

## Erasmus Policy statement (EPS)

The Institute of Physics' Erasmus Policy Statement and strategy is based on the character and scale of the Institute and new future perspectives that have opened up recently. The Institute of Physics of the Polish Academy of Sciences (IPPAS) is a high-calibre academic and research institute in Warsaw, Poland, that has been consistently ranked in the group of several top physics research institutions in Poland in terms of research impact and output. It has an interdisciplinary body of over 250 researchers with state-of-the-art infrastructure and expertise in various areas of experimental and theoretical physics. The Institute has a well-developed network of international collaborations, with many well-known European, American, Japanese and Australian research centres. It is also the publisher of the fully open access research journal *Acta Physica Polonica A*. IPPAS has run an international PhD programme for almost three decades, and awards about 10-20 PhD degrees in a given year. The current PhD student body consists of just over 130 students, with over 50% of them foreigners, including citizens of other EU countries. In 2019 the Institute, in collaboration with eight other research institutes in four scientific disciplines: biology, chemistry, physics and medicine, established the Warsaw PhD School in Natural and BioMedical Sciences [Warsaw-4-PhD]. The Institute has fully implemented the ECTS system since 2017.

The Institute's Erasmus policy objectives aim at further modernisation through increased internationalisation of its research collaboration and PhD training network, increased integration with the European Education Area, and implementation of the Erasmus principles. Moreover, it aims to develop more structured cooperation with international partners in terms of PhD student training, and intends to leverage the Erasmus program to help achieve this objective. A more structured cooperation will help ensure the long term robustness of international training, making it less dependent on the efforts of single research groups.

The Institute intends that participation in the Erasmus programme will contribute strongly to the mobility of its researchers, and notably to the quality of this mobility. Staff and student mobility is essential to the Institute's priorities and its policy goals across the board. It is the best vector to ensure internationalisation, broadening of collaboration, sharing of experience, training of staff and students in new skills, and integration with the European and world scientific community. The Institute took part in staff mobility under previous Erasmus programs, but our strategy for the current round is to also involve the PhD students in Erasmus actions. This way the benefits of increased mobility can reach our researchers from an earlier level. Further, and notably, it will facilitate also reciprocal hosting of researchers, and particularly PhD students from collaborating groups abroad at our institute for longer-term stays.

The contributions of participation in Erasmus to the Institute's modernisation and internationalisation goals are clear and obvious – cooperation with leading scientific centres results in raising the standards of scientific work, strengthens and inspires further international contacts, and breeds synergy between fields of research. The knowledge and skills acquired during staff mobility translate directly into high-quality scientific and popular publications and research with national and global reach, which are the primary output of the Institute, determine its standing and provide long-term benefits for its operation. Professional and interpersonal skills acquired by Erasmus participants are not limited in scope to activities at the Institute, but radiate also to society at large through participation in civic activity at the municipal and communal level, scientific dissemination and popularisation activities, and also benefit society via increased openness and experience as well as better social organisational and interpersonal skills gained during mobility. Participation at the PhD student level can potentially also have stronger carry-on benefits to society than just staff mobility since a larger proportion of the students will go on to careers outside of academia, compared to more senior research staff.

The Institute intends to take part in Erasmus Key Action 1 – the mobility of higher education students and staff. The Institute does not run undergraduate or master-level studies. The intent is for this to have two components – (1) staff mobilities for training and (2) PhD student mobilities for traineeships.

(1) In previous Erasmus projects, we implemented short (7 days on average) staff mobilities (STT), and the intent is to continue this activity. The aim of the traineeships in foreign scientific centres is to acquire and later assimilate knowledge and skills into the scientific community of the Institute and to launch or deepen international scientific cooperation. The mobility participants are supposed, *inter alia*, to learn and master the usage of new equipment, experimental and theoretical (analytical and numerical) techniques, and to share the acquired knowledge after returning to the Institute. The opportunity to verify and improve the language skills of participants is also an important benefit.

(2) A new activity the Institute intends to enter into are PhD student mobilities in the framework of the Erasmus+ programme. The PhD school [Warsaw-4-PhD] in which the Institute participates has fully implemented the ECTS system, and the Institute intends to open collaboration with other institutions providing 3<sup>rd</sup> level (PhD) studies in the form of Learning Agreements. In this way, we shall be able to implement longer students and teachers mobilities (SMS and STA). While many of our students already take part in training and collaborative visits to overseas institutions, the Erasmus programs will allow us to intensify these activities, and bring with them the added benefits of entering into more structured cooperation with selected HEIs overseas through learning agreements. This will help ensure the long term robustness of

international training, making it less dependent on the efforts of single research groups. The several existing *co-tutelle* agreements the Institute has with French HEIs will serve as a baseline for these future efforts.

The focus of PhD student mobility will be training, since the course component of PhD programmes is usually relatively minor. For example, in the Institute's PhD school, 30 ECTS credits must be earned over the 4-year degree. Such training mobilities constitute an indispensable element of 3<sup>rd</sup> level education, enabling students to get acquainted with a variety of experimental methods and equipment as well as with contemporary implementations of mathematical and numerical tools. Mobilities enable assimilation of good scientific work practices and evolve openness to collaboration with colleagues of different attitude and views. The intent here is to both send students to other institutions abroad, as well as to receive students from collaborating institutions. The latter is an excellent way to foster longer and better collaboration and the European Educational Area.

The institute runs a number of PhD level lectures and courses, all in English, so incoming PhD students will be encouraged to take part in them, and can earn ECTS credits – as will be stipulated in relevant inter-institutional agreements. ECTS credits for courses offered at the Institute are provided in the course catalogue available on the Institute's website. The website also provides archival information about courses offered in past years since 2017. The vast majority of courses (including all obligatory courses) are announced via the official teaching program of the PhD school (incorporates courses offered at all 9 institutes forming the school), no later than 5 months before the start of the relevant academic year, as required by the PhD School's regulations. There is a mechanism to add some additional facultative lectures and courses later, but before the start of a semester. PhD students in the school may freely participate and gain credit for any courses offered by any of the institutes participating in the PhD school.

The PhD school encompassing PhD programs of 9 institutes is moving to a fully-digitised system of course and student credit management through the USOS system, which is currently in use by full-size universities in Poland – it is the first non-university HEI to do so. The system implementation has started and progresses through the participating institutes. This fully digitised system will greatly aid in integration with the Erasmus Without Paper, European Student Card initiative and environmental practices.

Of course, all PhD students on incoming mobility (or blended mobility) will be given the same full possibilities as local PhD students, including access to facilities, scientific publications, computer workstations. The institute has significant experience in integrating and assisting incoming international students because of all the international students that have been accepted over the years to the PhD studies at the Institute. Many of these students come from countries outside the EU, such as Ukraine, India, Pakistan, Iran and Brazil. The institute provides active support in sorting out residence requirements, various administrative and insurance formalities, finding accommodation. All information for students and general communications are carried out in English. The Institute runs Polish language courses on several levels on a continuous basis – they are offered every semester. Mobile students will be encouraged to participate, which also aids in integrating them with the local community, as well as other foreign students and staff at the Institute.

Since we already have extensive experience with staff mobility, we plan to continue implementing these in Erasmus projects from the very beginning of the period 2021-2027. These have had a visible impact on overall staff mobility to date, and the target will be to implement 10-20 short term outgoing staff mobilities (STT) per year. Our experience to date shows that this program has a particularly large impact for young researchers, or researchers returning to increased scientific activity after a career break or slow period, as it gives them an opportunity to take part in mobility and start their own collaborations, before they have managed to win competitive grant money to pay for such travels. Naturally, if successful, such mobility then aids in winning grant money – a useful bootstrap mechanism.

The student mobility for traineeships (SMT) has been already successfully integrated into our administrative procedures. However, PhD student mobilities for studies (STS), will require preparation of necessary procedures and administrative infrastructure. In due course, the appropriate inter-institutional agreements with scientific/educational partners must be prepared and signed. This will open us to students and teachers mobilities. The target would be 5-10 medium-term student mobilities per year once procedures and agreements are fully activated. An estimated timeline for this to be reached would be in about 3 years, around 2024.

Since the Institute is a small HEI compared to universities, the Erasmus coordinator at the Institute will be able to monitor all the outgoing and incoming mobilities in person in cooperation with the Director of the Institute (being its legal representative) and the Head of the PhD studies at the Institute plus the PhD secretariat. The coordinator participates in the preparation of mobility and monitors its reporting. The Institute has developed formal tools for mobility preparation and reporting.