



INSTYTUT FIZYKI JĄDROWEJ
IM. HENRYKA NIEWODNICZAŃSKIEGO
POLSKIEJ AKADEMII NAUK

IFJ PAN NEWSLETTER

Newsletter of the Henryk Niewodniczański
Institute of Nuclear Physics Polish Academy of Sciences

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Current affairs - summary

- **Appointment of the Team for Data Protection Risk Assessment**
- **Appointment of new members of the Steering Committee, Working Groups, OTM-R Team and Monitoring Team for the implementation of the HRS4R strategy and the OTM-R policy at the Henryk Niewodniczański Institute of Nuclear Physics Polish Academy of Sciences**
- **Introduction of “Rules for appointing and working terms of the Ombudsman – an Advocate for the Rights and Ethical Values in Research Work at the Henryk Niewodniczański institute of Nuclear Physics Polish Academy of Sciences”**
- **Introduction of “Procedures for applying for external funding for projects and grants carried out at Henryk Niewodniczański Institute of Nuclear Physics Polish Academy of Sciences”**



Current affairs - summary

- **Completion of periodic inventory at IFJ PAN**
- **Conducting the survey “Working conditions and equal treatment monitoring at IFJ PAN”. The results of the survey were discussed at a public online meeting**
- **Changes in the Institute Employee Remuneration Rules**
- **Inauguration of the academic year 2021/2022 at the Krakow School of Interdisciplinary PhD Studies**
- **Changes in the IFJ PAN detailed organizational structure**
- **Setting the date for the IFJ PAN scientific activity review: 19 - 22 April, 2022**
- **Development of the gender equality plan for the Institute of Nuclear Physics Polish Academy of Sciences for the years 2022-2025**



Krakow School of Interdisciplinary PhD Studies

Another PAN institute joins KISD

Pursuant to the agreement of January 13, 2022, the **Mineral and Energy Economy Research Institute of the Polish Academy of Sciences** joined Krakow School of Interdisciplinary PhD Studies (KISD). At present, KISD comprises 6 PAN institutes and 2 AGH faculties:

- Henryk Niewodniczański Institute of Nuclear Physics PAN,
- Jerzy Haber Institute of Catalysis and Surface Chemistry PAN,
- Maj Institute of Pharmacology PAN,
- Institute of Metallurgy and Materials Science PAN,
- Strata Mechanics Research Institute PAN,
- Mineral and Energy Economy Research Institute PAN,
- Faculty of Physics and Applied Computer Science AGH,
- Faculty of Materials Science and Ceramics AGH.



Krakow School of Interdisciplinary PhD Studies

Mid-term evaluation

October 2021 marked the first mid-term evaluation of 27 PhD students in the history of the PhD School. The evaluation was conducted by competent committees for the mid-term evaluation appointed at KISD units.

Each committee was composed of at least 1 person employed outside of the unit running the PhD School and holding the post-doctoral degree of doctor habilitated or the title of professor in a discipline in which a PhD student prepares a doctoral dissertation. All the PhD students successfully completed the evaluation and received guidelines for further progress in the preparation of doctoral dissertations.



Krakow School of Interdisciplinary PhD Studies

- **Recruitment for KISD within grants, projects and programs**

10 persons were admitted to the PhD School for the academic year 2021/2022 within grants, projects and programs of the National Science Centre, National Centre for Research and Development, Ministry of Education and Science and National Agency for Academic Exchange, including 4 persons within the 5th edition of the Industrial Doctoral Program.

- **Call for applications for the academic 2022/2023**

Call for applications for the academic year 2022/2023 was announced at the end of January this year. The admission limit to the PhD School at IFJ PAN for the academic year 2022/2023 within statutory subsidies is 5 places. The enrollment will start in the second half of June, entrance exams are scheduled for July this year.

- **Internationalization of KISD**

15 foreign students undergo education at the Krakow School of Interdisciplinary PhD Studies, including 13 at IFJ PAN. IFJ PAN runs a double degree program with the University of Ferrara (Italy) and the Cotutelle program with the University of Lorraine (Nancy, France). Additionally, IFJ PAN also benefits from NAWA programs supporting internationalization.



Krakow School of Interdisciplinary PhD Studies

NAWA: STER - internationalization of PhD schools

Within the framework of the STER program aiming to support internationalization of PhD schools, 3 PhD students completed internships at foreign research units. 3 more PhD students left for internships at the beginning of 2022.

PROM program, project “International scholarship exchange of PhD students and academics”

Within the PROM program, two internships were completed during October to December 2021: a two-week internship of an MSD PhD student at the University of Milan, and a 10-day internship of a PhD student from Great Britain at IFJ PAN.

The PROM program at IFJ PAN has been extended until March 31, 2023.



Cyclotron Centre Bronowice

In **2021 197** adult patients in total underwent proton therapy at Cyclotron Centre Bronowice, out of whom:

- **26** patients completed a series of irradiations at the proton eye radiotherapy facility (ocular tumors),
- **171** patients completed a series of irradiations at the gantry facilities (non-ocular tumors).

On December 27, 2021, **an agreement for the year 2022** was signed between **Maria Skłodowska-Curie National Research Institute of Oncology and Henryk Niewodniczański Institute of Nuclear Physics Polish Academy of Sciences** for radiation treatment of patients with non-ocular tumors at Cyclotron Centre Bronowice IFJ PAN.



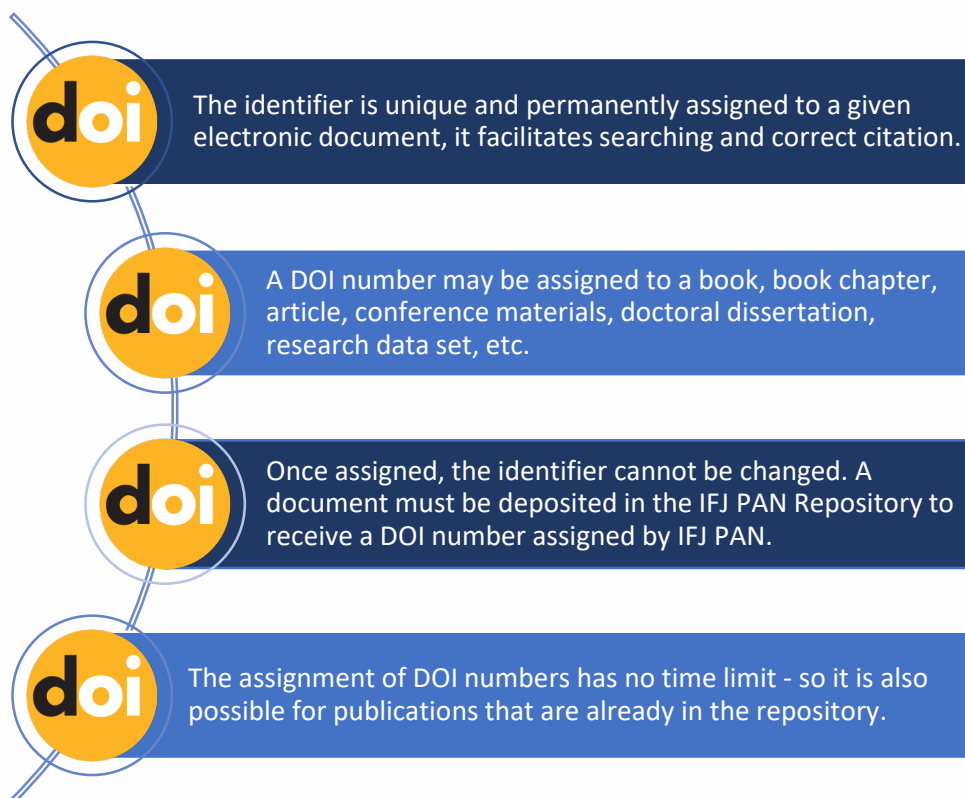
POSSIBILITY OF ASSIGNING DOIs BY IFJ PAN REPOSITORY



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Repozytorium IFJ PAN

Owing to an agreement signed with the Institute of Bioorganic Chemistry Polish Academy of Sciences Poznan Supercomputing and Networking Center (IChB PAN PCSS), the IFJ PAN Repository has now the possibility of assigning DOI identifiers. As a member of the DataCite organization, IChB PAN PCSS is authorized to create accounts in DOI DataCite services on behalf of other institutions. The account owners can then independently register DOI identifiers.





Division of Scientific Equipment and Infrastructure Construction (DAI)

- Negotiations with FAIR over IFJ PAN's possible participation in the construction of this research center have been initiated.
- Installation of telescopes in the Czech Republic has been completed.
- The second-to-last stage of building infrastructure for conducting research and for superconductors' characterization has been completed.
- Two tasks related to the installation of waveguides and RF components for the ESS project were successfully completed at the end of 2021.
- DAI continues its work on module tests and low and high power tests.
- An application for continuing works for the ESS project has been submitted. Also additional questions of the evaluation team and the Ministry were addressed and answered before the end of 2021.



Awards and distinctions

Prof. dr hab. inż. Zbigniew Łodziana a winner of the **Award of the Minister of Education and Science** for 2021 for significant achievements in the field of scientific activity.

dr Kévin Almeida Cheminant a winner of the **2nd Award for the best PhD thesis** completed based on ACK CYFRONET AGH computational resources. The thesis supervisor is dr hab. Dariusz Góra, IFJ PAN professor.



PASIFIC

a scholarship program announced by PAN within the MSCA COFUND program: it offers attractive 2-year postdoctoral fellowships to outstanding researchers of all nationalities at one of the institutes of the Polish Academy of Sciences.

Three scholars whose projects will be carried out at our Institute have been placed on the winners' list of the 1st call of the PASIFIC competition. These are:

- **dr Souvik Priyam Adhya**, whose Supervisor is dr hab. Krzysztof Kutak, IFJ PAN professor, within the project “Space time structure of the Quark Gluon Plasma”
- **dr Richard Efrain Ruiz**, who together with his Supervisor, dr. hab. Aleksander Kusina, IFJ PAN professor, shall carry out the grant “Polarization of Precision Scattering in Colliders with Large Energies”
- **dr Fatima Zoriana Eloisa Velasquez Rojas**, who together with her Supervisor, prof. dr. hab. Stanisław Drożdż, and Supporting Supervisor, dr. hab. Jarosław Kwapień, shall implement the project “The impact of pandemic on disadvantaged groups: an agent-based model approach”



Award of the Director of the Henryk Niewodniczański Institute of Nuclear Physics Polish Academy of Sciences for scientific and organizational activity – 3rd edition

- **dr inż. Anna Mrozik** for a novel concept of using optically stimulated luminescence of pharmaceuticals in emergency dosimetry.



Award of the Director of the Henryk Niewodniczański Institute of Nuclear Physics Polish Academy of Sciences for scientific and organizational activity – 4th edition

- **dr hab. inż. Edyta Łokas** for unique studies on the migration of radionuclides in the Arctic environment, whose results were published in the prestigious journal Science of the Total Environment,
- **dr Piotr Lebiedowicz** for performing calculations of bremsstrahlung processes of a single photon in two-pion collisions, discussing the results in relation to the applicability of F. E. Low's theorem in the soft photon limit, and publishing an article on this problem in Phys. Rev. D (2022),
- **dr Dominik Derendarz** for outstanding organizational achievements within the ATLAS experiment.



FAIR (Facility for Antiproton and Ion Research) Directorate's visit to IFJ PAN

On October 26, 2021, the Institute hosted a meeting of the IFJ PAN Directorate and representatives with the Directorate of the Facility for Antiproton and Ion Research (FAIR) from Darmstadt (Germany), represented by FAIR Director, Prof. Paulo Giubellino, FAIR Technical Director, dr. Jörg Blaurock, and the coordinator of the program “Get Involved”, dr. Pradeep Ghosh.

The goal of the meeting was to review IFJ PAN's involvement in the preparation for studies in the field of nuclear physics planned at FAIR and to discuss the possibility of IFJ PAN's participation in the building of the FAIR facility. The meeting was chaired by Prof. Tadeusz Lesiak, IFJ PAN General Director. Over the course of the discussions, the FAIR Directorate expressed their strong interest in further collaboration with IFJ PAN.

FAIR is one of the largest research projects in the world – the facility will provide stable or radioactive ion beams accelerated to relativistic energies of previously unparalleled intensity and quality.



FAIR seminars

The organization of periodic, monthly seminars on the FAIR project has been started on the initiative of the **Jagiellonian University** and **IFJ PAN**.

The aim of this initiative is to disseminate knowledge about the FAIR accelerator facility among Polish scientists, engineers and PhD students. FAIR will be one of the largest facilities of its kind in the world and is currently under construction in Darmstadt (Germany). The seminars will be devoted to main research problems related to FAIR experiments (NUSTAR, CBM, PANDA, APPA), project implementation status, and in particular – Polish research groups' contribution to the project.

Organizers:

Prof. Adam Maj (IFJ PAN)

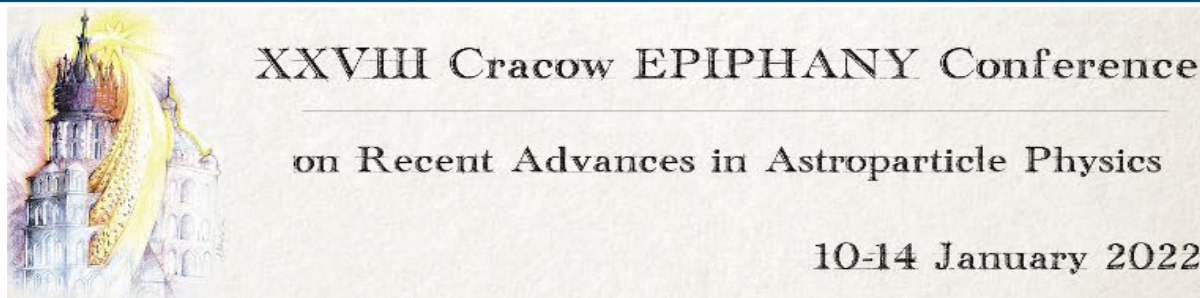
Prof. Piotr Salabura (UJ)

https://fair.uj.edu.pl/pl_PL/seminaria-fair



Events and conferences

- **XXVIII Cracow Epiphany Conference on Recent Advances in Astroparticle Physics**
- **“Science at ESS” workshop**
- **Open lectures delivered by winners of the Polish Physical Society Awards for 2021**
- **“Surprising Physics” popular science shows**



The Cracow Epiphany Conference – a periodic conference organized by our Institute – took place on January 10-14, 2022 and was the 23rd event in the series. The aim of this conference was to review recent advances in astroparticle physics, with the main emphasis placed on high-energy cosmic ray particles and their sources.

Recent results of direct cosmic ray measurements and multi-wavelength and multi-messenger observations of astrophysical sources of high-energy particles and radiation were presented. The meeting also reported on novel advancements in theory and modeling of particle acceleration processes as well as testing cosmic ray acceleration in plasma physics laboratory experiments.



“Science at ESS” workshop

An open institutional workshop devoted to prospects of conducting research with the use of neutron beams delivered by the European Spallation Source, currently under construction, was held on December 17, 2021 in the IFJ PAN main lecture hall. Poland is one of the founding members of the ESS, with our experts from DAI participating in its construction. The building stage is drawing to an end, so the time for full involvement of our research teams in studies carried out at the ESS is coming soon.

Popularization of science



Another edition of an experimental adventure with physics. The show hosts demonstrated how interesting and diverse oscillations can be. They also answered the questions: how does light oscillate? can sound be seen? what is the nature of chaos? The most active participants of the show were awarded, and the event ended with a quiz.

The show hosts: dr Dominika Kuźma, mgr Anna Nykiel



Team for the Popularization of Scientific Research

Works on the production of a popular science movie presenting the Proteus C-235 cyclotron are ongoing. The screenplay was written jointly by dr hab. Jerzy Grębosz and mgr inż. Konrad Guguła.

Contrary to many other movies devoted to our cyclotron, this one is dedicated to younger viewers who would really like to discover and understand physics and the proton acceleration technique.

The intention of the film director, Jerzy Grębosz, is to create a movie that could be found riveting by high school students. To capture the attention of this demanding audience, the movie will be almost entirely based on special effects. Film sequences with live actors conducting discussions shall be composited together with 3D computer animations using the greenscreen technique.

The movie is in its final phase of production. 3D rendering is already complete and scenes involving actors in live background were finalized around the end of January.

Currently the movie is undergoing the post-production and editing phase.



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We cordially invite you to cooperate and contribute to the next editions of the newsletter!

Contact

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