

Laser Plasma Applications - Tbilisi 2025

Workshop Program

Day 1: Thursday, 2 October 2025

10.00 – 11.00 Welcome opening and introduction: Chairmen: Ambassador Ishizuka Hideki, Academician David Gurgenidze. Communications: Minister of Education and Science of Georgia, Chairperson of the Parliamentary Committee of the Georgian Parliament, Ambassador of Japan, Minister of Economy of Georgia, Ambassadors of France, Italy and other distinguished guests.

11.00 – 13.15 **Session I:** Novel approaches to Laser induced methods and technologies. Chairpersons: Prof. Tamar Lominadze (Georgia); Prof. Fabrizio Consoli (Italy).

11.00 – 11.30 Prof. Dimitri Batani (France): Future of Laser Induced Fusion

11.30 – 11.45 Coffee Break

11.45 – 12.15 Prof. Paata Kervalishvili (Georgia): Laser-Synthesized Quantum Materials for Energy and Computing.

12.15 – 12.45 Toshimori Sekine (Japan): Warm Dense Matter Characterized by Laser Shock Compression.

12.45 – 13.15 Aldo Bonasera (USA): Nuclear Astrophysics and Applications Using Lasers.

13.15 – 15.00 Lunch Break

15.00 – 16.30 **Session II:** Laser Driven Technologies. Chairpersons: Prof. Tamar Berberashvili (Georgia), Professor. Aldo Bonasera (USA)

15.00 – 15.30 Shigemori Keisuke (Japan): Laser Plasma Interactions.

15.30 – 16.00 Victor Malka (Israel-Romania): Laser driven electron acceleration and their applications.

16.00 – 16.30 Boris Chichkov (Germany). Laser Printing Technologies.

16.30 – 17.30 Round table Discussions

19.30 – 22.00 Workshop's Reception

Day 2: Friday, 3 October 2025

10.00 – 11.00. **Session III:** Nuclear Fusion: Methods and Tools. Chairpersons: Prof. Tamar Bzhalava (Georgia), Prof. Shigemori Keisuke (Japan).

10.00 – 10.30 Fabrizio Consoli (Italy): Advanced Diagnostics for Particle Identification in Laser-Triggered Nuclear Fusion Experiments

10.30 – 11.00 Katarzyna Batani (Poland-France) Proton boron fusion for laser driven medical applications.

11.00 – 11.15 Coffee Break

11.15 – 13.15. **Session IV:** Coherent Light Based Methods and Tools for Nanoobjects Investigation. Chairpersons: Prof. Irina Gotsiridze (Georgia), Prof. Victor Malka (Israel-Romania).

11.15 – 11.45 Pablo Cirrone (Italy): Laser driven Particle Acceleration (Ion/Electrons) for Medical Applications.

11.45 – 12.15 Kaoru Yamanouchi (Japan): Short Laser Pulses and Femtosecond Chemistry

12.15 – 12.45. Zviad Kirtava et al. (Georgia), Toward a Paradigm Shift: Transitioning from Pharmaceutical to Biophysical Approaches in Modern Medicine.

12.45 – 13.15 Tamar Bzhalava et al. (Georgia): Study of Patogenic Microorganizams by Laser-induced Spectrometry Methods.

13.15 – 15.00 Lunch Break

15.00 – 17.30. **Session V:** Laser Physics and Technology Applications. Chairpersons: Prof. Lia Petriashvili, Prof. Dimitri Batani (France)

15.00 – 15.20 Levan Chkhartishvili et al (Georgia): Boron Isotopes Based Neutron Detection Concept

15.20 – 15.40 Amiran Bibilashvili et al. (Georgia): Laser-Plasma application in Thin-Film development.

15.40 – 16.00 Nugzar Gomidze et al. (Georgia) LIBS Technology for Plasma Characterization: Data Processing and Theoretical Analysis.

16.00 – 16.20 Tamaz Minashvili et al. (Georgia) Preparation of Gold nanoclusters on GaP (001) Surface by Method of Galvanic Displacement.

16.20 – 16.40 Tamar Berberashvili et al. (Georgia) Laser Based Optical Spectrometry Studies of Molecular Mechanisms in ATP Reactions.

16.40 – 17.30 Discussion (Joint Research Project Group Formation, follow-up plans)

19.30 – 22.00 Conference dinner

Day 3: Saturday, 4 October 2025

10.00 – 11.45. **Session VI:** Advances in Laser-Driven Physics and Technology. Chairmen: Kaoru Yamanouchi (Japan), Paata Kervalishvili (Georgia)
(Communications 15 minutes each.)

11.45 – 12.30 Closing remarks and Press conference

12.30 – 22.00 Excursion and cultural program. (Sightseen to old capital of Georgia - Mtskheta and tour to Choporti point of Mtskheta-Mtianeti national cuisine).