Berlin, Germany), S. Skupin, and L. Bergé (Bruyeres-le-Chatel, France)  
*Self-pinching of ultrashort pulses during filamentary propagation*
- 11.25-11.50 5.4.2 C.H. Nam, J. Park, L.T. Trung, and J. Lee (Daejeon, Korea)  
*Generation of 1.5-cycle, 0.3-TW pulses in a kHz Ti:Sapphire laser*
- 11.50-12.10 5.4.3 A.K. Dharmadhikari, J.A. Dharmadhikari, F.A. Rajgara, and D. Mathur (Mumbai, India)  
*Filamentation-based generation of few-cycle pulses in gas filled tubes*
- 12.10-12.30 5.4.4 N. Zhavoronkov (Berlin, Germany)  
*Control of compression dynamics by spatially adjustable femtosecond filamentation*
- 12.30-12.50 5.4.5 B.E. Schmidt, W. Unrau, O. Gause, L. Wöste, and T. Siebert (Berlin, Germany)  
*Filamentation: controlling the spectral phase of white-light pulses for spectroscopic application*
- 12.50-14.00 **Lunch**

## Seminar 5.5

**Chair:** G. Steinmeyer (Germany)

- 14.00-14.25 5.5.1 L. Gallmann, C. Heese, C. Erny, M. Haag, and U. Keller (Zurich, Switzerland)  
*High repetition rate femtosecond optical parametric chirped-pulse amplification in the mid-infrared*
- 14.25-14.50 5.5.2 D. Faccio (Como, Italy), A. Grün (Barcelona, Spain), A. Couairon (Palaiseau, France), P.K. Bates, O. Chalus, and J. Biegert (Barcelona, Spain)  
*Optical parametric amplification in the near-infrared in hollow-core fibres*
- 14.50-15.15 5.5.3 M. Ebrahim-Zadeh (Barcelona, Spain)  
*Progress in optical parametric oscillators*
- 15.15-15.40 5.5.4 C.L. Arnold, S. Akturk, B. Zhou, M. Franco, A. Couairon, and A. Mysyrowicz (Palaiseau, France)  
*Compression of ultrashort laser pulses in planar hollow waveguides*
- 15.40-16.05 5.5.5 J.S. Roman, I. Sola, B. Alonso, O. Varela, A. Zair, C. Mendez, C. Prieto, and L. Roso (Salamanca, Spain)  
*Towards the multi-millijoule single filament generation in the near infrared*
- 16.05-16.20 5.5.6 D.S. Uryupina, A.V. Mazhorova, M.V. Kurilova, S.R. Gorgutsa, R.V. Volkov, O.G. Kosareva, and A.B. Savel'ev (Moscow, Russia)  
*Self-compression and four-wave mixing of femtosecond laser radiation under filamentation of collimated beam in gases*
- 16.20-16.45 **Coffee break**

## Seminar 5.6

**Chair:** M. Ebrahim-Zadeh (Spain)

- 16.45-17.10 5.6.1 D.C. Dumitras (Bucharest, Romania)  
*High power extracavity laser photoacoustic spectroscopy*
- 17.10-17.35 5.6.2 V.G. Arakcheev, V.B. Morozov, A.N. Olenin, and A.A. Valeev (Moscow, Russia)  
*Spectral features of molecular media at adsorption and condensation in nanoporous structures*
- 17.35-18.00 5.6.3 Y. Ozeki and K. Itoh (Osaka, Japan)  
*Stimulated Raman scattering microscopy for live-cell imaging with high contrast and high sensitivity*
- 18.00-18.15 5.6.4 S. Rao and D. Petrov (Barcelona, Spain)  
*Photonic force microscope as a spectrometer*
- 18.15-18.30 5.6.5 A. Pirri, E. Sali, S. Cavalieri, M. Bellini, C. Corsi, and R. Eramo (Florence, Italy)  
*Ramsey spectroscopy with high-order harmonics in the XUV*
- 18.30-18.45 5.6.6 S. Krins (Liege, Belgium), S. Oppel (Erlangen-Nürnberg, Germany), N. Huet, P. Saint-Georges (Liege, Belgium), J. von Zanthier (Erlangen-Nürnberg, Germany), and T. Bastin (Liege, Belgium)  
*Hyperfine structure and isotope shifts in Iron Atoms*
- 18.45-19.00 5.6.7 Y.V. Vladimirova, V.N. Zadkov, A.V. Akimov, A.Yu. Samokotin, A.V. Sokolov, V.N. Sorokin, and N.N. Kolachevskii (Moscow, Russia)  
*Frequency-modulation spectroscopy of coherent dark resonances in  $^{87}\text{Rb}$  atoms*

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**Friday, July 17**

**Seminar 5.7**

**Chair:** A.P. Sukhorukov (Russia)

- 11.00-11.25 5.7.1 J. Herrmann and A. Husakou (Berlin, Germany)  
*A coherent white-light source: soliton-induced supercontinuum generation*
- 11.25-11.50 5.7.2 R. Holzwarth (Munich, Germany)  
*One decade of optical frequency combs, principles, applications and new ideas*
- 11.50-12.15 5.7.3 M. Soljačić (Cambridge, USA)  
*Novel nanophotonic techniques for tailoring dispersion and diffraction*
- 12.15-12.40 5.7.4 O. Bang, J.R. Ott, M. Heuck, C. Agger, P.D. Rasmussen, R.B. Simonsen, and M. Frosz (Kongens Lyngby, Denmark)  
*Label-free and selective four-wave mixing based nonlinear biosensing in photonic crystal fibers*
- 12.40-13.05 5.7.5 A. Szameit (Haifa, Israel)  
*Discrete optics in femtosecond-laser written waveguide arrays*
- 13.05-14.00 **Lunch**

**Seminar 5.8**

**Chair:** J. Herrmann (Germany)

- 14.00-14.25 5.8.1 V.E. Lobanov and A.P. Sukhorukov (Moscow, Russia)  
*Management of optical pulses with nonlinear multiwave interactions*
- 14.25-14.50 5.8.2 B. Maes, M. Fiers, and P. Bienstman (Ghent, Belgium)  
*Self-pulsing and chaos in networks of nonlinear resonators*
- 14.50-15.15 5.8.3 M. Qiu (Kista, Sweden)  
*Transformation optics and transformation media*
- 15.15-15.30 5.8.4 D. Skryabin (Bath, UK)  
*Polariton solitons in strongly coupled semiconductor microcavities*
- 15.30-15.45 5.8.5 F. Koenig (St. Andrews, UK)  
*Trapping and releasing of light by solitons in a microstructured fiber*
- 15.45-16.00 5.8.6 V. Roppo, C. Cojocaru, J. Trull (Terrassa, Spain), F. Raineri (Marcoussis, France), G. D'Aguzzo, R. Vilaseca (Terrassa, Spain), R. Raj (Marcoussis, France), and M. Scalora (Huntsville, USA)  
*Phase locked harmonics localization in a opaque material cavity*
- 16.00-16.15 5.8.7 J.R. Salgueiro (Ourense, Spain) and Y. Kivshar (Canberra, Australia)  
*Nonlinear plasmonic waveguides and couplers*
- 16.15-16.45 **Coffee break**

**Seminar 5.9**

**Chair:** D. Skryabin (UK)

- 16.45-17.10 5.9.1 E. Luppi, H. Hubener, and V. Veniard (Palaiseau, France)  
*Second order harmonic generation in crystalline semiconductors*
- 17.10-17.35 5.9.2 J. Briand, J. Léonard, A. Cannizzo, V. Zanirato, M. Chergui, M. Olivucci, and S. Haacke (Strasbourg, France)  
*Ultrafast isomerization and dipole moment reversal in a new family of photoswitches*
- 17.35-18.00 5.9.3 V. Konotop (Lisbon, Portugal)  
*Dissipative Bloch waves*

- 18.00-18.25 5.9.4 E. Sali, E. Ignesti, S. Cavalieri, L. Fini, M.V. Tognetti, and R. Buffa (Siena, Italy)  
*A tuneable, single-mode titanium-doped-sapphire laser source with variable pulse duration in the nanosecond regime*
- 18.25-18.50 5.9.5 J.J. Zamora-Munt, C. Masoller, and J. Garcia –Ojalvo (Barcelona, Spain)  
*Transient low frequency fluctuations in semiconductor lasers with optical feedback*
- 18.50-19.05 5.9.6 J.P. Torres (Barcelona, Spain)  
*Photons with shape: control of the spatial and frequency degrees of freedom of multiphoton states*
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**Poster Session, Thursday, July 16**

**Chair:** D. Uryupina (Russia)

- P5.1 R. Borrego Varillas, C. Romero, C. Méndez, J.R. Vázquez de Aldana, E.J. Gualda, J.M. Bueno, P. Artal, and L. Roso (Salamanca, Spain)  
*Wavefront dependence of nonlinear processes for femtosecond laser pulses*
- P5.2 G.G. Adonts and E.G. Kanetsyan (Yerevan, Armenia)  
*Nonlinear amplification of optical radiation without population inversion in resonant multi-level medium*
- P5.3 O.V. Borovkova, V.E. Lobanov, and A.P. Sukhorukov (Moscow, Russia)  
*Managed pulse train generation by discrete dispersion of moving optical lattice in a quadratic medium*
- P5.4 E. Ignesti, S. Cavalieri, L. Fini, E. Sali, M.V. Tognetti, R. Eramo, and R. Buffa (Siena, Italy)  
*Optical delay control of large-spectral-bandwidth laser pulses*
- P5.5 K. Jamshidi-Ghaleh (Tabriz, Iran)  
*Bleaching and darkening effect in photochromic glasses under irradiation with femtosecond laser pulses*
- P5.6 D. Kowalska, S. González-Pérez, S.F. León-Luis, P. Haro-González, and I.R. Martín (Tenerife, Spain)  
*Characterization of  $Er^{3+}$  and  $Ho^{3+}$  doped fluorindate glasses as temperature sensors*
- P5.7 V.I. Kovalev, N.E. Kotova, and R.G. Harrison (Edinburgh, UK)  
*Physical nature of “Slow Light” via stimulated Brillouin scattering in an optical fiber*
- P5.8 R.Sh. Alnayli (Al-Zora, Iraq)  
*Study on the influences of strain-optic effect on the operation of  $LiNbO_3$  light modulators*
- P5.9 V. Trofimov, M. Fedotov, A. Volkov, N. Tcherniega, V. Savranskii, and S. Lan (Moscow, Russia)  
*Computer simulation and observation of anomalous light emission from nonlinear photonic crystal with various geometry of its elements*
- P5.10 M. Sahrai (Tabriz, Iran)  
*Transient dispersion and absorption in a four- level electromagnetically induced transparency (EIT) medium*

- P5.11 Th. Ganetsos, Y. Skarlatos, B. Kotsos, and N. Laskaris (Lamia-Athens, Greece)  
*An in-depth investigation of chalcogenide glasses using FTIR, SEM and AF microscopy*
- P5.12 S. Kolpakov, V. Taranenko, F. Silva, J. García, K. Staliunas, E. Roldán, and G.J. de Valcárcel (Terrassa, Spain)  
*Multi-phase patterns in a forced nonlinear optical oscillator*
- P5.13 M.B. Smirnov and M.A. Baranov (Moscow, Russia)  
*Effective field theory for light transport in disordered medium*
- P5.14 O.I. Paseka, V.E. Lobanov, and A.P. Sukhorukov (Moscow, Russia)  
*Compression of quadratically phase-modulated few-cycle pulses in dispersive medium*
- P5.15 M.D. Zidan, A.A. Mani, A.W. Allaf, Z. Ajji, and A. Allahham (Damascus, Syria)  
*Solvent effect on the optical limiting behavior of Acid Blue29 under CW He-Ne laser irradiation*
- P5.16 L.L. Tatarinova and M.E. Garcia (Kassel, Germany)  
*Analytical results for intense light propagation in media with arbitrary nonlinearity*
- P5.17 J. Zamora-Munt and C. Masoller (Barcelona, Spain)  
*Sub-nano second pulse s emitted by VCSELs subjected to asymmetric current modulation and operating below the static threshold*
- P5.18 K. Stelmaszczyk, P. Rohwetter (Berlin, Germany), Y. Petit (Geneva, Switzerland), M. Fechner (Berlin, Germany), J. Kasparian, J.-P. Wolf (Geneva, Switzerland), and L. Wöste (Berlin, Germany)  
*White-light symmetrization by the interaction of multifilamenting beams*
- P5.19 S. Pei1, X. Chen, F. Wang, Z. Jiang, and W. Peng  
*Dynamics of the photo-induced orientation and relaxation of a novel hyperbranched poly (aryl ether) containing azobenzene groups*
- P5.20 A. Jacobo, D. Gomilla, P. Colet, and M. Matias (Palma de Mallorca, Spain)  
*Logical operations using excitable cavity solitons*
- P5.21 P. Haro-González, S. González-Pérez, L.L. Martín, and I.R. Martín (Tenerife, Spain)  
*Nanocrystals formation on Ho<sup>3+</sup> doped strontium barium niobate glass by thermal treatment and laser irradiation*
- P5.22 D.O. Saporina and A.P. Sukhorukov (Moscow, Russia)  
*Diffraction and dispersion phenomena in propagating the plasmon-polariton waves along dielectric-metal/metamaterial interfaces*

**Seminar 6**  
**Physics of Cold Trapped Atoms**

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**Monday, July 13**

**Seminar 6.1**

**Chairs:** L.P. Pitaevskii (Italy) and E. Zaremba (Canada)

- 11.00-11.25 6.1.1 S. Stringari (Povo, Italy)  
*Critical velocity and superfluid flow through single barrier and periodic potentials*
- 11.25-11.50 6.1.2 A. Steinberg, S. Maneshi, Ch. Zhuang, Ch. Paul, and L. Cruz  
(Toronto, Canada)  
*Coherence, control, correlations, and chaos in cold atoms*
- 11.50-12.15 6.1.3 V.S. Bagnato, K.M.F. Magalhães, E.R.F. Ramos, M.A. Caracanhas,  
E.A.L. Henn, J.A. Seman, R.F. Shiozaki (São Carlos, Brazil), D. Dries,  
S.E. Pollack, R.G. Hulet (Huston, USA), and V.I. Yukalov (Dubna, Russia)  
*Fragmentation of Li and Rb condensates by modulation of scattering length*
- 12.15-12.40 6.1.4 V.I. Yukalov, E.P. Yukalova (Dubna, Russia), and V.S. Bagnato (São  
Carlos, Brazil)  
*Bose systems in spatially random or time-varying potentials*

12.45-14.00

**Lunch**

**Seminar 6.2**

**Chairs:** V.S. Bagnato (Brazil) and S. Stringari (Italy)

- 14.00-14.25 6.2.1 J. Brand, T. Ernst (Auckland, New Zealand), T.J. Haigh (Palmerston  
North, New Zealand), and U. Zülicke (Auckland and Palmerston North,  
New Zealand)  
*Solitons and macroscopic quantum tunnelling of Bose-Einstein condensates  
double-ring traps*
- 14.25-14.50 6.2.2 L.-B. Fu (Beijing, China)  
*Rosen-Zener tunnelling and its application*
- 14.50-15.15 6.2.3 A.I. Streltsov, O.E. Alon, and L.S. Cederbaum (Heidelberg, Germany)  
*Multiconfigurational time-dependent Hartree for bosons (MCTDHB):  
ideology, methodology, and applications*
- 15.15-15.35 6.2.4 L.S. Cederbaum, A.I. Streltsov, and O.E. Alon, (Heidelberg, Germany)  
*Quantum dynamics of ultracold attractive Bose gases*
- 15.35-15.55 6.2.5 O.E. Alon, A.U.J. Lode, A.I. Streltsov, H.-D. Meyer, and  
L.S. Cederbaum (Heidelberg, Germany)  
*Exact decay by tunnelling of interacting few-boson systems*
- 15.55-16.15 6.2.6 V.O. Nesterenko, A.N. Novikov (Dubna, Russia), F.F. de Souza Cruz  
(Florianopolis, Brasil), and E. Suraud (Toulouse, France)  
*Adiabatic transport of condensate in double-well trap: asymmetric impact  
of nonlinearity*
- 16.15-16.45 **Coffee break**

**Seminar 6.3**

**Chairs:** J. Brand (New Zealand) and A. Steinberg (Canada)

- 16.45-17.10 6.3.1 D. Petrov and M. Colomé-Tatché (Orsay, France)  
*Parametric excitation of a 1D gas in integrable and non-integrable cases*
- 17.10-17.35 6.3.2 V.A. Yurovsky (Tel Aviv, Israel) and M. Olshanii (Boston, USA)  
*Quantum chaos with ultracold atoms*

- 17.35-18.00 6.3.3 Ch. Weiss (Oldenburg, Germany) and Y. Castin (Paris, France)  
*Creation and detection of a mesoscopic gas in a nonlocal quantum superposition*
- 18.00-18.25 6.3.4 G.M. Nikolopoulos, L.F. Buchmann, and P. Lambropoulos  
(Heraklion, Greece)  
*Role of the relative phase in the merging of two independent Bose-Einstein condensates*
- 18.25-18.40 **General Discussion**
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**Tuesday, July 14**

**Chairs:** R. Combescot (France) and A.L. Fetter (USA)

- 11.00-11.25 6.4.1 M. Weitz (Bonn, Germany)  
*Laser cooling by collisional redistribution of radiation*
- 11.25-11.50 6.4.2 M. Salerno (Baronissi, Italy)  
*Long lived Bloch oscillations and dynamical localization of matter waves in optical lattices*
- 11.50-12.15 6.4.3 N.P. Proukakis and S.P. Cockburn (Newcastle, UK)  
*Analysing the stochastic Gross-Pitaevskii equation*
- 12.15-12.40 6.4.4 W. Ertmer, C. Klempt, O. Topic, M. Scherer, Th. Henninger,  
G. Gebreyesus, P. Hyllus, L. Santos, and J. Arlt (Hannover, Germany)  
*Resonant amplification of quantum fluctuations with atoms in BEC*
- 12.45-14.00 **Lunch**

**Seminar 6.5**

**Chairs:** M. Salerno (Italy) and M. Weitz (Germany)

- 14.00-14.25 6.5.1 A.L. Fetter (Stanford, USA)  
*Rapidly rotating Bose-Einstein condensates in a non-symmetric trap*
- 14.25-14.50 6.5.2 E. Zaremba (Kingston, Ontario), B. Jackson, N.P. Proukakis, and  
C.F. Barenghi (Newcastle, UK)  
*Finite temperature vortex dynamics in Bose-Einstein condensates*
- 14.50-15.15 6.5.3 A. Aftalion (Palaiseau, France)  
*The effect of the trapping potential on the behaviour of a fast rotating Bose-Einstein condensate*
- 15.15-15.35 6.5.4 C. Gross, J. Esteve, A. Weller, S. Giovanazzi, E. Nicklas, T. Zibold,  
J.P. Ronzheimer, and M.K. Oberthaler (Heidelberg, Germany)  
*Squeezing and entanglement in a Bose-Einstein condensate*
- 15.35-15.55 6.5.5 E. Haller, M. Gustavsson, M. Mark, J.G. Danzl, R. Hart, G. Pupillo,  
and H.-Ch. Nägerl (Innsbruck, Austria)  
*Realization of a Super-Tonks-Girardeau gas with strong attractive interactions*
- 15.55-16.15 6.5.6 B. Oleś (Kraków, Poland), P. Ziń, J. Chwedeńczuk (Warsaw, Poland),  
K. Sacha (Kraków, Poland), and M. Trippenbach (Warsaw, Poland)  
*Quantum critical point in an attractive Bose-Einstein condensate*
- 16.15-16.45 **Coffee break**

**Seminar 6.6**

**Chairs:** N. Proukakis (UK) and V.A. Yurovsky (Israel)

- 16.45-17.10 6.6.1 A. Okopińska and P. Kościak (Kielce, Poland)  
*Entanglement characteristics of few-boson systems in multi-well traps*

- 17.10-17.35 6.6.2 M. Guilleumas, M. Abad, R. Mayol, and M. Pi (Barcelona, Spain)  
*Collective mode spectrum for an off-center vortex in a BEC*
- 17.35-18.00 6.6.3 M. Brewczyk, T. Karpiuk (Białystok, Poland), M. Gajda, and  
K. Rzażewski (Warsaw, Poland)  
*Oscillations of a trapped Bose gas at nonzero temperatures*
- 18.00-18.25 6.6.4 M.A. Efremov (Ulm, Germany and Moscow, Russia), B. Berg,  
L. Plimak (Ulm, Germany), M.Yu. Ivanov (London, UK),  
G.V. Shlyapnikov (Orsay, France), and W.P. Schleich (Ulm, Germany)  
*Efimov states in atom-molecular collisions*
- 18.25-18.40 **General Discussion**
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### Wednesday, July 15

#### Seminar 6.7

**Chairs:** E. Arimondo (Italy) and J. Tempere (Belgium)

- 11.00-11.25 6.7.1 G.V. Shlyapnikov (Orsay, France)  
*Stable topological superfluid phase for polar fermionic molecules*
- 11.25-11.50 6.7.2 R. Combescot and S. Giraud (Paris, France)  
*Normal state of highly polarized Fermi gases: the bound state*
- 11.50-12.15 6.7.3 D. Blume and D. Rakshit (Pullman, USA)  
*Strongly-interacting fermions: a microscopic approach*
- 12.15-12.40 6.7.4 A.B. Kuklov (Staten Island, USA)  
*Quantum flexible quasi-molecular chains in ultracold dipolar gases*

12.45-14.00 **Lunch**

#### Seminar 6.8

**Chairs:** D. Blume (USA) and G.V. Shlyapnikov (France)

- 14.00-14.25 6.8.1 K. Ziegler and O. Fialko (Augsburg, Germany)  
*Anderson transition in a fermionic mixture*
- 14.25-14.50 6.8.2 J. Tempere, S.N. Klimin, and J.T. Devreese (Antwerpen, Belgium)  
*Effect of population imbalance on the Berezinskii-Kosterlitz-Thouless transition in Fermi gases*
- 14.50-15.15 6.8.3 L. Salasnich (Padova, Italy)  
*Surface effects for the confined unitary Fermi gas*
- 15.15-15.35 6.8.4 T. Maruyama (Fujisawa, Japan) and H. Yabu (Kusatsu, Japan)  
*Breathing oscillations of Bose-Fermi mixtures with Yb atoms in the prolate deformed traps*
- 15.35-15.55 6.8.5 P. Öhberg (Edinburgh, UK), E.M. Wright (Tucson, USA),  
G. Juzeliunas (Vilnius, Lithuania), and I. Galbraith (Edinburgh, UK)  
*The atomic anyon gas*
- 15.55-16.15 6.8.6 T. Nishimura and T. Maruyama (Tokyo, Japan)  
*Quantum dynamics of a dipolar Fermi gas in free expansion*

16.15-16.45 **Coffee break**

#### Seminar 6.9

**Chairs:** L. Salasnich (Italy) and H. Ritsch (Austria)

- 16.45-17.10 6.9.1 B. Tanatar, A.L. Subaşı, S. Sevinçli, (Bilkent, Turkey), and  
P. Vignolo (Valbonne, France)  
*Two-dimensional boson-fermion mixtures in harmonic traps*

17.10-17.35	6.9.2 S. Adhikari (São Paulo, Brazil) <i>Universal behavior of a trapped Fermi superfluid in the BCS-unitarity crossover</i>
17.35-18.00	6.9.3 <u>C.J. Vale</u> , G. Veeravalli, E. Kuhnle, and P. Dyke (Melbourne, Australia) <i>Probing strongly interacting Fermi gases with Bragg spectroscopy</i>
18.00-18.25	6.9.4 <u>A. Gammal</u> , E.S. Annibale (São Paulo, Brazil), G.A. El (Loughborough, UK), A.M. Kamchatnov (Troitsk, Russia), and V.V. Khodorovskii (Loughborough, UK) <i>Two-dimensional supersonic nonlinear Schrödinger flow past corner</i>
18.25-18.40	<b>General Discussion</b>

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### Thursday, July 16

#### Seminar 6.10

**Chairs:** A.B. Kuklov (USA) and K. Ziegler (Germany)

11.00-11.25	6.10.1 <u>B.V. Svistunov</u> , L. Pollet, N.V. Prokof'ev (Amherst, USA), and M. Troyer (Zurich, Switzerland) <i>Absence of direct superfluid to Mott insulator transition in disordered Bose systems</i>
11.25-11.50	6.10.2 E. Arimondo (Pisa, Italy) <i>Tunneling control and localization for Bose-Einstein condensates in a frequency modulated optical lattice</i>
11.50-12.15	6.10.3 M. Lewenstein (Barcelona, Spain) <i>Shaking ultracold atoms in optical potentials: from BEC stabilization to frustrated antiferromagnets</i>
12.15-12.40	6.10.4 <u>M. Yamashita</u> (Kanagawa, Japan), M.W. Jack (Rotorua, New Zealand), K. Inaba, K. Igeta, and Y. Tokura (Kanagawa, Japan) <i>Gutzwiller study of Bose-Fermi mixtures trapped in three-dimensional optical lattices</i>
12.45-14.00	<b>Lunch</b>

#### Seminar 6.11

**Chairs:** M. Lewenstein (Spain) and B.V. Svistunov (USA)

14.00-14.25	6.11.1 <u>V.V. Konotop</u> and V.S. Shchesnovich (Lisbon, Portugal) <i>Quantum switching at the mean-field instability of a Bose-Einstein condensate in an optical lattice</i>
14.25-14.50	6.11.2 Yu.E. Lozovik (Troitsk, Russia) <i>Bose condensation of magnetoexcitons and BCS-state in graphene nanostructures</i>
14.50-15.15	6.11.3 <u>T. Roscilde</u> (Lyon, France), T. Keilmann, and J.I. Cirac (Garching, Germany) <i>Dynamical emergence of supersolidity in asymmetric boson mixtures in an optical lattice</i>
15.15-15.35	6.11.4 I.B. Mekhov (Innsbruck, Austria and Saint Petersburg, Russia) <i>Quantum optical measurements in quantum gases</i>
15.35-15.55	6.11.5 <u>X. Deng</u> , R. Citro, A. Minguzzi, and E. Orignac (Grenoble, France) <i>The 1D Bose-Hubbard model in a quasi-periodic potential</i>

- 15.55-16.15 6.11.6 S. Will, Th. Best, S. Braun, U. Schneider, K. Fong, L. Hackermüller, and I. Bloch (Mainz, Germany)  
*Interacting bosonic and fermionic atoms in optical lattice potentials*
- 16.15-16.45 **Coffee break**
- Seminar 6.12**
- Chairs:** V.V. Konotop (Portugal) and Yu.E. Lozovik (Russia)
- 16.45-17.10 6.12.1 M. Ueda (Tokyo, Japan)  
*Lee-Yang cluster-expansion approach to BEC-BCS crossover*
- 17.10-17.35 6.12.2 V. Penna, P. Buonsante (Torino, Italy), F. Massel (Helsinki, Finland), and A. Vezzani (Modena, Italy)  
*Gutzwiller approach to the Bose-Hubbard model with random local impurities*
- 17.35-18.00 6.12.3 H. Ritsch (Innsbruck, Austria)  
*Concurrent stimulated amplification of light and matter waves to build an atom-photon pair laser*
- 18.00-18.25 6.12.4 M. Bonitz (Kiel, Germany), A. Filinov (Kiel, Germany and Troitsk, Russia), J. Böning (Kiel, Germany), N.V. Prokof'ev (Amherst, USA), and Yu.E. Lozovik (Troitsk, Russia)  
*Superfluidity and crystallization of strongly correlated bosons in traps*
- 18.25-18.40 **General Discussion**
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**Friday, July 17**

**Seminar 6.13**

**Chairs:** V. Penna (Italy) and M. Yamashita (Japan)

- 11.00-11.25 6.13.1 P. Meystre (Tucson, USA)  
*Optomechanical control of ultracold atoms and molecules*
- 11.25-11.50 6.13.2 I. Cirac (Garching, Germany)  
*Atoms in lattices interacting with light*
- 11.50-12.15 6.13.3 Y. Castin, C. Mora, and M. Antezza (Paris, France)  
*Ground state energy of the 2D Bose gas and spectrum of light in a periodic ensemble of ultracold atoms*
- 12.15-12.40 6.13.4 K.V. Kheruntsyan, M. Ögren (Brisbane, Australia), and C.M. Savage (Canberra, Australia)  
*Quantum statistics and directional spatial structure of dissociated elongated molecular condensates*
- 12.45-14.00 **Lunch**

**Seminar 6.14**

**Chairs:** P. Meystre (USA) and M. Ueda (Japan)

- 14.00-14.25 6.14.1 N. Piovella, M.M. Cola, L. Volpe, and D. Bigerni (Milan, Italy)  
*Accelerated superradiance and subradiance in Bose-Einstein condensates*
- 14.25-14.50 6.14.2 D. Porras (Madrid, Spain) and J.I. Cirac (Garching, Germany)  
*Collective emission of light by arrays of trapped atoms: superradiance and directionality*
- 14.50-15.15 6.14.3 O.E. Mustecaplioglu (Istanbul, Turkey) and M.E. Tasgin (Ankara, Turkey)  
*EPR-Correlations in an atomic superradiant Bose-Einstein condensate*

- 15.15-15.35 6.14.4 M. Rodriguez (Madrid, Spain), T. Roscilde (Lyon, France), A. Sanpera, M. Lewenstein, and E.S. Polzik (Barcelona, Spain)  
*Quantum polarization spectroscopy of correlations in ultracold bosonic and fermionic gases*
- 15.35-15.55 6.14.5 J. Billy, V. Josse, Z. Zuo, A. Bernard, P. Cheinet, P. Bouyer, and A. Aspect (Paris, France)  
*The guided atom laser: a new tool for studying quantum transport phenomena*
- 15.55-16.15 6.14.6 R. Kanamoto (Tokyo, Japan) and P. Meystre (Tucson, USA)  
*Fermionic optomechanics*
- 16.15-16.45 **Coffee break**
- Seminar 6.15**
- Chairs:** Y. Castin (France) and N. Piovella (Italy)
- 16.45-17.10 6.15.1 J. Liu (Beijing, China)  
*Feshbach resonance in the ultracold atom-molecular conversion*
- 17.10-17.35 6.15.2 Th. Bourdel (Palaiseau, France)  
*All-optical runaway evaporation to Bose-Einstein condensation*
- 17.35-18.00 6.15.3 A. Tonyushkin and M. Prentiss (Cambridge, USA)  
*Probing quantum chaos with periodically perturbed de Broglie wave atom interferometer*
- 18.00-18.25 6.15.4 S. Tojo, T. Hayashi, E. Inoue, T. Tanabe, Y. Taguchi, and T. Hirano (Tokyo, Japan)  
*Controlling phase-separation of binary Bose-Einstein condensates by mixed-spin-channel Feshbach resonance*
- 18.25-18.40 **General Discussion**
- 18.50-19.00 **Closing remarks**

**Poster Session, Thursday, July 16**

**Chair:** V.I. Yukalov (Russia)

- P6.1 M. Abad, M. Guilleumas, R. Mayol, M. Pi (Barcelona, Spain), and D.M. Jezek (Buenos Aires, Argentina)  
*Vortices in Bose-Einstein condensates with dominant dipolar interactions*
- P6.2 E.S. Annibale, A. Gammal (Sao Paulo, Brazil), and K. Ziegler (Augsburg, Germany)  
*2D flow of a dense Bose-Einstein condensate*
- P6.3 V.S. Bagnato, M.A. Caracanhas, J.A. Seman, E.R.F. Ramos, E.A.L. Henn, K.M.F. Magalhães (São Carlos, Brazil), and K. Helmerson (Gaithersburg, USA)  
*Finite temperature effects during expansion of a Bose-Einstein condensate*
- P6.4 V.S. Bagnato, E.A.L. Henn, J.A. Seman (São Carlos, Brazil), G. Roati (Sesto Fiorentino, Italy), and K.M.F. Magalhães (São Carlos, Brazil)  
*Emergence of turbulence in an oscillating Bose-Einstein condensate*
- P6.5 A. Benseny, S. Fernandez-Vidal, J. Bagudà, R. Corbalán (Bellaterra, Spain), L. Roso (Salamanca, Spain), and J. Mompert (Bellaterra, Spain)  
*Coherent manipulation of holes in dipole trap arrays*
- P6.6 J. Böning (Kiel, Germany), A. Filinov (Kiel, Germany and Troitsk, Russia), M. Bonitz (Kiel, Germany), and Yu.E. Lozovik (Troitsk, Russia)  
*Local superfluidity in finite Coulomb and neutral systems*

- P6.7 O. Fialko (Augsburg, Germany), A. Gammal (Sao Paulo, Brazil), and K. Ziegler (Augsburg, Germany)  
*1/2-Spin Fermions in an optical lattice: crossover from weak to strong attractive interaction*
- P6.8 R. Franzosi, F. Illuminati (Fisciano, Italy), R. Livi (Sesto Fiorentino, Italy), G.-L. Oppo (Glasgow, UK), and A. Politi (Sesto Fiorentino, Italy)  
*Localisation of Bose-Einstein condensates in optical lattices*
- P6.9 E.Yu. Il'inova, V.D. Ovsiannikov (Voronezh, Russia), H. Katori (Tokio, Japan), and K. Hashiguchi (Saitama, Japan)  
*M1 and E2 effects on a clock frequency in a 3D optical lattice on neutral atoms*
- P6.10 E.G. Khamis, A. Gammal (São Paulo, Brazil), G.A. El (Loughborough, UK), Yu.G. Gladush, and A.M. Kamchatnov (Troitsk, Russia)  
*General form of the diffraction pattern of light beams propagating in photorefractive media with embedded reflecting wire*
- P6.11 A.N. Novikov and V.O. Nesterenko (Dubna, Russia)  
*Role of nonlinearity in generalized Landau-Zener transport scheme for Bose-Einstein condensate in two-well trap*
- P6.12 A.Yu. Okulov (Moscow, Russia)  
*Quantum double helix*
- P6.13 M. Valiente (Crete, Greece and Berlin, Germany), D. Petrosyan (Crete, Greece), and A. Saenz (Berlin, Germany)  
*Few-body quantum dynamics in a lattice*
- P6.14 V.I. Yukalov (Zurich, Switzerland and Dubna, Russia) and D. Sornette (Zurich, Switzerland)  
*Quantum decision procedures by active quantum systems*

**Seminar 7**  
**Quantum Information and Quantum Computation**

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**Monday, July 13**

**Seminar 7.1**

**Chair:** E. Giacobino (France)

- 11.00-11.15 7.1.1 G. Björk and J. Almlöf (Kista, Sweden)  
*Quantum codes, fidelity and information*
- 11.20-11.35 7.1.2 B.-S. Shi, Q.-F. Chen, and G.-C. Guo (Hefei, China)  
*Generation of non-classical photon pair in a hot atomic ensemble*
- 11.40-11.55 7.1.3 T. Stace (Brisbane, Australia)  
*Thresholds for topological codes in the presence of loss*
- 12.00-12.15 7.1.4 M.G.A. Paris (Milan, Italy)  
*Nongaussian states in quantum information*
- 12.20-12.40 7.1.5 G.M. D’Ariano (Pavia, Italy)  
*The quantum comb: theory and applications to quantum networks*

12.45-14.00

**Lunch**

**Seminar 7.2**

**Chair:** G. Björk (Sweeden)

- 14.00-14.15 7.2.1 G. Vallone, R. Ceccarelli, A. Chiuri, G. Donati, F. De Martini, and P. Mataloni (Rome, Italy)  
*Multiqubit graph states of two photons*
- 14.20-14.35 7.2.2 A. Migdall, J. Fan, J. Chen, A. Ling, and S. Polyakov (Gaithersburg, USA)  
*Fiber-based entangled photon sources: progress and applications*
- 14.40-14.55 7.2.3 Y.-H. Kim (Pohang, Korea)  
*Nonlocal dispersion cancellation using entangled photons*
- 15.00-15.15 7.2.4 S.M. Giampaolo and F. Illuminati (Napoli, Italy)  
*Long-distance entanglement and high-fidelity quantum teleportation with hybrid atom-optical devices*
- 15.20-15.35 7.2.5 S. Takeuchi (Osaka, Japan)  
*Realization of optical quantum circuits – an entanglement filter*
- 15.40-15.55 7.2.6 M.V. Chekhova, T.Sh. Iskhakov (Moscow, Russia), and G. Leuchs (Erlangen, Germany)  
*Generation and direct detection of broadband mesoscopic polarization-squeezed vacuum*
- 16.00-16.15 7.2.7 S.V. Polyakov, E.A. Goldschmidt, S.E. Beavan, M.D. Eisaman, J. Fan, and A.L. Migdall (Gaithersburg, USA)  
*Spectral hole-burning for solid-state quantum memory*

16.15-16.45

**Coffee break**

**Seminar 7.3**

**Chair:** F. De Martini (Italy)

- 16.45-17.05 7.3.1 A.M. Steinberg, R.B.A. Adamson, and L.K. Shalm (Toronto, Canada)  
*Measuring quantum states in the presence of fundamental symmetries*
- 17.10-17.30 7.3.2 C. Kupchak, M. Lobino, E. Figueroa, and A.I. Lvovsky (Calgary, Canada)  
*Process tomography of quantum-optical memory*

- 17.35-17.50 7.3.3 J. Řeháček, Z. Hradil, Z. Boucha, R. Čelechovský (Olomouc, Czech Republic), and L.L. Sánchez-Soto (Madrid, Spain)  
*Informationally complete measurements from compatible observations*
- 17.55-18.10 7.3.4 J. Le Gouët, D. Venkatraman, F.N.C. Wong, and J.H. Shapiro (Cambridge, USA)  
*Experimental realization of phase-conjugate optical coherence tomography*
- 18.15-18.30 7.3.5 H. Häselser, N. Kiloran, and N. Lütkenhaus (Waterloo, Canada)  
*A simple method to test and benchmark quantum communication experiments*
- 18.35-18.50 7.3.6 N. Namekata, T. Kono, K. Hasegawa, S. Kurimura, and S. Inoue (Tokyo, Japan)  
*Generation of high-purity polarization entangled photon pairs using a Type-II PPLN waveguide*

## Tuesday, July 14

### Seminar 7.4

**Chair:** P. Mataloni (Italy)

- 11.00-11.15 7.4.1 G. Gordon, R. Durga Dasari, G. Bensky, and G. Kurizki (Rehovot, Israel)  
*New equilibria induced by repeated quantum non demolition operations*
- 11.20-11.35 7.4.2 R. Demkowicz-Dobrzanski, K. Banaszek, M. Kacprowicz (Toruń, Poland), W. Wasilewski (Warsaw, Poland), U. Dorner, B.J. Smith, J.S. Lundeen, and I.A. Walmsley (Oxford, UK)  
*Quantum enhanced phase estimation in the presence of loss*
- 11.40-11.55 7.4.3 D.K.L. Oi (Glasgow, UK) and S.G. Schirmer (Cambridge, UK)  
*Two-qubit Hamiltonian tomography by Bayesian analysis of noisy data*
- 12.00-12.15 7.4.4 R. Alicki (Gdansk, Poland)  
*Consistent semiclassical description of "macroscopic qubits"*
- 12.20-12.40 7.4.5 M. Genovese, G. Brida, M. Gramegna, P. Traina (Turin, Italy), A. Andreoni, A. Allevi, M. Bondani, G. Zambra (Como, Italy), S. Olivares, and M.G.A. Paris (Milan, Italy)  
*Full reconstruction of density matrix by on/off method*

12.45-14.00

### Lunch

### Seminar 7.5

**Chair:** Y.-H. Kim (Korea)

- 14.00-14.15 7.5.1 J.L. O'Brien, A. Politi, J.C.F. Matthews, A. Laing, A.S. Clark, J. Fulconis, M.J. Cryan, J.G. Rarity, A. Stefanov, S. Yu, A. Peruzzo, M. Rodas, X.-Q. Zhou, M. Zhang, P. Jiang, M. Thompson, D. Bonneau, P. Kalasuwan, C.Y. Hu, L. Marseglia, J.P. Harrison, A. Stanley-Clark, A. Young, J.P. Hadden, (Bristol, UK), R. Okamoto, T. Nagata, K. Sasaki, S. Takeuchi (Hokkaido, Japan), H.F. Hoffman (Hiroshima, Japan), G.D. Marshall, M. Ams, P. Dekker, M. Withford (Macquarie, Australia), J. Wadsworth (Bath, UK), and T. Rudolph (London, UK)  
*Quantum information science with photons on a chip*
- 14.20-14.35 7.5.2 M. Al-Amri (Riyadh, Saudi Arabia) G. Li, R. Tan (Wuhan, China), and M.S. Zubairy (College Station, USA)  
*Sudden death and birth of entanglement in photonic crystals*

- 14.40-14.55 7.5.3 C. Silberhorn, M. Avenhaus, B. Brecht, A. Christ, A. Eckstein, K. Laiho, W. Maurer, P. Mosely, and C. Söller (Erlangen, Germany)  
*Quantum state preparation based on ultrafast pulses and integrated optics*
- 15.00-15.15 7.5.4 F.A.A. El-Orany, M.R.B. Wahiddin, M. Afanddi, M. Nor, N. Jamil, I. Bahari (Kuala Lumpur, Malaysia)  
*Quantum key distribution in terms of the Greenberger-Horne-Zeilinger state: multi-key generation*
- 15.20-15.35 7.5.5 C. Erven, X. Ma, R. Laflamme, and G. Weihs (Waterloo, Canada)  
*Optimizing entanglement-based free-space quantum key distribution*
- 15.40-15.55 7.5.6 T. Honjo, Y. Tokura (Kanagawa, Japan), A. Uchida, H. Okumura (Saitama, Japan), K. Amano, K. Hirano, H. Someya (Tokyo, Japan), K. Yoshimura, and P. Davis (Kyoto, Japan)  
*Differential-phase-shift quantum key distribution experiment using fast physical random bit generator with chaotic semiconductor lasers*
- 16.00-16.15 7.5.7 S. Molotkov (Chernogolovka, Russia)  
*Two parametrical quantum key distribution protocols*
- 16.15-16.45 **Coffee break**
- Seminar 7.6**  
**Chair:** Y. Shih (USA)
- 16.45-17.05 7.6.1 A. Acin (Castelldefels, Spain)  
*Random numbers from Bell's theorem*
- 17.10-17.30 7.6.2 T. Bastin, S. Krins, P. Mathonet (Liege, Belgium), M. Godefroid (Brussels, Belgium), L. Lamata (Garching, Germany) and E. Solano (Bilbao, Spain)  
*Operational families of entanglement classes for symmetric N-qubit states*
- 17.35-17.50 7.6.3 D. Li, Y.P. Feng, and L.C. Kwek (Singapore, Singapore)  
*Quantum cloning and state transfer*
- 17.55-18.10 7.6.4 N. Treps (Paris, France), J. Janousek, K. Wagner, J-F. Morizur, P.K. Lam, C.C. Harb, H-A. Bachor (Canberra, Australia)  
*Extending optical entanglement into higher dimensions*
- 18.15-18.30 7.6.5 A. Matzkin (Grenoble, France)  
*Entanglement generation: the role of the underlying classical dynamics*
- 18.35-18.50 7.6.6 S.A. Moiseev (Kazan, Russia), A. Kamli (Riyadh, Saudi Arabia), and B.C. Sanders (Calgary, Canada)  
*Gain cross phase modulation of photons in dielectric/metamaterial interface*

### Wednesday, July 15

#### Seminar 7.7

**Chair:** M. Genovese (Italy)

- 11.00-11.15 7.7.1 D. Angelakis (Chania, Greece)  
*Coupled cavity arrays as quantum simulators*
- 11.20-11.35 7.7.2 T.P. Spiller (Bristol, UK)  
*QIP with quantum buses*
- 11.40-11.55 7.7.3 A. Kalachev (Kazan, Russia)  
*Pulse shaping during narrowband cavity-enhanced spontaneous parametric down-conversion*
- 12.00-12.15 7.7.4 K. Nemoto (Tokyo, Japan)  
*High performance quantum computer*

- 12.20-12.40 7.7.5 W.J. Munro, K.A. Harrison (Bristol, UK), and K. Nemoto (Tokyo, Japan)  
*High performance hybrid quantum repeaters*
- 12.45-14.00 **Lunch**
- Seminar 7.8**  
**Chair:** D. Angelakis (Greece)
- 14.00-14.15 7.8.1 U.L. Andersen, M. Lassen, J. Niset, M. Sabuncu (Lyngby, Denmark), N. Cerf (Brussels, Belgium), and G. Leuchs (Erlangen, Germany)  
*Quantum error correction coding with continuous variables*
- 14.20-14.35 7.8.2 R. Filip (Olomouc, Czech Republic)  
*Continuous-variable quantum interface to hardly controllable noisy system*
- 14.40-14.55 7.8.3 Q.D. Xuan, Z. Zhang, and P.L. Voss (Metz, France)  
*A discretely modulated continuous variable QKD experiment*
- 15.00-15.15 7.8.4 D. Strekalov (Pasadena, USA), J. Fürst, C. Marquardt, M. Lassen, D. Elser, U.L. Andersen, and G. Leuchs (Erlangen, Germany)  
*Generation of squeezed light in a whispering gallery mode resonator*
- 15.20-15.35 7.8.5 O. Pfister, R. Bloomer, and M. Pysker (Charlottesville, USA)  
*Concurrent nonlinear interactions and scalable cluster states in the optical frequency comb of a single optical parametric oscillator*
- 15.40-15.55 7.8.6 N. Treps, B. Chalopin, O. Pinel, B. Lamine, and C. Fabre (Paris, France)  
*Multimode OPOs : from multipartite entanglement to space-time positioning*
- 16.00-16.15 7.8.7 F. Ferreyrol, S. Fossier, R. Blandino, A. Leverrier, M. Barbieri, R. Tualle-Brouiri, and Ph. Grangier (Orsay, France)  
*A noiseless amplifier: a feasibility study and its application to quantum cryptography*
- 16.15-16.45 **Coffee break**
- Seminar 7.9**  
**Chair:** P. Tombesi (Italy)
- 16.45-17.05 7.9.1 L.-A. Wu (Beijing, China)  
*High-order ghost imaging with thermal light and multi-photon bunching*
- 17.10-17.30 7.9.2 Y. Shih (Baltimore, USA)  
*Ghost imaging: what is quantum? what is classical?*
- 17.35-17.50 7.9.3 Z. Hradil, J. Rehacek (Olomouc, Czech Republic), and L. Sánchez-Soto (Madrid, Spain)  
*Quantum mechanics of image processing*
- 17.55-18.10 7.9.4 O. Cosme, P.L. de Assis, A. Nunes, and S. Pádua (Belo Horizonte, Brazil)  
*Four photons image with PPKTP crystals*
- 18.15-18.30 7.9.5 R.E. Meyers and K.S. Deacon (Adelphi, USA)  
*Thermal ghost imaging experiments by measuring reflected photons*
- 18.35-18.50 7.9.6 Q. Liu (Trondheim, Norway), I. Gerhardt, A. Lamas-Linares, C. Kurtsiefer (Singapore, Singapore), and V. Makarov (Trondheim, Norway)  
*An attack against a quantum cryptosystem by exploiting its detector vulnerability*

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**Thursday, July 16**

**Seminar 7.10**

**Chair:** K. Nemoto (Japan)

- 11.00-11.15 7.10.1 S. Barlett (Sydney, Australia)  
*Quantum computers: a new state of matter?*
- 11.20-11.35 7.10.2 D. Petrosyan (Crete, Greece), M. Fleischhauer (Kaiserslautern, Germany), G. Bensusky, G. Kurizki (Rehovot, Israel), I. Mazets, J. Majer, and J. Schmiedmayer (Vienna, Austria)  
*Hybrid quantum computers with superconducting circuits and atomic ensembles*
- 11.40-11.55 7.10.3 J.H. Shapiro (Cambridge, USA)  
*Improving laser radar spatial resolution by squeezed-vacuum injection*
- 12.00-12.15 7.10.4 G. Leuchs (Erlangen, Germany)  
*Squeezing of higher order spatial light modes*
- 12.20-12.40 7.10.5 P.K. Lam (Canberra, Australia)  
*Multimodal quantum memory for light with gradient photon echo*

**Lunch**

**Seminar 7.11**

**Chair:** J. Shapiro (USA)

- 14.00-14.15 7.11.1 H. Di, L. Pires, M.P. van Exter (Leiden, Netherlands), and C.H. Monken (Belo Horizonte, Brazil)  
*Direct measurement of transverse mode entanglement in two photon states generated by spontaneous parametric down-conversion*
- 14.20-14.35 7.11.2 J.P. Torres (Castelldefels, Spain)  
*How can we control the frequency and spatial properties of multiphoton quantum states?*
- 14.40-14.55 7.11.3 M.V. Fedorov, V.P. Volkov, and Yu.M. Mikhailova (Moscow, Russia)  
*Schmidt modes of the SPDC biphoton state in the case of the collinear type-I phase matching and finite-duration pump pulses*
- 15.00-15.15 7.11.4 M.V. Chekhova (Moscow, Russia), L.A. Krivitsky (Singapore, Singapore), M. Avenhaus, G. Leuchs, and C. Silberhorn (Erlangen, Germany)  
*Experimental verification of high spectral entanglement for pulsed waveguided spontaneous parametric down conversion*
- 15.20-15.35 7.11.5 I.P. Degiovanni, G. Brida, F. Piacentini, V. Schettini (Turin, Italy), S.V. Polyakov, and A. Migdall (Gaithersburg, USA)  
*Suppressing detection and gate deadtimes in a multiplexed detector array for high rate telecom-band photon counting*
- 15.40-15.55 7.11.6 W. Mauerer (Erlangen, Germany)  
*Higher order contributions to spectral correlations in parametric downconversion*
- 16.00-16.15 7.11.7 A. U'Ren (Mexico city, Mexico)  
*Control, measurement, and propagation of entanglement in photon pairs*
- 16.15-16.45 **Coffee break**

## Seminar 7.12

**Chair:** P.K. Lam (Australia)

- 16.45-17.05 7.12.1 E. Giacobino, A. Amo, J. Lefrère, S. Pigeon, C. Adrados, C. Ciuti, I. Carusotto, R. Houdré, and A. Bramati (Paris, France)  
*Polaritons in a semiconductor microcavity : from quantum optics to quantum fluids*
- 17.10-17.30 7.12.2 S.A. Aljunid, T.M. Khoon, B. Chng, T. Liew, G. Maslennikov, V. Scarani, and C. Kurtsiefer (Singapore, Singapore)  
*Phase shift of a weak coherent beam by a single atom*
- 17.35-17.50 7.12.3 A. Kamli (Riyadh, Saudi Arabia), S.A. Moiseev (Kazan, Russia), and B.C. Sanders (Calgary, Canada)  
*Coherent control of low loss surface polaritons*
- 17.55-18.10 7.12.4 D.V. Kupriyanov (St. Petersburg, Russia)  
*Atomic memory for light via Raman process*
- 18.15-18.30 7.12.5 N. Lundblad (Gaithersburg, USA)  
*Optical lattice-based addressing and control of long-lived neutral-atom qubits*
- 18.35-18.50 7.12.6 F. Goldfarb, J.-L. Le Gouët, F. Bretenaker (Orsay, France), J. Ghosh, and R. Ghosh (New Delhi, India)  
*Electromagnetically-induced transparency and slow light in room temperature  $^4\text{He}$*
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## Friday, July 17

## Seminar 7.13

**Chair:** A. Cabello (Spain)

- 11.00-11.15 7.13.1 N. Matsuda, K. Edamatsu, R.Y. Mitsumori, H. Kosaka (Sendai, Japan), Shimizu (Kawaguchi, Japan), K. Yamada, T. Watanabe, T. Tsuchizawa, H. Fukuda, and S. Itabashi (Atsugi, Japan)  
*Single-photon-level optical nonlinearities in waveguide media*
- 11.20-11.35 7.13.2 F. Ciccarello, M. Zarcone, G.M. Palma (Palermo, Italy), and M. Paternostro (Belfast, UK)  
*Rising time of atom-photon entanglement in a scattering process*
- 11.40-11.55 7.13.3 H. Kang and Y.H. Park (Gwangju, Korea)  
*All-optical switching on semiconductor quantum well*
- 12.00-12.15 7.13.4 X-L. Feng, C. Wu, H. Sun, and C.H. Oh (Singapore, Singapore)  
*Geometric quantum computation in decoherence-free subspaces by strongly driven dispersive atom-cavity interaction*
- 12.20-12.40 7.13.5 F. De Martini, F. Sciarrino, and N. Spagnolo (Rome, Italy)  
*Decoherence, einselection and classicality of a nonlocal macroscopic superposition based on quantum cloning*

12.45-14.00

**Lunch**

## Seminar 7.14

**Chair:** A. Acin (Spain)

- 14.00-14.15 7.14.1 A. Cabello (Sevilla, Spain)  
*Macroscopic state-independent quantum contextuality*
- 14.20-14.35 7.14.2 M. Abdel-Aty, M. Everitt, and F. Nori (Sakhir, Kingdom of Bahrain)  
*Entanglement sudden birth in superconducting qubits interacting with a microwave field*

- 14.40-14.55 7.14.3 M. Mičuda, L. Slodička, M. Ježek, M. Dušek, and J. Fiurášek (Olomouc, Czech Republic)  
*Experimental realization of programmable quantum gates*
- 15.00-15.15 7.14.4 P. Tombesi (Camerino, Italy)  
*Controlling the polarization's decoherence of a flying qubit*
- 15.20-15.35 7.14.5 N. Korolkova, R. Tatham, D. Menzies, and D. Milne (St. Andrews, UK)  
*Effective atom-light beamsplitter and atom-optical cluster states*
- 15.40-15.55 7.14.6 T.C.H. Liew, C-E. Bardyn, V. Scarani (Singapore, Singapore), S. Massar (Brussels, Belgium), and M. McKague (Waterloo, Canada)  
*Black-box Tomography*
- 16.00-16.15 7.14.7 A. Ferraro (Castelldefels, Spain)  
*Entanglement and the breakdown of temperature intensiveness in quantum systems*
- 16.15-16.45 **Coffee break**
- Seminar 7.15**  
**Chair:** C.H. Oh (Singapore)
- 16.45-17.05 7.15.1 X. Tang, L. Ma, and O. Slattery (Gaithersburg, USA)  
*Single photon detection and spectral measurement in near infrared region using up-conversion technology*
- 17.10-17.30 7.15.2 H. de Riedmatten, B. Lauritzen, J. Minář, C. Simon, M. Afzelius, and N. Gisin (Geneva, Switzerland)  
*Solid state quantum memory for photons at telecommunication wavelength*
- 17.35-17.50 7.15.3 J.P. Dowling (Baton Rouge, USA)  
*Quantum interferometric sensors*
- 17.55-18.10 7.15.4 M.S. Kim (Belfast, UK), H. Jeong (Seoul, South Korea), A. Zavatta, V. Parigi, and M. Bellini (Florence, Italy)  
*Superpositions of bosonic operator sequences by single-photon interference*
- 18.15-18.30 7.15.5 A. Datta (London, UK), S. Boixo (Pasadena, USA), S.T. Flammia (Waterloo, Canada), M.J. Davis (Brisbane, Australia), A. Shaji, A.B. Tacla, and C.M. Caves (Albuquerque, USA)  
*Quantum-limited metrology and Bose-Einstein condensates*
- 18.35-18.50 7.15.6 Ø. Marøy, L. Lydersen, and J. Skaar (Trondheim, Norway)  
*Security of quantum key distribution with individual imperfections*
- 18.55-18.57 S.P.Kulik  
*Closing remarks*

**Poster Session, Thursday, July 16**

**Chair:** S. Kulik (Russia)

- P7.1 A. Maser, U. Schilling, Ch. Thiel, J. von Zanthier (Erlangen, Germany), E. Solano (Bilbao, Spain), and Th. Bastin (Liege, Belgium)  
*Generation of total angular momentum eigenstates in remote qubits*
- P7.2 D. Sych and G. Leuchs (Erlangen, Germany)  
*Practical quantum key distribution with multi letter alphabets*
- P7.3 A. Predojević, Z. Zhai, J.M. Caballero, and M.W. Mitchell (Castelldefels, Spain)  
*Rubidium resonant squeezed light from a diode-pumped optical-parametric oscillator*

- P7.4 A. Romanelli (Montevideo, Uruguay), C. Navarrete-Benlloch, F.V. García-Ferrer, E. Roldán, and G.J. de Valcárcel (Valencia, Spain)  
*Generation of squeezed states of light via spontaneous rotational symmetry breaking*
- P7.5 Y. Miyamoto, D. Kawase, M. Takeda, K. Sasaki, and S. Takeuchi (Osaka, Japan)  
*Higher-dimensional entanglement effects in the detection of orbital angular momentum entangled photon pairs using hologram*
- P7.6 N. Namekata, S. Adachi, and S. Inoue (Tokyo, Japan)  
*Thermal-noise-limited, gated InGaAs/InP avalanche photodiode for high-speed single-photon detection*
- P7.7 Y. Takahashi, S. Komatsu, and S. Inoue (Tokyo, Japan)  
*Enhancement of quadrature squeezing with photon subtraction*
- P7.8 K. Dobek, M. Kacprowicz, M. Bawaj, K. Banaszek (Toruń, Poland), W. Wasilewski, C. Radzewicz (Copenhagen, Denmark), and P. Horodecki (Gdansk, Poland)  
*Bright source of double polarization-entangled photon pairs*
- P7.9 J. De La Luz Montero García (Havana, Cuba)  
*What do photons do? Nature's mirror or spatial invagination*
- P7.10 Zia ud Din (Islamabad, Pakistan)  
*Control of goos-hanchen shift in EIT media: effect of subluminal and superluminal light propagation*
- P7.11 O. Barbosa and C. Viviescas (Bogota, Colombia)  
*Entanglement generation in multipartite systems with chaotic dynamics*
- P7.12 O. Kwon, Y.-S. Ra, and Y.-H. Kim (Pohang, Korea)  
*Detecting hidden energy-time entanglement by photonic de Broglie wavelength measurement*
- P7.13 S. Maniscalco (Turku, Finland)  
*Generation and protection of quantum entanglement*
- P7.14 M.V. Fedorov, P.A. Volkov, Yu.M. Mikhailova, and S.P. Kulik (Moscow, Russia)  
*Symmetry and entanglement of biphoton states*
- P7.15 D.A. Kalashnikov (Kazan, Russia), K.G. Katamadze, and S.P. Kulik (Moscow, Russia)  
*The inhomogeneous broadening of the biphoton spectrum by introducing temperature gradient in nonlinear crystal*
- P7.16 A.P. Shurupov, G. Brida, I. Degiovanni, M. Genovese, A. Florio, A. Meda (Turin, Italy), P. Giorda, and M. Paris (Milan, Italy)  
*Optimal evaluation of entanglement in two qubit system*
- P7.17 S.S. Straupe and S.P. Kulik (Moscow, Russia)  
*Quantum state engineering with polarization ququarts: preparation of an arbitrary state*
- P7.18 E.V. Moreva, Yu.I. Bogdanov, S.P. Kulik, and I. Tikhonov (Moscow, Russia)  
*General approach to optimal quantum state reconstruction protocols development*

- P7.19 S.M. Giampaolo, G. Adesso, and F. Illuminati (Napoli, Italy)  
*Entanglement, factorization, and frustration in quantum spin systems*
- P7.20 A. Monras and F. Illuminati (Fisciano, Italy)  
*Probing Gaussian channels with Gaussian states*
- P7.21 E. Kyoseva, D. Angelakis, and L.C. Kwek (Singapore, Singapore)  
*Quantum search in an array of coupled cavities*
- P7.22 O.S. Mishina (Paris, France), A.S. Sheremet, and D.V. Kupriyanov (St. Petersburg, Russia)  
*Quantum memory for light via Autler-Townes effect in a multilevel atomic system*
- P7.23 M. Tanida, T. Nagata, R. Okamoto, K. Sasaki, and S. Takeuchi (Osaka, Japan)  
*Highly-pure heralding single-photon sources for linear optical quantum computation*

**Seminar 8**  
**Nanophotonics**

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**Tuesday, July 14**

**Seminar 8.1**

**Chairs:** J. Popp (Germany) and F.J. Rodriguez (Spain)

- 16.40-17.00 8.1.1 G. Wurtz (Jacksonville, USA)  
*Nanophotonics with plasmonic metamaterials*
- 17.00-17.20 8.1.2 R. Macovez, M. Mariano, S. Di Finizio, and J. Martorell (Barcelona, Spain)  
*Blueshift of a dye's second harmonic generation via near-field coupling to a localized plasmon*
- 17.20-17.40 8.1.3 C. Helgert, C. Menzel, C. Rockstuhl, E. Pshenay-Severin, E.-B. Kley, A. Chipouline, A. Tünnermann, F. Lederer, and Th. Pertsch (Jena, Germany)  
*Polarization independent negative-index metamaterials*
- 17.40-18.00 8.1.4 M. Lira-Cantu (Barcelona, Spain)  
*Nanostructured materials for excitonic Solar cells*
- 18.00-18.20 8.1.5 F.X. Wang, F.J. Rodriguez, M. Kauranen, W.M. Albers (Tampere, Finland), and J.E. Sipe (Toronto, Ontario, Canada)  
*Second-order nonlinear surface and bulk responses of gold*
- 18.20-18.40 8.1.6 J. Popp (Jena, Germany)  
*Plasmonic nanostructures for biophotonic applications*
- 18.40-19.00 8.1.7 D. Brinks, R. Hildner, and N. Hulst (Barcelona, Spain)  
*Control of the nanoscale field by shaped few fs-pulse excitation of nanoparticles*
- 19.00-19.20 8.1.8 I. Bugár, A. Gaál, I. Capek, V. Szöcs, T. Pálszegi, A. Šatka, M. Michalka, D. Velič, and F. Uherek (Bratislava, Slovakia)  
*Femtosecond transient absorption study of colloidal silver nanoparticles*
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**Wednesday, July 15**

**Seminar 8.2**

**Chairs:** V.I. Konov (Russia) and K. Sugioka (Japan)

- 14.00-14.20 8.2.1 M. Farsari, K. Terzaki, A. Gaidukeviciute, A. Giakoumaki, M. Vamvakaki, C. Fotakis (Heraklion, Crete, Greece), C. Reinhardt, B.N. Chichkov (Heraklion, Crete, Greece; Hannover, Germany), and A. Ovsianikov (Hannover, Germany)  
*Laser fabrication of three-dimensional photonic nanostructures*
- 14.20-14.40 8.2.2 W. Marine and V. Khodorkovsky (Marseille, France)  
*Femtosecond laser ablation in liquid medium – the new way to synthesis of nanohybrid materials*
- 14.40-15.00 8.2.3 N.N. Rubtsova, S.A. Kochubei, A.A. Kovalyov, V.V. Preobrazhenskii, M.A. Putyato, O.P. Pchelyakov, T.S. Shamirzaev (Novosibirsk, Russia), N.V. Kuleshov, V.E. Kisel, and S.V. Kurilchik (Minsk, Belarus)  
*Semiconductor nanostructures modified by UV laser radiation*
- 15.00-15.20 8.2.4 L.C. Andreani, S.L. Portalupi, M. Galli, M. Belotti (Pavia, Italy), L. O'Faolain, and T.F. Krauss (St. Andrews, UK)  
*Control of light-matter interaction in nanoscale cavities*

- 15.20-15.40 8.2.5 V.P. Veiko, A.G. Poleshchuk, V.P. Korolkov, E.A. Shakhno, and M.V. Jarchuk (St. Petersburg, Russia; Novosibirsk, Russia)  
*Nanostructuring of thin metallic films by laser-induced oxidation (theoretical and experimental resolution)*
- 15.40-16.00 8.2.6 B.N. Chichkov, M. Farsari, R. Kiyan, C. Reinhardt, and A. Seidel (Hannover, Germany)  
*Guiding of surface plasmon polaritons in laser fabricated structures*
- 16.00-16.20 8.2.7 A.V. Kabashin, M. Sentis, Ph. Delaporte, D. Grojo, Th. Sarnet, N. Sanner, and O. Uteza (Marseille, France)  
*Laser-assisted nanofabrication for biological sensing, imaging and therapeutics applications*
- 16.20-16.40 **Coffee break**
- Seminar 8.3**
- Chairs:** M. Farsari (Greece) and A. Kabashin (France)
- 16.40-17.00 8.3.1 R. Stoian (Saint Etienne, France)  
*Controlling ultrafast laser-induced refractive index changes in optical glasses via adaptive spatio-temporal beam engineering*
- 17.00-17.20 8.3.2 V. Mizeikis (Hamamatsu, Japan), S. Juodkazis, H. Misawa (Sapporo, Japan), and K. Staliunas (Barcelona, Spain)  
*Optically tailored photonic microstructures*
- 17.20-17.40 8.3.3 K. Sugioka, Y. Hanada, K. Midorikawa (Saitama, Japan), H. Kawano, I.S. Ishikawa, and A. Miyawaki (Saitama, Japan)  
*Dynamic observation of microorganisms using Nanoaquariums fabricated by femtosecond laser*
- 17.40-18.00 8.3.4 V. Kononenko, V. Pashinin, M. Komlenok, and V. Konov (Moscow, Russia)  
*Laser induced modification of fused silica bulk by femtosecond pulses*
- 18.00-18.20 8.3.5 J.D.B. Bradley, L. Agazzi, F. Ay, K. Wörhoff, and M. Pollnau (Twente, The Netherlands)  
*High-performance  $Al_2O_3:Er^{3+}$  integrated optical amplifiers*
- 18.20-18.40 8.3.6 M.S. Komlenok, V.V. Kononenko, A.A. Basov, V.G. Ralchenko, and V.I. Konov (Moscow, Russia)  
*Laser induced nanoablation of UNCD films*
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#### Thursday, July 16

#### Seminar 8.4

- Chairs:** S.G. Tikhodeev (Russia) and R. Macovez (Spain)
- 11.00-11.20 8.4.1 N.A. Piskunov, E.D. Maslennikov, L.A. Golovan, V.Yu. Timoshenko, and P.K. Kashkarov (Moscow, Russia)  
*CdTe quantum dots embedded in porous silicon oxide matrix photoluminescence*
- 11.20-11.40 8.4.2 S.V. Zaboltnov, V.Yu. Timoshenko, P.K. Kashkarov, D.A. Mamichev, L.A. Golovan, A.V. Zoteyev (Moscow, Russia), and E.V. Astrova (St. Petersburg, Russia)  
*Enhanced raman scattering in grooved silicon structures*
- 11.40-12.00 8.4.3 D. Molnar and M. Lippitz (Stuttgart, Germany)  
*Antenna-enhanced pump-probe spectroscopy of single metal nanoparticles*

- 12.00-12.20 8.4.4 S.G. Tikhodeev (Moscow, Russia)  
*Effective electromagnetic response of thin layers of metamaterials*
- 12.20-12.40 8.4.5 E. Giorgetti (Firenze, Italy)  
*Plasmonic structures for the enhancement of the chemical-physical properties of molecular adsorbates*
- 12.40-14.00 **Lunch**
- Seminar 8.5**  
**Chairs:** P.K. Kashkarov (Russia) and A.N. Obraztsov (Finland)
- 14.00-14.20 8.5.1 V.G. Bordo (Sonderborg, Denmark)  
*Optics of nanofibers*
- 14.20-14.40 8.5.2 A.G. Vladimirov, S.B. Korovin, V.I. Pustovoy, and A.A. Surkov (Moscow, Russia)  
*Synthesis of high-luminescent silicon nanoparticles*
- 14.40-15.00 8.5.3 P.N. Melentiev, A.E. Afanasiev, D.A. Lapshin, V.I. Balykin (Troitsk, Russia), A.V. Zablotskiy, A.A. Kuzin, and A.S. Baturin (Dolgoprudny, Russia)  
*Nanolithography based on an atom pinhole camera for nanophotonics applications*
- 15.00-15.20 8.5.4 A.N. Obraztsov, S.V. Garnov (Moscow Russia), G.M. Mikheev (Izhevsk, Russia), Yu.P. Svirko (Joensuu, Finland), and P.A. Obraztsov (Joensuu, Finland; Moscow, Russia)  
*Optoelectronic properties and applications of nano-graphite materials*
- 15.20-15.40 8.5.5 O.V. Andreeva, V.G. Arakcheev, V.B. Morozov, A.A. Valeev (Moscow, Russia), V.N. Bagratashvili, and V.K. Popov (Troitsk, Russia)  
*CARS detection of critical point shift of molecular matter confined in nanopores*
- 15.40-16.00 8.5.6 E.D. Obraztsova, E.A. Obraztsova, A.V. Osadchy, A.I. Chernov, S.N. Bokova, M.G. Rybin, P.K. Kolmychek, and I.V. Vorob'ev (Moscow, Russia)  
*Two-layered graphene and double-wall carbon nanotubes: Raman spectroscopy and peculiarities of electronic structure*
- 16.00-16.20 8.5.7 K.A. Serrels, E. Ramsay, and D.T. Reid (Edinburgh, UK)  
*SUB-100nm resolution in sub-surface two-photon microscopy*
- 16.20-16.40 **Coffee break**
- Seminar 8.6**  
**Chairs:** J. Martorell (Spain) and P. Viktorovich (France)
- 16.40-17.00 8.6.1 T. Tanabe, M. Notomi, H. Taniyama, and E. Kuramochi (Kanagawa, Japan)  
*Recent progress of dynamically tuned photonic crystal nanocavities*
- 17.00-17.20 8.6.2 J.F. Galisteo-Lopez (Madrid, Spain)  
*Light propagation in 3D photonic crystals*
- 17.20-17.40 8.6.3 N. Le Thomas, J. Jágerská, H. Zhang, V. Zabelin, and R. Houdré (Lausanne, Switzerland)  
*Limits of slow light in actual photonic crystals structures*
- 17.40-18.00 8.6.4 P. Viktorovitch, J.-L. Leclercq, X. Letartre, P. Rojo-Romeo, and Ch. Seassal (Lyon, France)  
*Photonic crystal based surface emitting micro-lasers*

- 18.00-18.20 8.6.5 J. Trull, C. Cojocaru, R. Vilaseca, K. Staliunas (Barcelona, Spain), V. Roppo (Barcelona, Spain; Canberra, Australia), W. Wang, K. Kalinowski, D.N. Neshev, W. Krolikowski, Y.S. Kivshar (Canberra, Australia), and S. Saltiel (Sofia, Bulgaria)  
*Second harmonic generation in disordered media: fundamentals and applications*
- 18.20-18.40 8.6.6 J. Bravo-Abad, A.W. Rodriguez, S.G. Johnson, J.D. Joannopoulos, and M. Soljacic (Cambridge, USA)  
*Efficient terahertz generation at submillimeter length scales via Purcell-enhanced nonlinear frequency mixing*
- 18.40-19.00 8.6.7 C. Nistor, C. Cojocaru, J. Trull, K. Staliunas (Barcelona, Spain), Yu. Loiko, and B.I. Stepanov (Minsk, Belarus; Barcelona, Spain)  
*Vertically confined phase matched beams second harmonic generation in planar two-dimensional photonic crystals*
- 19.00-19.20 8.6.8 A.G. Zhdanov, A.G. Grunin, A.A. Ezhov, E.A. Ganshina, T.V. Dolgova, and A.A Fedyanin (Moscow, Russia)  
*Magneto-optical Kerr effect enhancement in magnetoplasmonic photonic crystals*

#### Poster Session, Thursday, July 16

- Chairs:** P.P. Kashkarov (Russia), V.I. Konov (Russia), and J. Martorell (Spain)
- P8.1 P.A. Perminov, S.V. Zaboltnov, P.K. Kashkarov, A.A. Ezhov, I.O. Dzhun, and L.A. Golovan (Moscow, Russia)  
*Laser-assisted fabrication of silicon nanocrystals in liquid media*
- P8.2 M. Botey, J. Martorell (Barcelona, Spain), L.A. Dorado, R. Depine, (Buenos Aires, Argentina), G. Lozano, and H. Míguez. (Sevilla, Spain)  
*Anomalous group velocity in a 3D photonic nanostructure*
- P8.3 A.E. Cetin and O.E. Mustecaplioglu (Istanbul, Turkey)  
*Analysis of surface plasmon theory using Bloch's hydrodynamic model*
- P8.4 S. Korovin, A. Vladimirov, and R. Khasanshin (Moscow, Russia)  
*Optical properties dependence on interface states of silicon nanoparticles*
- P8.5 M.V. Bogdanova, S.L. Eiderman, and Yu.E. Lozovik (Troitsk, Russia)  
*Optical analogue of Borrmann effect in photonic crystals*
- P8.6 F.J. Rodríguez, C. Yao, J.L. Domínguez, and J. Martorell (Barcelona, Spain)  
*Second-harmonic generation in random SBN crystals, the effects of thermal treatment*
- P8.7 A.B. Fedotov, A.D. Savvin, A.A. Lanin, N.N. Dzbanovskii, and A.M. Zheltikov (Moscow, Russia)  
*Coherent phonon Raman scattering in a synthetic diamond film*
- P8.8 J. De La Luz Montero García (Havana, Cuba)  
*What do photons do? Nature's mirror or spatial invagination*
- P8.9 I.V. Fedotov, A.A. Voronin, A.A. Ivanov, A.B. Fedotov, and A.M. Zheltikov (Moscow, Russia)  
*Spectral tailoring of high-power solitons in large-mode-area photonic-crystal fibers*

**Seminar 9**  
**Fiber Lasers**

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**Monday, July 13**

**Seminar 9.1**

**Chairs:** H.G. Limberger (Switzerland)

- 11.00-11.35 9.1.1 Y. Ohishi (Nagoya, Japan)  
*Tellurite fibers as novel optical gain media*
- 11.35-11.50 9.1.2 C. Ban, H.G. Limberger (Lausanne, Switzerland), V.M. Mashinsky, V.V. Dvoyrin, E.M. Dianov (Moscow, Russia), A.A. Umnikov, and A.N. Guryanov (Nizhny Novgorod, Russia)  
*Amplification in the 700-nm wavelength band in Bi-Al-doped silica optical fiber*
- 11.50-12.05 9.1.3 J. Bouillet (Talence, France), Y. Zaouter (Talence, France; Pessac, France), F. Salin (Pessac, France), and E. Cormier (Talence, France)  
*TEM<sub>00</sub> fiber laser emitting 94 W at 977 nm*
- 12.05-12.20 9.1.4 M. Dubinskii (Adelphi, USA) and J. Zhang (Redwood City, USA)  
*Resonantly-pumped Yb-free, Er-doped narrowband fiber lasers and amplifiers-power scaling and efficiency potential*
- 12.20-12.45 9.1.5 C. Cuadrado-Laborde (Burjassot, Spain; La Plata, Argentina), A. Díez1, J.L. Cruz1, and M.V. Andrés (Burjassot, Spain)  
*Mode-locked all-fiber laser with active amplitude modulation*

12.45-14.00

**Lunch**

**Seminar 9.2, Joint session of 9<sup>th</sup> (9.2) and 4<sup>th</sup> (4.0) Seminars**

**Chairs:** M.V. Andrés (Spain)

- 14.00-14.25 4.0.1 F. Fusari (St. Andrews, UK), B. Richards (Leeds, UK), A.A. Lagatsky (St. Andrews, UK), S. Vetter, S. Calvez (Glasgow, UK), M. Dawson (Leeds, UK), A. Jha (Glasgow, UK), W. Sibbett, and C.T.A. Brown (St. Andrews, UK)  
*Spectroscopic and lasing performance of Tm-doped tellurite and germanate glasses operating around 1.9- $\mu$ m wavelength*
- 14.25-14.40 9.2.1 V.I. Kovalev, N.E. Kotova (Edinburgh, UK; Moscow, Russia), and R.G. Harrison (Edinburgh, UK)  
*Effect of fiber's numerical aperture on temporal and spectral characteristics of a Brillouin fiber laser radiation*
- 14.40-14.55 9.2.2 A.V. Shubin, A.A. Rybaltovsky, A.L. Tomashuk, M.A. Melkumov (Moscow, Russia), M.V. Yashkov, A.N. Guryanov (Nizhny Novgorod, Russia), I.A. Bufetov, and E.M. Dianov (Moscow, Russia)  
*Photodarkening of Yb-doped fibers: the nature of the color centers and the effect of H<sub>2</sub>-loading*
- 14.55-15.10 9.2.3 S.V. Firstov, I.A. Bufetov, A.V. Shubin, A.M. Smirnov, L.D. Iskhakova (Moscow, Russia), V.F. Khopin, A.N. Guryanov (Nizhny Novgorod, Russia), and E.M. Dianov (Moscow, Russia)  
*The 2 W bismuth doped fiber lasers in the wavelength range 1300 - 1500 nm and variation of Bi-doped fiber parameters with core composition*
- 15.10-15.25 9.2.4 O. Pottiez, R. Grajales-Coutiño, C.-M. Carrillo-Delgado (Leon, Mexico), B. Ibarra-Escamilla, and E.A. Kuzin (Puebla, Mexico)  
*Generation of high-energy pulses from an all-normal-dispersion figure-8 fiber laser*

- 15.25-15.40 9.2.5 E.A. Kuzin (Puebla, Mexico), O. Pottiez (Leon, Mexico), B. Ibarra-Escamilla, M. Bello-Jimenez, A. Flores-Rosas, and M. Duran-Sanchez (Puebla, Mexico)  
*Removal of continuous wave component in a figure-eight fiber laser by using a nonlinear optical loop mirror*
- 15.40-15.55 9.2.6 A.G. Kuznetsov and S.A. Babin (Novosibirsk, Russia)  
*Q-switched fiber lasers with spectral control for various applications*
- 15.55-16.15 9.2.7 H. Ahmad and S.W. Harun (Kuala Lumpur, Malaysia)  
*Bismuth-based erbium doped fiber as a gain medium for L-band amplification and brillouin fiber laser*
- 16.15-16.45 **Coffee break**
- Seminar 9.3, Joint session of 9<sup>th</sup> (9.3) and 4<sup>th</sup> (4.0) Seminars**
- Chair:** V.I. Kovalev (UK; Russia)
- 16.45-17.10 4.0.2 I. Pupeza, J. Rauschenberger (Garching, Germany), T. Eidam, F. Röser (Jena, Germany), B. Bernhardt, A. Ozawa, R. Holzwarth, Th. Udem (Garching, Germany), J. Limpert (Jena, Germany), A. Apolonski, T.W. Hänsch (Garching, Germany), A. Tünnermann (Jena, Germany), and F. Krausz (Garching, Germany)  
*High-power femtosecond enhancement cavities for XUV generation*
- 17.10-17.25 9.3.1 M. Durán-Sánchez, E.A. Kuzin (Puebla, Mexico), O. Pottiez (Leon, Mexico), M. Bello-Jiménez, B. Ibarra-Escamilla, A. Flores-Rosas, and J.L. Hernández-Rebollar (Puebla, Mexico)  
*Fine adjustment of cavity loss by Sagnac loop for a dual wavelength generation*
- 17.25-17.40 9.3.2 I.A. Bufetov, S.V. Firstov (Moscow, Russia), V.F. Khopin, A.N. Abramov, A.N. Guryanov (Nizhny Novgorod, Russia), and E.M. Dianov (Moscow, Russia)  
*Luminescence and gain properties of active optical centers formed in Pb-doped silica-based fibers*
- 17.40-17.55 9.3.3 A.V. Kir'yanov (Moscow, Russia; Leon, Mexico), S.M. Klimentov, and I.V. Mel'nikov (Moscow, Russia)  
*Specialty Yb fiber amplifier for Nd microchip laser: towards ~1-mj, 1-ns output at 1–10 kHz repetition rate*
- 17.55-18.10 9.3.4 A. González-García, O. Pottiez, R. Grajales-Coutiño (Leon, Mexico), B. Ibarra-Escamilla, and E.A. Kuzin (Puebla, Mexico)  
*Switchable and tunable multi-wavelength Er-doped fiber ring laser using Sagnac filters*
- 18.10-18.25 9.3.5 I.S. Shelemba, S.A. Babin, A.E. Ismagulov, and E.V. Podivilov (Novosibirsk, Russia)  
*The role of modulation instability effect in the phase-sensitive OTDR sensor operation*
- 18.25-18.40 9.3.6 V.V. Dvoyrin, V.M. Mashinsky, E.M. Dianov (Moscow, Russia), A.A. Umnikov, and A.N. Guryanov (Nizhny Novgorod, Russia)  
*Lasers and amplifiers based on telecommunication fibers doped with bismuth*

- 18.40-18.55 9.3.7 L. de la Cruz-May (Campeche, Mexico), J.A. Álvarez-Chavez (Mexico, Mexico), E. Mejía-Beltran (Leon, Mexico), H.L. Offerhaus (Enschede, The Netherlands), and A. Flores-Gil (Campeche, Mexico)  
*Optimal cavity design and modeling for high-radiance, double-clad, Yb<sup>+3</sup>-doped fiber lasers*

**Friday, July, 17**

**Seminar 4.7, Joint session of 9<sup>th</sup> (9.4) and 4<sup>th</sup> (4.7) Seminars**

**Chairs:** M.C. Pujol (Spain)

- 11.00-11.35 9.4.1 A. Jha, B.D.O. Richards, J. Lousteau, X. Jiang (Leeds, UK), Y. Tsang (Manchester, UK), F. Fusari, A. Lagatsky (St. Andrews, UK), D. Binks (Manchester, UK), T. Brown, and W. Sibbett (St. Andrews, UK)  
*Tm<sup>3+</sup>/Ho<sup>3+</sup>/Yb<sup>3+</sup> co-doped tellurite and heavy-metal oxide glass lasers*
- 11.35-11.50 9.4.2 M.E. Likhachev, K.V. Zotov, M.M. Bubnov (Moscow, Russia), D.S. Lipatov, M.V. Yashkov, and A.N. Guryanov (Nizhny Novgorod, Russia)  
*Properties of erbium doped fibers on the base of P<sub>2</sub>O<sub>5</sub>-Al<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub> glass*
- 11.50-12.05 9.4.3 C. Cuadrado-Laborde (Burjassot, Spain; La Plata, Argentina), M.V. Andrés, A. Diez, J.L. Cruz (Burjassot, Spain), and Yu.O. Barmenkov (Leon, Mexico)  
*Q-switched DFB fiber laser: Brillouin sensor applications*
- 12.05-12.20 9.4.4 B. Ibarra-Escamilla (Puebla, Mexico), O. Pottiez (Leon, Mexico), E.A. Kuzin, M. Bello-Jimenez, A. Flores-Rosas, M. Duran-Sanchez (Puebla, Mexico), R. Grajales-Coutiño, and A. Gonzalez-Garcia (Leon, Mexico)  
*Pulse compression and pedestal reduction from a figure-8 fiber laser using a NOLM with a QWR*
- 12.20-12.45 4.7.1 M. Ams, G.D. Marshall, P. Dekker, and M.J. Withford (New South Wales, Australia)  
*Ultrafast laser fabrication of monolithic waveguide DFB lasers in bulk glasses*

**Session, Thursday, July 16**

**Chair:** V.M. Yermachenko (Russia)

- P9.1. V.M. Yermachenko, V.N. Petrovskiy, P.Yu. Shcheglov, and A.P. Streltsov (Moscow, Russia)  
*Diagnosis of the processes under the influence of the radiation power of fiber lasers on various materials to reflect the signal back*
- P9.2 V.M. Yermachenko, V.S. Mezhevov, V.N. Petrovskiy, and P.Yu. Shcheglov (Moscow, Russia)  
*Regimes generation of powerful fiber lasers upon the diode-pumping modulation*
- P9.3 P. Elahi, F. Mohammadi, and F. Kalantarifard (Shiraz, Iran)  
*The analytical investigation of temperature distribution and thermal stress in diode-pumped eccentric fiber laser*
- P9.4 M. Khatiri and Z. Sanjabi (Tehran, Iran)  
*Numerical solution and comparison between distributed and oscillator-amplifier for erbium-doped fiber laser*
- P9.5 I.L. Villegas (Burjassot, Spain; Leon, Mexico), C. Cuadrado-Laborde (Burjassot, Spain; La Plata, Argentina), A. Diez, J.L. Cruz (Burjassot, Spain), M.A. Martínez-Gámez (Leon, Mexico), M.V. Andrés (Burjassot, Spain)  
*Q-switched Yb-doped all-fiber laser based on in-line acousto-optic modulation*

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