

The Finnish Physical Society

Annual Report 01.01.2024–31.12.2024

ADMINISTRATION

Board

Board as elected in the Annual Meeting 05.03.2024

Daniel Price, Chair (Postdoctoral Researcher, University of Helsinki)
Juha Muhonen, Vice-Chair (Associate Professor, University of Jyväskylä)
Mikko Nissi (Associate Professor, University of Eastern Finland)
Johanna Närväinen (Senior Scientist, VTT, Industry Representative)
Lauri Holappa (Academy Research Fellow, University of Oulu)
Inkeri Kontro (University Instructor, Tampere University)
Ondřej Krejčí (Postdoctoral Researcher, Aalto University)
Marco Ornigotti (Associate Professor, Tampere University)
Taina Kurki-Suonio (Senior University Lecturer, Aalto University)
Pekka Laukkanen (University Research Fellow, University of Turku)
Evgeniia Ponomareva (Doctoral Researcher, Aalto University)
Satumaaria Sukuvaara (Doctoral Researcher, University of Helsinki)

Board as elected in the Annual Meeting 30.03.2023

Daniel Price, Chair (Postdoctoral Researcher, University of Helsinki)
Juha Muhonen, Vice-Chair (Associate Professor, University of Jyväskylä)
Johannes Niskanen, Secretary (University Research Fellow, University of Turku)
Jani-Petri Martikainen, Treasurer (University Lecturer, Aalto University)
Mikko Nissi (Associate Professor, University of Eastern Finland)
Johanna Närväinen (Senior Scientist, VTT, Industry Representative)
René Bes (Docent, University of Helsinki)
Lauri Holappa (Academy Research Fellow, University of Oulu)
Inkeri Kontro (University Instructor, Tampere University)
Ondřej Krejčí (Postdoctoral Researcher, Aalto University)
Marco Ornigotti (Associate Professor, Tampere University)

The board met ten times in 2024 (29.01, 19.02, 04.03, 28.03, 16.05, 17.06, 11.09, 15.10, 04.11, 04.12).

Members

The board of the Finnish Physical Society (FPS) accepts the members of FPS after having received their application. A member can resign by contacting the secretary, and is then

immediately removed from the membership registry. Due to this practice, the exact membership count may change at any time.

On January 1 2024, FPS had 660 members with the distribution: 1 honorary member, 8 fellow members, 13 student members, 32 junior members, 123 senior members and 483 regular members.

On December 31 2024, FPS had 648 members with the distribution: 1 honorary member, 8 fellow members, 18 student members, 38 junior members, 117 senior members, and 466 regular members.

In the sixth board meeting of 2024, the board resolved to dismiss 22 members under statute four for non-payment of the membership fee for at least two years. Therefore, the decrease from 660 to 648 represents a net gain of 10 active members. This is a decrease compared to the net gain of 20 in 2023, but still an increase of interest in the Finnish Physical Society.

In the seventh board meeting of 2024, the board resolved to request future applicants to state their connection to physics in Finland during the application process due to a number of applications from those resident abroad with no clear relationship to Finnish physics.

Accounts

The main income of FPS is the membership fees and activity support by The Federation of Finnish Learned Societies for international activities. The largest expenses in 2024 were the membership fee of the European Physical Society, accounting services, the Nobel event, as well as FPS grants and prizes. The FPS again made a relatively large profit in 2024. This is due to a number of unrealised expenses that will be invoiced in 2025 plus a number of other factors. The 2025 budget will consider recent profits and increase sustainable spending accordingly.

The 2024 Annual General Meeting approved the board's proposal to explore no-risk savings accounts to generate interest from the FPS standing balance. This work was begun but will extend into 2025.

In the ninth board meeting of 2024, the board resolved to resume sending membership bills to sponsoring members. This was previously paused due to the pandemic.

Annual meeting

The FPS organised its annual meeting on 05.3.2024 as a hybrid meeting at the University of Helsinki Physics Days 2024 with 27 in-person participants and an unknown number of remote participants. This discussed all matters required per statute eleven. The meeting also elected the board members. Additionally, the meeting approved the board's proposal to create a new Division of Finnish Physics Vocabulary and urged it to establish ties with the existing Physics Education Division.

General working principles

The FPS has continued working according to its principles of promoting physics research; the careers of young researchers; and teaching, education and outreach activities; and has taken actions toward these goals throughout the year. In addition, the society has maintained its international contacts.

In 2024 the board continued its resolution from 2023 to work towards being completely bilingual. All official emails sent by the FPS were sent out bilingually, with the Finnish text being presented first. Additionally, new web pages were created with both Finnish and English versions. Efforts to translate existing older pages remain ongoing.

In 2024 the board also continued the 2023 transition of its operations to Google Workspace. The FPS member mailing list and optional FPS News mailing lists were successfully deployed. The board reviewed its data management practices and created a separate Drive space restricted to those able to sign the name of the FPS for sensitive material. Further improvements will take place in 2025.

In the seventh board meeting of 2024, the board resolved to eliminate paper bank statements and transition to paperless operations where possible.

ACTIVITIES IN FINLAND

Divisions, Working Groups & Local Physicists' Clubs

In the tenth board meeting of 2024, the board approved the final bilingual version of the comprehensive FPS member survey. This was circulated to members in late December with a deadline in mid-January of 2025 to enable data processing before the next annual meeting.

Jyväskylä continues to have a local Physicist club. The status of those previously operating in Kuopio, Oulu and Turku is currently unknown. Investigations will continue into 2025.

The Physics Education Division had a meeting during Physics Days 2024. The Division had online meetings together with NUPE (Network for University Physics Educators). The Division's members heavily overlap with NUPE members.

The Particle Physics Division hosted their annual Particle Physics Days and Division Meeting in Lammi on 27-28 November 2024. This was a two-day event in contrast to the usual one-day event of previous years.

The Division of Finnish Physics Vocabulary was proposed by the board and established at the annual meeting. It remained dormant under the control of the board and will continue in this manner into 2025 until the results of the FPS member survey become available.

Diversity in Physics, Finland (FinDiP)

Diversity in Physics Finland (FinDiP) is a working group of the Finnish Physical Society promoting diversity, inclusion and wellbeing in physics. FinDiP is run by a national, cross-sectional board. FinDiP acts also as a link to the International Union of Pure and Applied Physics (IUPAP)'s International Conference on Women in Physics event and related activities. FinDiP was co-chaired by Ondřej Krejčí and Tuuli Miinalainen until May, after which members transitioned to a rotating leadership system. FinDiP has been very active on the national level - through organising a public lecture focused on students (Susanna Bairoh: Yhdenvertaisuus tekniikan alalla) and by organising a session on diversity and non-discrimination at Physics Days 2024. FinDiP is also preparing a followup session for the international (Nordic) Physics Days 2025 conference. Additionally, a well-being group meeting amongst physics departments of Finnish universities is planned for late winter, early spring 2025. More information can be found at

<https://www.fyysikkoseura.fi/language/en/about-us/working-groups/diversity-in-physics-finland-findip/>

Finnish Young Minds (FYM)

Finnish Young Minds (FYM) is an organisation under the Finnish Physical Society and originally part of the EPS Young Minds. Young Minds brings together young researchers from undergraduate level to post-doctoral researchers. The aim is to increase interaction and collaboration among students and young researchers from local and national institutions, promote awareness of physics research to local communities outside academia and to build an international network.

The FYM continues to struggle to attract and retain members. In 2024 FYM held one seminar event entitled Entanglement and decoherence. The board continues to attempt to support their activities with meetings planned for 2025. The end goal is to get the FYM's status reactivated with the EPS to unlock the funding and networking opportunities it provides them.

Greatest Physicists Lecture Series

The Greatest Physicists lecture is jointly organised by the Finnish Physical Society and the Physics Alumni of Aalto University. The 2024 lecture was held on 27 November as a hybrid format, in person at Aalto University, and remotely via Zoom. Additionally, a live Zoom watch party for physics students was organised at the University of Oulu. The lecture was given by former FPS President Prof. Anu Kankainen and was titled Chien-Shiung Wu - The Queen of Nuclear Research. The lecture was recorded and will be made available online in 2025. The lecture was promoted by the European Physical Society through their newsletter.

Physics Days 2024

This was organised by the University of Helsinki Department of Physics, the Institute for Atmospheric and Earth System Research, and the Helsinki Institute of Physics on 4-6 March 2024 with the theme of “Strangers United.” The plenary speakers were Anna Danielsson, Rouven Essig, Ivette Fuentes, Jaakko Lehtinen, Johan Lindén, Philip Moriarty, and Laura Riuttanen. More details can be found on the conference website (<https://www.helsinki.fi/en/conferences/physics-days-2024>).

Physics Days 2025

This will take place on 26-28 March 2025 in Oulu with the theme of “Spinning Around”, organised by the University of Oulu Nano and Molecular Systems Research Unit, the Nuclear Magnetic Resonance Research Unit, and the Space Physics and Astronomy Research Unit. The latest details can be found on the conference website: (<https://ssl.eventilla.com/physicsdays2025>).

Visits by Nobel laureates in physics

In 2024 Nobel Laureate Anne L’Huillier visited Helsinki on 6 March to give a public lecture at Physics Days 2024. This lecture was recorded and uploaded to the FPS YouTube channel with Finnish, Swedish, and English subtitles with 192 views to-date. The visit included presenting at the French-Finnish School in Helsinki, an evening reception at the French Embassy in Helsinki, and an FPS dinner in her honour. Full details can be found in Finnish and English on the FPS website (<https://www.fyysikkoseura.fi/language/en/2024/04/18/the-visit-of-nobel-laureate-prof-anne-lhuillier/>). The visit received financial support from the Finnish Academy of Science and Letters and the Finnish Society of Sciences and Letters.

In 2024, John Hopfield and Geoffrey Hinton were awarded the Nobel Prize in Physics. As is tradition, both laureates were personally invited to visit Finland in 2025 by the Finnish Physical Society along with the Research Council of Finland, the Finnish Academy of Science and Letters, the Finnish Society of Sciences and Letters, and Oulu University. Funding for the potential visit was applied for from the Finnish Academy of Science and Letters and the Finnish Society of Sciences and Letters. They were unable to commit when contacted, but the President will follow up in early 2025.

Other national activities

The FPS is a member of The Federation of Finnish Learned Societies and The Finnish Terminology Centre.

The FPS paid the membership fee of the Finnish Physics and Mathematics Students Association to the International Association of Physics Students. Furthermore, in the tenth board meeting of 2024, the board resolved to pay this on an annual basis as well as exempt them from paying their FPS membership fee.

The FPS endorsed a letter to Parliament’s Education and Science Division, which criticised budget cuts to the Physics Olympiad.

INTERNATIONAL ACTIVITIES

In the ninth board meeting of 2024, the board endorsed a memorandum of understanding between the FPS and the Korean Physical Society.

European Physical Society (EPS)

The FPS has participated in the activities of the European Physical Society (EPS) and its Council, Divisions, Groups and Committees. FPS President Daniel Price attended the EPS Council meeting on 27 March 2024 in Berlin, Germany. The EPS Presidency passed to the President Elect Mairi Sakellariadou who planned to have closer cooperation with national societies. The FPS President also attended the first online meeting of EPS Presidents on 2 October 2024, an initiative of the new EPS President. Fourteen countries were represented and discussed matters of mutual interest and future cooperation.

The German Physical Society (DPG) invited all EPS national societies to attend their opening ceremony for the International Year of Quantum Science and Technology in 2025, to be followed by a meeting of EPS Presidents. In the ninth meeting of 2024, the board resolved to send the FPS President to attend.

The board applied to host the EPS Council meeting in 2025 in Helsinki but was unsuccessful. It will take place in Copenhagen, Denmark from 16-17 May.

PRIZES AND GRANTS

Grants to support activities promoting physics

In the eighth meeting of 2024, the organisers of Integraatiofest 2024 were awarded €1000 to support the execution of the event. This was the only grant awarded in 2024, a decrease of one compared to the two of 2023.

Best poster and oral presentations at Physics Days

Each year the Finnish Physical Society awards four Hannu Koskinen Presentation Prizes to support early-career physicists and to acknowledge excellent presentations. The two best oral and the two best poster presentations receive a certificate and a prize of €200. This year the two oral presentation awardees also received professional grade Mathematica licences for one year, kindly provided by Polar Analytics in collaboration with Wolfram.

The 2024 poster presentation awardees were:

Faluke Aikebaier, from Aalto University

“Machine learning the Kondo entanglement cloud from local measurements.”

Arthur Jaries, from the University of Jyväskylä

“A new ion beam cooler-buncher for high-precision experiments with exotic radioactive ions at NUSTAR/FAIR.”

The 2024 oral presentation awardees were:

Lotta Ansas, from Aalto University

“Determining the swimming dynamics of a mesoscale living organism.”

Lauri Kurki, from Aalto University

“Automated Structure Discovery for Scanning Tunnelling.”

Master’s thesis prize

The Finnish Physical Society’s Master’s Thesis Prize is awarded annually to the best Master’s thesis in the field of physical sciences in Finland. It aims to support early-career researchers and to acknowledge their exceptional work. The prize consists of €1000 and includes one year of free membership to the Finnish Physical Society. The award is presented during the opening ceremony of Physics Days and the winner presents their thesis.

In 2024, the 2023 Prize was awarded to:

Tiina Minkkinen, from the University of Helsinki

“Observing gravitational waves from early universe phase transitions with the Laser Interferometer Space Antenna.”

Honorary mention was given by the board to two other finalists:

Matias Eriksson, from Tampere University

“Talbot self-imaging with whispering gallery modes of multimode fibers.”

Simo Heikkinen, from the University of Eastern Finland

“Matalakenttä-NMR-spektrometrin simulointi, rakentaminen ja testaus.”

All three finalists produced blog posts describing their theses, which are available on the FPS website.

PUBLICATIONS, JOURNALS, MEDIA

Arkhimedes

The FPS publishes Arkhimedes together with the Finnish Mathematical Society and Fysikersamfundet i Finland. In 2024, Arkhimedes published one issue electronically at <https://journal.fi/arkhimedes> where it can be read freely.

The FPS President met with the Presidents of the other two stakeholder societies to discuss the future of Arkhimedes and its long-standing inaccessible bank account. A decision was taken in 2020 by all societies to terminate Arkhimedes as a legal entity (elinkeinoyhtymä). This was reaffirmed and the FPS President was empowered to take the necessary action and transfer all assets to the FPS. Access to the account was re-established and the FPS accountant was directed to claim the funds held by Vero. This activity will continue into 2025.

Arkhimedes will continue as a journal with an editorial board and an editor-in-chief. The new editor-in-chief will be Sylvester Eriksson-Bique.

EPL (Europhysics Letters)

EPL is published under the scientific policy and control of the European Physical Society by EDP Sciences, IOP Publishing and Società Italiana di Fisica for a partnership of 17 European physical societies (the EPL Association). FPS is a member of the EPL Association, which yielded approximately €1300 of profit in 2024.

The FPS President attended the EPLA Annual General Meeting online on 3 July 2024. Due to delays with the accounts, the meeting was postponed. While no voting took place, matters were still discussed. The EPLA is not presently a registered association. The leadership seeks unanimous agreement to formally register. This requires a change to the articles to be compatible. The vote is expected in 2025.

Europhysics News

Europhysics News is the magazine of the European physics community, owned by the European Physical Society (EPS) and produced in cooperation with EDP Sciences. It is distributed to all EPS Individual Members and many institutional subscribers. Europhysics News is delivered electronically to the FPS members, and is free to read at <https://www.europhysicsnews.org/>

New Journal of Physics

FPS is an associate member of the New Journal of Physics. Individual FPS members are eligible for a 5% discount to the article charge when they publish in the New Journal of Physics.

Social media and webpages

In 2024 we continued to increase our bilingual social media activity, primarily by having regularly scheduled content that promotes relevant and important international days, e.g., the International Day of Women and Girls in Science.

- FPS website: www.fyysikkoseura.fi
- Twitter/X: <https://twitter.com/Fyysikkoseura>
- Facebook: Group "Suomen Fyysikkoseura".

Merchandise

In the second board meeting of 2024, the board decided to purchase FPS-branded reflectors which were included in the conference bags of all attendees to Physics Days 2024.

Finnish National Committee of the International Union of Pure and Applied Physics (IUPAP)

Annual Report 01.01.2024–31.12.2024

The Finnish National Committee represents Finland in the International Union of Pure and Applied Physics (IUPAP) and its commissions. The IUPAP's mission is to assist in the worldwide development of physics, to foster international cooperation in physics, and to help in the application of physics toward solving problems of concern to humanity. The national committees help to achieve this goal by serving as a link between IUPAP and national physics societies, universities and other national activities in physics. The committee has promoted physics research, education and related outreach activities in Finland.

The Board of the Finnish Physical Society acts as the Finnish National Committee.

Finnish National Committee as elected in the Annual Meeting 05.03.2024

Daniel Price, Chair (Postdoctoral Researcher, University of Helsinki)
Juha Muhonen, Vice-Chair (Associate Professor, University of Jyväskylä)
Mikko Nissi (Associate Professor, University of Eastern Finland)
Johanna Närväinen (Senior Scientist, VTT, Industry Representative)
Lauri Holappa (Academy Research Fellow, University of Oulu)
Inkeri Kontro (University Instructor, Tampere University)
Ondřej Krejčí (Postdoctoral Researcher, Aalto University)
Marco Ornigotti (Associate Professor, Tampere University)
Taina Kurki-Suonio (Senior University Lecturer, Aalto University)
Pekka Laukkanen (University Research Fellow, University of Turku)
Evgeniia Ponomareva (Doctoral Researcher, Aalto University)
Satumaaria Sukuvaara (Doctoral Researcher, University of Helsinki)

Finnish National Committee as elected in the Annual Meeting 30.03.2023

Daniel Price, Chair (Postdoctoral Researcher, University of Helsinki)
Juha Muhonen, Vice-Chair (Associate Professor, University of Jyväskylä)
Johannes Niskanen, Secretary (University Research Fellow, University of Turku)
Jani-Petri Martikainen, Treasurer (University Lecturer, Aalto University)
Mikko Nissi (Associate Professor, University of Eastern Finland)
Johanna Närväinen (Senior Scientist, VTT, Industry Representative)
René Bes (Docent, University of Helsinki)
Lauri Holappa (Academy Research Fellow, University of Oulu)
Inkeri Kontro (University Instructor, Tampere University)

Ondřej Krejčí (Postdoctoral Researcher, Aalto University)
Marco Ornigotti (Associate Professor, Tampere University)

The Finnish National Committee in Physics has met as the board of FPS nine times in 2024. The IUPAP matters were discussed in several FPS meetings covering topics such as attending the General Assembly and the promotion of physics in Finland. The Committee received €3000 from the Council of Finnish Academies for its operations in 2024. This large decrease from the previous year was because the meetings to which the Committee sends representatives mostly did not occur in 2024. The sole exception was the General Assembly.

The Committee Chair attended the IUPAP General Assembly on 10-13 October 2024 in Hainan, China. The Assembly contained the elections of Commission members and members of the Executive Council. The Committee nominated three Finnish physicists to Commissions which were all successful. The Chair's attendance facilitated a memorandum of understanding between the FPS and the Korean Physical Society being agreed in late October 2024.

The papers and resolutions of the Assembly are available on their website (<https://iupap.org/who-we-are/internal-organization/general-assembly/33rd-general-assembly/>). The next General Assembly will take place in Geneva, Switzerland in October 2025.

Finland's representation in IUPAP Commissions for 2025-2028 are as follows:

- C2: Symbols, Units, Nomenclature, Atomic Masses & Fundamental Constants: Erkki Ikonen (member)
- C4: Commission on Astroparticle Physics: Rami Vainio (member)
- C5: Low Temperature Physics: Mika Sillanpää (member)