



**EIC Pathfinder Project 101046458 TECHNO-CLS
“Emerging technologies for Crystal-based gamma-ray Light Sources”**

MultChem Meeting

Workshop October 9- 11, 2024, Rethymno, Crete

All sessions will be held at the Institute of Plasma Physics and Lasers (IPPL), ippl.hmu.gr (Tria Monastiria, GR-74100 Rethymnon), except for the afternoon session on Thursday 10 October, which will be held in a renovated Venetian olive mill. The venue can be reached from Rethymno Centre by a special bus rented by IPPL that will start at 09:00 a.m. (EEST -Eastern European Summer Time) each day from the center of Rethymno town outside the eastern gate of municipal garden in Dimitrakaki Str.

Wednesday, October 9

12:30 EEST	Departure from the centre of Rethymno to IPPL
13:00–13:30	Workshop opening: Nektarios Papadogiannis - Andrey Solov'yov M. Tatarakis , Institute of Plasma Physics and Lasers, Rethymno, Greece <i>Scientific activities in IPPL/HMU</i>
13:30-14:00	Afternoon session I: TECHNO-CLS consortium 's talks (Chair: Vincenzo Guidi) Andrey Solov'yov , MBN Research Center, Frankfurt am Main, Germany <i>Advances in Horizon Europe EIC-Pathfinder Project TECHNO-CLS: "Emerging technologies for crystal-based gamma-ray light sources"</i>
14:00-14:30	Andrei Korol , MBN Research Center, Frankfurt am Main, Germany <i>Theoretical and computational analysis of CLSs with electron and positron beams</i>
14:30-15:00	Werner Lauth , Institute of Nuclear Physics, University of Mainz, Mainz, Germany <i>Experiments with positrons at MAMI</i>
15:00-15:30	Coffee break
15:30-16:00	Afternoon session II: TECHNO-CLS consortium 's talks (Chair: Laura Bandiera) Rebecca Doweck , European Synchrotron Radiation Facility, Grenoble, France <i>Multi-technical study of Boron-doped diamond for undulator application"</i>
16:00-16:30	Nektarios Papadogiannis , Institute for Plasma Physics and Lasers, Hellenic Mediterranean University, Heraklion, Greece (on behalf of K. Kaleris, E. Kaniolakis-Kaloudis, E. Kaselouris, Y. Orphanos, S. Petrakis, V. Dimitriou, M. Bakarezos, M. Tatarakis, N.A. Papadogiannis) <i>Ultrafast laser generation and characterization of nano-acoustic strains in crystalline materials</i>
16:30-17:00	Andrea Mazzolari , University of Ferrara and Lorenzo Malagutti , INFN Sezione di Ferrara, Italy <i>Fabrication of a Silicon undulator based on silicon nitrate tensile films</i>

Thursday, October 10

09:00 EEST	Departure from the centre of Rethymno to IPPL
09:30-10:00	Morning session I: TECHNO-CLS consortium 's talks (Chair: Werner Lauth) Davide Valzani, Davide De Salvador , University of Padova, Padova, Italy <i>Progress in Germanium Gamma Undulator Development Using Pulsed Laser Melting Technique</i>
10:00-10:30	Laura Bandiera , Istituto Nazionale di Fisica Nucleare, Ferrara, Italy <i>Experimental results with positrons for the TECHNO-CLS experiment</i>
10:30-11:00	Vincenzo Guidi , University of Ferrara, Italy <i>Experimental results with electrons for the TECHNO-CLS experiment</i>
11:00-11:30	Coffee break
11:30-12:00	Morning session II: Conventional Gamma-ray LS (Chair: Andrey V. Solov'yov) Kawal Sawhney, John Sutter , Diamond Light Source, Didcot, United Kingdom <i>UK Diamond Light Source upgrade (online)</i>
12:00- 12:30	Marco Romagnoni , University of Ferrara, Ferrara, Italy <i>Analysis of TECHNO-CLS crystals characterized at Diamond Light Source (online)</i>
12:30- 13:00	Thu Nhi Tran Caliste , ESRF, France <i>Using ESRF facility for the TECHNO-CLS purposes</i>
13:00- 13:30	Raffaele Agostino , STAR at the University of Calabria (on-line) <i>Compton scattering based LSs</i>
13:30–14:30	Meal time
14:30-15:30	Tour in the Institute of Plasma Physics and Laser
15:30-16:00	Travel from IPPL to Venetian olive mill
16:00-16:20	Afternoon session in a renovated venetian olive mill: Technology related topics (Chair: Nektarios Papadogiannis) Konstantinos Kaleris , Institute for Plasma Physics and Lasers, Hellenic Mediterranean University, Heraklion, Greece (on behalf of K. Kaleris, E. Kaselouris, V. Dimitriou, E. Kaniolakis-Kaloudis, M. Bakarezos, M. Tatarakis, N.A. Papadogiannis, and A. V. Korol, G.B. Sushko, A. V. Solov'yov) <i>Modelling of experimentally feasible acoustically driven crystalline undulators</i>
16:20-16:40	Matthew Dickers , University of Kent, Canterbury, United Kingdom (on behalf of N. Mason, A. V. Korol, A. V. Solov'yov) <i>Modelling $C_{1-x}B_x$ Structures and Channelling Dynamics in Periodically Bent Crystals</i>
16:40-17:00	Coffee break
17:00-17:20	Vasilis Dimitriou , Institute for Plasma Physics and Lasers, Hellenic Mediterranean University, Heraklion, Greece (on behalf of E. Kaselouris, K. Kaleris, E. Kaniolakis-Kaloudis, E. Papadaki, M. Bakarezos, M. Tatarakis, N.A. Papadogiannis, V. Dimitriou) <i>FEM elasto-mechanical simulations in crystalline materials</i>
17:20-17:40	E. Kaniolakis Kaloudis (on behalf of E. Kaniolakis Kaloudis, K. Kaleris, E. Kaselouris, Y. Orphanos, V. Dimitriou, M. Bakarezos, M. Tatarakis, N.A. Papadogiannis) <i>Experimental results on the multi-MHz travelling acoustic wave characterization in crystalline materials</i>
17:40-18:00	Suzana Petrović , „VINČA" Institute of Nuclear Sciences - National Institute of the Republic of Serbia, University of Belgrade <i>Laser surface texturing of Ti-based multilayers for biomedical application</i>
18:00-18:20	B. M. Gaković , Vinča Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia (on behalf of C. Siogka, J. Tsibidis, B. Sagbas, S. M. Petrović) <i>Modifications of Nb/Ti nano layer composite with femtosecond laser pulses</i>
19:00–23:00	Conference dinner

Friday, October 11

09:00 EEST	Departure from the centre of Rethymno to IPPL
	Morning session I: Research and development for future markets (Chair: Nigel Mason)
09:30- 10:00	Laura Bandiera, Vincenzo Guidi, Andrey V. Solov'yov on behalf of TECHNO-CLS Consortium <i>Technology potential within the TECHNO-CLS project</i>
10:00-10:30	Thomas G. Maris , University of Crete & Maris Magnetics PC & RTsafe PC, Heraklion, Greece <i>Polymer gel dosimetry: Clinical and non-clinical applications</i>
10:30-11:00	Dusan Korytar , Integra TDS, Slovakia (on-line) <i>Recent progress in X-ray crystal optics</i>
11:00-11:30	Riccardo Signorato , CINEL (scientific instruments), Padova, Italy <i>TBA</i>
11:30-11:50	Coffee break
	Morning session II: Research and development for future markets (Chair: Andrey V. Solov'yov)
11:50-12:15	Irfan Kuvvetli , DTU Space, Department of Space Research and Technology, Technical University of Denmark, <i>Another PAHTFINDER Project</i> <i>i-RASE: intelligent radiation sensor readout system for high-energy astronomy</i>
12:15-12:40	Vladimir A. Srećković , <i>Collisional and radiative databases/datasets of importance for molecular dynamics</i>
12:40-13:15	Linking academia and industry: Discussing practical steps
13:15	Workshop closing
13:15–14:30	Meal time
14:30 – 17:30	Afternoon session: Internal discussion of the TECHNO-CLS consortium TECHNO-CLS NDAs Publication policy within TECHNO-CLS Consortium Third year project implementation