**Principles of Operation of the XFEL Centers of Excellence Network under the project of the Ministry of Science and Higher Education entitled "Support for Polish Users of EuXFEL – Supervision II (2022-26)" (hereinafter referred to as the "project")**

1. The XFEL Centers of Excellence Network (CD XFEL) has been established to provide substantive and organizational support to the Polish scientific community in utilizing the European XFEL (X-ray Free Electron Laser) as one of the priority research instruments for innovative scientific studies. The CD XFEL Network's activities are carried out under the grant from the Ministry of Science and Higher Education (MNiSW) based on the agreement No. 2022/WK/13 for the project titled "Support for Polish Users of EuXFEL – Supervision II (2022-26)," awarded on December 22, 2022, within the "Support for the Participation of Polish Scientific Teams in International Research Infrastructure Projects" program. The Network comprises unique research laboratories operating within four scientific institutions: the Institute of Physics of the Polish Academy of Sciences in Warsaw ("IF PAN"), the University of Warsaw ("UW"), Adam Mickiewicz University in Poznań ("UAM"), and the National Centre for Nuclear Research ("NCBJ"). These centers bring together scientists with significant experience in research using XFEL sources, including EuXFEL. Their knowledge, experience, and commitment serve as support for new Polish users of this infrastructure. CD XFEL also provides its existing research infrastructure and additional equipment purchased with MNiSW grant funds for the project's implementation.
2. Within the funds allocated by MNiSW and the available scientific-research facilities in CD XFEL, the following activities are conducted:
	1. Establishing contacts with Polish research groups, potential future users of XFEL
	2. Conducting training (research training) in the techniques used in measurements at the EuXFEL source related to the CD XFEL specialization.
	3. Supporting Polish scientists in conducting preliminary research necessary for preparing high-quality research proposals for EuXFEL.
	4. Assisting Polish scientists in preparing content for proposals for beamtime on EuXFEL.
	5. Supporting Polish scientists in the transfer, processing, and storage of data from experiments conducted at EuXFEL.

Additionally, CD XFEL IFPAN, with the organizational and substantive support of the other centers, carries out the following activities:

* 1. Educating young scientific staff in the competencies related to the use of XFEL sources in scientific research.
	2. Organizing scientific sessions on topics related to research using XFEL during conferences and symposia held in Poland.
	3. Organizing thematic workshops dedicated to research using XFEL.
	4. Arranging trips for Polish scientists to conferences and workshops related to XFEL and holding bilateral meetings with researchers involved in work using XFEL.
	5. Supporting the implementation of preliminary research using EuXFEL and complementary methods necessary for preparing high-quality research projects competitive in international competitions for beamtime at EuXFEL research stations.

To ensure the effective implementation of the MNiSW project for current and future Polish users of EuXFEL and its promotion in the scientific community, CD XFEL closely collaborates in carrying out the above tasks.

1. Each Center of Excellence is led by its director. These are scientists engaged in EuXFEL projects with the necessary expertise. CD XFEL directors are responsible for:
	1. Coordinating activities related to their respective CD XFEL.
	2. Providing substantive and organizational support for the activities of all CD XFELs, especially in the areas of educating young scientific staff and organizing scientific sessions, training, and workshops.
	3. Actively seeking new potential users of European XFEL through personal contacts, presentations at conferences, workshops, seminars related to research using XFEL, and announcements on social media.
	4. Supporting the implementation of preliminary and training research and preparing research proposals for beamtime at EuXFEL.
2. In carrying out these tasks, CD XFEL directors collaborate with young post-doctoral researchers (funded by MNiSW grant funds) and other employees of the units comprising the center. In particular, post-doctoral employees are responsible for the ongoing maintenance of the infrastructure purchased with MNiSW grant funds, conducting training on the use of the equipment, and providing support for preliminary research.
3. The substantive supervision of activities within the CD XFEL Network is carried out by the Project Council, which brings together scientific directors from individual networks and experts in XFEL research, both from Poland and abroad. The initial composition of the Project Council was established based on the decisions of CD XFEL directors. The Project Council includes:
	* + Dr. Hab. Eng. Ryszard Sobierajski, Prof. IF PAN – Chairman, Project Manager
		+ Dr. Hab. Katarzyna Jarzembska, Prof. UW – Director of CD XFEL UW
		+ Dr. Wojciech Gawełda – Director of CD XFEL UAM
		+ Prof. Dr. Hab. Wojciech Wiślicki – Director of CD XFEL NCBJ
		+ Prof. Dr. Hab. Maciej Kozak – Adam Mickiewicz University in Poznań
		+ Dr. Hab. Jakub Szlachetko, Prof. Uczelni – National Synchrotron Radiation Centre SOLARIS, Jagiellonian University
		+ Prof. Robert Feidenhans’l – Director of European XFEL GmbH.

The Council's composition may change due to the resignation of its members or the Council's decision to expand its membership.

The Project Council:

* 1. Reviews, from a substantive perspective, applications from research groups and individual scientists for financial support under the project (e.g., for conference trips, internships, preliminary research).
	2. Reviews and approves the list of conferences organizing XFEL sessions.
	3. Acts as an advisory body for CD XFEL directors regarding project implementation.
	4. Reviews and approves support regulations and the operating rules of CD XFEL.
	5. Can initiate the creation of new CD XFELs or the transformation of existing ones. Decisions of the Council are made by a majority vote during meetings held in person or remotely, no less than four times a year.
1. Due to the specific nature of previous scientific activities and the available infrastructure, each unit represents a specific research topic:
	1. CD XFEL IFPAN is dedicated to research on structural changes in condensed matter under the influence of temperature and pressure, mainly related to materials research on the HED, FXE, and MID instruments at EuXFEL.
	2. CD XFEL UAM conducts research in the field of photophysics, photochemistry, and structural studies of biological particles. Proposed research areas are associated with the scientific topics conducted at the FXE, MID, and SPB/SFX stations at EuXFEL.
	3. CD XFEL UW conducts research in the field of chemistry and physics of molecular materials exhibiting photoactive properties, with a particular focus on studying structural changes occurring in solids under the influence of light, temperature, and/or pressure, and their correlation with the spectroscopic properties of a given sample. Proposed research areas are mainly related to the scientific topics conducted at the FXE station at EuXFEL.
	4. CD XFEL NCBJ is dedicated to supporting Polish users of EuXFEL in the field of information technology techniques related to processing experimental data obtained at EuXFEL, their sharing, and analysis.
2. The research topics using XFEL are broad, covering many scientific disciplines, ranging from biology and chemistry to physics. Therefore, the actions taken by CD XFEL require extensive knowledge, experience, familiarity with research techniques, and the scientific environment. To effectively implement the project, collaboration between these units, possessing complementary expertise in XFEL research, is necessary. CD XFEL supports each other through the exchange of information related to project implementation (e.g., knowledge about potential Polish users of XFEL), joint initiation and implementation of activities (e.g., organizing workshops, scientific sessions), sharing knowledge, and experience for training purposes (e.g., lectures for students and Ph.D. students). This collaboration is ensured through regular contacts between CD XFEL teams, especially their directors. Additionally, the substantive supervision provided by the Project Council influences the coordination of CD XFEL activities.
3. Information about CD XFEL activities is disseminated among Polish research groups potentially interested in using EuXFEL, particularly members of the XFEL-Poland Consortium, members of the Polish Synchrotron Society (PTPS), and users of the Polish SOLARIS synchrotron. This information is provided during conferences and scientific sessions organized within the project, using electronic media such as email, the website, etc.
4. Detailed rules for Polish scientists to access the support offered under the project are found in the attached regulations:
	1. Rules for obtaining support by Polish scientists for the actions described in points 2.2 and 2.3 (mentioned above) are described in the "Regulations for conducting preliminary and training research at XFEL Centers of Excellence."
	2. Rules for obtaining financial support by Polish scientists for the actions described in point 2.9 are described in the "Regulations for funding the participation of Polish scientists in international conferences, workshops, schools, or bilateral meetings related to research using XFEL or XFEL technology."
	3. Rules for obtaining financial support by Polish scientists for the actions described in point 2.10 are described in the "Regulations for funding the participation of Polish scientists in preliminary measurements using XFEL and complementary methods related to preparing research projects for XFEL."