

The Finnish Physical Society (FPS): Annual report Summary 1.1.–31.12.2021

Board

Board as elected in the Annual Meeting 25.3.2021 (online meeting)

Anu Kankainen, chair (professor, University of Jyväskylä)
Matti Silveri, vice-chair (Academy Research Fellow, University of Oulu)
Hannakaisa Lindqvist, secretary (group leader, ass. professor Finnish Meteorological Institute)
Jani-Petri Martikainen, treasurer (university lecturer, Aalto University)
Eleanna Asvestari (Academy of Finland postdoctoral researcher, University of Helsinki)
Lasse Laurson (professor, Tampere University)
Jack Lin (Academy of Finland postdoctoral researcher, University of Oulu)
Johannes Niskanen (docent, university researcher, University of Turku)
Mikko Nissi (associate professor, University of Eastern Finland)
Johanna Närväinen (senior scientist, VTT, industry representative)
Daniel Price, (post-doc, University of Helsinki)
Milica Todorović (assistant professor, University of Turku)

Board elected in the Annual Meeting 26.3.2020 (online meeting)

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Secretary: VTM Ella Hänninen (until 31.8.2020)

The board met seven times in 2021 (10.2.2021, 5.3. 2021, 6.4. 2021, 18.5. 2021, 25.8. 2021, 13.10. 2021 and 9.12.2021). The Annual Meeting of the FPS was organised on 25th March 2021. An extraordinary general meeting was arranged on 15th April 2021 to accept the changes in the bylaws.

FPS has continued promoting physics research, teaching, education and outreach activities, and has taken actions toward these goals. In addition, the society has maintained its international contacts.

MEMBERS

At the end of the year 2021, there were 718 members in the FPS membership registry. Thirteen new members joined the society in 2021. Altogether 29 members were either removed from the registry or resigned in 2021.

PHYSICS DAYS 2021

The 54th Physics Days with a theme “One Physics – All Sizes” was organised fully online on 24th-26th March 2021 by the Department of Physics, University of Jyväskylä (<https://www.jyu.fi/en/congress/physicsdays2021>). The scientific programme included outstanding international plenary speakers (Marialuisa Aliotta, Eva Andrei, Abhay Deshpande, Paolo Giubellino, Hanna Isaksson, Laura Na Liu, John Martinis, and Mikhail Shaposhnikov) as well as, parallel sessions on different areas of physics. Markku Oinonen gave a public Studia Generalia talk on how history can be studied via radiocarbon dating (in Finnish: “Luonnon ja ihmisen historiaa radiohiili- ja stabiili-isotooppimäärittysten kautta”).

The best oral and poster presentations were awarded with the FPS’s Hannu Koskinen prize. Rebecca Heilman and Juha Teuho gave the best oral presentations whereas Tuomas Mansikkala and Markku Alho had the best posters.

The Annual Meeting of the Finnish Physical Society was arranged online 25th March 2021.

PHYSICS DAYS 2022

The 55th Physics Days will be organised by Aalto University with a theme “Future Leaders” on 2-4 March 2022 (<https://physicsdays2022.aalto.fi/>).

VISITS BY NOBEL LAUREATES IN PHYSICS

Since 2020, the COVID-19 pandemic has put the traditional visits of the Nobel laureates in physics on hold. To provide something else in turn, the FPS produced in spring 2021 a series of interviews and videos under the theme “A Night with the Space Nobelists” (<https://www.fyysikkoseura.fi/language/en/night-with-space-nobelists/>). The interviews, chaired by Tommi Tenkanen, were organised in collaboration with Aalto University and University of Helsinki. The episodes included interviews with Nobel laureates Didier Queloz (2019), Reinhard Genzel (2020) and Adam Riess (2011). The grants from the Finnish Society of Sciences and Letters (Suomen Tiedeseura) and the Ehrnrooth foundation are gratefully acknowledged for this activity.

In 2021, Syukuro Manabe, Klaus Hasselmann and Giorgio Parisi were awarded the Nobel prize in physics. FPS has sent invitations to all laureates to visit Finland in 2022, and funding for the visits has been applied from the Finnish Academy of Science and Letters and the Finnish Society of Sciences and Letters. Due to the worsening pandemic situation, the visits to Helsinki seem very unlikely at the moment. A virtual event is under consideration.

UPDATE OF THE FPS BYLAWS AND PRIVACY STATEMENT

The Finnish Physical Society updated its bylaws in 2021. The Finnish Patent and Registration Office (PRH) accepted the new bylaws 22.6.2021. The new bylaws include small changes to the membership categories, goals of the society, and the signatory rights for the society.

The Finnish Physical Society also updated its membership registry privacy statement in 2021 to better describe the current membership registry and its use.

FPS GRANTS AND AWARDS

FPS grants to support activities promoting physics

In autumn 2021, FPS opened a call for small grants to support activities promoting physics. Jyväskylän Fyysikkokerho ry was awarded funding for equipment and production of a podcast series on physics. Resonanssi ry received 1000 EUR to support participation costs of the annual physics and mathematics students conference IntegraatioFest.

Young Physicist Prize

The Finnish Physical Society's Young Physicist Prize is awarded annually to the best MSc thesis in physics in Finland. The award ceremony takes place at Physics Days. The prize is 1000 EUR and includes a one-year free membership to FPS. It can also be split if considered necessary. The board of FPS acts as the evaluation panel for the theses. The Young Physicist Prize 2020 was awarded to Sonja Kujanpää from the University of Jyväskylä for her MSc thesis "Determination of the magnetic octupole moment of ^{173}Yb and a design towards laser – double-resonance methods in an MR-ToF device". Eric Hyyppä (Aalto University) and Laura Vuorinen (University of Turku) shared the second place in the competition.

FPS changed the name of the Young Physicist Prize in 2021 to better describe it. The prize is now known as the Finnish Physical Society's MSc Thesis Prize.

PUBLICATIONS AND JOURNALS

Arkhimedes

FPS publishes Arkhimedes together with the Finnish Mathematical Society and Fysikersamfundet i Finland. In 2021, Arkhimedes moved onto a new platform at <https://journal.fi/arkhimedes> where it can be read freely. Due to the free electronic format, discussions have been initiated with the three societies to minimize bureaucracy built around Arkhimedes as "elinkeinoyhtymä".

FPS Newsletter

In 2021, FPS started to collect recent news and activities of the FPS into an FPS Newsletter sent to the members via email and also published at <https://www.fyysikkoseura.fi/language/en/fps-newsletter/>. Altogether three newsletters were published in 2021.

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.

Europhysics News

Europhysics News (<https://www.europhysicsnews.org/>) is the magazine of the European physics community. It is 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. The total readership is currently about 54 000 per issue. Europhysics News is delivered electronically to the FPS members.

MEDIA

- FPS homepages: www.fyysikkoseura.fi. Webpage host also a blog with 7 entries in 2021.
- Twitter: <https://twitter.com/Fyysikkoseura>
- Facebook: join in www.facebook.com by searching group "Suomen Fyysikkoseura".
- Arkhimedes: 1 issue, Europhysics News: 5 issues

INTERNATIONAL ACTIVITIES

European Physical Society (EPS)

FPS has actively participated in the activities of the European Physical Society (EPS) and its Council, Divisions, Groups and Committees. The chair of the FPS, Anu Kankainen participated in the EPS Council meeting organised online 8.-9.4.2021. The Council meeting accepted the financial reports from the past year. Last year's activities were presented by the outgoing president Petra Rudolf and the action plan for the new year by the incoming president of the society, Luc Bergé. The programme also included medals and prizes as well as a talk about Horizon Europe and Citizen Science.

The chair of the FPS participated in the Code of Conduct Workshop, which was co-organised by the EPS and Institute of Physics (IoP) online 25.5.2021. The workshop was attended by 23 delegates from across 19 countries. It was chaired by Rachel Youngman, IOP Deputy Chief Executive and the outgoing President of EPS, Petra Rudolph, with closing remarks from the incoming President, Luc Bergé. The scope of the workshop was for EPS member societies to leave with an action plan to create and implement a code of conduct that ensures the safe participation of all meetings, conference and event attendees. The aim is to work towards an inclusive and equitable culture in STEM across Europe, where all physicists can access and participate in physics, with their safety and protections ensured.

EPS approached FPS in 2021 and asked for suggestions for an EPS Historic Site in Finland. So far, altogether over 40 sites in Europe in more than 20 countries have been declared as EPS Historic Sites. Sites that are significant to physics and its history can be considered for the Historic Site distinction from the EPS. FPS asked for proposals for an EPS Historic Site from its members in October 2021. Based on the proposals, the FPS Board decided to propose the Sodankylä Geophysical Observatory as an EPS Historic Site. The EPS will make the final decision based on the FPS application.

ACTIVITIES IN FINLAND

Finnish Young Minds (FYM)

Finnish Young Minds (FYM) is the Finnish edition of the EPS Young Minds. FYM organised a webinar series “Physics Smoothies” in autumn 2021. Physics Smoothies presented physics research and studies at different Finnish universities and research institutes. FYM has also created a Discord channel targeted at fresh physicists.

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. The working group was established as Finnish Women in Physics (FinWiP) in 2006. The name was updated in 2019 to better reflect our diverse community. FinDiPacts is a link to the International Union of Pure and Applied Physics (IUPAP)’s International Conference on Women in Physics event and related activities. The current chair of FinDiP is David Weir. FinDiP has been very active both nationally and internationally. FinDiP organised a special session on diversity “Boosting creative science through diversity and wellbeing” at Physics Days 2021. More information can be found at <https://blogs.helsinki.fi/diversityinphysics/>

Greatest Physicists lecture series

FPS organises together with the Aalto University alumni the “Greatest Physicists in History” - lecture series. Prof. Neta A. Bahcall gave an online presentation “Vera Rubin: Discoverer of dark matter and active role model” 18.3.2021. The presentation is available on YouTube at <https://youtu.be/1WP1YTZGcGY>

ACCOUNTS

The main income of FPS comes from the membership fees. Largest expenses in 2021 were the membership fee of the European Physical Society, accounting services, and the Night with the Space Nobelists production. Accounting company Clerica took care of the accounting in 2021. FPS made a relatively large profit in 2021 because the estimated costs of publishing several issues of Arkhimedes in 2021 were not realised. This is taken into account in the budget 2022.

Finnish National Committee of the International Union of Pure and Applied Physics (IUPAP) in 2021

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.

Finnish National Committee as elected in the Annual Meeting 25.3.2021 (online meeting)

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The Finnish National Committee in Physics has met as the board of FPS seven times in 2021. The IUPAP matters were discussed in several FPS meetings in 2021. The meetings have covered topics such as new commission members for IUPAP, outreach activities for IUPAP, and the General Assembly.

The 30th General Assembly of IUPAP was organised as an online meeting 20.-22.10.2021. The material for the General Assembly had been prepared in a pre-meeting organised online 20.7.2021. The chair Anu Kankainen represented the Finnish National Committee in both meetings. In addition, IUPAP's new strategy document was circulated to the national committees in spring 2021. Originally the 30th General Assembly should have taken place in Beijing in 2020 but the COVID-19 pandemic postponed the meeting by one year. The 30th General Assembly in 2021 made an important decision concerning IUPAP's future. The statutes and bylaws of the IUPAP were revised to transform IUPAP into an

international association located in Geneva and acting under Swiss law. Earlier, IUPAP has not been bound to any national legal system but circulated around the globe every six years. After the change, the General Assembly will have annual meetings to fulfil the requirements set for associations in Switzerland. The annual meetings can also be organised as online meetings. IUPAP will celebrate its centenary in 2022 and will organise a symposium to celebrate it in Trieste, Italy 11.-13.7.2022. The General Assembly will meet 14.7.2022.

Finland has three members in the IUPAP commissions.

Members from Finland in the IUPAP Commissions 2018-2021:

- C.02 Symbols, Units, Nomenclature, Atomic Masses & Fundamental Constants, Antti Manninen (member)
- C.04 Astroparticle Physics, Ilya Usoskin (member)
- C.05 Low Temperature Physics, Pertti Hakonen (member)

New IUPAP Commission members from Finland elected in the 30th General Assembly:

- C.02 Symbols, Units, Nomenclature, Atomic Masses & Fundamental Constants, Erkki Ikonen (member)
- C.04 Astroparticle Physics, Ilya Usoskin (member)
- C.05 Low Temperature Physics, Mika Sillanpää (member)

The 7th IUPAP International Conference on Women in Physics (ICWIP, <https://wp.csiro.au/icwip2020/>) was organised online 11.-16.7.2021. Kukka Miikkulainen, Jennifer Ott and Tuuli Miinalainen participated in the meeting from Finland.

All travels of the Finnish National Committee of IUPAP were cancelled in 2021 due to COVID-19. The received financial support was used for the participation fees to the ICWIP online conference and for online screening of the "Picture a Scientist" film 12.-15.11.2021. "Picture a Scientist" film provides new perspectives on how to make science itself more diverse, equitable, and open to all. The National Committee also organised an online discussion event related to the film on 15.11.2021. The unused subsidies were returned.