



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

**Workshop October 5- 6, 2023, Ferrara**

**Thursday, October 5**

09 <sup>30</sup> – 09 <sup>45</sup>	<b>Workshop opening: Professor Laura Ramaciotti - Chancellor of the University of Ferrara          Professor Roberto Calabrese - Director of the INFN Ferrara          Vincenzo Guidi - Laura Bandiera - Andrey Solov'yov</b>
09 <sup>45</sup> -10 <sup>15</sup>	<b>Morning session I: TECHNO-CLS consortium 's talks (Chair: Vincenzo Guidi)</b> <b>Andrey Solov'yov</b> , MBN Research Center, Frankfurt am Main, Germany <i>Horizon Europe EIC-Pathfinder Project TECHNO-CLS: "Emerging technologies for crystal-based gamma-ray light sources"</i>
10 <sup>15</sup> - 10 <sup>45</sup>	<b>Andrei Korol</b> , MBN Research Center, Frankfurt am Main, Germany <i>Atomistic modelling of electron and positron propagation and radiation emission in oriented bent crystal</i>
11 <sup>45</sup> - 11 <sup>05</sup>	<b>Werner Lauth</b> , Institute of Nuclear Physics, University of Mainz, Mainz, Germany <i>Channeling experiments with Diamond crystals</i>
11 <sup>05</sup> -11 <sup>30</sup>	<b>Coffee break</b>
11 <sup>30</sup> - 12 <sup>00</sup>	<b>Morning session II: TECHNO-CLS consortium 's talks (Chair: Andrei Korol)</b> <b>Laura Bandiera</b> , Istituto Nazionale di Fisica Nucleare, Ferrara, Italy <i>TECHNO-CLS experiment at CERN with 6 GeV electrons</i>
12 <sup>00</sup> - 12 <sup>30</sup>	<b>Andrea Mazzolari</b> , University of Ferrara, Italy <i>On the design of a crystalline undulator based on coactive patterning</i>
12 <sup>30</sup> - 11 <sup>50</sup>	<b>Pascal Klag</b> , Institute of Nuclear Physics, University of Mainz, Mainz, Germany <i>Status report of the positron beam line</i>
12 <sup>50</sup> – 14 <sup>30</sup>	<b>Lunch</b>
14 <sup>30</sup> – 15 <sup>00</sup>	<b>Afternoon session I: TECHNO-CLS consortium 's talks (Chair: Werner Lauth)</b> <b>Davide De Salvador</b> , University of Padova, Padova, Italy <i>Pulsed laser melting as a tool for crystal bending in crystalline light source application</i>
15 <sup>00</sup> - 15 <sup>20</sup>	<b>Hartmut Backe</b> , Institute of Nuclear Physics, University of Mainz, Mainz, Germany <i>Radiation characteristics of a four-period diamond undulator at 855 MeV</i>
15 <sup>20</sup> - 15 <sup>50</sup>	<b>Konstantinos Kaleris, Vasilis Dimitriou</b> , Institute for Plasma Physics and Lasers, Hellenic Mediterranean University, Heraklion, Greece <i>Progress on the design, development and characterization of acoustically modulated crystalline structures for gamma-ray generation via undulation of ultra-relativistic charged particles</i>
15 <sup>50</sup> -16 <sup>15</sup>	<b>Coffee break</b>
16 <sup>15</sup> - 16 <sup>45</sup>	<b>Afternoon session II: TECHNO-CLS consortium 's talks (Chair: Nigel Mason)</b> <b>Thu Nhi Tran Caliste</b> , European Synchrotron Radiation Facility, Grenoble, France <i>New design for a periodic undulator with boron-doped diamond based</i>
16 <sup>45</sup> - 17 <sup>15</sup>	<b>Matthew Dickers, Nigel Mason</b> , University of Kent, Canterbury, United Kingdom <i>Effect of dopant concentration on Si-Ge Crystalline structure: A molecular dynamics study</i>
17 <sup>15</sup> - 17 <sup>45</sup>	<b>Nikolaos Charitonidis</b> , CERN PS & SPS Liaison Physicists, Geneva, Switzerland (TECHNO-CLS invited guest), <i>Electron &amp; positron beams in the CERN Secondary Areas</i>

**Friday, October 6**

09 <sup>20</sup> - 09 <sup>40</sup>	<b>Morning session I: TECHNO-CLS invited guests (Chair: Laura Bandiera)</b> <b>Alberto Quaranta</b> , Università degli Studi di Trento, INFN; President of the National Scientific Committee 5 of INFN, dedicated to Technological, interdisciplinary and accelerators research <i>An overview of the INFN Committee 5 activities</i>
09 <sup>40</sup> - 10 <sup>00</sup>	<b>David Alesini</b> , Laboratori Nazionali di Frascati LNF, INFN; Coordinator of the INFN - Accelerators Committee <i>An overview of the INFN Accelerators activities</i>
10 <sup>00</sup> - 10 <sup>20</sup>	<b>Raffaele Agostino</b> , STAR facility at University of Calabria, Rende, Italy <i>The building up of the STAR facility</i>
10 <sup>20</sup> -10 <sup>40</sup>	<b>Luca Serafini</b> , Istituto Nazionale di Fisica Nucleare, Milan, Italy <i>Extending photon energy of X-ray sources up to gamma-rays using Symmetric Compton Scattering</i>
10 <sup>40</sup> -11 <sup>00</sup>	<b>John Sutter</b> , Diamond Light Source, Didcot, UK <i>Crystal analysis at the Diamond Light Source</i>
11 <sup>00</sup> -11 <sup>20</sup>	<b>Marcel Stanitzky</b> , DESY, Hamburg, Germany <i>TBA</i>
11 <sup>20</sup> -11 <sup>40</sup>	<b>Coffee break</b>
11 <sup>40</sup> -12 <sup>00</sup>	<b>Morning session II: TECHNO-CLS for future markets (Chair: Andrey Solov'yov)</b> <b>Laura Bandiera</b> , <b>Vincenzo Guidi</b> , Istituto Nazionale di Fisica Nucleare, Ferrara, Italy <i>Technology potential within the TECHNO-CLS project</i>
12 <sup>00</sup> -12 <sup>15</sup>	<b>Matthew Markham</b> , Element Six, United Kingdom <i>Company presentation</i>
12 <sup>15</sup> - 12 <sup>30</sup>	<b>Dusan Korytar</b> , Integra TDS, Slovakia <i>Company presentation</i>
12 <sup>30</sup> - 12 <sup>45</sup>	<b>Marco Morresi</b> , Elenos-Group, Poggio Renatico, Italy <i>Elenos-Group capabilities and know how</i>
12 <sup>45</sup> - 13 <sup>00</sup>	<b>Riccardo Signorato</b> , CINEL, Padova, Italy <i>Company presentation</i>
13 <sup>00</sup> - 13 <sup>30</sup>	<b>Discussion</b> TECHNO-CLS for future markets
13 <sup>30</sup>	<b>Workshop closing</b>
13 <sup>30</sup> – 15 <sup>00</sup>	<b>Lunch</b>
15 <sup>00</sup> – 17 <sup>30</sup>	<b>Afternoon session: internal discussion of the TECHNO-CLS consortium:</b> <b>Second year project implementation</b>