

Warsaw, 28 February 2023

**Scientific Council of the Research Centre for the  
“High Energy Physics and Experimental Techniques” Priority Research Area  
Excellence Initiative – Research University  
The Warsaw University of Technology**

**RESOLUTION No. 2/2023**

Based on the Strategy of “High Energy Physics and Experimental Techniques” Priority Research Area, hereinafter referred to as “POB HEP”, pursuant to §7 section 2 item 1 of the Regulations for Research Centres for Priority Research Areas of the Warsaw University of Technology, constituting an annex to Decision No. 38/2020 of the Rector of the Warsaw University of Technology, and in particular, the plan of allocation of funds for POB HEP’s strategic goals in 2023, awarded by the Resolution No. 3/2023 of the IDUB Project Steering Committee of 20 January 2023, the Scientific Council resolves as follows:

§ 1

- a. Specific categories of expenses for strategic goals implemented in priority research areas substantively compliant with the topics of POB HEP are as follows:
  1. The creation of co-shared equipment and software infrastructure for the needs of POB HEP projects through supporting the specialised Project and Implementation Laboratory established to develop new research initiatives, equipment and software integration for the purpose of new projects and collaborations, building up resources for algorithm implementation, including the so-called quantum ones, simulation-based for the phenomena of particle physics and non-condensed matter, called ELHEP. The planned support for these goals shall not exceed PLN 500,000.00 in total.
  2. The support for the participation of PW teams in large international Big Science and Big Data collaborations, based on formalised international agreements. In particular, the support for commencing new formal ways of collaboration and the development of the existing ones, support for calculation infrastructure for the needs of these projects and support for student placements in international scientific laboratories and other research institutions. The planned support for these goals shall not exceed PLN 500,000.00 in total.
- b. Goals related to the strategic research direction of PW Quantum Technologies include basic research in physics, electronics, quantum photonics, quantum computer technology, etc. in large world-class quantum physics laboratories; the creation of advanced, dedicated measurement and control electronics with exceptional noise parameters and high stability; research in the field of steering theory, cryogenic technologies (including integrated circuits), optoelectronics, quantum optics; the development of quantum physics in the

context of its application in the construction and optimisation of quantum computers; the development of quantum IT in the scope of hybrid quantum algorithms, cryptographic algorithms, QAOA and QSVM simulation algorithms; engineering challenges in the design, construction and use of the created unique quantum computer infrastructure. The planned support for these goals shall not exceed PLN 1,000,000.00 in total.

- c. The goals related to the strategic research development of PW in Nuclear Energetics appear in response to high demand for education and research on nuclear energetics from industrial and government partners, including the topics in the area of POB HEP's interest. The exceptional position of PW facilitating the provision of a unique and complete range of competencies should be used (several years of experience in nuclear education, strong connections with NCBJ, CELOR, IChTJ, PAA, PEJ, etc.). Also, project applications as part of the NCBiR NUCLEOSTRATEG competition should be prepared immediately. As a consequence, there appears a necessity to significantly develop the courses offered at the University in terms of educating specialists in nuclear energetics and related fields and the need for substantial development of laboratory facilities related to nuclear issues and/or for the commencement of collaboration with partner Institutions in the Warsaw's area. The planned support for these goals shall not exceed PLN 1,000,000.00 in total.

§ 2

- a. Financing tasks compliant with the categories listed in paragraph 1 shall be implemented based on the applications submitted to the POB HEP Scientific Council, which will be qualified for financing by the Scientific Council in a resolution.
- b. The application, prepared in compliance with the form in Annex No. 1, shall be submitted by the Head of Task to the Secretary of the POB HEP Scientific Council to the address [pob.hep@pw.edu.pl](mailto:pob.hep@pw.edu.pl) and shall include:
1. The justification for the task implementation as part of one or a few categories listed in paragraph 1
  2. A substantive description of planned tasks
  3. A timetable for task implementation
  4. Cost estimate with the justification for planned expenses and planned division of funds between PW Organisational Units
  5. Declared outcomes of task implementation in reference to the declared indices of the implementation of the Excellence Initiative – Research University Project
- c. The task implementation shall begin in 2023. It is possible to continue the task in subsequent years provided that tasks planned in 2023 have been completed. The Scientific Council shall evaluate the correctness of tasks completed in 2023 based on the Report presented by the Head of Task no later than by the end of January 2024.
- d. Applications shall be evaluated by the POB HEP Scientific Council on an ongoing basis until the end of 2023 or until funds have been used.
- e. In the process of the evaluation of the application, the Scientific Council may invite the Head to present the concept of task implementation in front of the Scientific Council.
- f. The final version of the application qualified for financing, including the task formulation, anticipated outcomes and cost estimate shall be decided on in negotiations between the Head of Task and POB HEP Scientific Council.

- g. The Head shall present the report on the task implementation to the Scientific Council no later than one month after its completion. The Scientific Council shall assess if the task has been completed correctly based on the report.
- h. If the Scientific Council negatively assesses the task completion, the Head will not be able to apply for funding as part of competitions organised by POB HEP for a minimum of one year from the end of the year 2023.

§ 3

The Resolution enters into force upon adoption by the POB HEP Scientific Council.

Professor Adam Kisiel

Chairperson of the Research Centre for the  
“High Energy Physics and Experimental Techniques” Priority Research Area

Annex No. 1 to Resolution 2/2023 of the POB HEP Scientific Council

**Application for task funding as part of strategic funds of POB HEP**

|   |  |  |
|---|--|--|
| <b>Name of task</b>   |  |  |
| <b>Team</b>   | name, surname, academic title/degree, position | unit, telephone number, e-mail address |
| <b>Head of Task</b>   |  |  |
| Chief task implementers   |  |  |
| ....  |  |  |
| <b>Categories of strategic costs</b>  | <b>2023</b>                                    | <b>comments/justification</b>          |
| I. Total direct costs, including:   |  |  |
| 1. Equipment  |  |  |
| 2. Remuneration with related items  |  |  |
| 3. Other direct costs   |  |  |
| II. Surcharges (15%)  |  |  |
| III. Total costs  |  |  |
| <b>Task description</b> (up to 1000 words), including the justification of compliance with POB HEP strategic goals              |  |  |
| <b>Declared indices achieved as a result of task implementation,</b> with reference to indices declared in the ID-UB PW project |  |  |
| <b>Other comments important for the project</b>   |  |  |