

X International Conference on Ultrafast Optical Science «UltrafastLight-2026» is a broad-scope, annual international symposium dedicated to the most important aspects of ultrafast phenomena in different fields of natural sciences and engineering.

Information about this year plenary speakers can be found on our website:

<https://ultrafastlight.ru/plenary-speakers3.html>

The information about **conference sections** is presented below:

Section 1. Extreme light

Chair : Andrei Savel'ev (MSU, Russia),

e-mail: e-mail: savelevab@my.msu.ru

- High intensity laser plasma interaction
- Laser particle acceleration
- Secondary processes with laser accelerated particle beams
- Nuclear photonics & Compton sources
- Ultrarelativistic field physics
- Ultra-high intensity & high replate laser facilities

Section 2. Ultrafast phenomena in ionized gases, semiconductors and metals

Chair: Sergey Uryupin (Lebedev Physical Institute, Russia),

e-mail: uryupin@lebedev.ru

- Strong-field and ionization-induced phenomena
- Instabilities and high-frequency phenomena in ionized gases
- Nonlinear phenomena in low-temperature plasmas and semiconductors
- Kinetic processes in plasmas and metals
- Hot electrons in nanoplasmonics
- Ultrafast spectroscopy and imaging of optical, electronic and hot-carrier dynamics
- Ultrafast spectroscopy and imaging of structural dynamics, including electron-phonon relaxation, coherent phonons and phase transitions

Section 3. Ultrafast laser technologies in micro-optics, nanophotonics, integrated optics and optoelectronics

Chair: Sergey Kudryashov (Lebedev Physical Institute, Russia),

e-mail: kudryashovsi@lebedev.ru

- Femtosecond laser inscription of nano- and micro-optical elements in dielectrics: physical mechanisms of sub-wavelength structuring
- Laser technologies in optoelectronics
- Femtosecond laser fabrication in bulk and planar integrated optics: waveguides, Bragg gratings, sensors, amplifiers, photodetectors

- Ultrafast nanophotonics: plasmonics, dielectric nanostructures, metasurfaces, quantum emitters, nanocrystals, ...
- Novel effects and technologies in diamond photonics
- Ultrafast laser technologies with artificial intelligence

Section 4. Frequency combs in spectroscopy and optical clocks

Chair: Dmitry Tregubov (Lebedev Physical Institute, Russia), e-mail: tregubovdo@lebedev.ru

- Absolute optical frequency measurements
- Femtosecond frequency combs for direct spectroscopy of ions and atoms
- UV and HUV frequency combs
- Frequency combs in astrophysics
- Time and frequency transfer
- Optical frequency combs applications

Section 5. Ultrafast optical technologies and nonlinear optical phenomena

Co-Chairs: Igor Kinyaevskiy (Lebedev Physical Institute, Russia),

e-mail: kinyaevskiyio@lebedev.ru

Fedor Potemkin (Lomonosov Moscow State University, Russia),

e-mail: potemkin@physics.msu.ru

- Modern femtosecond and picosecond laser systems from UV to THz
- Ultrafast measurement and characterization
- Novel nonlinear materials and platforms
- Nonlinear effects: wave-mixing, frequency conversion and supercontinuum generation
- High-field and strong-field nonlinear phenomena
- Terahertz science and technology
- Emerging frontiers (ultrafast polaritonics and phononics, nonlinear topological photonics, chiral and anisotropic nonlinearities, machine learning for nonlinear optics, quantum nonlinear optics in microcavities, spin and magnetic dynamics)

Section 6. Ultrafast laser technologies in biomedicine

Co-Chairs: Sergey Gonchukov (Moscow Engineering Physics Institute, Russia),

e-mail: gonchukov@mephi.ru,

Eteri Tolordava (The Gamaleya National Center for Epidemiology and Microbiology, Russia),

e-mail: tolordava.eteri@yandex.ru

- Propagation of ultrashort laser pulses in highly scattering biological tissues
- Ultrafast spectroscopy of biomolecules: photophysical processes and diagnostics
- Multiphoton microscopy and tomography
- Fluorescence lifetime imaging microscopy
- Ultrafast laser fabrication of bionanomaterials
- Femtosecond laser biosensing
- Ultrafast laser therapy