

# Laser particle accelerators, their applications and possibilities of experiments in the ELI infrastructure

## WORKSHOP



May 21, 2026



Saulėtekio al. 3, Vilnius, FTMC, A101 room



- 09:00** **ELI user science opportunities: open access and mission-based calls**  
Leonida A. Gizzi, ELI ERIC Science director, Dolní Břežany, Czech Republic
- 09:30** **ELI-NP capabilities and user research opportunities**  
Mihail Cernaianu, ELI-NP, Magurele, Ilfov county, Romania
- 10:00** **The relativistic laser plasma platforms at ELI ALPS: Science and opportunities**  
Subhendu Kahaly, ELI ALPS, Szeged, Hungary
- 10:30** **Coffee break**
- 11:00** **Laser-Driven Ultrafast Broadband X-ray Sources for Multidisciplinary Research**  
Chaulagain Uddhab Prasad, ELI Beamlines, Dolní Břežany, Czech Republic
- 11:30** **Secondary sources and application developments at ELI-NP**  
Andrei Florin, ELI-NP, Magurele, Ilfov county, Romania
- 12:00** **Laser Plasma Physics Platform status and L4f commissioning experiment**  
David Prokop, ELI Beamlines, Dolní Břežany, Czech Republic
- 12:30** **Rethinking ISO 21254: Standardizing the Interpretation of Laser Damage Threshold Through Advanced Measurement and Analysis Methods,**  
Andrius Melninkaitis, Vilnius University Laser Research Center (VU LRC)/ Lidaris
- 13:00** **Lunch**
- 14:00** **Application of laser-driven high energy electrons to radiation biology and medical physics**  
Alessandro Flacco, LOA ENSTA
- 14:30** **Tiny Models, Big Beams: Biological Experiments in FLASH Radiotherapy**  
Mindaugas Džiugelis, National Cancer Institute
- 15:00** **International Consortium "LT Radiomed": Driving Collaborative Research and Biomedical Capacity at the VU Laser Research Center**  
Mantas Grigalavičius, Vilnius University Laser Research Center (VU LRC)
- 15:20** **Biological Effects of Low-Dose Neutron Irradiation at the Cellular Level: In Vitro and In Vivo**  
Réka Molnár, ELI ALPS, Szeged, Hungary
- 15:50** **Poster session/coffee**
- Feasibility of Terbium-161 Production via Fast Neutron Activation of Natural Gadolinium at ELI-ALPS**  
Nikoletta Giannakou, Vilnius University Laser Research Center (VU LRC)
- Photosensitizer-Enhanced Radiation-Enabled Energy-Harvesting Films for Biomedical Platforms**  
Rokas Dobužinskas, Vilnius University Laser Research Center (VU LRC)
- Radiosensitization by Radiofrequency Fields**  
Angela Chinhengo, Vilnius University Laser Research Center (VU LRC)/ Stellenbosch University, South Africa
- Tomographic reconstruction of density profiles of gas jets for LWFA**  
Kazimieras Plentauskas, FTMC / Vytautas Magnus University
- Characterization of Betatron X-ray Radiation from Tailored Plasma Targets**  
Mandeep Kaur, FTMC
- Bottom-up laser milling of de Laval nozzles for laser wakefield acceleration**  
Miglė Mackevičiūtė, FTMC
- X-ray emission from a Cu target driven by 2 μm femtosecond laser pulses**  
Miroslav Saniuk, FTMC
- High energy 1.53-cycle pulses via homogeneous post-compression in a single thin-plate**  
Dominykas Karvelis, Vilnius University Laser Research Center (VU LRC)
- Developing an XUV beamline for NIR and MIR OPCPA laser systems at Laser Research Center of Vilnius University**  
Karolis Gineitis, Vilnius University Laser Research Center (VU LRC)
- Two-Photon Lithography of High-Porosity Micro-Targets for Inertial Confinement Fusion Experiments**  
Ioanna-Angeliki Petsi, Vilnius University Laser Research Center (VU LRC)/ ABC, ENEA Frascati
- 17:00** **The end**
- 17:10** **Bus to visit Light Conversion**
- 19:30** **Dinner in the Old Town (tba)**

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## WORKSHOP PROGRAM



May 22, 2026



Saulėtekio al. 3, Vilnius, NFTMC, A101 room



- 09:00** **Automating physics: insights on measurement, modeling and optimization**  
Andreas Döpp, University of Munich, Physics Department
- 09:30** **Beam-Shape Effects and Bayesian Optimization in LWFA Driven by mJ-Class Femtosecond Pulses**  
Mehdi Abedi Varaki, FTMC
- 09:50** **The PETRA IV plasma-injector and recent pre-experiments**  
Paul Winkler, Deutsches Elektronen-Synchrotron DESY
- 10:20** **Betatron X-ray generation using dual stage plasma target**  
Vidmantas Tomkus, FTMC
- 10:40** **Coffee break**
- 11:10** **Laser Technology for Accelerators**  
Laura Corner, University of Liverpool
- 11:40** **Semiconductor detectors for high-energy particles and beams**  
Tomas Čeponis, Vilnius University Semiconductor physics department
- 12:00** **Optical Parametric Chirped Pulse Amplifiers: Fundamentals and recent advances**  
Rimantas Budriūnas, Vilnius University Laser Research Center (VU LRC)/ Light Conversion
- 12:30** **Femtosecond multi-mJ pulses from a hybrid NOPCPA for strong-field physics applications in LWIR**  
Rokas Jutas, Technische Universität Wien / Ekspla
- 13:00** **Lunch**
- 14:00** **Visit to the Department of Laser Technologies of FTMC (Savanorių av.231, Vilnius)**