

ERASMUS Policy Statement

Instytut Podstawowych Problemów Techniki Polskiej Akademii Nauk – IPPT PAN (*Institute of Fundamental Technological Research, Polish Academy of Sciences*) is the largest engineering sciences institute of the Polish Academy of Sciences, focused on the world's science and technology challenges.

The main important fields of the Institute's expertise include advanced problems in modern mechanics, materials science, electronics, information and computational science. Extensive research is conducted especially in nanoscience and nanotechnology, micro- and nano-materials, multicomponent and multifunctional materials, biomaterials, computational mechanics, computational materials science, computational intelligence, computational biology and bioinformatics, multiscale engineering, ultrasonic medical diagnostics and bioengineering and smart technologies.

Advanced research is also conducted in several branches of fundamental science and technology, such as physics and thermodynamics of continua, fluid and experimental mechanics, laser beam interaction with metal surfaces, nanophotonics and applied mathematics.

IPPT PAN holds the highest scientific category grade (A+) in Poland, awarded from the Polish Minister of Science and Higher Education in regular (every 4 years) competitive process of evaluation of all Polish scientific units.

In 2016 IPPT PAN was granted Human Resources Excellence in Research award. Thus the European Commission acknowledged the Institute as the organisation which follows the principles and meets the requirements of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers.

Currently the Institute employs almost 300 persons, including over 140 of research staff, out of which over 20 are full professors.

The Institute's organisational structure, divided into research departments and laboratories, reflects its scientific capacity.

Researchers are supported by a dedicated administrative staff. The administration of IPPT PAN includes the National Contact Point for EU Research Programmes (around 50 employees) - an autonomous department who serves all entities in Poland planning to participate and participating in EU research programmes.

IPPT PAN operates its own post-graduate school (PhD studies). Since its establishment in 1968 over 730 PhD degrees have been granted to young Polish and foreign researchers in the fields of materials sciences and engineering, electronics, mechanics and computer science. Currently over 16% of PhD students come from abroad, including USA, India and Armenia.

IPPT PAN researchers have been successfully participating in national, bilateral and international research and innovation competition-based funding programmes, including UE programmes such as COST, FP7 and Horizon 2020.

Results of research are published in scientific journals, constituting an impressive high-quality publication record of IPPT PAN's staff with approximately 300 publications per year.

World-wide collaboration of IPPT PAN's staff is strengthened by organisation of international scientific conferences, including SolMech on solid mechanics, held every two years. Participation in international conferences and seminars, also as invited speakers, contributes to implementation of internationalisation strategy of the Institute.

IPPT PAN has active scientific collaboration with partners from over 40 countries (both EU and non-EU) resulting in significant research results and joint publications.

The primary criterion for choosing collaboration partners is their excellence, focus on current and future societal and research challenges, complementarity of expertise areas and potential cooperation synergies and added value.

The Institute plans to get involved in both incoming and outbound mobility for students and staff (KA1). Also, exchange of students and staff in the framework of traineeships (KA1) will contribute to implementation of the overall modernisation strategy of the Institute. It will open up new collaboration paths and enlarge the existing network of professional contacts, resulting in further quality increase of IPPT PAN and widening the competence of its staff. Thus participation in Erasmus+ will contribute to reaching the aim of becoming one of the world leaders in engineering sciences and to improving international recognition of IPPT PAN and its achievements. Benefits of incoming and outbound mobility and traineeships will include gaining new or complementary expertise via exchange of ideas and joint collaboration. It will create a win-win situation for IPPT PAN and its partners who will equally profit from mutual collaboration.

Participation in Erasmus+ will give a new impetus to the development of PhD studies. Young scientists and the teaching staff will be offered a unique opportunity to have access to HEI institutions all over the world and to enlarge their expertise by learning, teaching and training abroad. Receiving foreign partners within Erasmus+ actions will contribute to constant modernisation of the approach and performance of IPPT PAN, its staff and students.

Active participation of IPPT PAN in the Erasmus+ Programme will include involvement in strategic partnerships cooperation projects (KA2). Collaboration will be based on contacts, already established under the Institute's participation in international research and training programmes, e.g. MCA in FP7 and MSCA in Horizon 2020, as well as on initiating new ones with partners

from abroad. Involvement in strategic partnerships will be decided on the basis of careful analysis of areas of common interest, potential benefits, foreseen effectiveness of collaboration and its long-term perspectives. It will be followed by establishment of partnership objectives and defining the role of IPPT PAN as well as partnership results and impacts (both short- and long-term).

Participation in Erasmus+ actions will stimulate independent thinking and opening-up new research, education and training avenues.

It will be initiated via top-down or bottom-up approach, depending on the type of activity. The Scientific Council and the Board of Directors will be involved in encouraging and stimulating active participation in Erasmus+ as it will serve very well the implementation of IPPT PAN's goals and overall modernisation strategy.

Implementation of Erasmus+ will be supported by dedicated administration units such as Project Management and Research Coordination Office, International Cooperation Office (dedicated to mobility issues) and Accounting Office.

Services of the Centre for Commercialization of Research Results and Technology Transfer and Centre of Technology (both in the structure of the Institute) will be available.

Involvement of PhD students in Erasmus+ activities will be a key component to exploit full potential the programme offers.

Mobility and training activities are well-rooted in the overall programme of PhD studies and they constitute an essential part of it. They have been implemented as national and international project activities. Involvement in Erasmus+ will open up new interesting paths. The Head of PhD studies, in collaboration with the Committee for Scientific Staff Education of the Scientific Council and individual PhD students' mentors, will be in charge of ensuring proper exploitation of opportunities offered by Erasmus+. In his activities the Head of PhD studies will be supported by the above mentioned administration units of the Institute.

Participation of IPPT PAN in the Erasmus+ Programme will have a significant impact on modernisation of the Institute and implementation of its overall strategy. It will be focused on the following priorities of the renewed EU Agenda for Higher Education:

1. Tackling future skills mismatches and promoting excellence in skills development.

International mobility to and from HEIs located in Programme and Partner countries and traineeships will stimulate redesigning of PhD programme to make it more responsive to future and emerging challenges and market needs. It will also change the mindset of IPPT PAN's staff into more creative and innovative thinking.

Exchange of knowledge and expertise and traineeships within Erasmus+ Actions will allow development of existing skills and learning new ones. It will also provide a wider overview of demand-side needs world-wide which will be translated into acquisition of new transferable skills.

2. Building inclusive and connected higher education systems.

Participation in the Erasmus+ programme will establish strong links between IPPT PAN and other HEIs in Programme and Partner countries. As the functioning of the Institute is based on principles of trust, support, openness, non-discrimination and equal opportunities, incoming students and staff from all backgrounds have always been and will be welcomed, despite their origin or culture.

Selection of mobile staff and students and the award of grants will be organised in a fair, transparent, coherent and well-documented way.

Participation in the programme will constitute an excellent platform of learning from each other and taking benefits from richness and advantages of existence of inter- and multicultural environment. Participants will profit from learning different perspectives, be they scientific or life-related.

3. Ensuring higher education institutions contribute to innovation.

Foreseen participation in traineeships abroad will offer complementary opportunities to the industry-oriented doctorates programme (in Polish: *doktoraty wdrożeniowe*), offered nationally by the Minister of Science and Higher Education. Mobility to and from other HEIs will stimulate innovative thinking and will trigger creativity. Involvement in Erasmus+ Actions will provide opportunities to learn new entrepreneurial skills from industrial partners operating in different business culture in other countries.

4. Supporting effective and efficient higher education systems.

PhD studies constitute an important stage in higher education system for creative and motivated people. Sharing knowledge and experience in the framework of the Erasmus+ programme will create additional opportunities for both the teaching staff and students. Participants will acquire knowledge from other sources than national. They will widen contacts in international environment and profit from support and advice of others, interested in problem-solving. Making the PhD studies programme at IPPT PAN more attractive and offering additional opportunities and acquiring new skills will contribute to increasing the overall effectiveness of higher education system.