12-15 September, 2023
Ashtarak, Armenia

International Conference

Laser Physics 2023

PROGRAM

The Conference is dedicated to the **100th anniversary** of the **founder** of the Institute for Physical Research, **Professor Mikael Ter-Mikaelyan**, a Member of National Academy of Sciences of Armenia

&

the 80th anniversary of the **foundation** of the **National Academy of Sciences of Armenia**

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Laser Physics 2023

TOPICS

- Lasers, New Laser Technologies and Applications
- Optical and Scintillating Materials, Characterization Methods and Techniques
- Light-Matter Interaction, Including Resonant Interaction with Atoms
- Laser-Assisted Surface Effects
- Nonlinear Optics and Novel Phenomena
- Spectroscopy for Characterization of Materials
- Laser Spectroscopy and Mathematical Modelling
- Physical Optics, Atomic Physics
- Optical Magnetometry
- Quantum Optics and Matter Waves
- Quantum Information
- Optical Properties of Structured Media, Micro and Nano-Optics
- Optoelectronics
- Photonics, Photonic Systems, Biophotonics
- Optical Sensors
- Graphene for Photonics
- Holography and Imaging

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International Conference

Laser Physics 2023

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PROGRAM

Tuesday, September 12, 2023

Registration of Participants 9:00 - 10:00; 13:00 - 14:00

Opening ceremony 10:00 – 10:40	
10:00 – 10:30	**Conference Opening: Welcome speech** ***Aram Papoyan*** *Director of the Institute for Physical Research, NAS of Armenia*
10:30 – 10:40	**Welcome and overview** ***Rafael Drampyan*** *Chairman of the Conference,* *Institute for Physical Research, NAS of Armenia*

Morning Session. 10:40 - 13:30 **Chairmen: Aram Papoyan, David Sarkisyan**	
10:40 – 11:20	**Plenary report** **Biophotonics at Brussels Photonics and its Applications in Life Sciences and Medicine** ***H. Ottevaere*** *Vrije Universiteit Brussel and Flanders Make, Brussels, Belgium*
11:20- 11:50	**Invited report** **Conditionally exactly solvable Dirac potential, including $x^{1/3}$ pseudoscalar interaction** ***A. Ishkhanyan*[1], *V. Krainov*** *[1]Institute for Physical Research, NAS of Armenia*
11:50- 12:10	**Coffee break**
12:10 – 12:40	**Invited report** **Liquid crystal adaptive optical components for light manipulation and sensing** ***T. Galstian*** *Center for optics, photonics and lasers, Department of physics, engineering physics and optics, Université Laval, Quebec, Canada*
12:40 – 13:10	**Invited report** **Vector Atomic Magnetometer via lin||lin EIT resonances** ***I. Novikova*[1], *M. Maldonado, O. Rollins, E. Mikhailov, J. McKelvy, A. Matsko, I. Fan, Y. Li, Y.-J. Wang, J. Kitching*** *[1]Physics Department, College of William & Mary, Williamsburg, USA*

13:10 – 13:30	**Van der Waals and Dipole-Dipole interactions in optical nanocells** ***A. Sargsyan[1], R. Momier, C. Leroy, D. Sarkisyan*** *[1]Institute for Physical Research, NAS of Armenia*
13:30 – 14:30	**Lunch** 

Afternoon Session. 14:30 - 18:10 **Chairmen: Vartkess Ara Apkarian, Rafael Drampyan**	
14:30 – 15:10	**Plenary report** **Nanoscintillators: a curiosity or real applications?** ***C. Dujardin[1,2]*** *[1]Institut Lumière Matière, Université Claude Bernard Lyon1 CNRS UMR 5306, France* *[2]Institut Universitaire de France (IUF)*
15:10 – 15:40	**Invited report** **Spin 2 particle with anomalous magnetic moment in presence of the uniform magnetic field, the exact solutions and energy spectra** ***A. Ivashkevich, A. Bury, V. Kisel, V. Red'kov*** *B.I. Stepanov Institute of Physics, Minsk, Republic of Belarus*
15:40 – 16:00	**Spectroscopic investigation of Yb^{3+} in YAG ceramic and crystalline hosts: impact of fabrication process on lattice defects** ***B. Patrizi[1], G. Demirkhanyan, R. Kostanyan, D. Zargaryan, A. Santonocito, A. Pirri, J. Li, Y. Feng, T. Xie, L. Wu, M.Vannini, G. Toci*** *[1]National Institute of Optics, INO-CNR, Sesto Fiorentino, FI, Italy*
16:00 -16:20	**Coffee break** 
16:20 – 16:50	**Invited report** **New Approaches to the Development of Compact High-Stability Microwave and Optical Frequency Standards** ***D. Brazhnikov[1,2], S. Ignatovich, I. Mesenzova, A. Mikhailov, M. Skvortsov*** *[1]Institute of Laser Physics SB RAS, Novosibirsk, Russia* *[2]Novosibirsk State University, Novosibirsk, Russia*
16:50 – 17:20	**Invited report** **Atom Diffraction by a Standing Wave: from Raman-Nath to Bragg and Multi-Beam Atom Interferometry** ***A. Muradyan*** *Yerevan State University, Yerevan, Armenia*

17:20 – 17:50	**Invited report** **Generation and properties of optical platicons in hot cavities** ***V. Lobanov*[1], *A. Shitikov, O. Borovkova, I. Bilenko*** *[1]Russian Quantum Center, Skolkovo, Russia*
17:50 – 18:10	**Excitation Density Effects in the Luminescence Yield and Kinetics of $MAPbBr_3$ Single Crystals** ***A. Belsky, N. Fedorov, I. Frolov, I. Kamenskikh*[1], *P. Martin, E. Rubtsova, I. Shpinkov, D. Spassky, A. Vasil'ev, B. Zadneprovsky*** *[1]Faculty of Physics, Lomonosov Moscow State University, Russia.*
18:10	**Bus to Yerevan**

Wednesday, September 13, 2023

Morning Session 10:00 – 13:30 **Chairmen: Claude Leroy, Victor Red'kov**	
10:00 – 10:40	**Plenary report** **Atomic Limit in Optical Microscopy & Photon Confinement: Tip-Enhanced Raman Scattering in the Atomistic Near-field** ***V. A. Apkarian, J. Lee*** *Department of Chemistry, University of California at Irvine, USA*
10:40 – 11:10	**Invited report** **Nanodiamond Facilitated Drug Delivery and Drug Efficacy Evaluations in 3D cellular models** ***Ch.-Y. Huang, Y.-J. Su, E. Perevedentseva, A. Karmenyan, Ch.-L. Cheng*[1]** *[1]Department of Physics, National Dong Hwa University, Hualien, Taiwan*
11:10 – 11:40	**Invited report** **Laser Embryology – Precise Laser Methods for Micromanipulation, Monitoring and Investigation of Early Mammalian Embryos** ***A. Karmenyan*[1], *A. Krivokharchenko, E. Perevedentseva, C.-L. Cheng*** *[1]Department of Physics, National Dong Hwa University, Hualien, Taiwan*
11:40 – 12:00	**Coffee break**

12:00 – 12:30	**Invited report** **2D Trapping of DNA Molecules on a Lithium Niobate Crystal by Nonuniform Laser Beam-Induced Photovoltaic Effect** ***L. Tsarukyan, A. Badalyan, L. Aloyan, Y. Dalyan, R. Drampyan[1]*** *[1]Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia*
12:30 – 13:00	**Invited report** **The most important magnetically-induced transitions of Cs and Rb atoms for the applications in spectroscopy** ***D. Sarkisyan, A. Tonoyan, and A. Sargsyan*** *Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia*
13:00 – 13:30	**Invited report** **Single-layer atom chip** ***A. Afanasiev[1], P. Skakunenko, D. Bykova, A. Kalmykov, R. Kirtaev, D. Negrov, V. Balykin*** *[1]Institute of Spectroscopy Russian Academy of Sciences, Moscow, Troitsk, Russia*
13:30 – 14:30	**Lunch**

Afternoon Session 14:30 – 18:30 **Chairmen: Ch. Dujardin, Igor Bilenko**	
14:30 – 15:10	**Plenary report** **Local Charge Carrier Dynamics of Photocatalytic Materials Using the Pattern-Illumination Time-Resolved Phase Microscopy** ***K. Katayama*** *Department of Applied Chemistry, Chuo University, Tokyo, Japan*
15:10- 15:40	**Invited report** **High Resolution Molecular Spectroscopy as a Bridge to Understanding the Basic Properties of Matter: Operator Perturbation Theory in the X^2B_1 Electronic Ground State** ***O. Ulenikov, E. Bekhtereva, O. Gromova*** *Research School of High-Energy Physics, National Research Tomsk Polytechnic University, Tomsk, Russia*

15:40 – 16:10	**Invited report** **Ho-doped Lithium Niobate Thin Films: Structure and Luminescence** ***E. Kokanyan[1,2]*** *[1]Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia* *[2]Armenian State Pedagogical University after Kh. Abovyan, Yerevan, Armenia*
16:10 – 16:40	**Invited report** **Application of silver nanoparticles with strong localized surface plasmon resonances for chemiluminescence enhancement, endocytosis monitoring and circular dichroism induction in 2D and 3D chiral structures** ***T. Vartanyan, D. Dadadzhanov, I. Gladskikh, A. Starovoytov, A. Palekhova, G. Alexan, N. Petrov, A. Fandeev, I. Nikitin, A. Afanasjeva*** *ITMO University, St. Petersburg, Russian Federation*
16:40 – 17:00	**Dual-pumped microring resonators for coherent computing, soliton generation and quantum light sources** ***D. Chermoshentsev[1,2,3], A. Shitikov, N. Dmitriev, N. Tatarinova, A. Vorobyev, A. Danilin, V. Lobanov, I. Bilenko*** *[1]Russian Quantum Center, Skolkovo, Russia* *[2] Moscow Institute of Physics and Technology, Dolgoprudny, Russia* *[3]Skolkovo Institute of Science and Technology, Moscow, Russia*
17:00 – 17:20	**Coffee break**
17:20 – 17:40	**Hybrid Integrated Dual-Comb Source** ***N. Dmitriev[1], V. Lobanov, A. Shitikov, D. Chermoshentsev, I. Bilenko*** *[1]Russian Quantum Center, Skolkovo, Russia*
17:40 – 18:10	**Invited report** **Versatility of the SIL-based laser stabilization for the different spectral bands and operating regimes** ***A. Shitikov[1], D. Chermoshentsev[3], N. Dmitriev, V. Lobano, I. Bilenko*** *[1]Russian Quantum Center, Skolkovo, Russia*

18:10 – 18:30	**Application of Picosecond-Delay Laser Pulse Pairs for Materials Processing** ***A. Yeremyan*[1], *M. Sargsyan, M. Sukiasyan, N. Martirosyan*** *[1]CANDLE Synchrotron Research Institute, Yerevan, Armenia*
18:30	**Bus to Yerevan**

Thursday, September 14, 2023

Morning Session 10:00 – 11:40 **Chairman: Marcis Auzinsh, Tigran Vartanyan**	
10:00 – 10:40	**Plenary report** **Microring and microdisk resonators for nonlinear and quantum optics** ***A. Shitikov, S. Balybin, N. Dmitriev, D. Chermoshentsev, V. Lobanov, F. Khalili, I. Bilenko*[1,2]** *[1]Russian Quantum Center, Skolkovo, Moscow, Russia* *[2]Faculty of Physics, Lomonosov Moscow State University, Moscow, Russia*
10:40 – 11:10	**Invited report** **Submillimeter Wave Spectrum of Methylene Chloride, $^{12}CH_2{}^{35}Cl_2$, Up To 1 THz** ***E. Bekhtereva*[1], *O. Ulenikov, O. Gromova, H. S. P. Müller, and L. Margulès*** *[1]Research School of High-Energy Physics, National Research Tomsk Polytechnic University, Tomsk, Russia*
11:10 – 11:40	**Invited report** **Toward All-Optical Intelligent Machines: Liquid Crystal-Enhanced Optical Computing** ***T. Sarukhanyan, H. Melkonyan, M. Rafayelyan*** *Yerevan State University, Yerevan, Armenia*
11:40 – 12:00	**Singularities in Orbital Angular Momentum shaping from Bragg-Berry Cavities** ***S. Shvetsov, V. Grigoryan, V. Abrahamyan, N. Hakobyan, H. Margaryan, M. Rafayelyan*** *Yerevan State University, Yerevan, Armenia*
12:00 – 12:30	**Coffee break** 

Special Session 12:30 – 15:45 ***The Best Student Presentation Awards*** **Chairmen: Lusine Tsarukyan, Pavel Muzhikyan, Armen Sargsyan, Astghik Kuzanyan**	
12:30 – 12:45	**Generation of EIT resonances with $\Delta F = +2$ transitions of Cs D_2 line** ***R. Momier*[1,2], *A. Sargsyan, A. Tonoyan, D. Sarkisyan and C. Leroy*** *[1] Laboratoire Interdisciplinaire Carnot de Bourgogne, UMR 6303 CNRS – Université de Bourgogne, 21000 Dijon, France* *[2] Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia*
12:45 – 13:00	**Measurement of light-shift in rubidium vapor microcell** ***A. Afanasiev, D. Bykova*[1,2], *A. Sargsyan, D. Sarkisyan, V. Balykin*** *[1]Institute of Spectroscopy, Russian Academy of Sciences, Moscow, Troitsk, Russia* *[2]National Research University Higher School of Economics, Moscow, Russia*
13:00 – 13:15	**A conditionally exactly solvable 1D Dirac pseudoscalar interaction potential** ***A. Ghazaryan*[1], *A. Ishkhanyan, V. Krainov*** *[1]Institute for Physical Research, Ashtarak, Armenia*
13:15 – 13:30	**Laser cleaning as a part of complex restoration method for multi-layered painting objects** ***A. Vasilieva*[1], *A. Kareva, O. Kafarova, I. Starostina, V. Parfenov*** *[1]St. Petersburg State Electrotechnical University "LETI" named after. V.I. Ulyanova, St. Petersburg, Russian Federation*
13:30 – 14:30	**Lunch**
14:30 – 14:45	**The Photonic Microchip Thermal Parameters Definition via The Thermal Mode Decomposition** ***V. Pavlov*[1,2], *N. Kondratyev, V. Lobanov*** *[1]Russian Metrological Institute of Technical Physics and Radio Engineering, Russia* *[2] Faculty of Physics, Lomonosov Moscow State University, Russia*
14:45 –15:00	**Polaron delocalization in Ag-doped ZnO films** ***A. Sarkisian, A. Kuzanyan, N. Aghamalyan, M. Nersisyan, S. Petrosyan, A. Poghosyan, I. Gambaryan, R. Hovsepyan, G. Badalyan, Y. Kafadaryan*** *Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia*

15:00 – 15:15	**Calculation of miscibility regions for BN-Si-C ternary solid solutions** ***L. Yeranyan*, *A. Margaryan*, *K. Gambaryan*** *Yerevan State University, Yerevan, Armenia*
15:15 – 15:30	**Spectroscopy 2.0** ***R. Aramyan*[1,2], *O. Tretiak*, *S. S. Sahoo*, *M. Smolis*, *A. Wickenbrock*, *D. Budker*** *[1]Johannes Gutenberg-Universität Mainz, Mainz, Germany* *[2]Helmholtz-Institut Mainz, GSI Helmholtzzentrum für Schwerionenforschung, Mainz, Germany*
15:30 – 15:45	**Spin-orbit modal beam shaping** ***V. Hakobyan*[1], *K. Singh*, *D. Coursault*, *Y. Lei*, *P. Kazansky*, *A. Forbes*, *E. Brasselet*** *[1]Université de Bordeaux, CNRS, LOMA, UMR 5798, Talence, France*
15:45 – 16:10	**Coffee break**

Poster Session 16:10 – 18:00 **Chairmen: Lusine Tsarukyan, Pavel Muzhikyan, Armen Sargsyan, Astghik Kuzanyan** **See page 13**	
18:00	**Bus to Yerevan**

Friday, September 15, 2023

Morning Session 10:00 – 13:40 **Chairman: Kenji Katayama, Ashot Petrosyan**	
10:00 – 10:40	**Plenary report** **Magnetometry with nuclear spin polarized ^{14}N in nitrogen-vacancy centers in diamond** ***M. Auzinsh*** *Laser Centre of the University of Latvia, Riga, LV1586, Latvia*
10:40 – 11:10	**Invited report** **High–Resolution Spectroscopy of Spherical Top Molecules: Ro-Vibrational Spectra of SiH_4 in the 500–8500 cm^{-1} Region** ***O. Gromova*[1], *O. Ulenikov*, *E. Bekhtereva*, *C. Sydow*, *S. Bauerecker*** *[1]Research School of High-Energy Physics, National Research Tomsk Polytechnic University, Tomsk, Russia*

11:10 – 11:30	**Signal-to-Noise Ratio of Thermoelectric Single-Photon Detectors for Detection Pixel's Different Designs** ***A. Kuzanyan*, *A. Kuzanyan, V. Nikoghosyan, S. Harutyunyan*** *Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia*
11:30 – 11:50	**Coffee break** 
11:50 – 12:10	**Theory of mirrorless lasing from the standpoint of classical electromagnetism** ***H. Baghdasaryan*[1], *T. Knyazyan*[1], *T. Hovhannisyan*[1], *T. Baghdasaryan*** [1]*National Polytechnic University of Armenia*
12:10 – 12:30	**Multi-Cycle Terahertz Pulse Generation in Single-Domain Lithium Niobate Crystal Using Phase Mask** ***Yu. Avetisyan*, *A. Makaryan*** *Yerevan State University, Yerevan, Armenia*
12:30 – 12:50	**Nonlinear spatiotemporal dynamics of liquid crystals under the illumination of inhomogeneous light field** ***A. Mirzoyan, V. Grigoryan, M. Rafayelyan*** *Yerevan State University, Yerevan, Armenia*
12:50 – 13:20	**Invited report** **Direct laser writing of optical waveguide components and ring resonators in polymer** ***T. Baghdasaryan, K. Vanmol, F. Berghmans, H. Thienpont, and J. Van Erps*** *Brussels Photonics (B-PHOT), Department of Applied Physics and Photonics Vrije, Universiteit Brussel (VUB), Brussels, Belgium*
13:20 – 13:40	**Closing ceremony**
13:40 – 14:30	**Lunch** 
14:30	**Sightseeing Tour**

Posters' List	
Poster №	
1	**Effect of gamma- and electron-irradiation on the natural obsidian and artificial glasses** ***N. Aghamalyan[1], I. Gambaryan, E. Kafadaryan, M. Nersisyan, H. Gyulasaryan, G. Chilingaryan, V. Bagramyan, V. Khachatryan*** *[1]Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia*
2	**Source of slow atoms based on conical magneto-optical trap** ***E. Aleinikova, D. Kupalov, E. Ivanchenko*** *Russian Metrological Institute of Technical Physics and Radio Engineering, Mendeleevo, Russia*
3	**Light signal amplification on V-type atomic system** ***S. Petrosyan, A. Aleksanyan[1]*** *[1] Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia*
4	**Ferroelectric field-effect transistor based on ZnO:Li-$LiNbO_3$ and ZnO:Li-TGS heterostructures for IR pyrodetectors** ***A. Arakelyan, A. Poghosyan, R. Hovsepyan, N. Aghamalyan, Y. Kafadaryan, H. G. Mnatsakanyan*** *Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia*
5	**Intraband impurity transitions in gapped graphene systems** ***A. Avetisyan, A. Djotyan*** *Yerevan State University, Yerevan, Armenia*
6	**Raman spectroscopy of Tm-doped lithium niobate bulk crystals** ***N. Babajanyan[1], N. Mkhitaryan, F. Voskanyan, E. Kokanyan*** *[1]Armenian State Pedagogical University after Kh. Abovyan, Yerevan, Armenia*
7	**Study on the morphology and elemental composition of the $BiBO_3$-doped $Bi_2Sr_2Co_2O_y$ thermoelectric ceramics** ***G. Badalyan[1], G. Kakhniashvili, I. Kvartskhava, A. Kuzanyan, A. Kuzanyan, N. Margiani, G. Mumladze*** *[1]Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia*
8	**Thermal quantum correlations, quantum Fisher information, and quantum teleportation of a spin1/2 Heisenberg trimer system** ***F. Benabdallah[1], K. El Anouz, J. Strecka, M. Daoud*** *[1]Mohammed V University, Rabat, Morocco*

9	**Microstructure and spectroscopic properties of 10% Yb-YSAG transparent ceramics** ***G. Demirkhanyan[1], B. Patrizi, G. Toci, M. Vannini, J. Li, A. Pirri, R. Kostanyan, Y. Feng, T. Xie, L. Wu, D. Zargaryan, P. Muzhikyan*** *[1]Institute for Physical Research of NAS, 0204 Ashtarak-2, Armenia*
10	**Defect reduction in Pr^{3+}-doped garnets by Li^{+} co-doping according to results of gamma-ray irradiation** ***M. Derdzyan[1], K. Hovhannesyan, I. Ghambaryan, C. Dujardin, A. Petrosyan*** *[1]Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia*
11	**Adiabatic states and suppression of dissipative processes** ***E. Gazazyan[1,2], G. Grigoryan*** *[1]Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia* *[2]Institute for Informatics and Automation Problems, NAS of Armenia, Yerevan, Armenia*
12	**Light-light interaction through a massless vector field** ***A. Gevorkyan[1,2], G. Movsesyan*** *[1]Institute for Informatics and Automation Problems, NAS of Armenia, Yerevan, Armenia* *[2] Institute of Chemical Physics, NAS of Armenia, Yerevan, Armenia*
13	**Vacuum and entangled states in the process of parametric decay of an optical quantum** ***M. Gevorgyan[1], S. Gevorgyan*** *[1] Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia*
14	**External conversion of tungsten gamma radiation with radioactive impurity** ***V. Arakelyan, G. Badalyan, R. Balasanyan, I. Grigoryan, R. Kostanyan*** *Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia*
15	**Characterization of few-layer nanographene clusters prepared by solid phase pyrolysis method: structure and magnetic properties** ***H. Gyulasaryan[1], D. Tolchina, L. Avakyan, V. Srabionyan, A. Kozakov, A. Nikolskiy, I. Pankov, A. Tsaturyan, A. Emelyanov, R. Chumakov, E. Sharoyan, A. Mukasyan, L. Bugaev, A. Manukyan*** *[1]Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia*

16	**Forecasting of light-matter interaction in liquid crystals with physics-informed neural networks based on the complex Ginzburg-Landau equation** ***A. Hayrapetyan[1], V. Yeranosyan, H. Janesian, M. Rafayelyan*** *[1]Yerevan State University, Yerevan, Armenia*
17	**Effect of Mg^{2+}, Ca^{2+} and Li^{+} ions on radiation tolerance of GSAG:Ce scintillator under gamma-ray irradiation** ***K. Hovhannesyan[1], M. Derdzyan, I. Ghambaryan, C. Dujardin, A. Petrosyan*** *[1]Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia*
18	**The influence of a random component in the structure of a periodic grating on the diffraction pattern of a plane wave in the near field** ***A. Khachatrian*** *National Polytechnic University of Armenia, Yerevan, Armenia*
19	**Application of three-corned hat to phase noise measurements of single-frequency lasers** ***K. Zagorulko, A. Kozlov[1,2], N. Khatyrev*** *[1]Russian Metrological Institute of Technical Physics and Radio Engineering, Mendeleevo, Russia.* *[2]National research nuclear university MEPhI, Moscow, Russia*
20	**Thermoelectric photodetector for 7.1 eV single photon detection** ***A. Kuzanyan, A. Kuzanyan, V. Nikoghosyan, S. Harutyunyan*** *Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia*
21	**Enhancement of power factor in B_4C-added $Bi_2Sr_2Co_{1.8}O_y$ thermoelectric** ***A. Kuzanyan[1], N. Margiani, G. Mumladze, I. Kvartskhava, V. Zhghamadze, G. Badalyan, A. Kuzanyan*** *[1]Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia*
22	**Application of strong light-induced dichroism in rubidium vapor in the bell-bloom and Hanle configurations for detecting weak magnetic fields** ***A. Makarov[1,2], V. Vishnyakov, D. Brazhnikov, A. Goncharov*** *[1]Institute of Laser Physics SB RAS, Novosibirsk, Russia* *[2] Novosibirsk State University, Novosibirsk, Russia*
23	**Laser vibrometer with a tapered component** ***A. Martirosyan, R. Kostanyan, P. Muzhikyan*** *Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia*

24	**Effect of air-annealing on the optical properties of YAG:Ce,Li crystals** ***A. Novikov, A.G. Petrosyan*** *Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia*
25	**Copper oxide nanoparticles synthesized by laser ablation in liquid media: morphology, structure and optical properties** ***N. Tarasenka, N. Tarasenko, S. Pashayan[1], V. Anishchik, A. Butsen, V. Kornev, S. Zlotski, O. Korolik*** *[1]Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia*
26	**Nonlinear light absorption in titanium carbide (MXene)** ***P. Petrosyan*** *Yerevan State University, Yerevan, Armenia*
27	**Field-effect transistor based on zinc oxide films with the use of diffuse technology** ***N. Aghamalyan, A. Arakelyan, R. Hovsepyan, Y. Kafadaryan, H. Mnatsakanyan, A. Poghosyan[1], T. Vartanyan*** *[1]Institute for Physical Research, NAS of Armenia, Ashtarak, Armenia*
28	**Optical detection of IR laser pulses in transparent ferromagnetic crystals** ***Y. Sahakyan*** *Yerevan State University, Yerevan, Armenia*
29	**Use of lasers for restoration of the original color appearance of decorative iron-based metal artworks** ***M. Salhab[1], V. Parfenov, I. Ruzankina, O. Zotov, O. Vasiliev*** *[1]St. Petersburg Electrotechnical University "LETI", Saint Petersburg, Russia*
30	**Anisotropic elastomers for laser beam steering** ***M. Sargsyan, G. Gevorgyan, M. Hakobyan, R. Hakobyan, M. Reynolds, H. Gleeson*** *[1]Yerevan State University, Yerevan, Armenia*
31	**Exploring the true rotatory power of frustrated cholesteric liquid crystals through experimental polarization studies** ***T. Sarukhanyan, M. Rafayelyan, M. Sargsyan, G. Gevorgyan, R. Hakobyan, R. Alaverdyan*** *Yerevan State University, Yerevan, Armenia*
32	**Noise sensitivity in the spectral phase measurement technique based on dispersive Fourier transform** ***M. Sukiasyan[1,2], A. Avetisyan, A. Kutuzyan*** *[1]Yerevan State University, Yerevan, Armenia* *[2]CANDLE Synchrotron Research Institute, Yerevan, Armenia*

33	**Controlled quantized adiabatic transport in a superlattice Wannier-Stark ladder** ***R. Unanyan[1], N. Vitanov, M. Fleischhauer*** *[1]Fachbereich Physik, University of Kaiserslautern-Landau, Kaiserslautern, Germany*

IMPORTANT INFORMATION

Yerevan-Ashtarak-Yerevan bus operation for foreign participants

during conference days

Bus departure on Conference days from the Building of the National Academy of Sciences (24 Marshal Baghramyan ave.; 3 min walking distance from the Marshal Baghramyan Metro Station):

12 September, at 8:45,

13, 14, 15 September, at 9:00

The trip duration from Yerevan to the Institute for Physical Research (IPR) in Ashtarak is around 30 min.

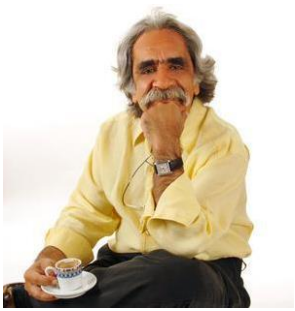
Return from IPR (Ashtarak) to Yerevan is planned in accordance with the Conference Program.

The regular Institute bus with 45 seats for the Yerevan-Ashtarak roundtrip, will serve the IPR staff and Conference participants from different Armenian scientific organizations and Universities and will operate on Conference days on a regular schedule:

The bus will depart from France square in the center of Yerevan at 8:30 and return from IPR (Ashtarak) to Yerevan at 17:00.

PLENARY SPEAKERS

Heidi Ottevaere
Vrije Universiteit Brussel, Brussels, Belgium

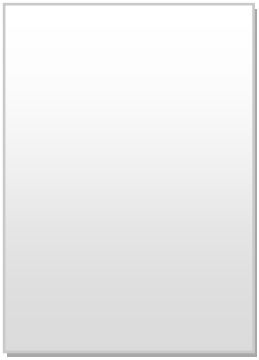


Vartkess Ara Apkarian
University of California at Irvine, Irvine, USA

Kenji Katayama
Chuo University, Tokyo, Japan

Marcis Auzinsh
University of Latvia, Riga, Latvia

Christophe Dujardin
Institut Lumière Matière, Université Claude Bernard Lyon 1, France



Igor Bilenko
Russian Quantum Center, Lomonosov Moscow State University, Russia

Tour on September 15

City Ashtarak and Aragatsotn region: St. Mariane Church, St. Karmravor, St. Mesrop Mashtots Church, Voskevaz village and vine tasting.

With transport and English and Russian speaking guide.

Duration: 14:30 – 19:00. Tour starts at the Institute for Physical Research in Ashtarak with return to the center of Yerevan.

Price: 15000 Armenian drams.

The tour includes visits to the Armenian Apostolic churches: **the Church of St. Mariane** of Ashtarak, built in 1271, **St. Karmravor**, also known as the Church of Holy Mother of God, built in the 7th-century, and **the Church of St. Mesrop Mashtots** of Oshakan, which houses the tomb of Mesrop Mashtots, the creator of the Armenian alphabet, making it a historically significant site to see. Additionally, the tour includes a visit to the **cross-stones wih Armenian letters**. Furthermore, the tour also includes a stop at the **Voskevaz winery** where you can enjoy a visit to the wine museum and wine tasting. This will provide you with a chance to taste some of the finest wines produced in the region and learn about the winemaking process.