

# 16th International Laser Physics Workshop (LPHYS'07)

August 20-24, 2007, León, Mexico

## PROGRAM



<http://www.lasphys.com>



**16th International Laser Physics Workshop  
(LPHYS'07)  
August 20-24, 2007, León, Mexico**

**ORGANIZED BY:**

*A.M. Prokhorov General Physics Institute, Russian Academy of Sciences  
(RAS), Moscow, Russia  
Centro de Investigaciones en Óptica (CIO), León, Mexico  
The international journal Laser Physics  
The international journal Laser Physics Letters  
International Laser Center, Moscow State University, Moscow, Russia  
Russian Research Center "Kurchatov Institute", Moscow, Russia*

**SPONSORED BY:**

*Russian Foundation for Basic Research, Moscow, Russia  
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Mexico  
Air Force Office of Scientific Research (AFOSR), Arlington, USA  
The Abdus Salam International Centre for Theoretical Physics (ICTP),  
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Consejo Nacional de Ciencia y Tecnología, Mexico City, Mexico  
Embassy of the United Mexican States in Russian Federation, Moscow,  
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## **Background**

The sixteenth annual International Laser Physics Workshop (LPHYS'07) will be held from August 20 to August 24, 2007 in Centro de Investigaciones en Óptica (CIO), León, Mexico. LPHYS'07 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, and Lausanne 2006.

The total number of participants is expected to be about 300. In the past, participation was typically from over 30 countries.

## **Proceedings**

The Workshop materials accepted by the Steering and Advisory & Program Committees (plenary, invited, and contributed) will be published in # 3 and # 5 of the international journal Laser Physics, 2008 (vol. 18). The total length of manuscript, including figures, tables and references, is limited to twenty pages. The rules of the manuscript preparation can be found on the Laser Physics web site:

**<http://www.lasphys.com>**

Two hard copies (no e-mail versions of papers please) of manuscripts to be published in the Laser Physics journal can be either given to Prof. Igor V. Yevseyev, the Deputy Editor-in-Chief of Laser Physics, during LPHYS'07 or mailed to:

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

Two hard copies of your manuscripts are to be received by the Editorial Office of the journal Laser Physics in Moscow not later than on October 1, 2007.

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

The Steering Committee of LPHYS'07 kindly asks the participants to simultaneously send the e-mail versions of their manuscripts to the following e-mail address: [lphys07@lasphys.com](mailto:lphys07@lasphys.com).

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

The Steering Committee of LPHYS'07 would like to bring your attention to the following possibility. If you feel that your manuscript deserves 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: **Thomas Feurer** (Switzerland), **Franz X. Kärtner** (USA), and **Kirill A. Prokhorov** (Russia)

**Seminar 2                      Strong Field Phenomena**

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

**Seminar 3                      Biophotonics**

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

**Seminar 4**                      **Physics of Lasers**  
Co-Chairs: **Serge V. Garnov** (Russia), **Roberto Ortega Martinez** (Mexico), and **Ivan A. Shcherbakov** (Russia)

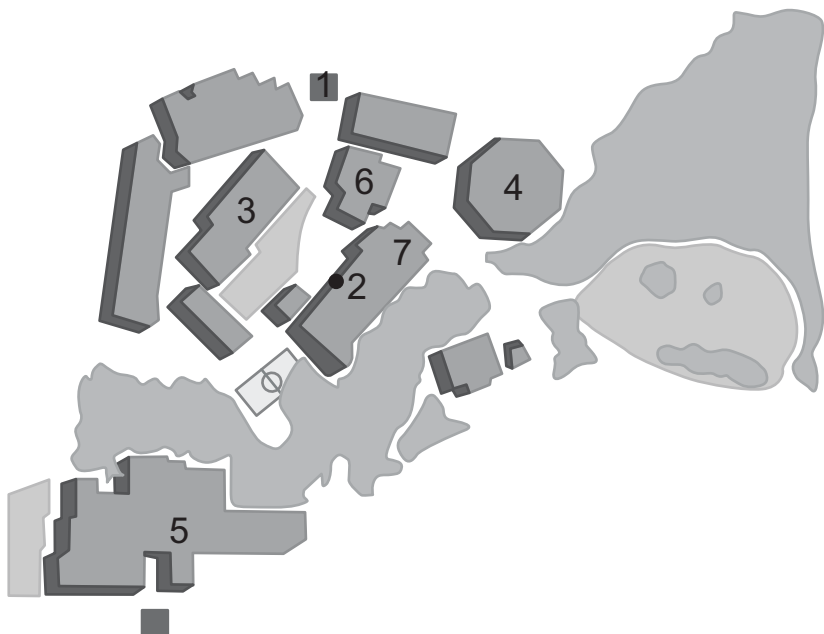
**Seminar 5**                      **Nonlinear Optics and Spectroscopy**  
Co-Chairs: **See Leang Chin** (Canada), **Christos Flytzanis** (France), and **Vladimir A. Makarov** (Russia)

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

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

**Symposium**                      **Fiber Laser Technology**  
Co-Chairs: **Yury O. Barmenkov** (Mexico) and **Alexander V. Kir'yanov** (Mexico)

### Meeting Format and Location of the Events



Hall # 1: Salon de Eventos Especiales - (2)  
 Hall # 2: Auditorio "Daniel Malacara" - (3)  
 Hall # 3: Octagono - (4)  
 Hall # 4: Auditorio Academico - (5)  
 Hall # 5: Salon de Laseres - (6)

Poster Session Salon de Eventos Especiales  
 Coffee Breaks Terrace - (7)  
 Welcome Party Salon de Eventos Especiales  
 Conference Dinner Salon de Eventos Especiales

Welcome Remarks	August 20	09.15-09.45	Hall # 1
Welcome Party	August 20	19.30-23.00	Salon de Eventos Especiales
Conference Dinner	August 22	19.30-23.00	Salon de Eventos Especiales
Closing Remarks	August 24	18.50-19.00	Hall # 1

Plenary Sessions (PS)

August 20	09.45-10.30	Hall # 1
August 21	09.00-09.45	Hall # 1
August 21	09.45-10.30	Hall # 1
August 22	09.00-09.45	Hall # 1
August 22	09.45-10.30	Hall # 1
August 22	11.00-11.45	Hall # 1
August 23	09.00-09.45	Hall # 1
August 23	09.45-10.30	Hall # 1
August 24	09.00-09.45	Hall # 1
August 24	09.45-10.30	Hall # 1
August 24	11.00-11.45	Hall # 1
August 24	11.45-12.30	Hall # 1

Seminar 1

August 22	14.00-16.15	Hall # 2
August 22	16.45-18.50	Hall # 4

	August 23	11.00-18.50	Hall # 4
	August 24	14.00-18.50	Hall # 4
Seminar 2	August 20	11.00-18.50	Hall # 2
	August 21	11.00-18.50	Hall # 2
	August 22	14.00-18.50	Hall # 2
	August 23	11.00-18.50	Hall # 2
Seminar 3	August 20	11.00-18.50	Hall # 3
Seminar 4	August 22	14.00-18.50	Hall # 5
	August 23	11.00-16.15	Hall # 5
Seminar 5	August 20	11.00-18.50	Hall # 4
	August 21	11.00-18.50	Hall # 4
Seminar 6	August 20	11.00-18.50	Hall # 1
	August 21	11.00-18.50	Hall # 1
	August 22	14.00-18.50	Hall # 1
	August 23	11.00-18.50	Hall # 1
	August 24	14.00-18.50	Hall # 1
Seminar 7	August 21	11.00-18.50	Hall # 3
	August 22	14.00-18.50	Hall # 3
	August 23	11.00-18.50	Hall # 3
	August 24	14.00-18.50	Hall # 3
Symposium	August 24	14.00-18.50	Hall # 2
Poster Session	August 21	19.30-21.00	Salon de Eventos Especiales

**The posters can be put up on Monday, August 20, and stay over the whole conference.**

## Scientific Program – Schedule

Monday, August 20, 2007					
	Hall # 1	Hall # 2	Hall # 3	Hall # 4	Hall # 5
09.15-09.45	<b>Welcome Remarks</b>				
09.45-10.30	<b>PS1: Murnane</b>				
10.30-11.00	<b>Coffee Break</b>				
11.00-12.45	Seminar 6.1	Seminar 2.1	Seminar 3.1	Seminar 5.1	
12.45-14.00	<b>Lunch</b>				
14.00-16.15	Seminar 6.2	Seminar 2.2	Seminar 3.2	Seminar 5.2	
16.15-16.45	<b>Coffee Break</b>				
16.45-18.50	Seminar 6.3	Seminar 2.3	Seminar 3.3	Seminar 5.3	
19.30-23.00	<b>Welcome Party</b>				

Tuesday, August 21, 2007					
	Hall # 1	Hall # 2	Hall # 3	Hall # 4	Hall # 5
09.00-09.45	<b>PS2: Fetter</b>				
09.45-10.30	<b>PS3: Kato</b>				
10.30-11.00	<b>Coffee Break</b>				
11.00-12.45	Seminar 6.4	Seminar 2.4	Seminar 7.1	Seminar 5.4	
12.45-14.00	<b>Lunch</b>				
14.00-16.15	Seminar 6.5	Seminar 2.5	Seminar 7.2	Seminar 5.5	
16.15-16.45	<b>Coffee Break</b>				
16.45-18.50	Seminar 6.6	Seminar 2.6	Seminar 7.3	Seminar 5.6	
19.30-21.00	<b>Poster Session</b>				

<b>Wednesday, August 22, 2007</b>					
	<b>Hall # 1</b>	<b>Hall # 2</b>	<b>Hall # 3</b>	<b>Hall # 4</b>	<b>Hall # 5</b>
<b>09.00-09.45</b>	<b>PS4: Konov</b>				
<b>09.45-10.30</b>	<b>PS5: Lademann</b>				
<b>10.30-11.00</b>	<b>Coffee Break</b>				
<b>11.00-11.45</b>	<b>PS6: Fejer</b>				
<b>12.45-14.00</b>	<b>Lunch</b>				
<b>14.00-16.15</b>	Seminar 6.7	Seminar J1&2	Seminar 7.4		Seminar 4.1
<b>16.15-16.45</b>	<b>Coffee Break</b>				
<b>16.45-18.50</b>	Seminar 6.8	Seminar 2.7	Seminar 7.5	Seminar 1.1	Seminar 4.2
<b>19.30-23.00</b>	<b>Conference Dinner</b>				

<b>Thursday, August 23, 2007</b>					
	<b>Hall # 1</b>	<b>Hall # 2</b>	<b>Hall # 3</b>	<b>Hall # 4</b>	<b>Hall # 5</b>
<b>09.00-09.45</b>	<b>PS7: Zheltikov</b>				
<b>09.45-10.30</b>	<b>PS8: Kivshar</b>				
<b>10.30-11.00</b>	<b>Coffee Break</b>				
<b>11.00-12.45</b>	Seminar 6.9	Seminar 2.8	Seminar 7.6	Seminar 1.2	Seminar 4.3
<b>12.45-14.00</b>	<b>Lunch</b>				
<b>14.00-16.15</b>	Seminar 6.10	Seminar 2.9	Seminar 7.7	Seminar 1.3	Seminar 4.4
<b>16.15-16.45</b>	<b>Coffee Break</b>				
<b>16.45-18.50</b>	Seminar 6.11	Seminar 2.10	Seminar 7.8	Seminar 1.4	

**Friday, July August 24, 2007**

	<b>Hall # 1</b>	<b>Hall # 2</b>	<b>Hall # 3</b>	<b>Hall # 4</b>	<b>Hall # 5</b>
<b>09.00-09.45</b>	<b>PS9: Shalaev</b>				
<b>09.45-10.30</b>	<b>PS10: Damzen</b>				
<b>10.30-11.00</b>	<b>Coffee Break</b>				
<b>11.00-11.45</b>	<b>PS11: Reid</b>				
<b>11.45-12.30</b>	<b>PS12: Andres</b>				
<b>12.45-14.00</b>	<b>Lunch</b>				
<b>14.00-16.15</b>	Seminar 6.12	Symposium 8.1	Seminar 7.9	Seminar 1.5	
<b>16.15-16.45</b>	<b>Coffee Break</b>				
<b>16.45-18.50</b>	Seminar 6.13	Symposium 8.2	Seminar 7.10	Seminar 1.6	
<b>18.50-19.00</b>	<b>Closing Remarks</b>				

## Plenary Sessions

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### Monday, August 20

#### Welcome Remarks

- 09.15-09.25 Juan Carlos Romero Hicks (Director of the National Council for Science and Technology (CONACyT), Mexico City, Mexico)
- 09.25-09.35 Fernando Mendoza Santoyo (Co-Chairman of LPHYS'07, Mexico)
- 09.35-09.45 Alexander V. Kir'yanov (Deputy Chairmen of LPHYS'07, Mexico)
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### Monday, August 20

#### PLENARY SESSION (PS1)

Chair: M.V. Fedorov (Russia)

- 09.45-10.30 **Margaret Murnane** (Boulder, CO, USA)  
*The Quest for Coherent X-Rays Using Attosecond Nonlinear Optics*
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### Tuesday, August 21

#### PLENARY SESSION (PS2)

Chair: V.I. Yukalov (Russia)

- 09.00-09.45 **Alexander L. Fetter** (Stanford, CA, USA)  
*Rotating Bose-Einstein Condensates*

#### PLENARY SESSION (PS3)

Chair: V.A. Makarov (Russia)

- 09.45-10.30 **Yoshiaki Kato** (Tokai, Naka, Ibaraki, Japan)  
*High Energy Particle and X-Ray Generation with Intense Laser Field*

## Wednesday, August 22

### PLENARY SESSION (PS4)

Chair: S.L. Chin (Canada)

09.00-09.45

**Vitali I. Konov** (Moscow, Russia)

*Carbon Nanotubes - a New Nonlinear Optical Material*

### PLENARY SESSION (PS5)

Chair: S.A. Gonchukov (Russia)

9.45-10.30

**Jürgen Lademann** (Berlin, Germany)

*Application of Laser Spectroscopic Methods for in Vivo Diagnostics in Dermatology*

### PLENARY SESSION (PS6)

Chair: K.A. Prokhorov (Russia)

11.00-11.45

**Martin M. Fejer** (Stanford, CA, USA)

*Nonlinear Optics in Microstructured Ferroelectrics and Semiconductors*

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## Thursday, August 23

### PLENARY SESSION (PS7)

Chair: J. Biegert (Spain)

09.00-09.45

**Aleksey M. Zheltikov** (Moscow, Russia)

*Let There Be White Light: Photonic-Crystal Fiber Light Sources*

### PLENARY SESSION (PS8)

Chair: V.M. Shalaev (USA)

09.45-10.30

**Yuri S. Kivshar** (Canberra, Australia)

*Nonlinear Physics and Gap Solitons in Periodic Photonic Structures*

## Friday, August 24

### PLENARY SESSION (PS9)

Chair: V.M. Yermachenko (Russia)

09.00-09.45

**Vladimir M. Shalaev** (West Lafayette, USA)

*Photonic Metamaterials*

### PLENARY SESSION (PS10)

Chair: R. Ortega Martinez (Mexico)

09.45-10.30

**Michael J. Damzen** (London, UK)

*Recent Advances in High Power Solid-State Lasers  
and Their Applications*

### PLENARY SESSION (PS11)

Chair: A.M. Zheltikov (Russia)

11.00-11.45

**Derryck T. Reid** (Edinburgh, UK)

*Successes and Future Challenges in Ultrafast Optical  
Metrology*

### PLENARY SESSION (PS12)

Chair: A.V. Kir'yanov (Mexico)

11.45-12.30

**Miguel V. Andres** (Valencia, Spain)

*Active Q-Switched All-Fiber Lasers*

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## Friday, August 24

### Closing Remarks

Chair: V.I. Yukalov (Russia)

18.50-19.00

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

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**Wednesday, August 22**

**Seminar Joint 1&2**

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

- 14.00-14.30 J1&2.1 A. Sandhu, E. Gagnon, N. Wagner, X. Zhou, R. Hooper, M.M. Murnane, and H.C. Kapteyn (Boulder, Colorado, USA)  
*Molecular science using strong-field and high-order harmonic generation*
- 14.30-15.00 J1&2.2 K. Midorikawa (Wako, Japan)  
*Attosecond nonlinear optics*
- 15.00-15.30 J1&2.3 M. Ivanov (Ottawa, Canada)  
*Attosecond dynamics of electron localization in strong laser fields*
- 15.30-16.00 J1&2.4 E. Persson, K. Schiessl, and J. Burgdörfer (Vienna, Austria)  
*Creation of polarized states using a train of attosecond unidirectional half-cycle pulses*
- 16.15-16.45 **Coffee Break**

**Seminar 1.1**

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

- 16.45-17.15 1.1.1 T. Udem, A. Ozawa, C. Gohle, J. Rauschenberger, R. Holzwarth, A. Schliesser, W. Schneider, M. Herrmann, and T.W. Hänsch (Garching, Germany)  
*Frequency combs from IR to XUV*
- 17.15-17.45 1.1.2 Ka-Lo Yeh, M.C. Hoffmann, J. Hebling, and K.A. Nelson (Cambridge, USA)  
*High power THz polaritonics, nonlinear THz spectroscopy, and THz coherent control*
- 17.45-18.15 1.1.3 A.L. Cavalieri, R. Kienberger, E. Goulielmakis, M. Uiberacker, Th. Uphues, M. Schultze, V. Pervak, A. Apolonskiy, U. Kleineberg, F. Krausz (Garching, Germany), N. Müller, and U. Heinzmann (Bielefeld, Germany)  
*Applications and development of attosecond metrology*
- 18.15-18.45 1.1.4 T.R. Schibli and J.Ye (Boulder, USA)  
*Femtosecond enhancement cavities*

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**Thursday, August 23**

**Seminar 1.2**

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

- 11.00-11.35 1.2.1 F.X. Kärtner, A. Benedick, P. Fendel, O.D. Mücke, R. Ell, J. Birge, M. Sander (Cambridge, Massachusetts, USA), M. Gubin, and D. Tyurikov (Moscow, Russia)  
*Compact CH<sub>4</sub>-stabilized HeNe optical clock and frequency comb based on a 1 GHz-octave spanning Ti:sapphire laser*
- 11.35-12.10 1.2.2 D.T. Reid (Edinburgh, UK)  
*Advances in femtosecond frequency comb generation using optical parametric oscillators*

- 12.10-12.45 1.2.3 F. Omenetto (Medford, Massachusetts, USA)  
*Soft glass photonic crystal fibers*
- 12.45-14.00 **Lunch**
- Seminar 1.3**
- Chair:** F. Kärtner (USA)
- 14.00-14.35 1.3.1 U. Morgner, G. Palmer, A. Steinmann, M. Siegel (Hannover, Germany), and S. Dewald (Heidelberg, Germany)  
*High-energy laser pulses directly from the oscillator*
- 14.35-15.10 1.3.2 Y.J. Ding (Bethlehem, PA, USA)  
*Exploring fundamental limits to terahertz generation in electro-optic materials: from bulk to nanolayers*
- 15.10-15.45 1.3.3 O. Smirnova, M. Spanner, S. Patchkovskii, and M. Ivanov (Ottawa, Canada)  
*Coulomb and polarization effects in dynamical imaging with strong laser fields*
- 15.45-16.15 1.3.4 T. Nakajima (Kyoto, Japan)  
*Effects of the carrier-envelope phase for several-cycle pulses*
- 16.15-16.45 **Coffee Break**
- Seminar 1.4**
- Chair:** K. Prokhorov (Russia)
- 16.45-17.15 1.4.1 N.N. Rubtsova, V.N. Ishchenko, S.A. Kochubei, E.B. Khvorostov (Novosibirsk, Russia), V.A. Reshetov (Togliatti, Russia), and I.V. Yevseyev (Moscow, Russia)  
*Depolarizing collisions in ytterbium vapour*
- 17.15-17.35 1.4.2 Yu.V. Shemuratov, K.A. Prokhorov, G.Yu. Nikolaeva, P.P. Pashinin, A.A. Kovalchuk, A.N. Klyamkina, P.M. Nedorezova, and E.M. Antipov (Moscow, Russia)  
*Raman study of ethylene - propylene copolymers and polyethylene – polypropylene blends*
- 17.35-18.05 1.4.3 A. Ipp, A. Di Piazza, J. Evers, K.Z. Hatsagortsyan, and Ch.H. Keitel (Heidelberg, Germany)  
*Photon polarization as a probe for quark-gluon plasma dynamics*
- 18.05-18.35 1.4.4 A.A. Zadernovsky (Moscow, Russia)  
*X-ray driven emission of stimulated gamma radiation*
- 18.35-18.55 1.4.5 M. Endo and S. Mukai (Tsukuba, Japan)  
*Optical power standard up to 1W for fiber-optic power meters*

### Friday, August 24

#### Seminar 1.5

**Chair:** V. Shalaev (USA)

- 14.00-14.35 1.5.1 A.K. Popov (Stevens Point, USA), S.A. Myslivets (Krasnoyarsk, Russia), T.F. George (St. Louis, USA), and V.M. Shalaev (West Lafayette, USA)  
*Quantum control and compensation of losses in negative-index metamaterials*
- 14.35-15.10 1.5.2 S. Fan (Stanford, USA)  
*Control light with photonic nanostructures*

- 15.10-15.45 1.5.3 A. Boltasseva, R.B. Nielsen, K.B. Jørgensen, R.H. Pedersen, A. Kristensen (Kongens Lyngby, Denmark), I. Fernandez-Cuesta (Barcelona, Spain), K. Leosson, T. Rosenzweig (Reykjavik, Iceland), J. Jung, T. Søndergaard, and S.I. Bozhevolnyi (Aalborg, Denmark)  
*Plasmonic waveguides: building nanophotonics with metals*
- 15.45-16.15 1.5.4 V.S. Volkov, S.I. Bozhevolnyi (Aalborg, Denmark), L.H. Frandsen (Lyngby, Denmark), and M. Kristensen (Aarhus, Denmark)  
*Direct observation of surface modes excitation and slow light coupling in photonic crystal waveguides*
- 16.15-16.45 **Coffee Break**
- Seminar 1.6**  
**Chair:** S. Fan (USA)
- 16.45-17.20 1.6.1 M. Mayy, G. Zhu, M. Bahoura, J.A. Adegoke, M.A. Noginov (Norfolk, USA), and V.A. Podolskiy (Corvallis, Oregon, USA)  
*Compensation of loss in propagating surface plasmon by optical gain*
- 17.20-17.55 1.6.2 S.I. Bozhevolnyi and V.S. Volkov (Aalborg, Denmark)  
*Nanophotonic components utilizing channel plasmon polaritons*
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**Poster Session, August 21**

- Chair:** G.Yu. Nikolaeva (Russia)
- P1.1 E.A. Sagitova, K.A. Prokhorov, G.Yu. Nikolaeva, M.A. Guseva, V.A. Gerasin, and E.M. Antipov (Moscow, Russia)  
*Molecular orientation and high-frequency Raman spectra of uniaxially drawn polymer-clay nanocomposites*

**Seminar 2**  
**Strong-field phenomena**  

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**Monday, August 20**

**Seminar 2.1**

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

- 11.00-11.30 2.1.1 C. Müller, A. Di Piazza, J. Evers, K.Z. Hatsagortsyan, and C.H. Keitel (Heidelberg, Germany)  
*High energy, nuclear and QED processes in strong laser fields*
- 11.30-12.00 2.1.2 K. Krajewska and J.Z. Kaminski (Warsaw, Poland)  
*Angular correlations in pair creation*
- 12.00-12.30 2.1.3 P.A. Volkov, M.A. Efremov, and M.V. Fedorov (Moscow, Russia)  
*Multiphoton pair production: correlations of electron and positron states*
- 12.45-14.00 **Lunch**

**Seminar 2.2**

**Chair:** A. Sergeev (Russia)

- 14.00-14.30 2.2.1 Q. Su, N.I. Chott, D.T. Wischhusen, and R. Grobe (Normal, IL, USA)  
*Classical-quantum correspondence in pair creation*
- 14.30-15.00 2.2.2 J. Peatross (Provo, UT, USA), C. Müller, K.Z. Hatsagortsyan, and C.H. Keitel (Heidelberg, Germany)  
*Analytical 3-D electron wave-packet dynamics in an intense laser field*
- 15.00-15.30 2.2.3 A.M. Popov, M.A. Tikhonov, O.V. Tikhonova, and E.A. Volkova (Moscow, Russia)  
*Hydrogen atom in a strong laser field: numerical simulations versus Keldysh-type theories*
- 15.30-16.00 2.2.4 A.V. Flegel, M.V. Frolov, N.L. Manakov (Voronezh, Russia), and A.F. Starace (Lincoln, NE, USA)  
*Effective range theory of laser-assisted electron-atom scattering: resonant and threshold enhancements of plateau structures*
- 16.15-16.45 **Coffee Break**

**Seminar 2.3**

**Chair:** W. Becker (Germany)

- 16.45-17.15 2.3.1 R. Kolesov, E. Kuznetsova (College Station, TX, USA), and O. Kocharovskaya (College Station, TX, USA; Nizhny Novgorod, Russia)  
*Coherent effects in room-temperature solids*
- 17.15-17.45 2.3.2 A. Gonoskov, V. Eremin, A. Kim, A. Korzhimanov, and A. Sergeev (Nizhny Novgorod, Russia)  
*Ion acceleration regimes at relativistically strong laser pulse propagation through overdense plasma layers*
- 17.45-18.10 2.3.3 M.A. Efremov (Moscow, Russia; Ulm, Germany), P.V. Mironova, and W.P. Schleich (Ulm, Germany)  
*Berry phase in atom optics*
- 18.10-18.35 2.3.4 S.P. Andreev and T.V. Pavlova (Moscow, Russia)  
*Diffusion of electrons in strong magnetic field in 2D and 3D semiconductors doped by neutral impurities*

18.35-19.05 2.3.5 H. Reiss (Berlin, Germany; Washington, DC, USA)  
*Physical interpretations and the choice of electromagnetic gauge*

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**Tuesday, August 21**

**Seminar 2.4**

**Chair:** A.M. Popov (Russia)

11.00-11.30 2.4.1 A. Rudenko, Th. Ergler, B. Feuerstein, K. Zrost, C.D. Schröter, R. Moshhammer, and J. Ullrich (Heidelberg, Germany)  
*Towards complete characterization of ultrafast molecular dynamics in and with intense laser fields*

11.30-12.00 2.4.2 T. Seideman (Evanston, IL, USA)  
*On the information content of high harmonics generated from aligned molecules*

12.00-12.30 2.4.3 L.B. Madsen (Aarhus, Denmark)  
*Molecules in intense X-ray lasers: beyond the dipole approximation in linearly and circularly polarized fields*

12.45-14.00 **Lunch**

**Seminar 2.5**

**Chair:** F. Giammanco (Italy)

14.00-14.30 2.5.1 G. Prümper, K. Ueda, T. Hatamoto, M. Okunishi (Sendai, Japan), and D. Mathur (Sendai, Japan; Mumbai, India)  
*Electron emission and fragmentation of linear alcohol molecules in intense laser fields*

14.30-15.00 2.5.2 T. Wilbois and H. Helm (Freiburg, Germany)  
*Photoelectron spectroscopy of  $H_2$  in strong fields*

15.00-15.30 2.5.3 P. Sauer and R.E. Allen (College Station, TX, USA)  
*Toward molecular switches and biochemical detectors employing adaptive femtosecond-scale laser pulses*

15.30-16.00 2.5.4 C.F.M. Faria (London, UK)  
*High-harmonic generation in diatomic molecules: a quantum-orbit analysis of the interference patterns*

16.15-16.45 **Coffee Break**

**Seminar 2.6**

**Chair:** T. Seideman (USA)

16.45-17.15 2.6.1 F. Brandi, F. Giammanco (Pisa, Italy), and W. Ubachs (Amsterdam, The Netherlands)  
*Chirp-induced frequency shift in high-order harmonic generation in nitrogen*

17.15-17.45 2.6.2 F. Morales, G. Castiglia, P.P. Corso, R. Daniele, E. Fiordilino, G. Orlando, and F. Persico (Palermo, Italy)  
*Sidebands of harmonic spectra in  $H_2^+$  molecule in the presence of a laser*

17.45-18.15 2.6.3 O. Smirnova, S. Patchkovskii, and M. Ivanov (Ottawa, Canada)  
*Multielectron effects in HHG spectra from  $CO_2$  molecule*

18.15-18.45 2.6.4 J. Liu, Ch. Wang, M. Yang, W. Wang, Yi Cai, G. Ni, R. Li, and Zh. Xu (Shanghai, P. R. of China)  
*Cluster condensation and explosion processes investigated by linearly chirped laser pulses*

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## Wednesday, August 22

### Seminar Joint 1&2

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

- 14.00-14.30 J1&2.1 A. Sandhu, E. Gagnon, N. Wagner, X. Zhou, R. Hooper, M.M. Murnane, and H.C. Kapteyn (Boulder, CO, USA)  
*Molecular science using strong-field and high-order harmonic generation*
- 14.30-15.00 J1&2.2 K. Midorikawa (RIKEN, Japan)  
*Attosecond Nonlinear Optics*
- 15.00-15.30 J1&2.3 M. Ivanov (Ottawa, Canada)  
*Attosecond dynamics of electron localization in strong laser fields*
- 15.30-16.00 J1&2.4 E. Persson, K. Schiessl, and J. Burgdörfer (Vienna, Austria)  
*Creation of polarized states using a train of attosecond unidirectional half-cycle pulses*
- 16.15-16.45 **Coffee Break**

### Seminar 2.7

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

- 16.45-17.15 2.7.1 Yu.M. Mikhailova, J. Zheng, and V.T. Platonenko (Moscow, Russia)  
*Controlling parameters of material micromodifications in the single-focus regime of propagation of tightly focused megawatt femtosecond light packets in transparent condensed media*
- 17.15-17.45 2.7.2 M. Zhi, Xi Wang, and A.V. Sokolov (College Station, TX, USA)  
*Femtosecond broadband Raman generation in solids*
- 18.15-18.45 2.7.3 X. Xu, X. Liu, and G.G. Paulus (College Station, TX, USA)  
*Measurement of ultrashort lifetimes of light-induced states*
- 17.45-18.15 2.7.4 M. Kundu (Heidelberg, Germany), S.V. Popruzhenko (Heidelberg, Germany; Moscow, Russia), and D. Bauer (Heidelberg, Germany)  
*Harmonic emission from laser-driven nanoplasmas*

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## Thursday, August 23

### Seminar 2.8

**Chair:** G. Paulus (USA)

- 11.00-11.30 2.8.1 E.A. Pronin (Lincoln, NE, USA), N.L. Manakov, S.I. Marmo (Voronezh, Russia), and A.F. Starace (Lincoln, NE, USA)  
*Polarization control of nonsequential double ionization of He by a VUV light*
- 11.30-12.00 2.8.2 R. Taïeb and A. Maquet (Paris, France)  
*Two-color IR + XUV spectroscopies: the Soft-Photon Approximation*
- 12.00-12.30 2.8.3 E. Saczuk and J.Z. Kaminski (Warsaw, Poland)  
*Coulomb threshold effects in ionization*
- 12.45-14.00 **Lunch**

### Seminar 2.9

**Chair:** J. Liu (China)

- 14.00-14.30 2.9.1 C. Ruiz and A. Becker (Dresden, Germany)  
*Binary and recoil collisions in strong field*

- 14.30-15.00 2.9.2 S.P. Goreslavski, N.I. Shvetsov-Shilovski (Moscow, Russia), S.V. Popruzhenko (Heidelberg, Germany; Moscow, Russia), and W. Becker (Berlin, Germany)  
*Electron and ion momentum distribution of nonsequential double ionization by a strong elliptically polarized laser field*
- 15.00-15.30 2.9.3 D. Bauer (Heidelberg, Germany), S.V. Popruzhenko (Heidelberg, Germany; Moscow, Russia), and G.G. Paulus (College Station, USA)  
*Above-threshold ionization in an elliptically polarized laser field: evidence for Coulomb and dichroism effects*
- 15.30-16.00 2.9.4 S. Sukiasyan, Th. Brabec, and M. Ivanov (Ottawa, Canada)  
*Correlated two-electron dynamics in intense laser fields*
- 16.15-16.45 **Coffee Break**
- Seminar 2.10**  
**Chair:** D. Bauer (Germany)
- 16.45-17.15 2.10.1 J.S. Prauzner-Bechcicki, K. Sacha, and J. Zakrzewski (Krakow, Poland)  
*Suppression of correlated electron escapes in double ionization in strong laser field*
- 17.15-17.45 2.10.2 S. Patchkovskii, O. Smirnova, and M. Ivanov (Ottawa, Canada)  
*Modelling tunnel ionization in many-electron system with stationary non-equilibrium electron dynamics*
- 17.45-18.15 2.10.3 M. Verschl, R. Fischer, M. Klaiiber, K.Z. Hatsagortsyn, and C.H. Keitel (Heidelberg, Germany)  
*Laser-driven recollisions generalized to relativistic energies*
- 18.15-18.45 2.10.4 V.S. Rastunkov and V.P. Krainov (Moscow, Russia)  
*Field phase dependence in the ionization of atoms by intense one-cycle laser pulses*
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### Poster Session, August 21

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

- P2.1 A.V. Gulyaev and O.V. Tikhonova (Moscow, Russia)  
*Propagation of few-cycle laser pulses through a linear gas medium*
- P2.2 D. Bauer, P. Koval, F. Wilken, and C.H. Keitel (Heidelberg, Germany)  
*Harmonic generation with two electrons: nonsequential double recombination in intense laser fields*
- P2.3 M. Girju, K. Hristov, O. Kidun, and D. Bauer (Heidelberg, Germany)  
*Resonant strong field ionization of atomic hydrogen*
- P2.4 K. Krajewska (Warszawa, Poland; Lincoln, NE, USA), I.I. Fabrikant, and A.F. Starace (Lincoln, NE, USA)  
*Channel-Closing-Related Effects on Angular Distributions for Strong Field Detachment*
- P2.5 V.P. Krainov and A.V. Sofronov (Dolgoprudny, Moscow region, Russia)  
*The Landau-Dykhne approach for relativistic electron momentum and angular distributions at the ionization of atoms by super-intense laser field*

- P2.6 F. Morales, G. Castiglia, P.P. Corso, R. Daniele, E. Fiordilino, G. Orlando, and F. Persico (Palermo, Italy)  
*Evidence of nuclear motion in  $H_2$  molecule through high order harmonic generation*
- P2.7 E. Saczuk and J.Z. Kaminski (Warszawa, Poland)  
*Photo-effect by short laser pulses*
- P2.8 A. Glushkov (Troitsk, Moscow region, Russia; Odessa, Ukraine)  
*Nonlinear features in the strong laser field-atom interaction*
- P2.9 I.A. Gonoskov, A. A. Gonoskov, and M. Yu. Ryabikin (Nizhny Novgorod, Russia)  
*Spectral features of harmonic spectra from  $H_2^+$  ion driven by femtosecond laser pulse*
- P2.10 O.Yu. Khetselius (Odessa, Ukraine) and A. Glushkov (Troitsk, Moscow region, Russia; Odessa, Ukraine)  
*Discharge of metastable nuclei during negative muon capture in laser pulse and possible realization of the high power monochromatic gamma radiation source*
- P2.11 A.V. Koval', V.M. Koval', and T.U. Arslanbekov (Tashkent, Uzbekistan)  
*The spectra of the direct ATI photoelectrons at ionization of hydrogen molecule in the two color laser fields*
- P2.12 K.B. Oganessian, A.S. Hevorkyan (Yerevan, Armenia), M.V. Fedorov, and S.M. Fedorov (Moscow, Russia)  
*Dielectric permeability superlattice formation*
- P2.13 E.M. Sarkisyan, K.B. Petrosyan, and K.B. Oganessian (Yerevan, Armenia)  
*Detecting of Casimir photons with electrons*
- P2.14 V.I. Usachenko and P.E. Pyak (Tashkent, Uzbekistan)  
*High-order harmonic generation in laser-irradiated molecular dimers*
- P2.15 V.I. Usachenko and V.V. Kim (Tashkent, Uzbekistan)  
*On mechanism underlying nosuppression in strong-field ionization of  $F_2$*
- P2.16 V.I. Usachenko and P.E. Pyak (Tashkent, Uzbekistan)  
*Orientation dependence of strong-field ionization in molecular dimers*

**Seminar 3**  
**Biophotonics**

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**Monday, August 20**

**Seminar 3.1**

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

- 11.00-11.30 3.1.1 I. Balalaeva, V. Kamensky, A. Orlova, V. Plekhanov, A. Sergeev, I. Turchin, T. Zdobnova, M. Shirmanova, E. Zagainova (Nyzhny Novgorod, Russia), M. Kirilin (Oulu, Finland), S. Deyev, and A. Savitsky (Moscow, Russia)  
*Study of image contrast enhancement induced by nanoparticles in optical coherence tomography and diffusion fluorescent tomography*
- 11.30-11.55 3.1.2 J. Qui, B. Elmaanaoui, L. Ma, J. Dwelle, A. McElroy, Y. Hu, K.P. Johnston, and T.E. Milner (Austin, USA)  
*Velocity flow profile of magneto-motive activated super-paramagnetic nanoparticles*
- 11.55-12.20 3.1.3 Q. Su, T.P. Garvin, M. Narter, S. Menon, and R. Grobe (Normal, USA)  
*High-frequency limit of photon density waves in turbid media*
- 12.20-12.45 3.1.4 K.N. Afanasiev, A.V. Korobtsov, S.P. Kotova, N.N. Losevsky, A.M. Maiorova, E.V. Razueva, and V.G. Volostnikov (Samara, Russia)  
*Vortical fields based on spiral beam optics for laser micromanipulation*
- 12.45-14.00 **Lunch**

**Seminar 3.2**

**Chair:** D. Chorvat (Slovakia)

- 14.00-14.30 3.2.1 J. Lademann, L.E. Meyer, M.E. Darvin, H. Richter, and W. Sterry (Berlin, Germany)  
*Application of laser spectroscopic methods for in vivo diagnostics in dermatology*
- 14.30-15.00 3.2.2 D. Pestov, X. Wang, G.O. Ariunbold, R.K. Murawsky, V.A. Sautenkov, and A.V. Sokolov, (Texas, USA)  
*Detection of bacterial endospores by hybrid cars*
- 15.00-15.25 3.2.3 M.E. Darvin, I. Gersonde, H. Albrecht, W. Sterry, and J. Lademann (Berlin, Germany)  
*Non-invasive determination of the influence of X-ray irradiation on the cutaneous carotenoid antioxidant substances*
- 15.25-15.50 3.2.4 J. Peatross, S. Bergeson, J. Eyring, J. Fralick, and S. Ferguson (Provo, USA)  
*Light reliable detection of carotenoid molecules in human skin using light emitting diodes*
- 15.50-16.15 3.2.5 A.F. Peña-Delgado, L. Ponce, and M. Aronte (Altamira, Mexico)  
*Er:YAG assisted skin perforation: Laser pulse parameter prediction by optical inspection of the skin epidermis*
- 16.15-16.45 **Coffee Break**

### Seminar 3.3

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

- 16.45-17.15 3.3.1 E. Sobol, A. Baskov, A. Shekter, I. Bortshenko, and O. Zakharkina (Troitsk, Russia)  
*Laser regeneration of spine discs cartilage*
- 17.15-17.45 3.3.2 E.Ph. Stranadko, M.V. Ryabov, and T.M. Ibragimov (Moscow, Russia)  
*Current state and the role of photodynamic therapy in surgery*
- 17.45-18.10 3.3.3 R.F.Z. Lizarelli, L.T. Moriyama, M. Dutra-Correa, E.C. Fo, L. Piccirilli, M.M. Costa, F.D. Nunes, and V.S. Bagnato (São Paulo, Brazil)  
*Ultrashort laser pulses in dentistry – pico and femtosecond ablation of enamel and dentin*
- 18.10-18.30 3.3.4 M.I. Kovaley, S.I. Veterkova, and S.A Navruzova (Moscow, Russia)  
*Optical parameters of the biological tissues at women in obstetrics and gynecology*
- 18.30-18.50 3.3.5 N.N. Brandt, A.Yu. Chikishev (Moscow, Russia), and K. Itoh (Tokyo, Japan)  
*ATR-FTIR spectroscopy and laser cleaning of old paper*
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### Poster Session, August 21

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

- P3.1 V.V. Barun and A.P. Ivanov (Minsk, Belarus)  
*Evaluation of epidermis role in optics and thermal physics of skin*
- P3.2 A.N. Bashkatov, E.A. Genina, V.I. Kochubey, A.A. Gavrilova, S.V. Kapralov, V.A. Grishaev, and V.V. Tuchin (Saratov, Russia)  
*Optical properties of human stomach wall mucosa in the spectral range 400-2000 nm*
- P3.3 M. Cagalinec, A. Mateasik, D. Chorvat jr., and D. Chorvat (Bratislava, Slovakia)  
*Application of confocal laser scanning microscopy to simultaneous imaging of calcium waves and volume estimation of isolated cardiac myocytes*
- P3.4 E.A Genina, A.N. Bashkatov, V.V. Tuchin (Saratov, Russia), I.V. Yaroslavsky, and G.B. Altshuler (Burlington, USA)  
*Skin optical clearing for improvement of laser tattoo removal*
- P3.5 V.N. Khristoforov (Moscow, Russia)  
*Human identification by biologically active points*
- P3.6 J. Ferreira, P.F.C. Menezes, C. Sibata, R.R. Allison, R.F.Z. Lizarelli, and V.S. Bagnato (São Paulo, Brazil)  
*Photostability of different chlorines*
- P3.7 R.F.Z. Lizarelli, L. Piccirilli, M.M. Costa, F.D. Nunes, and V.S. Bagnato (São Paulo, Brazil)  
*Femtosecond pulsed laser ablation of acrylic resin*

- P3.8 A.A. Markolia, V.I. Kurochkin, and S.A. Gonchukov (Moscow, Russia)  
*Quasi-monochromatic source of radiation with tuned wavelength in visible range*
- P3.9 R.C.A. Pizzo, M.O. Mazzetto, J.G. Speciali, and R.F.Z. Lizarelli (São Paulo, Brazil)  
*Amplitude variation of mandibular movements after low intensity laser therapy treatment*
- P3.10 R.C.A. Pizzo, M.O. Mazzetto, J.G. Speciali, and R.F.Z. Lizarelli (São Paulo, Brazil)  
*Temporomandibular joint low intensity laser application evaluated through condyle lateral polo, preauricular region and external acoustic meatus palpation*
- P3.11 S.A. Shevchik, G.V. Zhukov, I.N. Golovanov, K.G. Linkov (Moscow, Russia), V.V. Barun (Minsk, Belarus), B.Y. Kogan, V.B. Loschenov (Moscow, Russia), and A.P. Ivanov (Minsk, Belarus)  
*Control of temperature in living tissue during stationary laser hyperthermia*

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

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**Wednesday, August 22**

**Seminar 4.1**

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

- 14.00-14.30 4.1.1 M. Rosete-Aguilar, F.C. Estrada-Silva, C.J. Román-Moreno, and R. Ortega-Martínez. (México, México)  
*Achromatic doublets using group indices of refraction*
- 14.30-15.00 4.1.2 H. Kofler, J. Tauer, and E. Wintner (Vienna, Austria)  
*Monolithic high peak power solid-state laser for engine ignition*
- 15.00-15.30 4.1.3 H. Castillo-Matadamas and R. Quintero-Torres (Querétaro, México)  
*Pump efficiency and beam quality control in an end-pumped Cr:LiSAF laser*
- 15.30-16.00 4.1.4 N.N. Il'ichev, E.S. Gulyamova, and S.E. Mosaleva (Moscow, Russia)  
*Nonlinear transmission anisotropy of an oriented silicon crystal at wavelength 1.54  $\mu\text{m}$*
- 16.00-16.45 **Coffee Break**

**Seminar 4.2**

**Chair:** M. Rosete-Aguilar (México)

- 16.45-17.15 4.2.1 W. Ryba-Romanowski (Wrocław, Poland)  
*Spectroscopy and Laser Performance of Thulium-doped Vanadate Crystals*
- 17.15-17.35 4.2.2 A.V. Kir'yanov (León, México), S.M. Klimentov, and I.V. Mel'nikov (Moscow, Russia)  
*IR tunable narrow-band laser system comprising a microchip pump source and a periodically poled Lithium Niobate converter*
- 17.35-17.55 4.2.3 V.J. Pinto Robledo and E.M. Beltrán (León, México)  
*Comparison of 3 and 4 mirror resonator designs of Ti:Sapphire lasers*
- 17.55-18.15 4.2.4 L.I. Ivleva, I.S. Voronina, P.A. Lykov, L.Yu. Berezovskaya, and V.V. Osiko (Moscow, Russia)  
*The growth of high quality scheelite crystals for laser applications*

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**Thursday, August 23**

**Seminar 4.3**

**Chair:** W. Ryba-Romanowski (Poland)

- 11.00-11.30 4.3.1 V. Aboites, J.H. García-López, V. Pinto, A.V. Kir'yanov, and M.A. Barrera (León, Mexico)  
*Photonic device as a second order system*
- 11.30-11.50 4.3.2 A.E. Martínez-Cantón, M. García-Rocha, R. Ortega-Martínez, C. Román-Moreno, and I. Hernández-Calderón (México, México)  
*Application of continuous wave photoluminescence (cw-PL) and time resolved photoluminescence (TRPL) on the characterization of II-VI semiconductors*

- 11.50-12.10 4.3.3 R. Narro, L. Ponce, and M. Arronte (Altamira, México)  
*High power laser resonator with multiple gain mediums configured for thermal-lensing correction*
- 12.10-12.30 4.3.4 D. Braunstein and R. Shuker (Beer Sheva, Israel)  
*Time Dependent Dressed States Analysis of Lasing Without Population Inversion in a Three-level Ladder Scheme*
- 12.45-14.00 **Lunch**
- Seminar 4.4**  
**Chair:** R. Shuker (Israel)
- 14.00-14.30 4.4.1 N. Vorobiev, L. Glebov, and V. Smirnov (Florida, USA)  
*Single-frequency Q-switched Nd:YAG laser controlled by volume Bragg gratings*
- 14.30-14.50 4.4.2 E. Flores-Romero, R. Rangel-Rojo (Ensenada, Mexico), G.V. Vazquez (Guanajuato, Mexico), H. Marquez (Ensenada, Mexico), J. Rickards, and R. Trejo-Luna (Mexico, Mexico)  
*Self-pulsing behavior of a channel waveguide Nd:YAG laser produced by ion implantation*
- 14.50-15.10 4.4.3 H. Castillo-Matadamas and R. Quintero-Torres (Querétaro, México)  
*Improvement of the operation parameters for a Cr: LiSAF ultra short pulses laser*
- 15.10-15.30 4.4.4 E.E. Rodríguez Vázquez, H.J. Zúñiga Osorio, and E. Tepichín Rodríguez (Puebla, México)  
*Digital Holographic Logical Gates (DHLG)*

**Poster session, August 21**

- Chair:** V.M. Yermachenko (Russia)
- P4.1 V.M. Yermachenko, E.N. Karykin, K.E. Korotkov, A.P. Kuznetsov, and V.N. Petrovskiy (Moscow, Russia)  
*Amplitude-frequency characteristics of the single and double modes diode-pumped Nd:YAG lasers with external small signal injection*
- P4.2 O.A. Buzanov, N.S. Kozlova, and E.V. Zabelina (Moscow, Russia)  
*Growth and optical quality of Langasite and Langatate*
- P4.3 N. Qureshi, R. Ortega-Martínez, O.V. Kolokoltsev, and C. J. Roman-Moreno (México, México)  
*Time-resolved Nanoscale Magneto-optic Characterization of Nanostructures*

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

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**Monday, August 20**

**Seminar 5.1**

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

- 11.00-11.25 5.1.1 S.L. Chin (Quebec, Canada)  
*Filamentation remote sensing of chemical and biological agents*
- 11.25-11.50 5.1.2 C. d'Amico, S. Akturk, and A. Mysyrowicz (Palaiseau, France)  
*Femtosecond filamentation in Xe*
- 11.50-12.15 5.1.3 J.-C. Diels, O. Chalus, A. Sukhinin, and A. Aceves (Albuquerque, USA)  
*Experimental and theoretical study of high energy long pulse UV filaments*
- 12.15-12.40 5.1.4 L. Berge and S. Skupin (Bruyeres-le-Chatel, France)  
*Spectral dynamics of femtosecond filaments with ultraviolet to infrared central wavelengths in air*

12.45-14.00

**Lunch**

**Seminar 5.2**

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

- 14.00-14.25 5.2.1 G. Steinmeyer, G. Stibenz, N. Zhavoronkov (Berlin, Germany), S. Skupin, and L. Berge (Bruyeres-le-Chatel, France)  
*Space-time structure of few-cycle light bullets generated by self-compression in white-light filament*
- 14.25-14.50 5.2.2 O.G. Kosareva, N.A. Panov, D.S. Uryupina, A.B. Savelyev, V.P. Kandidov (Moscow, Russia), Y. Chen, F. Theberge, and S.L. Chin (Quebec, Canada)  
*High power few-cycle pulse formed due to free propagation in air*
- 14.50-15.15 5.2.3 S. Eisenmann, Y. Katzir, A. Pukhov, A. Zigler (Jerusalem, Israel), Y. Sivan, G. Fibich (Tel-Aviv, Israel), Y. Ehrlich, E. Louzon, and Z. Henis (Soreq, Israel)  
*Stabilized optical and plasma filaments generated during propagation of a high power laser pulse in air*
- 15.15-15.40 5.2.4 L.T. Vuong, A.I. Ishaaya, T.D. Grow, A.L. Gaeta (New York, USA), E.R. Eliel, and G. 't Hooft (Leiden, The Netherlands)  
*Nonlinear interactions between optical vortex beams*
- 15.40-16.05 5.2.5 D. Faccio (Como, Italy) and P. Di Trapani (Vilnius, Lithuania)  
*Conical wave nonlinear optics: from Raman conversion to extreme UV generation*
- 16.05-16.20 5.2.6 V.A. Makarov and I.A. Perezhogin (Moscow, Russia)  
*Formation of the light beam with nonuniformly distributed polarization over its cross-section in sum-frequency generation from the surface of chiral medium*
- 16.20-16.45 **Coffee Break**

### Seminar 5.3

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

- 16.45-17.10 5.3.1 W. Watanabe, T. Tamaki, and K. Itoh (Osaka, Japan)  
*Femtosecond laser micromachining and biological therapy*
- 17.10-17.35 5.3.2 H. Jiang, Li Chen, Q. Sun, and Q. Gong (Beijing, China)  
*Diagnoses of plasma in transparent materials induced by femtosecond laser pulse*
- 17.35-18.00 5.3.3 P.G. Eliseev, O.N. Krokhin, and I.N. Zvestovskaya (Moscow, Russia)  
*Analysis of the nonlinear mechanisms of the light beam absorption in transparent materials under ultrashort pulse laser action*
- 18.00-18.25 5.3.4 J. Liu, Jun Liu, X. Chen, R. Li, and Z. Xu (Shanghai, China)  
*Self-compression of femtosecond laser pulses and control of filamentation in optical media*
- 18.25-18.40 5.3.5 K. Jamshidi-Ghaleh and A. Namdar (Tabriz, Iran)  
*Intense femtosecond pulsed laser interaction with glasses; filamentation, darkening and nonlinear responses*
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### Tuesday, August 21

### Seminar 5.4

**Chair:** V.N. Zadkov (Russia)

- 11.00-11.25 5.4.1 P. Westbrook, J.W. Nicholson, and K.S. Feder (Somerset, USA)  
*Optical continuum generation in fiber gratings*
- 11.25-11.50 5.4.2 A. Efimov, A.J. Taylor (Los Alamos, USA), A.V. Yulin, D.V. Skryabin, J.C. Knight, and P. Russell (Bath, UK)  
*Fundamental nonlinear-optical interactions in photonic fibers: time-spectral visualization*
- 11.50-12.15 5.4.3 Q. Gong (Beijing, China)  
*Low power and ultrafast nonlinear optic crystal switch*
- 12.15-12.30 5.4.4. H.S.S. Hung, J. Prawiharjo, D.C. Hanna, and D.P. Shepherd (Southampton, U.K.)  
*Parametric transfer in a synchronously pumped optical parametric oscillator*
- 12.30-12.45 5.4.5 D. Lorenc, I. Bugar (Bratislava, Slovakia), R. Buczynski (Warsaw, Poland), D. Velic, and D. Chorvat (Bratislava, Slovakia)  
*Linear and nonlinear properties of multicomponent photonic crystal fibers*
- 12.45-14.00 **Lunch**

### Seminar 5.5

**Chair:** A. Piryatinski (USA)

- 14.00-14.25 5.5.1 N. Litchinitser (Michigan, USA), I. Gabbitov (Tucson, USA), A.I. Maimistov (Moscow, Russia), and V.M. Shalaev (West Lafayette, USA)  
*Bistability and multistability in negative index metamaterial structures*
- 14.25-14.50 5.5.2 I. Gabbitov (Tucson, USA), A. Maimistov, and A. Korotkevich (Moscow, Russia)  
*Optical pulses in nanostructured Bragg gratings*

- 14.50-15.15 5.5.3 E. Georgetti, G. Margheri, T. del Rosso, and S. Sottini (Sesto Fiorentino, Italy)  
*Periodic metal-dielectric interfaces for photonic applications*
- 15.15-15.30 5.5.4 A. Rodriguez-Rosales, R. Ortega-Martinez, C. Roman-Moreno, O.G. Morales-Saavedra, and O. Kolokoltsev (Mexico, Mexico)  
*Simultaneous exhibition of positive and negative nonlinear refractive indexes and its potential applications in optical solitons*
- 15.30-15.45 5.5.5 E.B. Cherepetskaya, A.A. Karabutov, V.A. Makarov, and V.L. Shkuratnik (Moscow, Russia)  
*Laser – ultrasonic spectroscopy of geo-materials*
- 15.45-16.00 5.5.6 A. Namdar (Tabriz, Iran)  
*Backward surface Tamm states at an interface between a left-handed metamaterial and a periodic photonic crystal containing left-handed metamaterial*
- 16.00-16.15 5.5.7 S. Lopez-Aguayo and J.C. Gutierrez-Vega (Leon, Mexico)  
*Elliptically modulated self-trapped singular beams: ellipticons*
- 16.15-16.45 **Coffee Break**
- Seminar 5.6**  
**Chair:** I. Gabitov (USA)
- 16.45-17.10 5.6.1 A. Piryatinski (Los-Alamos, USA)  
*Effect of quantum and dielectric confinement on the exciton-exciton interaction energy in type II core/shell semiconductor nanocrystals*
- 17.10-17.35 5.6.2 D.V. Zhdanov and V.N. Zadkov (Moscow, Russia)  
*Oriental selection of molecules in combined laser and electrostatic fields*
- 17.35-18.00 5.6.3 Y. Matsuo, T. Kobayashi (Saitama, Japan), and T. Nakajima (Kyoto, Japan)  
*Experimental observation and control of ultrafast spin-polarization using fs laser pulses*
- 18.00-18.15 5.6.4 V. Malyshev (Groningen, The Netherlands)  
*Optical bistability of assemblies of linear molecular nano-aggregates*
- 18.15-18.30 5.6.5 A. Sahrai (Tabriz, Iran)  
*Dynamical behavior of the absorption and the dispersion in a four level EIT medium*
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**Poster Session, August 21**

**Chair:** N. Litchinitser (Michigan, USA),

- P5.1 O.G. Morales-Saavedra, L. Castaceda, J.G. Bacuelos, and R. Ortega-Martinez (Mexico, Mexico)  
*Optical and nonlinear optical properties of semiconductor F-In doped zinc oxide thin films*

- P5.2 O.G. Morales-Saavedra, M.E. Sanchez Vergara, A. Ortiz Rebollo, and R. Ortega Martinez (Mexico, Mexico)  
*Electrical and optical properties of jager-nickel (II)-based molecular material thin films prepared by the vacuum thermal evaporation technique*
- P5.3 A. Mercado-Cabrera, R. Lypez-Callejas, M. Pacheco-Pacheco, R. Valencia-Alvarado, E. Leyn del Villar, S.R. Barocio, R. Peca-Eguiluz, A. Mucoz-Castro, and A. de la Piedad-Beneitez (Mexico, Mexico)  
*Jerks-and-jumps type electrode diagnostics in a DBD reactor by OES*
- P5.4 R. Valdivia-Barrientos, J. Pacheco-Sotelo (Toluca, Mexico), and M. Pacheco-Pacheco (Carretera Mexico-Toluca, Mexico)  
*Temperature Evaluation of Non-Thermal Equilibrium of Plasma Discharges by OES analysis*
- P5.5 A. Maimistov (Moscow, Russia)  
*Optical solitons in positive-negative refractive index materials*
- P5.6 V. Malyshev (Groningen, The Netherlands)  
*Probing quantum-mechanical level repulsion in disordered systems by means of time-resolved selectively-excited resonance fluorescence*
- P5.7 M. Pacheco, J. Pacheco, H. Moreno, R. Valdivia, and C. Torres (Toluca, Mexico)  
*OES analysis in a non-thermal plasma used for toxic gas removal: rotational and excitation temperatures estimation*
- P5.8 K. Habib (Safat, Kuwait)  
*Modified electrochemical emission spectroscopy (MEES) as NDT technique for detection of pitting corrosion of metallic alloys in aqueous solutions*
- P5.9 V. Torres-Zuniga, O. Morales-Saavedra, E. Rivera, J.G. Bacuelos, J.O. Flores-Flores, R. Castaneda, and R. Ortega-Martinez (Mexico, Mexico)  
*SHG of poled RED-PEGM doped hybrid thin films prepared by the catalyst - free sonogel method*

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

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**Monday, August 20**

**Seminar 6.1**

**Chair:** A. Fetter (USA)

- 11.00-11.40 6.1.1 K. Mølmer (Aarhus, Denmark)  
*Quantum state engineering and quantum gates in trapped atomic gases*
- 11.40-12.20 6.1.2 W. Ertmer (Hannover, Germany)  
*Atomic quantum sensors based on cold atoms*
- 12.20-12.40 6.1.3 N. Bar-Gill, E.E. Rowen, and N. Davidson (Rehovot, Israel)  
*Many-body coherent excitations and decay in Bose-Einstein condensates*
- 12.40-12.45 *Discussion*
- 12.45-14.00 **Lunch**

**Seminar 6.2**

**Chair:** K. Mølmer (Denmark)

- 14.00-14.40 6.2.1 L.S. Cederbaum, A.I. Streltsov, and O.E. Alon (Heidelberg, Germany)  
*Cold-atom physics by the multi-orbital mean-field approach*
- 14.40-15.20 6.2.2 Y.B. Band and A. Vardi (Beer-Sheva, Israel)  
*Collisional shifts in an optical lattice atomic clock*
- 15.20-16.00 6.2.3 M. Gajda and A. Gorecka (Warsaw, Poland)  
*Quantum distillation of a Bose-Einstein condensate*
- 16.00-16.15 *Discussion*
- 16.15-16.45 **Coffee Break**

**Seminar 6.3**

**Chair:** Y.B. Band (Israel)

- 16.45-17.15 6.3.1 Ch. Weiss (Paris, France) and N. Teichmann (Oldenburg, Germany)  
*Coherently controlled entanglement generation in a binary Bose-Einstein condensate*
- 17.15-17.45 6.3.2 A. Bradley, M.K. Olsen, S.A. Haine, and J.J. Hope (Brisbane, Australia)  
*Teleportation of massive particles without shared entanglement*
- 17.45-18.15 6.3.3 A.I. Streltsov, O.E. Alon, and L.S. Cederbaum (Heidelberg, Germany)  
*Evolution of interacting bosonic systems in time-dependent traps: many-body description*
- 18.15-18.50 *General Discussion*

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**Tuesday, August 21**

**Seminar 6.4**

**Chair:** W. Ertmer (Germany)

- 11.00-11.40 6.4.1 P. Hannaford, S. Whitlock, M. Singh, R. Anderson, B.V. Hall, M. Volk, and A. Sidorov (Melbourne, Australia)  
*Bose-Einstein Condensates on Magnetic Film Microstructures*

- 11.40-12.20 6.4.2 A.B. Kuklov (Staten Island, USA)  
*Topologically induced superfluidity in solid He<sup>4</sup>*
- 12.20-12.40 6.4.3 R. Ichihara (Tokyo, Japan), I. Danshita (Tokyo, Japan and Gaithersburg, USA), K. Egawa, and T. Nikuni (Tokyo, Japan)  
*Stability of Bose-Einstein condensates in a double-well potential*
- 12.40-12.45 *Discussion*
- 12.45-14.00 **Lunch**

### Seminar 6.5

**Chair:** L.S. Cederbaum (Germany)

- 14.00-14.40 6.5.1 E. Zaremba and A. Collin (Kingston, Canada)  
*Thermal fluctuations in double well Bose-Einstein condensates*
- 14.40-15.20 6.5.2 I. Danshita (Gaithersburg, USA and Tokyo, Japan), J.E. Williams (Shampaign, USA), C.A.R. Sà de Melo (Gaithersburg and Atlanta, USA), and C.W. Clark (Gaithersburg, USA)  
*Quantum phase transition of ultracold bosons in double-well optical lattices*
- 15.20-16.00 6.5.3 H. Saito, Y. Kawaguchi, and M. Ueda (Tokyo, Japan)  
*Kibble-Zurek mechanism in a spinor Bose-Einstein condensate*
- 16.00-16.15 *Discussion*
- 16.15-16.45 **Coffee Break**

### Seminar 6.6

**Chair:** A.B. Kuklov (USA)

- 16.45-17.15 6.6.1 A.M. Martin (Melbourne, Australia), R.M.W. van Bijnen (Melbourne, Australia and Eindhoven, Netherlands), A.J. Dow, N.G. Parker (Melbourne, Australia), and D.H.J. O'Dell (London, United Kingdom)  
*Instabilities and vortex lattice formation in rotating conventional and dipolar Bose-Einstein condensates*
- 17.15-17.45 6.6.2 Y. Terakawa, N. Yokoshi, K. Kamide, D. Yamamota, and S. Kurihara (Tokyo, Japan)  
*Effect of quantum fluctuations on Bose-Einstein condensation of bilayer atomic gases in rapid rotation*
- 17.45-18.15 6.6.3 M. Abad, M. Guilleumas, M. Pi, and R. Mayol (Barcelona, Spain)  
*Vortex rings in toroidal Bose-Einstein condensates*
- 18.15-18.50 *General Discussion*

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## Wednesday, August 22

### Seminar 6.7

**Chair:** P. Hannaford (Australia)

- 14.00-14.40 6.7.1 T. Roscilde and J.I. Cirac (Garching, Germany)  
*Localization of ultracold bosons in optical lattices*
- 14.40-15.20 6.7.2 V. Penna, P. Buonsante (Torino, Italy), A. Vezzani (Parma, Italy), and P.B. Blakie (Dunedin, New Zealand)  
*A mean-field approach to the phase diagram of cold lattice bosons in disordered potentials*

15.20-16.00 6.7.3 V.I. Yukalov (Dubna, Russia and Duisburg, Germany),  
E.P. Yukalova (Dubna, Russia), K.V. Krutitsky, and R. Graham  
(Duisburg, Germany)  
*Bose-condensed gases in strong random potentials*

16.00-16.15 *Discussion*

16.15-16.45 **Coffee Break**

### **Seminar 6.8**

**Chair:** V. Penna (Italy)

16.45-17.15 6.8.1 V.A. Yurovsky (Tel Aviv, Israel)

*Non-integrability in atom waveguides*

17.15-17.45 6.8.2 C. Geckeler, T. Salger, S. Kling (Bonn, Germany), and M. Weitz  
(Bonn, Germany and Tübingen, Germany)

*Quantum transport effects in Ratchet-like potentials and optical  
multiphoton lattices*

17.45-18.15 6.8.3 P. Naidon, E. Tiesinga (Gaithersburg, USA), F. Masnou-Seeuws  
(Orsay, France), and S. Julienne (Gaithersburg, USA)

*Coherent and adiabatic photoassociation in a Bose-Einstein  
Condensate*

18.15-18.50 *General Discussion*

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### **Thursday, August 23**

### **Seminar 6.9**

**Chair:** M. Yamashita (Japan)

11.00-11.40 6.9.1 J. Tempere, M. Wouters, S.N. Klimin, and J.T. Devreese  
(Antwerpen, Belgium)

*Imbalanced Fermi gases in a one-dimensional optical lattice*

11.40-12.20 6.9.2 D.A.W. Hutchinson (Paris, France and Dunedin, New Zealand)  
and Y. Castin (Paris, France)

*Two-dimensional localization of matter waves by scattering from atoms  
in a lattice*

12.20-12.40 6.9.3 H.A. Cruz, V.A. Brazhnyi (Lisboa, Portugal), V.V. Konotop  
(Lisboa, Portugal and Ciudad Real, Spain), G.L. Alfimov (Moscow,  
Russia), and M. Salerno (Baronissi, Italy)

*Mixed symmetry localized modes and breathers in binary mixtures of  
Bose-Einstein condensates in optical lattices*

12.40-12.45 *Discussion*

12.45-14.00 **Lunch**

### **Seminar 6.10**

**Chair:** J. Tempere (Belgium)

14.00-14.40 6.10.1 D. Schneble (Stony Brook, USA)

*Towards experiments with optical lattices in a moving-coil TOP-trap  
BEC apparatus*

14.40-15.20 6.10.2 M. Yamashita (Kanagawa, Japan)

*Metal-insulator transition in the three-dimensional Hubbard model with  
harmonic confinement*

- 15.20-16.00 6.10.3 M. Salerno (Baronissi, Italy)  
*Nonlinear excitations of Bose-Einstein condensates and Bose-Fermi mixtures in radially periodic optical lattices*
- 16.00-16.15 *Discussion*
- 16.15-16.45 **Coffee Break**
- Seminar 6.11**  
**Chair:** D.A.W. Hutchinson (New Zealand)
- 16.45-17.15 6.11.1 M. Brewczyk, K. Gawryluk (Bialystok, Poland), K. Bongs (Hamburg, Germany), and M. Gajda (Warsaw, Poland)  
*Dipolar resonances in a Rb atoms condensate*
- 17.15-17.45 6.11.2 J. Dziarmaga (Krakow, Poland)  
*Dynamics of a quantum phase transition: exact solution in the quantum Ising model*
- 17.45-18.15 6.11.3 K. Sacha and B. Oles (Krakow, Poland)  
*N-conserving Bogoliubov vacuum of a two component Bose-Einstein condensate: Density fluctuations close to a phase separation condition*
- 18.15-18.50 *General Discussion*
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**Friday, August 24**

**Seminar 6.12**

**Chair:** E. Zaremba (Canada)

- 14.00-14.40 6.12.1 B. Svistunov (Amherst, USA), E. Burovski (Greifswald, Germany), E. Kozik, N. Prokof'ev (Amherst, USA), and M. Troyer (Zurich, Switzerland)  
*Critical Temperature in the Regime of BCS-BEC Crossover*
- 14.40-15.20 6.12.2 V.V. Kocharovskiy (College Station, USA and Nizhnii Novgorod, Russia) and VI.V. Kocharovskiy (Nizhnii Novgorod, Russia)  
*Non-polynomial averages in statistical physics*
- 15.20-16.00 6.12.3 V. Romero-Rochin (Mexico, Mexico)  
*Recent results on the thermodynamics of trapped ultracold gases*
- 16.00-16.15 *Discussion*
- 16.15-16.45 **Coffee Break**

**Seminar 6.13**

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

- 16.45-17.15 6.13.1 H. Uncu, D. Tarhan, E. Demiralp, and O.E. Müstecaplioglu (Istanbul, Turkey)  
*Bose-Einstein condensate in Harmonic Trap Decorated with Dirac Delta Functions*
- 17.15-17.45 6.13.2 A.G. Sotnikov and Yu.V. Slyusarenko (Kharkiv, Ukraine)  
*Microscopic theory of linear response to external electromagnetic field and the ultraslow radio-wave phenomenon in BEC-systems.*

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

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**Tuesday, August 21**

**Seminar 7.1**

**Chair:** Leong Chuan Kwek (Singapore)

- 11.00-11.30 7.1.1 U. Andersen, M. Sabuncu (Lyngby, Denmark), J. Niset, N. Cerf, R. García-Patrón (Bruxelles, Belgium), A. Acín, M. Navascues (Barcelona, Spain), and G. Leuchs (Erlangen, Germany)  
*Quantum nonlocality without squeezing*
- 11.35-12.05 7.1.2 U. Andersen, R. Dong, D. Elser, J. Heersink, A. Huck, G. Leuchs, C. Marquardt, J. Milanovic (Erlangen, Germany), J. Corney, and P. Drummond (Brisbane, Australia)  
*Experimental and theoretical investigations of fiber based polarization squeezing*
- 12.10-12.40 7.1.3 J. Appel, E. Figueroa, D. Korystov, and A. Lvovsky (Calgary, Canada)  
*Electromagnetically-induced transparency and squeezed light*

12.45-14.00

**Lunch**

**Seminar 7.2**

**Chair:** Marco Genovese (Italy)

- 14.00-14.30 7.2.1 F. De Martini and F. Sciarrino (Roma, Italy)  
*Nonlocal EPR correlations in entangled macroscopic quantum systems*
- 14.35-15.05 7.2.2 G. Vallone, E. Pomarico, A. Rossi, F. De Martini, and P. Mataloni (Roma, Italy)  
*New perspectives in generation and manipulation of two photon multiqubit entangled states*
- 15.10-15.40 7.2.3 M. Lassen, V. Delaubert, J. Janousek, K. Wagner, H.-A. Bachor, P.K. Lam, C. Harb (Canberra, Australia), N. Treps, P. Buchhave (Lyngby, Denmark), and C. Fabre (Paris, France)  
*Tools for spatial multi-mode quantum information*
- 15.45-16.15 7.2.4 Y.-H. Kim (Pohang, Korea)  
*General biphoton ququart state preparation and entanglement*

16.15-16.45

**Coffee Break**

**Seminar 7.3**

**Chair:** Yoon-Ho Kim (Korea)

- 16.45-17.15 7.3.1 J. Qian (Shanghai, China), L.C. Kwek, X.L. Fenga, and C.H. Oh (Singapore, Singapore)  
*Using dipole induced transparency for a repeat-until-success quantum computing*
- 17.20-17.50 7.3.2 T. Ohshima (Cambridge, UK)  
*Quantum information processing along spin chains*
- 17.55-18.20 7.3.3 C. Osorio, X. Shi, N. Gonzalez, A. Valencia, M. Hendrych, G. Molina-Terriza, and J.P. Torres (Barcelona, Spain)  
*Tunable control of the spatial shape and frequency spectrum of entangled photons*

18.25-18.50 7.3.4 H. Castro-Beltran, E. Marquina-Cruz (Morelos, Mexico)  
*Non-stationary dissipative dynamics of a single qubit*

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**Wednesday, August 22**

**Seminar 7.4**

**Chair:** Francesco De Martini (Italy)

14.00-14.30 7.4.1 M. Genovese (Turin, Italy)  
*Reconstruction of stimulated PDC states by on/off detection and weak measurement*

14.35-15.05 7.4.2 C. Kothe, G. Bjork (Kista, Sweden), and S. Inoue (Tokyo, Japan)  
*Quantum imaging and lithography*

15.10-15.40 7.4.3 J. O'Brien (Bristol, UK), T. Nagata, R. Okamoto, K. Sasaki, and S. Takeuchi (Sapporo, Japan)  
*Quantum metrology with photons*

15.45-16.15 7.4.4 M. Bellini, A. Zavatta, and V. Parigi (Florence, Italy)  
*Manipulating thermal light states by the controlled addition or subtraction of single photons*

16.15-16.45 **Coffee Break**

**Seminar 7.5**

**Chair:** Paolo Mataloni (Italy)

16.45-17.15 7.5.1 A. Cabello (Sevilla, Spain)  
*Nonlocality for graph states*

17.20-17.50 7.5.2 S. Ghose, C. Paul (Waterloo, Canada), R. Stock (Calgary, Canada), and A. Silberfarb (Aarhus, Denmark)  
*Entanglement, tunneling and decoherence in a quantum chaotic system of cold atoms*

17.55-18.20 7.5.3 E. Charron, P. Milman, A. Keller, and O. Atabek (Paris, France)  
*Creation and detection of entanglement in cold polar molecules*

18.25-18.50 7.5.4 D. Cavalcanti, A. Ferraro, A. Garcia-Saez, and A. Acin (Barcelona, Spain)  
*Thermal bound entanglement and area law*

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**Thursday, August 23**

**Seminar 7.6**

**Chair:** Juan P. Torres (Spain)

11.00-11.30 7.6.1 D. Kaszlikowski (Singapore, Singapore)  
*Regional versus Global Entanglement in Resonating-Valence-Bond states*

11.35-12.05 7.6.2 L. Neves (Oxford, UK), G. Lima (Geneva, Switzerland), E. Fonseca (Maceio, Brazil), L. Davidovich (Rio de Janeiro, Brazil), and S. Padua (Belo Horizonte, Brazil)  
*Characterizing entanglement in qubits created with spatially correlated twin photons*

12.10-12.40 7.6.3 M. Fedorov, P. Volkov, M. Efremov, E. Moreva, S. Straupe, and S. Kulik (Moscow, Russia)  
*Entanglement and anisotropy in parametric down conversion*

12.45-14.00 **Lunch**

### Seminar 7.7

**Chair:** Charles Harb (Australia)

- 14.00-14.30 7.7.1 Z. Zhang and P. L. Voss (Metz, France)  
*On the multi-user secrecy capacity of QKD networks and the development of group protocols for QKD Networks*
- 14.35-15.05 7.7.2 T. Honjo, H. Takesue, H. Kamada, Y. Nishida, O. Tadanaga, M. Asobe, and K. Inoue (Atsugi-shi, Japan)  
*Long-distance distribution of time-bin entangled photon pairs over 100 km using frequency up-conversion detectors*
- 15.10-15.40 7.7.3 S. Tanzilli, P. Aboussouan, O. Alibart, S. Tascu, P. Baldi, M. De Micheli, D. Ostrowsky (Nice, France), R. Thew, M. Halder, H. Zbinden, and N. Gisin (Geneva, Switzerland)  
*Advances in quantum communication using integrated optics*
- 15.45-16.15 7.7.4 S. Molotkov (Chernogolovka, Russia)  
*Explicit attack on the key in BB84 protocol achieving theoretical limit of error rate 11%*
- 16.15-16.45 **Coffee Break**

### Seminar 7.8

**Chair:** Shohini Ghose (Canada)

- 16.45-17.15 7.8.1 X.-L. Feng, Z. Wang, C. Wu, L.C. Kwek, C.H. Lai, and C.H. Oh (Singapore, Singapore)  
*A Scheme for unconventional geometric quantum computation in cavity QED*
- 17.20-17.50 7.8.2 H. Moya-Cessa (Puebla, Mexico)  
*Useful transformations: From ion-laser interactions to master equations*
- 17.55-18.20 7.8.3 R. Adamson and A. Steinberg (Toronto, Canada)  
*Experimental direct characterization of a quantum process*
- 18.25-18.50 7.8.4 L. Shalm, R. Adamson, and A. Steinberg (Toronto, Canada)  
*Quantum tomography and the Wigner function representation of triphotons*

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## Friday, August 24

### Seminar 7.9

**Chair:** Sergey Molotkov (Russia)

- 14.00-14.30 7.9.1 T. Symul, D. Alton, S. Assad, A. Lance, C. Weedbrook, P.K. Lam (Canberra, Australia), and T. Ralph (St. Lucia, Australia)  
*Quantum key distribution in the presence of gaussian added noise*
- 14.35-15.05 7.9.2 H. Cable and J. Dowling (Baton Rouge, USA)  
*Generation and characterization of N00N states using linear optics*
- 15.10-15.40 7.9.3 H. Castro-Beltran, E. Marquina-Cruz (Morelos, Mexico)  
*Non-classicality of resonance fluorescence via amplitude-intensity correlations*
- 15.45-16.15 7.9.4 F. Benatti (Trieste, Italy)  
*Noise in Cooper pair boxes and trapped BECS*
- 16.15-16.45 **Coffee Break**

## Seminar 7.10

**Chair:** Choo Hiap Oh (Singapore)

- 16.45-17.10 7.10.1 G. Brida, M. Genovese, L. Krivitsky (Turin, Italy), and M. Chekhova (Moscow, Russia)  
*Decoherence-free state within the line of type-II parametric down-conversion*
- 17.15-17.45 7.10.2 O. Pfister, N. Menicucci, S. Flammia, and H. Zaidi (Charlottesville, USA)  
*Entangling optical frequency combs*
- 17.50-18.20 7.10.3 S. Kulik (Moscow, Russia)  
*Entangled states generation using quasi-periodical multiply domained crystals*
- 18.25-18.30 *Closing remarks of Quantum Information and Quantum Computation seminar*

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**Friday, August 24**

**Seminar 8.1**

**Chair:** Alexander V. Kir'yanov (Mexico)

- 14.00-14.20 8.1.1 Yu.O. Barmenkov, A.V. Kir'yanov (Leon, Mexico), P. Pérez-Millán, J.L. Cruz, and M.V. Andrés (Valencia, Spain)  
*Analysis of threshold conditions of a symmetrically pumped distributed feed-back fiber laser*
- 14.20-14.40 8.1.2 E.B. Mejía (Leon, Mexico)  
*1200 nm Ho-doped fiber laser pumped at 1117 nm*
- 14.40-15.00 8.1.3 S.A. Babin, S.I. Kablukov, I.S. Shelemba, and A.A. Vlasov (Novosibirsk, Russia)  
*Simple fiber Bragg grating sensors interrogator based on tunable Erbium-doped fiber laser*
- 15.00-15.20 8.1.4 A. González-Segura, P. Pérez-Millán, J. Luis Cruz, and M.V. Andrés (Valencia, Spain)  
*Q-switched fiber laser with an intracavity switchable ultra-narrow bandpass filter*
- 15.20-15.40 8.1.5 E.A. Kuzin, B. Ibarra Escamilla, N. Korneev, J. Gutierrez-Gutierrez, M.A. Bello-Jimenez, A. Flores-Rosas (Puebla, Mexico), R. Rojas-Laguna (Salamanca, Mexico), and O. Pottiez (Leon, Mexico)  
*Nonlinear propagation of ns-scale pulses in a fiber with anomalous dispersion*
- 15.40-16.00 8.1.6 B. Ibarra-Escamilla, E.A. Kuzin, R. Grajales-Coutiño (Puebla, Mexico), O. Pottiez (Leon, Mexico), and J.W. Haus (Dayton, USA)  
*Experimental investigation of a passively mode-locked fiber laser based on a symmetrical NOLM with highly twisted low-birefringence fiber*
- 16.00-16.20 8.1.7 L. de la Cruz-May, J.A. Álvarez-Chávez, A. Martínez-Ríos, I. Torres-García, A. García-González (Leon, Mexico), and A. Flores Gil (Ciudad del Carmen, Mexico)  
*Critical pump power and cross section calculation for Yb-doped, novel inner clad structures*

**Seminar 8.2**

**Chair:** Yuri O. Barmenkov (Mexico)

- 16.45-17.05 8.2.1 S.A. Babin, D.V. Churkin, A.E. Ismagulov, S.I. Kablukov, and E.V. Podivilov (Novosibirsk, Russia)  
*Square-root spectral broadening in low-Q cavity Raman fiber lasers*
- 17.05-17.25 8.2.2 A.V. Kir'yanov, Yu.O. Barmenkov, and A.D. Guzman Chavez (Leon, Mexico)  
*The photo-darkening effect in Yb-doped aluminosilicate fibers*
- 17.25-17.45 8.2.3 O. Pottiez (Leon, Mexico), B. Ibarra-Escamilla, and E.A. Kuzin (Puebla, Mexico)  
*Short optical pulse profile characterization using a nonlinear optical loop mirror*

- 17.45-18.05 8.2.4 J.A. Alvarez-Chavez, A. Martínez-Rios, I. Torres-Gomez, D.E. Ceballos-Herrera (Leon, Mexico), C.A. Calles-Arriaga, and R. Selvas-Aguilar (Monterrey, Mexico)  
*Wide wavelength tuning of a double-clad fiber laser based on a fiber Bragg grating array*
- 18.05-18.25 8.2.5 E. Saucedo Casas and V.P. Minkovich (Leon, Mexico)  
*A microscopic bright field image technique for measurement of averaged index profiles of quasi-axially symmetric large-mode-area microstructured fibers*
- 18.25-18.45 8.2.6 I.L. Villegas Garcia, M.A. Martínez Gámez, A. Martinez-Rios, and X.J. Sanchez Lozano (Leon, Mexico)  
*The luminescent properties of Yb<sup>3+</sup>-doped silica double clad fiber laser at high temperatures*
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**Poster Session, August 21**

**Chair:** Miguel V. Andrés (Spain)

- P8.1 V.M. Yermachenko, V.N. Petrovskiy, and A.P. Streltsov (Moscow, Russia)  
*A choice of the parameters of a fiber laser for a qualitative laser cutting*
- P8.2 T.Yu. Moguilnaia and E.A. Botikov (Moscow, Russia)  
*Research of the mechanism of parasitic modes excitation in the laser module "The source – fibre"*
- P8.3 J. Cascante-Vindas, M. Delgado-Pinar, P. Pérez-Millán, A. Díez, J.L. Cruz, and M.V. Andrés (Valencia, Spain)  
*All-fiber broadband generator on an Er-fiber source and a photonic crystal fiber taper*
- P8.4 M. Delgado-Pinar, A. Díez, J. Luis Cruz, and M.V. Andrés (Valencia, Spain)  
*Linearly polarized all-fiber laser using a short section of highly polarizing microstructured fiber*
- P8.5 V. Zamora, A. Díez, M.V. Andrés, and B. Gimeno (Valencia, Spain)  
*Thin capillaries refractometric sensor for chemical and biological applications*
- P8.6 S.K. Gupte and S.G. Advani (Newark, USA)  
*Flow near the permeable boundary of an aligned fiber preform: an experimental investigation using laser doppler anemometry*

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