

ACTIVITY REPORT 2019

Presented to EPS Council, 29 May 2020



European Physical Society

more than ideas



| President's Report | **Petra Rudolf** |

INTRODUCTION FROM THE PRESIDENT

Due to the Corona-crisis causing disruption in both our professional and personal lives and forcing us to adjust to working from home and for many of us to adapt to remote teaching, looking back on 2019 feels different this year. Nevertheless, I would like to invite you to read this report of some of last year's activities of EPS in a celebrative spirit because it was an excellent year for the Society.

A highlight of the year was the publication of the report on "The Importance of Physics to the Economies of Europe", an analysis of the contribution of our scientific discipline to the economies of Europe over the six-year period 2011-2016. This study, which was presented to the press in October and is now on the EPS website, shows that the physics-based sector accounts for 16% of the total turnover of the EU28 business economy and employed 17.8 million people in 2016, more than a million more than in 2011. It is this kind of data that we need when we talk to policy makers and to the general public to convince them that physics is important for our nations because we educate highly skilled professionals and our research often lead to discoveries and applications with long term economic impact. EPS will foster the development of the advocacy skills of all interested members by offering a "train the trainers" workshop in 2020, where a delegate of each Member Society will be trained in how to organize (and give) workshops

for teaching physicists how to talk to policy makers. The press conference has not been the only activity in Brussels, giving input to the definition of the next Framework Programme, FP9 or Horizon Europe and lobbying for more research funding have of course continued. EPS also very actively participated in the successful petition to have the portfolio title of commissioner M. Gabriel amended by the terms "education, research and culture" and thereby highlighting the importance of education and research for the European Community. We should have held our yearly Council meeting in Brussels this year in April, but that was of course not possible and we hope in a second chance in autumn.

Fostering diversity and inclusiveness of the EPS has been high on the agenda in the past year. A "Code of Conduct" that aims at prohibiting any act of discrimination and harassment, sexual or moral, during EPS-managed events was drawn up and will be presented at the 2020 Council meeting. A number of Member Societies have already manifested the interest to adhere to the Code and the hope is that many others will follow that example. The Monitoring Project for Gender Fairness in Physics continues to generate important data, the first Divisions and Groups have nominated their Diversity Delegate, who will liaise with the EPS Equal Opportunities Committee and support the Committee's actions within

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the Divisions or Group. To give more visibility to women in Physics, in addition the Emmy Noether Distinction, which each year honours two outstanding female figures in physics, the EPS 2020 Calendar giving a tribute to “Inspiring (women) Physicists” was published and distributed to all Member Societies and short portraits with interviews of female researchers have become a regular feature in e-EPS. EPS is confident that these examples will inspire many young women to follow a successful career in physics.

The EPS Historic Sites programme has reached a milestone this past year with the inauguration of the 50th historic site. Up to now 86 requests have been accepted by the indefatigable committee headed by Karl Grandin. 9 new sites, on the Jungfrauoch in Switzerland, in Palermo, Leuven, Vienna, Frankfurt, St. Petersburg, Demesne, Aachen, Bologna and Dundee, were inaugurated in 2019, bringing the total to 53 in 21 countries so far. Given that there are 42 Member Societies in EPS, I hope that those in countries where there are no historic sites yet will follow their sister societies’ example in order to bring the general public’s attention to landmarks where important contributions to physics were made.

Also, the Young Minds project can look back on a very successful year, in fact by establishing 8 new sections, a total of 57 active sections in 30 countries was reached. Three new sections are in countries that were not present in the project yet (Armenia, Macedonia, Israel). I trust that soon there will be sections in all Member Society countries and hopefully some of the sections, which started in the 9 years of the Young Minds project but became inactive over time, will be reawakened. Young Minds’ chair Roberta Caruso, together with the Action Committee Team, has done a wonderful job in motivating and encouraging all the local sections in their activities partly financed by

Young Minds grants as well as by offering interesting leadership sessions. An important new element from 2019 is the Young Minds Conference Grant, designed to support conference sessions organized by Young Minds sections. Such sessions like “Boost your career through public engagement!” at the Condensed Matter Physics National Conference in Portugal or “Options after your PhD” at CLEO in Germany organized in 2019 were highly appreciated and have the double benefit of increasing the synergy between Young Minds and other EPS Divisions and Groups and of stimulating the creation of new Young Minds sections.

As with every year, the Divisions and Groups were very active in organizing outstanding conferences this past year. Among the 16 conferences and meetings of 2019, one especially stands out: CLEO/Europe EQEC 2019, which took place in Munich and attracted 2122 participants, qualifying it as the largest conference the EPS conference service has ever organized. CLEO was a beautiful example that this service can now help the Physics community to organize any type of event, from a small workshop to a large conference, in real and in virtual mode. Hopefully the latter will become more frequent to the benefit of our planet and to allow more people to attend without worries about travel costs.

Putting scientific excellence in the spotlight is another task performed wonderfully by the Divisions and Groups and groups through the 25 prizes and distinctions that were handed out in this past year. Very young researchers were recognized by PhD thesis awards (*e.g.* by the Solar Physics Division), those just a little further in their career were honoured by for ex. the Fresnel Prize of the Quantum Electronics and Optics Division of course and there were also recognitions for the leaders in the field like the EPS Statistical and Nonlinear Physics Prize.

The Outreach Prize (High Energy Particle Division) and the EPS Physics Education Division Award for Secondary School Teaching complete the palette. Since the Associate Member campaign is going very well, the perspective for finding sponsors for prizes by Divisions and Group who are not yet to provide a monetary award seems very promising.

The EPS can do what it does thanks the many people, who volunteer their time, organizational talents and creative thoughts in service to the physics community. It is wonderful to see that they are far too many to thank individually – be assured EPS is immensely grateful for your efforts. I hope that seeing what we all achieve together in EPS will be for you, like for me, a source of energy and motivation to do even more. At this point, I want to express my special thanks to my predecessor, who will step down as Vice President at the forthcoming Council meeting. Rüdiger, I already expressed the appreciation of EPS for all your great work as the Society’s president when you handed me the baton in April 2019 and today, I want to add that I am much obliged to you for teaching me the ropes, for excellent collaboration and continuous support. Another big “thank you” goes to all Chairs of our Divisions and Groups: as in previous years your engagement for EPS has been invaluable. EPS and I personally are equally greatly indebted to the Members of the Executive Committee, especially those who will leave after two completed terms – you have devoted much of your free time to EPS activities and kept a watchful eye on all EPS enterprises and finances. Finally, I say “merci” to David Lee and all the colleagues of the EPS headquarters in Mulhouse and of the Brussels Office for the wonderful job they have done in efficiently supporting all EPS activities, assuring their smooth operation and for never being afraid of adding yet another new element to EPS services. ■

| Honorary Secretary's Report | **Minh Quang Tran and David Lee** |**EXECUTIVE COMMITTEE ACTIVITIES 2019**

The EPS Executive Committee develops the EPS policy, discusses ongoing activities, financial matters, future plans, and puts in practice effective strategies to improve the visibility of the EPS.

The Executive Committee typically holds three regular meetings per year where its members meet face-to-face. The EPS President, elected by the Council, chairs the Executive Committee meetings.

Since the 2019 Council meeting in April, the Executive Committee has met three times: on the 6-7 of June at the ITER Headquarters in Caderache, FR, on the 30-31 October at the University of Groningen in the Netherlands and on the 6-7 February 2020 in CERN, CH. Summaries of these meetings are published on the EPS Website and available to the Individual Members. The activities of all Executive Committee members are reported monthly in the e-EPS newsletter.

In 2019 the Executive Committee has addressed several items.

Enhancing the visibility and the influence of the EPS in the European instances is a priority item. The EPS Point of Presence in Brussels, E. Sanchez, was active in developing high level contacts to EU officials and with other learned societies. The EPS presented the updated study of the Importance of Physics to the Economies of Europe in October 2019..

The Executive Committee was active in continuing work on the framing document on Grand Challenges and on the many contributions of Physics to Society, written by physicists addressing people outside our community: policy makers, stakeholders, and general public. The project is associated to the activity of the Forum Physics & Society (FPS). The purpose, structure and content of the document have been defined and

work on identifying topics and authors is ongoing.

2019 was also used to strengthen EPS activities in gender equality. These activities include an updated charter for the Emmy Noether Distinctions, a calendar of exemplary women physicists, and the reinforcement of the rules for EPS prizes to ensure that more women are nominated.

At its meetings, the Executive Committee invites representatives of national physical societies, representatives from other learned societies, policy makers, and Chairs of D/G.

The members of the Executive Committee play an important role in establishing and maintaining contacts to Member Societies and D/G. Every Executive Committee member is the direct contact person for a small number of Member Societies. The same principle has been introduced to establish privileged contacts with the D/G as shown in the table. ■

DIVISION AND GROUP	EXECUTIVE COMMITTEE MEMBERS	MEMBER SOCIETY
Atomic Molecular and Optics Division and Quantum Electronics and Optics Division	Bergé, L.	Albania, Croatia, France, Macedonia, Montenegro, Serbia, Slovakia, Slovenia
Computational Physics Group History of Physics Group Physics for Development Group	Fantz, U.	Austria, Germany
Plasma Physics Division	Jacquemot, S.	Denmark, Finland, Iceland, Norway, Sweden
High Energy and Particle Physics Division Accelerators Group Technology and Innovation Group	Nappi, E.	Italy, Armenia, Cyprus, Georgia, Greece
Physics Education Division	Pena, T.	Portugal, Spain
Gravitational Physics Division Physics for Development Group	Rabinovici, E.	Estonia, Latvia, Lithuania, Poland, Israel
President	Rudolf, P.	
Division of Physics in Life Sciences Environmental Physics Division	Saunders, F.	UK
Joint European Solar Physics Division, Energy Group	Tran, M.Q.	Liechtenstein, Switzerland, Belgium, Luxembourg, The Netherlands
Statistical and Non-linear Physics Division	Zadkov, V.	Russia
Nuclear Physics Division	Zamfir, V.	Bulgaria, Hungary, Moldavia, Romania, Turkey
Condensed Matter Division	Zwicknagl, G.	Belarus, Czech Rep., Slovakia, Ukraine

HIGHLIGHTS 2019

EQUAL OPPORTUNITIES

The EPS Equal Opportunities Committee introduced several new initiatives in 2019, while maintain its current activities.

Actions toward the EPS Divisions and Groups

In the EPS Executive Committee Meeting of February 2019, it was decided to involve more the EPS Divisions and Groups (D/G) in the EOC initiatives devoted to gender issues. A letter was sent to all the D/G chairs inviting them to:

- Contribute to the monitoring project for Gender Fairness in Physics, in order to acquire statistics on the participations, contributions and responsibilities of women physicists in EPS conferences.
- Consolidate the floor rate of 20% of women scientists in the various scientific and organisation committees, and their contributions as invited/ plenary speakers. This rate is obviously expected to increase in the coming years.
- Delegate one member of their Board to act in favour of gender parity. So far, 6 EOC delegates have been appointed by the EPS D/G Chairs and they actively participate in EOC actions. Today, this delegation applies to about 1/3 of all the EPS Divisions and Groups.
- Avoid attributing any EPS award if at least one woman is not nominated.
- More women should be invited to sit on the EPS prize juries.

The monitoring project for Gender Fairness in Physics

A better representation of women in Physics at all career levels is central for every society caring about the well-being of its members. A key element for a fair development of the physics community is the participation of women scientists at conferences as speaker, committee member and organiser. Through its Divisions and Groups, the EPS organises many premier conferences in physics in Europe and the world. To reach a better

gender balance, the EPS put in place in 2018 a regular survey on the women participation and contribution in EPS conferences.

The EPS recommends to the organisers to collect information on the total number and the number of women in the organising committees (program committee, international advisory committee, local organising committee, etc), the total number and the number of women plenary speakers, keynote speakers, invited speakers, chairperson, and the total number and the number of women participants. Ratios yielding key indicators are then extracted from these data.

By tracking these statistics over time, the EPS is expected to provide valuable input into policy discussions regarding gender

equality in Europe and, in a second step, to take proper corrective actions following the outcome of the monitoring.

The data collected in 2018 from 15 returned surveys already showed that between 18 and 30% of the speakers or organisers were female scientists (see Fig. 1a). About 20% of women scientists were committed at the highest level in the organization of scientific conferences or being invited for “plenary” or “keynote” talks. This percentage is close to the rate of participation of women scientists in the same conferences. The 2019 statistics based on 16 surveys display similar trends with increased good indicators in general, although a marked fall in the number of plenary speakers calls to take appropriate measures to reverse it

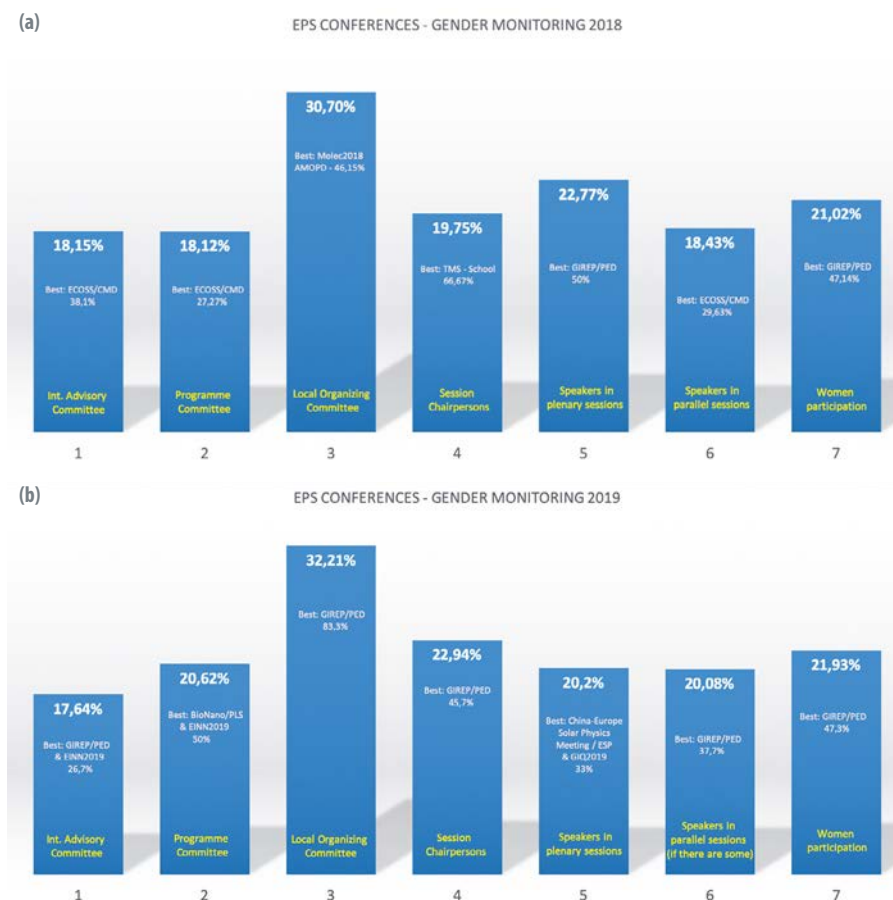


FIG. 1: Statistics extracted from the Monitoring Project for Gender Fairness in Physics. (a) 2018 statistics on the rate of women scientists contributing to EPS conferences, workshops and schools as members (yellow text) of the international advisory committee, the program committee, the local organising committee, acting as either chairpersons or invited speakers (in plenary or parallel sessions). Indications in purple specify the conferences having reached the highest rates in each category. (b) 2019 statistics on the same topics.

in the coming years (see Fig. 1b). On the whole, these numbers are encouraging, but they are far from showing a perfect balance, which invites us to continue the present monitoring and to keep a vigilant eye on their evolution.

A Code of Conduct for the EPS conferences

In 2019 another important decision was to elaborate on a “Code of Conduct” that aims at prohibiting any act of discrimination and harassment, sexual or moral, during EPS-managed events. This Code follows the outlines already drawn up by many scientific societies overseas. It plans, for instance, to assist victims and witnesses in reporting all cases of unprofessional behaviour in a safe and protected way and to act timely either on the conference site or by using a dedicated online portal.

A presentation of this document will be made to the 2020 EPS Council. It will soon be published through the EPS media channels. Adhering to this Code will be a condition for both Europhysics Conferences and EPS-Sponsored Conferences. Roll-ups informing participants of this policy should be available at the conference sites. Already some National Societies, *e.g.*, the French Physical Society (SFP), confirmed its interest to adopt this Code of Conduct once ratified by the EPS Council.

Interviews of woman researchers

Other specific actions implemented by the EPS tend to attract the young generation of women to an enjoyable career in physics. The publication in the electronic newsletter *e-EPS* of short portraits with interviews of female researchers in physics (programme called “Visibility for young”) has been pursued. The underlying idea is that a young female candidate physicist (student, post-doc or young researcher) may find, in the interviews of successful women physicists, some encouraging answers to the questions about the choice of making a career in physics. This program was continued in 2019. We started with an interview of Donna Strickland, 2018 Nobel Prize in Physics (April issue of *e-EPS*), and went on with interviews of “rising stars” like Andrea Blanco-Redondo (Sydney Univ.,



FIG. 2: EPS 2020 Calendar giving a tribute to “Inspiring (women) Physicists”.

Australia – *e-EPS* May issue) and Ágnes Kóspál (Konkoly Observatory, Hungary – *e-EPS* June issue).

Finally, several links have been reinforced with the SFP and the European Platform for Women Scientists (EPWS). For instance, regular exchanges with Dominique Chandresris (SFP) allowed us to be informed on the actions led by SFP to reinforce the parity. Also, in cooperation with Claudine Hermann (EPWS) and Gina Gunaratnam (EPS), a calendar named “Inspiring Physicists”, displaying the winners of the Emmy Noether Distinction and outstanding women figures in science, has been published and distributed in 2020 (Fig. 2).

The European Physical Society aims to promote physics, especially among a young audience. In 2020, the Society published a calendar called “Inspiring Physicists”.

The project, led by G. Gunaratnam at the EPS Secretariat, is a way to put forward the laureates of the EPS Emmy Noether Distinction and to provide examples of living and committed scientists. It shows the variety of research fields in physics and aims at inspiring the young generations in their choice of studies.

Every month of this year, a new physicist can be discovered in the calendar. The first version puts forward ladies only, because they are often under-represented in various areas of physics (scientific school

books, history books, conference speakers, scientific reference).

Our calendar was distributed to our members in Europe and worldwide. Due to the SARS-CoV-2 crisis, the development of the actions started in schools or conferences was suddenly reduced and the follow-up made less easy. However, very positive feedback already came from our members before lockdowns: distribution to physics teachers at conferences, use as educational medium to raise interest in sciences in classrooms or training schools and in an exhibition of famous women.

We hope that with the help of enthusiastic teachers and scientists, our calendar will inspire young pupils to study physics and to give them the taste of science in 2020 and beyond.

HISTORIC SITES

During 2019 several sites covering different time periods and subjects were inaugurated. The high-altitude research station at Jungfraujoch that has been the venue for several important research projects over the years, as well as the Institute of Physics of Archirafi Street, Palermo, Italy, where the first artificial chemical element, technetium, was isolated by Emilio Segrè and Carlo Perrier, were inaugurated in February. Later in the Spring the Atomistitut in Vienna was celebrated with the EPS President, Petra Rudolf, inaugurating the site which saw the first Neutron interferometer. The Heilige-Geestcollege in Leuven, Belgium, where Le Maitre worked, was also honoured in May. After the Summer the EPS honoured Max Born’s Institute for Theoretical Physics in Frankfurt, where Stern and Gerlach performed their famous experiment. September also saw the acknowledgement of the work by Mendeleev because it was 150 years since he organised known elements in a periodic table. A couple of weeks later the huge telescope at Birr Castle in Ireland was recognised and the week after the important work on high voltage necessary for the building of modern accelerators at the Technical College in Aachen was celebrated. A month later the Academy of Sciences of the Bologna Institute, where Galvani and

several other influential scientists worked. The last inauguration of the year was at the University of Dundee where the development of thin film transistors intended for displays was celebrated.

As of December 2019, 86 proposals for Historic Sites have been received, either spontaneous or channelled through EPS Member Societies. Proposals can be made at any time from the EPS web site (link below). Of these proposals, 54 EPS Historic Sites were inaugurated in 21 different countries at the end of 2019.

1. The Goldfish Fountain of the Physics Institute of Panisperna Street – Centro Fermi, Rome, Italy, 20 April 2012
2. Laboratory “Les Cosmiques”, Col du Midi, Chamonix, France, 23 July 2012
3. Hoza 69, Warsaw, Poland, 10 January 2013
4. The Study of Bruno Pontecorvo – JINR, Dubna, Russia, 22 February 2013
5. The Hill of Arcetri, Florence, Italy, 17 May 2013
6. The Villa Griffone in Pontecchio Marconi, Bologna, Italy, 26 May 2013
7. The Observatory of Tycho Brahe, Hven Island, Landskrona, Sweden, 11 September 2013
8. The LAL-LURE Accelerator Complex, Orsay, Paris, France, 13 September 2013
9. PTB, Formerly PTR, The National Metrology Institute, Berlin, Germany, 8 October 2013
10. The Cathedral, Kamien Pomorski, Poland, 11 October 2013
11. The Neutrino Experiment at MTA Atomki, Debrecen, Hungary, 25 October 2013
12. The Niels Bohr Institute, Copenhagen, Denmark, 3 December 2013
13. The AdA Storage Ring at the INFN Frascati National Laboratory, Frascati, Rome, Italy, 5 December 2013.
14. The European Birthplace of the Atomic Timekeeping – NPL, Teddington, UK, 31 January 2014
15. The Blackett Laboratory, London, UK, 30 April 2014
16. The Fabra Observatory, Barcelona, Spain, 9 May 2014
17. The Study of Georgi Nadjakov, Sofia, Bulgaria, 23 May 2014
18. The Synchro-Cyclotron, SC – CERN, Geneva, Switzerland, 19 June 2014
19. The Kamerlingh Onnes Laboratory and Lorentz Institute, Leiden, The Netherlands, 9 February 2015.
20. The Fisor Lutheran Secondary School, Budapest, Hungary, 23 April 2015
21. The Ludwig Maximilian University, Munich, Germany, 6 May 2015
22. The Students Residence (Residencia de Estudiantes), Madrid, Spain, 13 May 2015
23. The Mount Vesuvius Observatory, Herculaneum, Naples, Italy, 23 May 2015
24. The Institute for Radium Research, Vienna, Austria, 28 May 2015
25. The Einstein House, Bern, Switzerland, as Joint APS-EPS Historic Site, 14 September 2015
26. The Hotel Metropole, Brussels, Belgium, 24 October 2015
27. The Ernst Mach Physics Institute, Prague, Czech Republic, 18 February 2016
28. The Cabinet of Physics of the University of Coimbra, Coimbra, Portugal, 11 March 2016
29. The Former Physical Institute of the University of Würzburg, Würzburg, Germany, 7 June 2016
30. The “Piersanti Mattarella Tower of Thought” of the Ettore Majorana Foundation and Centre for Scientific Culture, Erice, Italy, 21 August 2016
31. The Uddmanska House, Kungälv, Sweden, 29 October 2016
32. The Institute for Advanced Study, Princeton, NJ, USA, as Joint APS-EPS Historic Site, 9 November 2016
33. “Les Bastions” of the University of Geneva, Geneva, Switzerland, 29 March 2017
34. H.H. Wills Physics Laboratory (Royal Fort) of the University of Bristol, Bristol, UK, 13 September 2017
35. IBM Research Laboratory, Rüschlikon, Zürich, Switzerland, 26 September 2017
36. The Philips NatLab, Eindhoven The Netherlands, 5 October 2017
37. The Curie Laboratory of the “Institut du Radium”, Paris, France, 7 November 2017
38. Magurele Physics Campus, Magurele, Romania, 15 November 2017
39. Institute of Spectroscopy, ISAN, Troitsk, Russia, 20 June 2018
40. Dunsink Observatory, Dublin, Ireland, 23 June 2018
41. Haldde Observatory, Alta, Norway, 26 August 2018
42. Laboratories of Kirchoff and Bunsen, Heidelberg, Germany, 1 October 2018
43. Old Physics Building of the Eötvös Loránd University, Budapest, Hungary, 12 October 2018
44. Laboratorium Bergara, Basque Country, Spain, 20 October 2018
45. Jungfrauoch Research Station, Switzerland, 8 February 2019
46. Institute of Physics of Archirafi Street, Palermo, Italy, 18 February 2019
47. Heilige-Geestcollege in Leuven, Belgium, 23 May 2019
48. Atominstitut, TU, Vienna, Austria, 21–22 May 2019
49. Max Born’s Institute for Theoretical Physics, Frankfurt, 3 September 2019
50. Mendeleev’s Museum-Archive, St. Petersburg, Russia, 12 September 2019
51. Birr Castle, Demesne, Ireland, 20 September 2019
52. Institute for High Voltage Engineering, RWTH, Aachen, Germany, 30 September 2019
53. The Academy of Sciences of the Bologna Institute, Italy, 7 November 2019
54. The Physics Department at the University of Dundee, UK, 2 December 2019

YOUNG MINDS

Young Minds is an EPS project launched in 2010 with the aim of bringing together students and early career researchers in Physics and foster the excellence among them by encouraging the creation of local groups called sections and ensuring the possibility to access an annual budget to carry on student-led activities falling in three main categories: outreach, networking and professional development.

Young Minds has now reached nine years of activity with 73 sections in 34 countries. For the first time this year, we established the criteria to declare a section as ‘inactive’. As a result, we count 52 active sections in 28 countries. Given these numbers, the focus of the program for 2020 will be to find new ways to ensure active participation of existing YM sections. In 2019 we have undertaken

several actions to strengthen the connection between the sections and the sections and EPS.

In 2019 the Young Minds project established 8 new sections, 3 of them in countries that were not represented in the project yet (Armenia, Macedonia, Israel), for a total of 57 sections in 30 countries. Each section is entitled to apply for a maximum of 1000€ for funding to support activities falling in at least one of the three categories: outreach, networking and professional development. There are two deadlines per year – January 15th and July 15th.

Starting from January 2019, the YM Action Committee introduced the Young Minds Conference Grant (YMCA), designed as a specific support for conferences or sessions organized by Young Minds sections. YM Conference Grants have been introduced to guarantee high visibility to EPS YM during large events involving the scientific community. The applicants are requested to guarantee a timeslot to present the YM project during the event, or alternatively to distribute YM promo material.

The organization of Young Minds sessions during EPS sponsored and recognized conferences started in 2018 to increase the synergy between Young Minds and other EPS Divisions and Groups. This year, two sessions have been organized, one during the Condensed Matter Physics National Conference (CMPNC) of the Portuguese Physical Society (8-12 May 2019) in Portugal and the other during CLEO conference (23 – 27 June 2019) in Munich. The first, “Boost your career through public engagement!” was organized by Roberta Caruso of the YM Action Committee, Joaquim Moreira from the EPS Condensed Matter Division and Margarida Ribeiro, president of the Aveiro YM Section. After the talk from Roberta Caruso on science communication techniques that can turn out useful for a career in science, there has been an extended Q&A time with attendees from all over Portugal. It is worth mentioning that the event led to the creation of two new sections in Portugal, Lisbon YM Section and Porto YM section.

The other session, “Options after your PhD”, has been organized by Araceli

Venegas-Gomez from the YM Action Committee and Chiara Trovatello from Milan YM Section. In the form of a panel discussion, the attendees have been engaged in a discussion with six invited speakers coming from industry and academia, regarding their career choices and the processes that led them to their decision.

YM in collaboration with the Statistical and Non-Linear Physics Division has assigned three scholarships for YM members to attend the Statistical Physics of Complex Systems conference in Stockholm, 7-11 May 2019, while in collaboration with the Quantum Electronics and Optics, the YM project has assigned 5 Student Travel Grants to attend the CLEO conference in Munich.

Young Minds also participates in other EPS activities, publishing regularly in e-EPS, the online magazine of EPS. The representative of Young Minds sitting in the Historic Sites Committee and in the Equal Opportunity Committee has changed. Currently, Araceli Venegas Gomez sits in the former and Giorgio Nocerino in the latter.

Roberta Caruso, as chair of the YM project, attended the celebrations for the International Day of Light in Trieste, at SISSA institute, on May 15th, participating in a round table on the importance of student associations for young scientists, together with representatives from OSA, SPIE and IAPS.

EPS POINT OF PRESENCE IN BRUSSELS

Throughout 2019, Dr. Enrique Sánchez Bautista acted as the EPS Point of Presence in Brussels. Extensive efforts have been made to increase the visibility of the EPS in the Brussels ecosystem, establishing a solid network of contacts with other learned societies and research organisations, several EU officers, as well as other relevant stakeholders of the discipline of Physics in Europe. The Helmholtz Association of German Research Centres and the governing bodies of the Quantum Flagship initiative of the European Commission are just two, out of the many, examples. Through

these contacts, Dr. Bautista was invited to attend to a series of meetings with some of the most relevant Members of the European Parliament (MEPs) – including Dan Nica, Lina Gálvez Muñoz and Miapetra Kumpula Natri – to lobby for a better and more efficient future implementation of the next Framework Programme. Moreover, the EPS Point of Presence established an official address in Brussels located in the premises of Fondation Universitaire (Rue d’Egmont 11, 1000 Bruxelles, Belgium).

A highlight of 2019 was the organisation of the presentation of the EPS report “The Importance of Physics in the Economies of Europe” that was held on October 17th at Press Club premises in Brussels to which all the MEPs from the Committee of Industry & Research (ITRE) were invited, as well as representatives from the European Commission, relevant decision makers, as well as several representatives from sister societies. The event brought together about 40 people and it was followed by a networking cocktail.

Throughout 2019, Dr. Bautista defined the activities of the EPS in the coming months. He was supported by the EPS President, Petra Rudolf. The EPS was one of the leaders in promoting the petition to include the words “research and education” in the the portfolio of M. Gabriel, the EC Commissioner for Innovation, Research, Culture, Education and Youth. The petition was supported by more than 13.000 scientists.



Plaque of the EPS Brussels office, located in Rue d’Egmont 11, 1000 Bruxelles, Belgium.

The EPS also reacted to three relevant public consultations from the European Commission on the co-design process of Horizon Europe and its strategic planning as well as to the report of the expert group of the European Commission on the “Future of Scholarly Publishing and Scholarly Communication”. ■

| EPS Secretary General Report | **David Lee** |
SECRETARIAT

The Secretariat of the European Physical Society is headquartered on the campus of the Université de Haute Alsace, in Mulhouse, France. Staffing fluctuated throughout the year, linked mainly to conference activity and some natural staff turnover. At the end of 2019 the EPS employed 9.9 FTE, in 3 main areas: Core Secretariat (4.9); Conference Services (2), and the EPL Editorial Office (3). In addition, the UHA has made a full time secretary available to the EPS.

The Core Secretariat provides administrative services to the EPS, including accounting, graphic design, and information technology. Among the main tasks are the preparation of Europhysics

News and e-EPS, website maintenance and design, financial control, invoicing *etc.* The Secretariat also supports Divisions and Groups, and the activities of EPS Committees, and the Executive Committee. European relations, relations with other societies, communications, outreach, policy monitoring and EPS involvement in EU projects are also part of activities of the Core Secretariat.

The Conference Services department provides a full range of services for conferences organised by EPS Divisions and Groups. These include committee management, web site design and maintenance, communication, onsite logistics, online paper submission and maintenance,

budgeting, *etc.* Much work was undertaken to develop a clearer method of presenting the services and the advantages of EPS Divisions and Groups to use the EPS services. Conferences organised by the EPS Conference Service Department in 2019 were Nanometa Conference in Seefeld, AT and CLEO/Europe-EQEC in Munich (DE).

EPS headquarters in Mulhouse also houses the EPL editorial office: the staff editor, as well as 2 editorial assistants. In 2019, the EPS Editorial Office handled 1,152 manuscripts. The median submission-to-online time during 2019 remains below 100 days consistent with the previous year. ■

▼ Top: F. Burr, S. Loskill, D. Lee, G. Gunaratnam - Middle: P. Padovani, X. de Araujo, P. Helfenstein, A. Ouarab - Bottom: S. Fila, O. Fornari, K. Desse.



REPORTS BY EPS ACTION COMMITTEES

HISTORIC SITES

Chair: Karl Grandin

In addition to the information in 2019 Highlights (above), the Historic Site Committee examines proposals typically three times per year. The Historic Sites Committee has already approved some applications, that will be inaugurated in 2020, while other applications are being scrutinized by the EPS HS group.



The 7th Earl of Rosse, Brendan Rosse, and the chair of the European Physical Society's (EPS) Historic Sites Committee, Karl Grandin, unfolds the plaque confirming that the great telescope in Birr is an EPS Historic Site. To the left is Minister for Justice and Equality, Charles Flanagan and the former EPS president, professor Denis Weaire to be seen.

Members of the EPS HS Committee during 2019 were: Karl Grandin (Chair), Luisa Cifarelli, Goran Djordjevic, Ursel Fantz, Alain Fontaine and Jim Hough. Observers: Alan Chodos (APS) & Araceli Vengas Gomez (EPS Young Minds). The new chair and the communication coordinator at EPS Mulhouse, Gina Gunaratnam, have also worked to establish a system to cope with the increasing number of nominations.

For each inauguration event, a plaque is unveiled in the presence of the local representatives and authorities. The EPS President or her representative (Past President or Member of the EPS Executive Committee or Member of the EPS HS Committee) attends the ceremony. For each ceremony, a news is published right away in the electronic newsletter e-EPS and on the EPS web site,

and an extended article is published afterwards in EPN.

Here is the link to use to make Historic Site Nominations: https://www.eps.org/general/custom.asp?page=distinction_sites

YOUNG MINDS

Chair: Roberta Caruso

In addition to the information in 2019 Highlights (above), the Young Minds Action Committee is composed of EPS President Petra Rudolf, EPS Secretary General David Lee, Executive Committee member Sylvie Jacquemot, EPS Conference manager Ophelia Fornari, Roberta Caruso (chair, Italy), Daryna Pesina (Ukraine), Araceli Venegas Gomes (UK), Richard Zeltner (Germany), Giorgio Nocerino (UK) and Imran Khan (Germany). In November 2019, R. Caruso and A. Venegas Gomez announced that they will leave their role as committee members in May 2020, after the celebrations for the 20th anniversary of YM. The new YM chair will be elected in May 2020, while the new committee members have been selected in December with an open call for all the members of the YM network. The new committee members will be Hripsime Mkrytchan (Armenia) and Tanausu Hernandez (Spain).

The Action Committee met in May 2019 in Erlangen, right before the Leadership Meeting, and in Warsaw in October 2019, hosted by the local Young Minds section.

During both meetings there were special feedback sessions with the sections, to discuss issues and strengths of the Young Minds project from their perspective.

Following the discussion with section representatives in 2018, the YM Action Committee presented a proposal for reduced EPS membership fee for YM members. The EPS Executive Committee agreed to waive membership fees for all undergraduate students that are part of the YM project and together with EPS headquarters, YM Action Committee introduced a new platform to manage YM membership and activities.

The Action Committee also drafted a Memorandum of Understanding with the Grupo de Estudiantes of the Royal Spanish Physical Society, in order to encourage the creation of new YM sections within the Grupo de Estudiantes and vicevers.

Young Minds Grants

Each section can apply for a maximum of 1000€ for the YM Conference Grant and up to 1000€ for the regular Activity Grant. The tables below summarize the number of activity grant requests, the number of activity grants approved, the total amount of funding requested, and the total amount of funding granted for each deadline.

Sections are assisted during the grant submission process, and especially for the YM Conference Grant the Action Committee provides feedback and the possibility to resubmit the grant twice, in a sort of peer review process that helps both parties.

2019	Requests	Approved with full amount	Approved with reduced amount	Total amount requested (€)	Total amount granted (€)
January 15 th deadline	48	34 (71%)	11 (23%)	15789	12708
July 15 th deadline	36	25 (70%)	9 (25%)	11955	10940

2019	Requests	Approved with full amount	Approved upon condition	Total amount requested (€)	Total amount granted (€)
January 15 th deadline	3	1	1	3000	1000
April 15 th deadline	3	2	1	2800	1800
July 15 th deadline	5	3	2	4800	4050
October 15 th deadline	1	-	-	1000	-

8th Leadership Meeting

Every year, one representative per section is invited to attend the Leadership Meeting, an event where they can present and discuss their section's activities. The 2019 Leadership Meeting was organized at the Max Planck Institute in Erlangen by the local YM section. The meeting started with an overview of the institute from MPL director Prof. Dr. Philip Russel, followed by an overview of the scientific highlights of the host institution. A large part of the meeting has been devoted to professional development, with two talks from industry representatives (Dr. Bettina Heim, OHB System and Dr. Michael Fortsch, Q.ant) and two perspective talks, one from Araceli Venegas Gomez, recipient of the first the Milton and Rosalind Chang Pivoting Fellowship from OSA Foundation and one from Prof. Dr. Petra Rudolf, EPS President. The second part of the meeting has been devoted to the project itself, with an overview of the current state of YM given by Roberta Caruso, followed by presentations of the activities by the section representatives. Besides the Action Committee, the invited speakers and the local representatives, the meeting was attended by 30 section representatives and 12 local section members.

CONFERENCE COMMITTEE

Chair: Dominique Vernhet

Conferences, Workshops, and Summer Schools are essential elements in the communication of physics, the career development of physicists, the promotion of physics towards students and young scientists, and for the reputation, the credibility, and the visibility of the EPS and physics research activities. The role of the Conference Committee is to advise the EPS Executive Committee on the development of all activities and programmes in the area of such scientific events, and to administer EPS Conference grants. The committee members are Dominique Vernhet (Chair), Ophelia Fornari (Secretary), Marian Reiffers (former EPS ExCom from April 2016) and Christian Beck (Chair EPS SNPD).

The Conference Committee is responsible for the collecting and disseminating information on both Europhysics Conferences (*i.e.* conferences organized by EPS Divisions and Groups), and for evaluating applications to obtain the label of EPS Recognised Conference. Conference organizers may also request EPS Conference patronage, which is awarded upon approval of the President and entitles the organizers to use the EPS logo and communications network to disseminate information.

Two years ago, accordingly to the decision taken by the EPS executive committee end of 2017, in the frame of the gender fairness in Physics, we launched a monitoring of the women participation in the physics conferences organised by the EPS. In this respect, the local organising committee of all the conferences labelled by the EPS must engage themselves to collect and send the result of the monitoring of women participation to the EPS Conference Service. This has been added as one of the required criteria in the conferences guidelines when applying for any of the EPS label. It will allow the Conference service to collect those statistics over a two years period and the President of the EPS Equal Opportunity Committee to present a compilation of these statistics at the first Executive Committee meeting of the year 2020. Note that in turn, the conference organizers should have received the EPS "Monitoring for Gender Fairness" Label together with the EPS logo, but this has not yet been implemented.

Conferences/ scientific events

The Conference Committee received **31 applications** of conferences for 2019 and 2020. Among them, 12 Europhysics and 9 EPS Recognised conferences have been approved for 2019, 2 rejected applications. For 2020, at the moment, 4 Europhysics conferences have been approved, 1 Recognised, and 3 applications which are in pending status.

In 2019, the conferences organised by the EPS Conference Service were the Nanometa Conference in Seefeld, Austria with 210 participants, the CLEO/Europe EQEC 2019 in Munich, Germany with 2122 participants, 200 more than in 2017. In addition

they organised the 8th EPS Young Minds Leadership Meeting, in Erlangen, Germany in collaboration with the Erlangen Young Minds section and organised the Council meeting in Split, Croatia. Moreover, the Conference Department handled billing for the SNPD conference.

Conference Grants

The EPS makes grants available to the organizers of Europhysics conferences to allow for the participation of **Young Scientists** in their meeting. Per conference a maximum of 3 grants of 350 € each can be distributed. In 2019, grants totalling **6,300 €** were distributed

IM Travel Grants: The EPS makes grants available to individual members (IMs) of the EPS to allow for the participation in an EPS labelled (Europhysics or Recognised) meeting. Members may receive a grant of 350 € only once and may request support only in the first 3 years of their membership. 6 such grants were distributed in 2019, for a total of **2,100 €**.

Invited Speaker Grants: The EPS makes grants, of 500 € each, available to conferences organized by EPS Divisions and Groups (Europhysics conferences) to cover costs of invited speakers. 4 grants were distributed in 2019, *i.e.* **2,000 €**.

EPS Poster Prize: Grants, of 200 € each, are available to EPS Europhysics or Recognised conferences for a poster prize, to make an award to a student who has presented the best poster at the conference. 10 prizes were awarded in 2019, *i.e.* **2,000 €**.

In conclusion, in 2019, the total budget spent was of an amount of **12,400 €**.

Further information on EPS conferences and grants, including application procedures, is available on the EPS website.

DISTINCTIONS AND AWARD COMMITTEE

Chair: Jo Hermans,
Members: Angela Bracco,
Elisabeth Rachlew, Marian Reiffers

1. The D&A Committee produced a comprehensive overview of all recipients of all Distinctions, Prizes and Awards from

the EPS and its Divisions and Groups in the period 1975 through 2018, including the lists of the Honorary Members and EPS Fellows.

2. The following distinctions and prizes were awarded during the year 2019:

- The 2019 EPS-QEOD Prize for Research into the Science of Light was awarded to **Javier García de Abajo**, ICFO-Institut de Ciències Fotoniques, Castelldefels, Barcelona, Spain “For pioneering contributions to the understanding of the behavior of light at the nanoscale, in particular in plasmons and in light interactions with free electrons”.
- The EPS Alfven Prize 2019 was awarded to **Victor Malka**, CNRS/ENSTA, ParisTech/Ecole Polytechnique, France and **Toshiki Tajima**, University of California, Irvine, U.S.A “For outstanding contributions to plasma physics”.
- The Letokhov Medal was awarded to **Ferenc Krausz**, LMU Munich and MPQ Garching, Germany as the first recipient of this new prize. The Letokhov Medal aims at recognizing outstanding contributions in laser-matter interaction, in particular spectroscopy of atoms and molecules, laser manipulation of atoms, and strong field processes. The prize consists of a medal, a certificate and a monetary award of 5,000 €.
- The Statistical and Nonlinear Physics Prize 2019 was awarded to **Satya Majumdar** (Paris-Sud) for outstanding theoretical contributions in nonequilibrium statistical mechanics, and to **Sergio Ciliberto** (Lyon) who provided experimental verifications of some highly relevant fluctuation theorems in the field.
- The SNPD Early Career Prize was awarded to two very bright young prize winners: **Karel Proesmans** (Hasselt) and **Valentina Ros** (Saclay).
- The EPS Quantum Electronics and Optics Prize for applied aspects was awarded to **Govind Agrawal**, University of Rochester, USA, “For pioneering and groundbreaking research that underpins a wide range of current photonic technologies in the

fields of semiconductor lasers, nonlinear fiber optics and optical communication systems”.

- The EPS Quantum Electronics and Optics Prize for fundamental aspects was awarded to **Anne L’Huillier**, Lund Institute of Technology, Sweden, “in recognition of her pioneering experimental and theoretical contributions to attosecond pulse trains using high harmonics, which form the basis of today’s successful field of attosecond science”.
- - The Fresnel Prize (fundamental aspects) was awarded to **Carlos Hernández-García**, “For pioneering contributions to the theory of high harmonic generation, uncovering new regimes of attosecond and zeptosecond waveforms and designer beams with orbital and spin angular momentum”.
- The Fresnel Prize (applied aspects) was awarded to **Matteo Lucchini**, “For outstanding contributions in the field of attosecond science. In particular for seminal contribution in the investigation of attosecond electron dynamics in solid state materials”.- The EPS/QEOD Thesis Prizes (fundamental aspects) were awarded to **Ileana-Cristina Benea-Chelmus**, “Terahertz quantum optics with ultra-short pulses” and to **Fabian Langer**, “Lightwave-driven quasiparticle acceleration”.
- The EPS/QEOD Thesis Prizes (applied aspects) were awarded to **Armin Feist**, “Next-Generation Ultrafast Transmission Electron Microscopy – Development and Applications” and to **Mathieu Massicotte**, “Ultrafast optoelectronics in 2D materials and their heterostructures”.
- The Young Scientist Prize 2019 of the AMOPD-EPS was awarded to **Philip Haslinger**, TU Wien.
- The 2019 Summer Emmy Noether Distinction was awarded to **Sarah Koester**, Institute “for X-Ray Physics, Georg-August-University Göttingen, Germany, for her seminal contributions to the physics of biological cells and biopolymers, in particular for the understanding of intermediate filaments, and her impressive ability in teaching and recruiting women

scientists in her field of research”.

- The 2019 Winter Emmy Noether Distinction was awarded to **Cristiane Morais Smith**, Institute for Theoretical Physics, Utrecht University, the Netherlands, “for her outstanding contributions to the theory of condensed matter systems and ultracold atoms to unveil novel quantum states of matter”.
- For endorsement, the Executive Committee now requires that at least one should be female be nominated for all EPS Prizes.

EQUAL OPPORTUNITIES COMMITTEE

Chair: Luc Bergé

During 2019 the Equal Opportunity Committee (EOC) of the EPS has been engaged in several actions aiming to promote a balanced gender representation in physics.

The Committee is composed of Luc Bergé (Chair), Martine Bosman, Nadia Martucciello, Giorgio Nocerino (representative of the Young Minds Action Committee), Ana Proykova, Elisabeth Rachlew, and Els De Wolf.

The Emmy Noether Distinction

In 2019 the EOC revised the Charter of the Emmy Noether Distinction in order



Emmy Noether Distinction Medal presented to Prof. Cristiane Morais Smith in January 2020. This award was attributed in summer 2019 and in winter 2019. The 2019 laureate for the Summer edition of the Emmy Noether Distinction is Prof. Sarah Köster, from the Institute for X-Ray Physics, Georg-August-University Göttingen, Germany, “for her seminal contributions to the physics of biological cells and biopolymers, in particular for the understanding of intermediate filaments, and her impressive ability in teaching and recruiting women scientists in her field of research.” The 2019 laureate of the Winter edition is Cristiane Morais Smith from the Institute for Theoretical Physics, Utrecht University, the Netherlands, “for her outstanding contributions to the theory of condensed matter systems and ultracold atoms to unveil novel quantum states of matter”.

to enlarge the nominations to any full EPS member being individual member, member of EPS Member Societies, Collaborating Societies or Associate Members of the EPS, at any time of the year. The distinction now consists not only in a diploma, but also in a medal (see FIG. 1). The Emmy Noether distinction brings to the wider attention of the scientific community and of the general public outstanding women scientists, identifying them as role models for the young generations of physicists. News about the winners are published right away in the electronic newsletter e-EPS, on the EPS web site and in EuroPhysics News.

The prize committee is constituted of a majority of EOC members completed by EOC delegates belonging to the Boards of the EPS Divisions and Groups (see below).

Additional activities of the Equal Opportunities Committee are presented as 2019 Highlights, above.

Awarding the First Letokhov Medal

The Vladilen Letokhov Medal has been created in cooperation between the Quantum Electronics and Optics Division (QEOD) and the Atomic, Molecular and Optical Physics Division (AMOPD) of the EPS, and the Institute of Spectroscopy of the Russian Academy of Sciences (ISAN/RAS) in Troitsk/Russia. The EPS henceforth proposes a prestigious award that strengthens our relationships with Russian scientists, whose scientific heritage has been deeply – and still is – highly impactful in the physics community.



(left) the EPS V. Letokhov Medal. (b) Prof. Ferenc Krausz.

The Medal has been established in memory of Professor Vladilen S. Letokhov (1939-2009), former Vice-Director for research of the Institute of Spectroscopy of the Russian Academy of Sciences (ISAN), in order to recognize outstanding contributions in the field of laser-matter interaction, in particular

spectroscopy of atoms and molecules, laser manipulation of atoms, and strong field processes. The medal is presented every odd year at a major conference alternatively sponsored by the QEOD and AMOPD Divisions of the EPS. The prize consists of a medal, a certificate and a monetary award set at 5,000 €, partly supported by ISAN/RAS.

In 2019 the first edition of the Letokhov Medal was presented at the ECAMP Conference organized by AMOPD in Firenze on April 8-12, 2019. The prize committee, chaired by Luc Bergé, received 17 nominations (among which 2 women) and not less than 58 recommendation letters (in particular from 5 Nobel Laureates, APS and OSA Presidents). The Medal was awarded to Prof. Dr. Ferenc Krausz, Director of the Max Planck Institute of Quantum Optics (MPQ) and Chair for Experimental Physics & Laser Physics at the Ludwig-Maximilians-Universität (LMU) Munich, “for his contribution to the development of high-field laser physics, in particular for pioneering attosecond physics, through which real-time views of electron motion in atoms, molecules, and solids have become possible” (Figure).

COMMITTEE ON EUROPEAN INTEGRATION

Chair: Radu Constantinescu

EPS - CEI Present Composition

The present composition of the Committee is (in alphabetic order):

- *Radu Constantinescu*, University of Craiova, Romania (chair).
- *Goran Djordjevic*, University of Nis, Serbia.
- *Maciej Kolwas*, Institute of Physics of the Polish Academy of Sciences, Poland.
- *Denes Lajos Nagy*, Hungarian Academy of Sciences, Budapest, Hungary.
- *Alexei Morozov*, ITEP Moscow, Russia.
- *Sofoklis Sotiriou*, Ellinogermaniki Agogi Pallini, Greece.
- *Gertrud Zwicknagl*, Institute of Mathematical Physics Braunschweig, Germany.

EPS – CEI Strategy

In 2019 the activity of EPS-CEI followed the **five main directions** established in the general strategy adopted by the Committee, strategy aiming to promote Physics and the scientific cooperation across Central, Eastern and Southern parts of Europe. The five directions are:

1. Integrating the access to research infrastructures in Europe.
2. Student training through a School Program supported by EPS.
3. Physics education and teacher training.
4. Strengthening the regional cooperation among EPS member societies and other regional organizations.
5. Promotion of physics in the regions.

Synergy with other organizations

The objective of strengthening the cooperation of EPS with other regional organizations from the Central, Eastern and Southern parts of Europe was followed by considering the cooperation with other stakeholders as, for example:

- CERN Geneva
- ICTP Trieste
- CEI Trieste
- BPU – Balkan Physical Union
- SEENET MTP - South-Eastern European Network in Mathematical and Theoretical Physics.

Specific activities in 2019

1) An EPS-CEI meeting, with the participation of CEI-EPS members, of representatives of BPU and of SEENET-MTP, was held in Craiova (Romania), on May 17th- 19th, 2019. It was included as a distinct part in the program of the Joint Meeting “Physics in Balkans”.

The meeting had as main objective the strengthening of the cooperation among researchers and Physics educators from South-Eastern part of Europe. Specifically, a main topic of discussions was related to the re-launching of the Balkan Physics Olympiads, contest addressed to the gifted high-school students from the Balkan Region. It was established that a first contest will be held in Thessaloniki (Greece), in July 2019, in the joint organization of EPS, BPU and Hellenic Physical Society (HPS).

In the meeting in Craiova, the EPS-CEI was represented by Radu Constantinescu, Goran Djordjevic and Gertrud Zwignagl. Other participants, representing BPU, were Kostas Vourlias (Greece) and Maya Zhekova (Bulgaria). David Lee, the EPS general secretary, also attended the meeting. During this time, the host institution, the University of Craiova, ran a competition addressed to the local students in Physics, some EPS prizes being awarded to the winners. The amount allocated from the EPS-CEI grant was 3,000 Euro.

2) An important activity related to the EPS-CEI objective of training the PhD students from the South-Eastern part of Europe was the Balkan School and Workshop “High Energy and Particle Physics: Theory and Phenomenology”, hosted by the University of Ioannina (Greece), from June 3rd to June 10th 2019. The School was attended by 37 PhD students from 9 countries. Partially supported by EPS – CEI, the school was part of a running CERN – ICTP Program for PhD students and young scientists. The School was connected with an interesting scientific meeting, “Advances in Fields, Particles and Cosmology”, held in the same place. Many scientists from the region presented their scientific achievements to the PhD students participating in the event. Information on the activity can be found at <http://bs2019.physics.uoi.gr>. The amount used from the EPS-CEI budget to support the school and the workshop was 3,100 Euro, from which 2,300 Euro was transferred to the University of Ioannina for covering some of the organizational costs. The difference was used for covering the travel and the accommodation of few scientists participating in the meeting.

3) As it was established by the EPS-CEI during the meeting in Craiova, the Balkan Physics Olympiad was held in Thessaloniki (Greece), from July 14th to July 17th, 2019. Teams from 10 countries participated in the contest: Bosnia Herzegovina, Bulgaria, Cyprus, Greece, Montenegro, North-Macedonia, Romania, Serbia, Slovenia and Turkey. It was a very good opportunity of promoting the scientific education, the competition being jointly held with a

Science festival. The president of the Local Organizing Committee was Kostas Vourlias, scientific secretary of BPU and president of the Hellenic Physical Society – Thessaloniki Branch. An important support in organizing the whole activity came from Sofoklis Sotiriou, member of EPS – CEI. Extended information on the activity is presented at https://balkanphysicalunion.info/?page_id=657. The event was financed by EPS – CEI with an amount of 2,400 Euro, from which 2,000 Euro being transferred to organizers and 400 Euro covering the travel costs of some participants.

4) Co-organization of The *XI Bolyai-Gauss-Lobachevsky Conference (BGL-2019)*: “Non-Euclidean, Non-Commutative, Geometry and Quantum Physics”. The conference was organized by the Bogolyubov Institute for Theoretical Physics (BITP) of the National Academy of Sciences of Ukraine, and took place in Kyiv, from May 19th to May 24th, 2019.

BGL-2019 was devoted to the impact of non-Euclidean geometry on modern quantum physics. The main topics in the focus included, <https://indico.bitp.kiev.ua/event/3/>:

- Non-Euclidean & non-commutative geometry: theory and applications
- Quantum fields in curved spaces; symmetry & supersymmetry
- Quantum groups & quantum algebras
- Deformed quantum models and systems
- Quantum statistics, quantum information theory
- Quantum gravity & cosmology
- Gravitational waves, dark matter, dark energy
- Classical and quantum integrable systems.
- The financial contribution of EPS – CEI to the organization of the conference was 1,500 Euro.

5) Co-financing the *Informal Physical Societies Exchange Conference (IPSEC XII)* –session, held on September 13th 2019, in Kraków (Poland), in parallel with the XLV Meeting of Polish Physicists. IPSEC became a well-recognized forum allowing to National Physics Societies from various countries to present the state of the art related to the role of Physics in their countries,

as well as the most important activities they have organized. The session of the year 2019, was chaired by Maciej Kolwas, member of EPS – CEI, and was attended by representatives of several international societies such as the European Physical Society, the Slovak Physical Society, the German Physical Society, the Institute of Physics, the French Physical Society, the Lithuanian Physical Society, the Czech Physical Society, and the Physical Society of Taiwan. See <https://www.epsnews.eu/2012/02/ipsec/>.

The financial contribution to the organization of the activity from the EPS-CEI budget was of 2,000 Euro.

6) Despite not directly financed by EPS-CEI, we will also refer to two other meetings, very important in terms of strengthening the scientific cooperation among EPS, the Physical National Societies and the other stakeholder institutions mentioned before:

From October 20th to October 22nd, 2019 it was organized in Trieste the “SEENET-MTP Assessment Meeting”, in the frame of the cooperation agreement between SEENET-MTP and ICTP. It was a very good opportunity of gathering high level physicists and representatives of important stakeholders who could contribute to the development of the scientific cooperation in Physics, in the extended Europe: ICTP, CERN, CEI, BPU, SEENET-MTP. New activities have been planned and new opportunities of cooperation have been discussed <https://www.seenet-mtp.info/news/assessment-meeting-and-sac-meeting-in-trieste>. During this meeting the Abdus Salam International Centre for Theoretical Physics (ICTP) has joined The Framework Agreement for Scientific and Technical Collaboration – the bilateral agreement between CERN and SEENET-MTP Network, established in 2017. The Annex to the Agreement was signed by the ICTP director Professor Fernando Quevedo, and Dr. Dragoljub Dimitrijević, scientific secretary of the SEENET-MTP Network and its Office in Niš.

From December 1st to December 4th, 2019, representatives from Bulgaria, Greece, Serbia, Romania and Turkey participated in a meeting held in Craiova (Romania). It was dedicated to the identification of the

possible projects that could be prepared for obtaining complementary financial support in promoting the cooperation among the Physicists from the South-Eastern European countries. The main organizers of the meeting was SEENET-MTP and the costs were covered from the budget of the ICTP-SEENET Project NT-03 “Cosmology-Classical and Quantum Challenges” coordinated by prof. Goran Djordjevic, the executive director of SEENET-MTP. Three main EU programs were identified: the COST Action Program, the CEEPUS Program, and the Erasmus+ Program. Application to CEEPUS was already sent,

while for the other two programs the applications will be elaborated during the spring 2020.

FORUM PHYSICS AND SOCIETY

Chair: Carlos Hidalgo

Physics for Society – Grand Challenges on the Horizon 2050

The Grand Challenges EPS action is designed to address the social dimension of science and the grand challenges in Physics that will bring radical change to developed

societies, to raise standards of living at the global scale, and to provide basic understanding of nature on the Horizon 2050. This action is developed within the framework of the EPS Forum Physics and Society activities in the period 2019 – 2021

Two Editorial Board meetings [June 14th and November 29th] were held during 2019. Membership of the Editorial Board and terms of reference were approved during the first meeting. The structure and topics to be covered, as well as EPS coordinators, were discussed during both meetings.

The final structure and chapter coordinators are as follows:

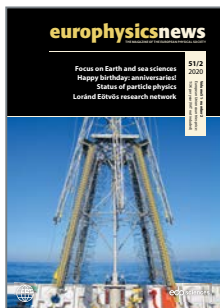
Theme 1: PHYSICS AS GLOBAL HUMAN ENTERPRISE FOR UNDERSTANDING NATURE		
		Coordinators
Chapter 1.1. PHYSICS BRINGING THE INFINITIES	1.1.1. Particle physics: physics beyond the Standard Model 1.1.2. Nuclear and plasma physics: origin of matter in the visible universe. 1.1.3. Quantum gravity: an unfinished revolution 1.1.4. What is the universe made of: searching for dark energy & matter. 1.1.5. A gravitational universe: black holes and gravitation waves. 1.1.6. Stars, the Sun and planetary systems as physics laboratories. 1.1.7. Physics of Earth, planetary interiors and space environments	Claudia-Elisabeth WULZ [High Energy & Particle Physics Division] Mairi SAKELLARIADOU [Gravitational Physics Division]
Chapter 1.2. MATTER AND WAVES	1.2.1. Quantum many body systems and emerging phenomena. 1.2.2. The search for new materials 1.2.3. High temperature superconductors: physics and applications. 1.2.4. Topological states and novel quantum states 1.2.5. Manipulating photons and atoms: photonics and nanophysics 1.2.6. Extreme light 1.2.7. Systems with numerous degrees of freedom	Kees VAN DER BEEK [Condensed Matter Division]
Chapter 1.3. PHYSICS FOR UNDERSTANDING LIFE	1.3.1. Searching for life in the universe: What is our place in the universe? 1.3.2. Artificial intelligence: What is the nature of human mind?. 1.3.3. Artificial life: sustainable self-replicating systems 1.3.4. Where physics meets biology: Is there new Physics in living matter?. 1.3.5. The emergence of life: the Sun-Earth connection	Felix RITORT [Division of Physics in Life Sciences] Bart VANTIGGELEN [EPL Editor]

Theme 2: PHYSICS DEVELOPMENTS TO TACKLING MAJOR ISSUES DIRECTLY AFFECTING THE LIVES OF CITIZENS		
		Coordinators
Chapter 2.1. PHYSICS FOR HEALTH	2.1.1. Accelerators for health 2.1.2. Bionics and robotics 2.1.3. Light for health 2.1.4. Further diagnostics and therapies	Ralph ASSMANN [Accelerator Group] Giulio CERULLO [Quantum Electronics and Optics Division]
Chapter 2.2. PHYSICS FOR ENVIRONMENT AND SUSTAINABLE DEVELOPMENT	2.2.1. Physics of earth and climate 2.2.2. Physics fields with relevance for energy technologies 2.2.3. Green cities and transport 2.2.4. Environmental safety 2.2.5. Understanding and predicting space weather	Ulrich PLATT [Environmental Physics Division] Luisa Cifarelli [EPS Past President]
Chapter 2.3. PHYSICS FOR SECURE AND EFFICIENT SOCIETIES	2.3.1. Second Quantum revolution: quantum computing and cyber security 2.3.2. Information and communication technologies 2.3.3. Bio-inspired technologies 2.3.4. Sensors and applications 2.3.5. Large-scale complex socio-technical systems and their interactions 2.3.6. Artificial Intelligence and data science 2.3.7. Science citizen	Felicia BARBATO [Technology and Innovation Group] Christian BECK [Statistical and nonlinear Physics Division]

The third Editorial Board meeting will be held on February 27th [2020] to discuss potential authors and the final structure of the EPS Forum 2020 [Berlin, October 1st – 2nd] on the occasion of the 175 years Anniversary of The German Physical Society.

JOURNALS REPORTS 2019

EUROPHYSICS NEWS (EPN)



Editor:

V.R. Velasco
and E. de Wolf

Science Editor:

F.J. Iglói

Statistics – The paper version of EPN, published by EDP Sciences, comprises 25,000 copies per issue, which are distributed to Individual Members and National Physical Societies. A digital version is Open Access available on the websites europhysicsnews.org and epn.eps.org. In 2019, the EPN 50 edition contained the usual five issues. A total of more than one hundred contributions were published in the sections: EPS Editorial (5; 5 pages), News (17; 26 pages), Highlights from European journals (55; 23 pages), Features (28; 98 pages). The EPS Editorial is provided by the EPS President and the Executive Committee. The News section comprised reports about EPS events such as award and prize winners, Historic Sites ceremonies, Conferences and events from the broader physics community. Highlights in European journals were received from EPL, EPJ and JPHYS. Features covered physics research and education, science policy in Europe and interviews. Opinions of individuals were presented in Columns and Letters to the Editor. EPN 51/2 was a special issue on the Nobel Prize in Physics 2018 and lasers with Antigone Marino as Guest Co-editor.

Goals - EPN is the EPS magazine made by physicists for physicists. It is a communication channel of EPS and serves many objectives. It offers the global physics community of people with an education in physics a platform to become informed and to present new research and education initiatives. The platform can be used to promote early-career physicists, discuss and alert for

science policies in Europe, make connection with physicists inside academia, with teachers and those that found a career in industry or other organisations. Ambitious goals for a small team of editors and a limited budget, but with a vast amount of volunteers inside and outside EPS willing to fill the EPN pages with attractive articles. More than a hundred of them contributed to EPN 50 in 2019.

The editorial team - During the year, Els de Wolf gradually took over from Victor Velasco, who excellently served for many years as EPN Editor. Ferenc Iglói continued as Science Editor and the production team with Xavier de Araujo for the graphics design and the support by EDP Sciences remained unaltered. The editors rely on the Editorial Advisory Board (EAB), that had to bid farewell to Robert Klanner who reached the end of his term and to Claude Sébenne, former EPN Editor. Arnulf Quadt (Göttingen), Victor Velasco (Madrid) and Roberta Caruso (Naples, representing Young Minds) joined the team in 2019. The EAB continues widening the scope of Feature topics as much as possible, recruiting authors increasingly from the borders of physics and other domains. This is progressively achieved by adjusting the composition of the board, upon member replacements, giving priority to topical rather than geographical distribution. We feel that EPN must primarily be instructive and pleasant to read, but we also try to report from the cutting edge of physics research.

Website - The website europhysicsnews.org is maintained and monitored by EDP Sciences. EPN issues are Open Access made available in pdf format and as Google searchable flipbook at epn.eps.org. The number of visitors of the website decreased from about 25,000 in 2018 to 18,000 in 2019, mainly because a suspicious blogger site in the USA was no longer interested. The number of page views was 47,000.

Traffic on the EPN website is mostly direct, *i.e.* visitors type the URL directly into their browsers. It is an indication that visitors are already familiar with the existence of EPN. Despite the sharp decrease in the number of visitors, the number of downloads was with 466,000 at the same level as in 2018 and the ‘Scopus CiteScore 2018’ was higher (0.31) than in previous years. Visitors came predominantly from North-America (about 28%), West-Europe (about 25%), and Asia (about 13%). The article ‘Europe’s Quantum Flagship is taking off’, published in EPN 49/5&6 was the top download in 2019. The website offers authors the possibility to store complementary documents such as videos or scientific developments related to a subject that is presented in the printed issue. As in most previous years, in 2019 this possibility has not been used. In conclusion, the website attracts a reasonable amount of visitors, although efforts should be made to attract visitors from East-Europe. In 2020, authors will be encouraged again to store additional material related to their article, while the new dedicated twitter account @europhysicsnews will be used to enhance the visibility of the website.

Relation with EPS - Since EPN is one of the communication channels for EPS, the relation is tight. In 2019, this was visible by the EPS Editorials delivered by the EPS President and the Executive Committee, the reports on the Council meeting, two Historic Sites, two EPS awards and one EPS Conferences. In addition a Division report was published about the European Particle Physics Strategy. We encourage the Executive Committee and Division and Groups to more often submit scientific reports on EPS conferences and in particular about prize and award laureates of the Society. What would the feelings of a prize laureate be whose name and work remain unknown except for a few people besides the jury? Why limit such information to the Council members when

more than 30,000 EPN readers could read about it?

A new decade, a new face for EPN - At the EAB meeting in September 2019, a first discussion about possible upgrades of EPN took place. These comprise for instance the introduction of mini-themes as a focus for

each issue, a new section by and for Young Minds, a new section 'In the spotlights' replacing the 'News' section, more human interest issues and a keen eye for diversity in content and among authors. Financial possibilities for modernising the look-and-feel of EPN will be investigated in 2020.

In summary, the editorial team of EPN, however small, hopes to continue to make an increasingly interesting journal and each Council member can help by providing short information of lasting interest (preferably with pictures) at the wider European scope.

EPL



Editor in Chief:
Bart van Tiggelen
(Grenoble)

Executive Editor:

Dr Anne Ruimy (EDP-Sciences Les Ulis)

Staff Editor:

Frédéric Burr (EPS Mulhouse)

Production Editor:

Barbara Ancarani (SIF Bologna)

Business Manager:

David Lee (EPS Mulhouse)

Product Manager:

Emma Watkins (IOPP Bristol) and

Catherine Brassac (EDP Sciences Les Ulis)

Deputy Editors:

Prof. Roberta Citro (Salerno) and

Prof. Gonzalo Muga (Bilbao)

The year 2019 started with 13 newly appointed Co-Editors, replacing 10 Co-Editors who stepped down as well as 2 non-active Co-Editors, and one Co-Editor who had been elected President of EPS. As of March 2019, our Editorial Board comprised 67 Co-Editors and 2 Deputy Editors. Co-Editors should cover all disciplines of physics, as well as all countries important for EPL, apart from EPS member states also India, China and the US. The policy of the current Editor-in-Chief is to propose young rising stars for nomination by EPS, and to have a representative number of female scientists on the board. The current ratio of 1/3 of female and 2/3 of male Co-Editors is reasonable but can be improved. It is also important to appoint Co-Editors on rising

themes such as quantum information, machine learning and complexity. Although EPL is open for all physics, the vast majority (80 %) of the published articles are of theoretical nature.

During the 5-year period 2015-2019, 7562 submissions were received, among which 5772 were sent out for Peer-Review. Hence 23 % of the manuscripts were rejected without external review, either directly by the editorial office for style reasons, or by the handling Co-Editor after careful reading. The reject of "bad" manuscripts without Peer-Review is a policy that is encouraged, especially because the number of "strange" submissions ("Michelson-Morley experiment is wrong", "General relativity is incomplete", etc) is steadily growing. Nevertheless, the Editor-in-Chief also encourages Co-Editors to accept "controversial" manuscripts, where reviewers pose good questions that have no immediate answers. Only 50 % of the 26325 requests sent out to potential reviewers in the same period led to a report, which shows our struggle to maintain high quality Peer-Review. On average 2.3 reports were produced for each submission sent out for review. This last number demonstrates a healthy performance of the Editorial Board, 2 being the desired value, knowing that many submissions undergo a second round of review. A Co-Editor handles on average 17 manuscripts per year (20 in 2018). This is a supportable workload but note that some Co-Editors in statistical physics, quantum information, complexity and cosmology often handle more than 3 manuscripts per month: Roughly 25 % of the Co-Editors handles 50 % of the submitted manuscripts.

In 2019 the Board of Directors reconfirmed the policy of EPL with respect to misconduct and (self-) plagiarism in

particular, a phenomenon that unfortunately becomes more and more frequent. As a general reference, EPL applies the COPE (Committee on Publication Ethics) guidelines regarding all issues related to the integrity of scholarly research and commits itself to investigate all well-formulated allegations profoundly and confidentially. In 2019 a few EPL articles were scrutinized on possible plagiarism after an external complaint. In two cases, self-plagiarism of an EPL article was identified in articles published later by another journal, leading to their withdrawal, and to the blacklisting of one author.

Bibliometrics

During the year 2019, EPL received 1152 submissions, against 1328 in 2018 with almost 60 % of the submissions coming from Asia (33 % from China, 13 % from India), and with (only) 25 % coming from EPS member states. The number of submissions is again declining by more than 10 % and this is a major worry. Especially in condensed matter physics, EPL lost many submissions. China alone submitted 18 % less. The countries UK, Italy, Russia and Germany saw their submissions falling by more than 20 %. The reason is undoubtedly that a few years ago the impact factor went down through the symbolical 2.0 barrier (1.957 early 2017, 1.834 early 2018, and 1.886 early 2019) and EPL is now ranked in the second quartile Q2 of Journal Rankings in Physics and Astronomy (SJR). For many potential authors such "second-rank" position prevents them from submitting to EPL, not rarely discouraged by their funding agencies. EPL also suffers from too many "Sleeping Beauties", *i.e.* zero-cited papers that are potentially interesting but apparently not visible. With 498 papers accepted

in 2019, our acceptance rate remains constant around a satisfactory 40 %.

After a peak in 2017, the total number of downloads has dipped back below 600,000, with the total for 2019 at 558,586. Around 11% of all downloads in 2019 concerned submissions in 2019 and the download of archive content remained high and stable. However, since the number of submissions declined again in 2019 there was actually an increase in average downloads per article, at 157 for manuscripts published in 2019, up from 152 in 2018. Editor's Choice articles, of which 24 were published in 2019, received on average 220 downloads per article, which demonstrates the high quality of these articles selected by Co-Editors, and free to read for one year. The 9 Perspective articles published in 2019 have brought in a total of 5,181 downloads by the end of December 2019, implying an average of no less than 576 per article. The programme benefitted from an increased commissioning especially by the two Deputy Editors, and has also seen a good growth from the 6 Perspective articles published in 2018.

China remains the single highest downloader of EPL content, and has increased its share in 2019 to 17% of all downloads, before the USA with 14% of downloads. There is still a big gap to the next biggest consumers, with Germany at 7%; India, Japan and UK all representing between 4-5%, and France 3% of all downloads. Given the continued growth of research output from Asia, it is encouraging to report that Tokyo University and China University of Science and Technology are yet again the

top two highest downloading institutions. Perhaps unsurprisingly, five of the other eight positions in the top ten are also institutions in China, with two others taken by the Massachusetts Institute of Technology (MIT) and Cambridge University.

Editorial Process

The editorial process, from submission to publication, requires a close and recurrent collaboration between the four offices in Mulhouse, Bologna, Bristol and Les Ulis (until 2019) which is quite efficient. A strong element of EPL remains the quality and efficiency of the entire editorial process. For 2019 we report a median time of 78 days from submission to acceptance, and a median time of 13 days for revision by the authors of an in principle accepted manuscript. Only 30 days more are needed to get the final version on-line, but work is going on to reduce this time to about 20 days. Most "lost" time occurs externally and is due to reviewer requests with no reply.

EPL Support

EPL has sponsored 9 scientific events (poster prize, young physicist prize, umbrellas with EPL logo), with EPL visibility and with active participation of either Editor-in-Chief, Executive Editor, Deputy Editor, Co-Editor or Chairman of the Board. EPL sponsored the EPS Plasma Conference in Milan (chaired by EPL Co-Editor Prof Catherine Riconda, see photo), the EPS Statphys meeting in Nordita, chaired by EPL Co-Editor Prof. Christian Beck), the Vortex meeting in Antwerp, in

the presence of Co-Editor Prof. François Peeters, the biophysics section at the DGP meeting in Erlangen, in the presence of Co-Editor Prof. Holger Stark, the EPS Young Minds Best Activity Award, attributed to the YM sections Yerevan and Artsakh in Armenia during the 8th EPS Young Minds Leadership Meeting in Erlangen (see photo) and finally the Iberian meeting IBEREO 2019 on Rheology in Porto. In addition, EPL supported the 3 national meetings of the French Physical Society (SFP), the Italian Physical Society (SIF) and the joint Swiss/Austrian society (SPS/ÖPG). EPL was present at the meeting on Sustainable Open Access, organised by the publisher MDPI in Basel, at the IPSEC learned society meeting in Cracow, and at the annual SAC meeting of our partner Journal EPL. No EPS Europhysics Prize was awarded during this parity-odd year, always supported by EPL.

Invited Papers

The present policy is to edit each year typically 2 Focus Issues (edited by a Co-Editor) on hot topics and a number of commissioned perspective papers. In 2019 EPL finalized the Focus Issue on the *Physics of Quantum Engineering and Quantum Information*, edited by Deputy Editors and Editor-in-Chief, and a new Focus Issue is being launched on the *Turbulent regimes in Bose Einstein condensates*. EPL published 9 Perspective papers (on non-Markovian quantum dynamics, ultrafast electron-phonon coupling, entropy diffusion in biological systems, shortcuts to adiabaticity, terahertz spectroscopy from air plasmas,



experimental quantum causality, graph theory applied to statistical physics, ...). There is a real difficulty to persuade recognized scientists to respond to our invitation and we invite all EPS Divisions and Groups to propose suggestions to us. These invited research papers are generally well cited, but unfortunately, too few exist so far to make a real difference on impact factor. Finally, 26 articles were labelled "Editor's Choice" by the Editorial Board. They are free to read for one year, and 11 among them have been highlighted in Europhysics News.

Marketing & Promotion

In 2019 we formalised the 'vision statement' as a result of the market research work started in 2018. The purpose of the statement is to guide the EPL Board of Directors, Management Committee and Editorial Board when making decisions about the journal. It is not intended to be made public-facing but should inform any externally-facing copy.

EPL is a broad scope Letters journal that provides authors from around the world working in physics and related fields with fast, fair and constructive peer review thanks to our Editorial Board of active scientists, who are experts in their respective fields.

The journal prioritises scientific excellence and therefore does not utilise short-term metrics to prioritise or publish research. In addition, we ensure great science is given as much visibility as possible while supporting researchers worldwide to get the most benefit from their publishing experience.

EPL's values

- Driving for scientific rigour
- Embracing inter- and multidisciplinary work
- Prioritising professionalism and efficiency
- Supporting open science
- Making brave decisions
- Working collaboratively

Using this as an inspiration, the text under on epljournal.org was rewritten, and all marketing communications (emails, print pieces) used these themes to ensure a consistent message to our customers.

Key campaign activity in 2019 consisted of the following:

- Highlights campaign
- Meet the Editorial Board
- Calls for submissions
- Highlighting highly cited content

The **Highlights campaign** (involving special articles published 2018, either selected on scientific excellence by Co-Editors or characterized by many downloads) is the largest campaign of the year. As well as initial notifications when the collection went live, we also served Gmail adverts for several months to promote the page. The adverts were seen over 180,000 times. A printed brochure, produced for distribution at conferences worldwide, was also used in a direct mail targeted at 400 authors in competitor titles. This call for submissions was also sent by email to target authors, delivered to an additional 1100 contacts. Since 39 % of these contacts actually viewed the email, we may consider this campaign to be a success.

In terms of printed material, we have distributed our 'Why publish with EPL' leaflet to international conferences, nearly 80 in 2019. The leaflet was created this year using the new vision statement.

Following on from the market research in 2018 we also started our 'Meet the Editorial Board' campaign. One email was sent highlighting two of our new Board Members and showcasing their expertise. We will continue this campaign in 2020, to tackle the customer perception that our Editorial Board is not of the highest quality.

Continuing on the theme of quality, our most highly cited content in EPL was also celebrated this year. Authors of top-cited papers (more than 15 citations in 2019) were notified of their success and encouraged to publish in EPL again.

The Editorial Office continues to run the Twitter account for EPL, promoting recent articles and engaging with the community. Headline figures are as follows: 414 tweets in 2019 with a total of 2,686 engagements. Followers have grown to 890 at the time of writing (720 in 2018). Conferences supported by EPL are also promoted on Twitter.

Future challenges

The 1st of January 2019 has seen the activation of a new production contract between

the 4 Partners EPS, SIF, IOPP and EDP Sciences, with two important elements. First, all sales, including the stand-alone subscriptions, will gradually be taken over by IOPP. Second, the printed version of EPL has been cancelled, except for the Focus Issues, that will be printed in small numbers by the SIF.

With the Plan S issued in 2018, the challenge for EPL to respond to Open Access becomes more urgent than ever. The Plan S insists, in a nutshell, on *immediate* open access *free for all* readers and accepts different ways to accomplish this. Today, EPL is a hybrid journal with only very few Open Access papers (9 in 2018, 8 in 2019), and is classified as a **Romeo/Sherpa green Journal**: EPL requires the transfer of Copyright from the author to the journal, but allows immediate archiving on the personal website, yet with 12 months embargo to post on institutional repositories. Several elements are Plan-S incompatible. EPL has been engaged into a profound internal discussion on how to respond to Open Access. The option that is currently supported is to include EPL into the transformative agreements that IOPP is negotiating with many research organisations, and to increase the number of sponsored OA articles published within the journal.

The increase of impact factor is another major challenge, crucial for EPL survival. We hope that the active commissioning of articles will bring us back excellent authors that now prefer to publish elsewhere, mostly outside Europe. An active role of EPS Divisions and Groups to seek authors and topics for EPL would be most welcome. It may even be necessary to reconsider the scope of EPL, which is currently advertised as a broad-scope Letter journal in physics, and to hire staff and/or appoint Editors whose tasks will be specifically commissioning content for EPL.

Concerning the evolution of the Editorial Board in 2020, 2 very active Co-Editors have arrived at the end of their 7 year term, 14 reach the end of their 5 year term, and 2 reach the end of their 3 year term; 9 Co-Editors have agreed to have their term extended, 10 new Co-Editors will soon be nominated by the Executive Committee of EPS.

EUROPEAN JOURNAL OF PHYSICS (EJP)



Editor in Chief:
Michael Vollmer

Associate publisher
IOP Publishing:
Iain Trotter

Executive summary

IOP Publishing is pleased to report to the council another successful year in 2019 for European Journal of Physics (EJP). With the addition of a dedicated Deputy Editor for physics education research, the journal continues to deliver on its dual aims of supporting this growing field whilst providing valuable resources for in-service educators – actively helping to foster improved collaboration where these two communities overlap. With a stable publishing operations team, we are continuing to improve our already excellent customer service and competitor-beating processing times through the careful application of Continuous Improvement practices to both technology and processes. IOP Publishing is also delighted to report another strong financial contribution to the European Physical Society, of €98,275.

Editorial activity

The editorial board continues to offer invaluable support to the journal; whether acting as Guest Editors for focus issues, contributing and commissioning high quality content, and promoting the journal at events. In recognition of the crucial contribution that the physics education research (PER) community makes to EJP,

ARTICLE TITLE	VOLUME	ISSUE	ONLINE DATE	DOWNLOADS
Stability of democracies: a complex systems Perspective	40	1	27/11/2018	8,448
Forces on hockey players: vectors, work, energy and angular momentum	40	6	13/09/2019	2,285
Assessing first-year undergraduate physics students' laboratory practices: seeking to encourage research behaviours	40	1	07/12/2018	1,678
The curse of knowledge	40	3	09/04/2019	1,613
Maxwell's (D, H) excitation fields: lessons from permanent magnets	40	2	18/02/2019	1,106
Visualizing and manipulating the spatial and temporal coherence of light with an adjustable light source in an undergraduate experiment	40	5	23/08/2019	888
Feynman's different approach to Electromagnetism	40	6	15/10/2019	883
Leidenfrost effect studied by video analysis	40	6	14/10/2019	821
Improving student understanding of quantum mechanics underlying the Stern–Gerlach experiment using a research-validated multiple choice question sequence	40	5	19/07/2019	770
Parabolic curves in a Helmholtz solution for a bowed string	40	1	23/11/2018	768

and of its distinct research and publishing requirements, a new Deputy Editor position was created to support and grow EJP's coverage in this area. This position was filled by an existing member of the Editorial Board, Professor Cedric Linder (Uppsala University, Sweden), who brings many years of experience as a leading expert in the field.

EJP added 2 further articles to its well-received Reviews programme in 2018, expanding our coverage into medical physics. Following the 'Focus on Medical Physics', in 2019 we announced the second joint focus issue shared with *Physics Education* – 'Focus on the Physics of Nature'. Covering

everything from atmospheric optics, to geophysics and climate science, this model will again enable contributors to cover a range of student ages and technicality in real-world applications of physics principles.

Reflecting the continued good international visibility of the journal, submissions remained largely stable in 2019 – with a small drop on recent years. EJP's robust peer-review processes are vindicated by the high quality of content published in the 2019 volume – but coupled with the timing of new and mature commissioned 'focus' collections, this has led to a lower figure for accepted articles. The journal continues

Article Type	SUBMISSIONS (BY RECEIVED YEAR)						ACCEPTANCES (BY FINAL DECISION YEAR)					
	2014	2015	2016	2017	2018	2019	2014	2015	2016	2017	2018	2019
Papers	731	663	651	778	782	769	143	196	224	206	200	156
Letters	33	40	26	15	17	5	4	13	2	0	0	0
Reviews		15	19	23	10	17		2	3	7	4	3
Special Issue /Focus on	9	12	34	14	9	9	4	3	20	14	19	4
Other	12	14	31	30	15	15	5	9	19	15	14	6
Total	785	744	761	860	846	815	156	223	268	242	237	169

E-EPS

Editor: A. Bracco - Technical Editor : G. Gunaratnam

EPS statement on Prof. M. Ferrari's resignation
The European Physical Society (EPS), as a member of the Initiative for Science in Europe platform (ISE), endorses the ISE statement in relation with the resignation of Prof. Mauro Ferrari as president of the European Research Council.

2020 ESPD Thesis and Early Career Researcher Prizes awarded
The European Solar Physics Division board is delighted to present the 2020 ESPD Prizes winners.

Lutz Schroeter new president of the German Physical Society
On Wednesday, 4 April 2020.

EPS Young Minds: Best video award 2019
In 2019, Young Minds organised the 1st video contest for student.

ALBA Synchrotron: 10 years at the service of the society and its

Overview since the creation in May 2011

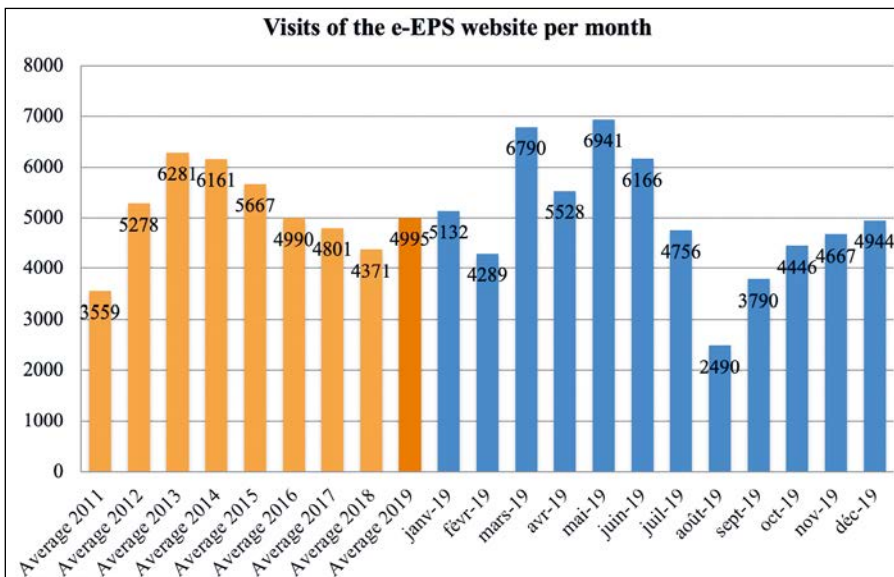
	2011	2012	2013	2014	2015	2016	2017	2018	2019
visits on the website	32031	63530	75370	73934	68009	59876	57616	52446	59939
subscribers	(i)	38160	35433	33732	33501	33471	33448	33286 (ii)	33159
articles published	160	244	240	209	216	206	213	188 (iii)	164

- i) unknown statistics
- ii) Since May 2018 and GDPR new EPS IMs are not added to the subscribers
- iii) Since 2018 no issue in August

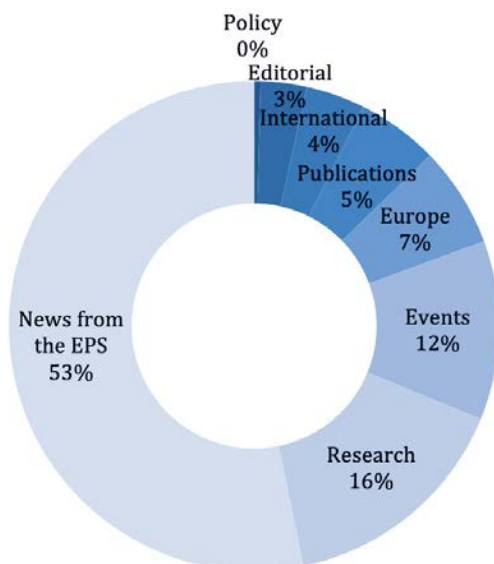
► Most read articles in 2019 (>600 visits)

TITLE	IEWS
Balkan Physics Olympiad 2019	972
Physicists peer into hydrogen atom using quantum microscope	928
EPS distinctions 2019	845
Interview with Andrea Blanco-Redondo: Do what you love and never give up	830
The winter 2018 EPS Emmy Noether Distinction goes to Chiara Mariotti	791
Two Prestigious Prizes in Quantum Electronics and Optics announced by the European Physical Society	770
EPS Historic Site, Leuven, Belgium : Georges Lemaître, founder of the Big Bang theory	724
The Winter 2019 EPS Emmy Noether Distinction for Women in Physics is awarded to Cristiane Morais Smith	719
49 th International Physics Olympiad, IPhO2018	673
2019 EPS High Energy and Particle Physics Prizes	625

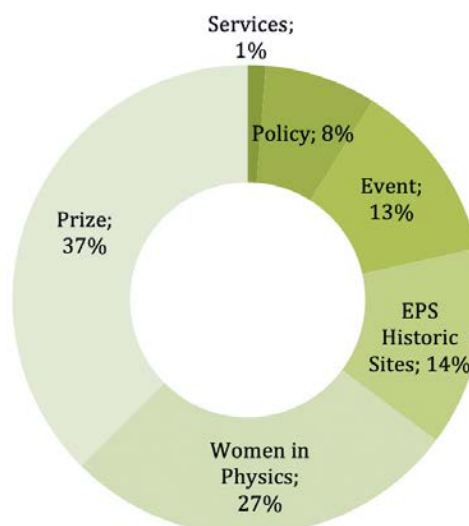
▼ Statistics for the 2019 issues



All e-EPS news



News from the EPS



Details of views in EPS news (> 100 visits)

The switch from <http://www.epsnews.eu> to <https://www.eps.org> will be done in 2020.

The email will still be sent out to subscribers.

Conferences Organised in 2019

CONFERENCE	PLACE	PARTICIPANTS	DIVISION/GROUP
ECAMP XIII	Firenze, Italy	400	Atomic, Molecular and Optical Physics
1st Portuguese CMD Conference	Portugal	125	Condensed Matter Division
21st International Vacuum Conference combined with CSS-17 and ICN+T 2019	Malmo, Sweden	600	Condensed Matter Division
JEMS 2019	Uppsala, Sweden	700	
2 nd China-Europe Solar Physics Meeting	Hvar, Croatia		European Solar Physics Division
First GPD -EPS meeting in Rome	Rome, Italy	100	Gravitational Physics Division
EPS- HEPP	Ghent, Belgium	746	High Energy and Particle Division
Nuclear Physics in Astrophysics IX	Frankfurt, Germany	139	Nuclear Physics Division
Joint GIREP-EPEC-ICPE-MPTL conference	Budapest, Hungary	330	Physics Education Division
The International Day of Light: Illuminating Education	Trieste, Italy	100	Physics for Development
Nonequilibrium Physics in Biology	Madrid, Spain	50	Physics in Life Sciences Division
45th EPS Plasma Physics Conference	Milan, Italy	400	Plasma Physics Division
NANOMETTA 2019	Seefeld, Austria	200	Quantum Electronics and Optics
CLEO/Europe EQEC 2019	Munich, Germany	2122	Quantum Electronics and Optics
2nd China-Europe Solar Physics Meeting	Hvar, Croatia		Solar Physics Division
Statistical Physics of Complex Systems	Stockholm, Sweden	200	Statistical & Nonlinear Physics Division
Statphys29 conference	Buenos Aires, Brazil	1000	Statistical & Nonlinear Physics Division
2019 conference of Accelerator Group	Melbourne, Australia	1186	Accelerator Group
4 th SIF-EPS International School on Energy	Varenna, Italy		Energy Group

Prizes Awarded in 2019

PRIZE	LAUREATE	DIVISION
Young Scientist Prize	Philipp Haslinger	Atomic, Molecular and Optical Physics
Vladilen Letokhov medal	Ferenc Krausz	Atomic, Molecular and Optical Physics and Quantum Electronic & Optics Division
PhD Prize	Norbert Magyar	European Solar Physics Division
Early Career Prize	Lakshmi Pradeep Chitta	European Solar Physics Division
2019 EPS High Energy and Particle Physics Prize	CDF and D0 collaborations	High Energy Particle Division
Cocconi Prize	WMAP and Planck Collaborations	High Energy Particle Division
2019 Young Experimental Particle Physicist Prize	Josh Bendavid and Lesya Shchutka	High Energy Particle Division
2019 Gribov Medal	Douglas Stanford	High Energy Particle Division
2019 Outreach Prize	Rob Appleby, Chris Edmonds and Robyn Watson	High Energy Particle Division
Secondary school teaching award	Jorge Carmo Antonio	Physics Education Division
Best Poster	Julia Woithe	Physics Education Division
Hannes Alfvén Prize	Victor Malka	Plasma Physics Division
Hannes Alfvén Prize	Toshiki Tajima	Plasma Physics Division
Innovation Prize	Hana Barankova and Ladislav Bardos	Plasma Physics Division
PhD Thesis Award	Giada Cantono	Plasma Physics Division
PhD Thesis Award	Michael Faitsch	Plasma Physics Division
PhD Thesis Award	Francisco Javier Artola Such	Plasma Physics Division
PhD Thesis Award	Eleanor Tubman	Plasma Physics Division
2019 Vladilen Lethokov medal	Prof. Ferenc Krausz	Quantum Electronics & Optics Division
2019 Prize for Research into the Science of Light	Javier Garcia de Abajo (ICFO, Spain)	Quantum Electronics & Optics Division
QEOD Quantum Electronics & Optics prizes	Anne L'Huillier and Govind Agrawal	Quantum Electronics & Optics Division
Fresnel Prizes	Carlos Hernández-García and Matteo Lucchini	Quantum Electronics & Optics Division
The QEOD Thesis Prizes	Armin Feist/Mathieu Massicotte and Ileana-Cristina Benea-Chelmus/Fabian Langer	Quantum Electronics & Optics Division
EPS Statistical and Nonlinear Physics Prize	Sergio Ciliberto, Satya Majumdar	Statistical and Nonlinear Division
Early career Prize	Valentina Ros, Karel Proesmans	Statistical and Nonlinear Division

Atomic Molecular and Optical Physics Division



Chair

- Joachim Burgdörfer

Sections

- Electronic and Atomic Collisions
- Chemical and Molecular Physics
- European Group on Atomic Systems

Conferences

- ECAMP XIII

Prizes

- EPS Young Scientist Prize in Atomic Molecular and Optical Physics
- Vladilen Letokhov prize

Website

- www.eps.org/eps-amopd

Gravitational Physics Division



Chair

- Mairi Sakellariadou

Conference

- First GPD -EPS meeting in Rome

Prizes

- No Prize so far

Website

- www.eps.org/group/GPD

Condensed Matter Division



Chair

- Kees van de Beek

Sections

- Liquids, Macromolecular Physics, Magnetism, Structural and Dynamical Properties of Solids
- Semiconductors and Insulators, Surfaces and Interfaces

Conferences

- 1st Portuguese CMD conference
- 21st International Vacuum Conference
- JEMS2019

Prize

- EPS Europhysics Prize every other year

Website

- www.eps.org/eps-CMD

High Energy And Particle Physics Division



Chair

- Thomas Ghermann

Conference

- HEP General Conference

Prizes

- The High Energy and Particle Physics Prize
- EPS Cocconi Prize
- 2019 Young Experimental Particle Physicist Prize
- 2019 Gribov Medal
- 2019 Outreach Prize

Website

- <http://eps-hepp.web.cern.ch/eps-hepp/>

Nuclear Physics Division



Chair

- René Reifarth

Conferences

- Nuclear Physics in Astrophysics
- EPS Nuclear Physics Division Conference

Prizes

- IBA Europhysics Prize (Applied Nuclear Science and Nuclear Methods in Medicine)
- PhD Prize in Nuclear Physics
- Lise Meitner Prize (Nuclear Science)

Website

- www.eps.org/group/NPD

Environmental Physics Division



Chair

- Herbert Fischer

Conferences

- No conference organised in 2019

Prize

- In the area “Environmental Physics” a large number of international prizes are awarded regularly. As a consequence a sponsor for a new prize could not be found up to now

More about EPS divisions:
www.eps.org/members/group_select.asp?type=8719

Plasma Physics Division


Chair

- Richard Dendy

Sections

- Beam Plasma and Inertial Fusion Section
- Dusty and Low Temperature

Conference

- EPS Plasma Physics Division Conference

Prizes

- EPS-PPD Hannes Alfvén Prize
- EPS-PPD PhD Research Award
- EPS-PPD Innovation Prize
- EPS-IUPAP Student Poster Prize

Website

- <http://plasma.ciemat.es/eps/>

Quantum Electronics And Optics Division


Chair

- Giulio Cerullo

Conferences

- Nanometa 2019
- CLEO/Europe – EQEC 2019

Prizes

- EPS Quantum Electronics Prize
- Fresnel Prize
- 4 QEOD Thesis Prizes
- Research in Laser Science and Applications Prizes
- Travel grants Student Awards

Website

- <http://qeod.epsdivisions.org/>

Physics Education Division


Chair

- David Sands

Conference

- European Physics Education Conference (GIREP-EPEC)

Prize

- EPS PED Secondary Teaching Award
- EPEC Best Poster Prize

Website

- www.eps.org/group/PED

Solar Physics Division


Chair

- Eduard Kontar

The JSPD is a joint Division with the European Astronomical Society (EAS) and the European Physical Society (EPS)

Conference

- 2nd China-Europe Solar Physics Meeting

Prizes

- PhD Student Prize

Website

- www.eps.org/group/ESPD

Physics in Life Sciences Division


Chair

- Felix Ritort

Conference

- Nonequilibrium Physics in Biology

Prize

- None

Website

- www.eps.org/group/DPL

Statistical And Nonlinear Physics Division


Chair

- Christian Beck

Conferences

- Statistical Physics of Complex Systems
- Statphys29 conference

Prizes

- Award of the Statistical and Nonlinear Physics prize
- Early career prize

Website

- www.eps.org/group/SNPD

More about EPS divisions:
www.eps.org/members/group_select.asp?type=8719

Accelerators Group**Chair**

- Mike Seidel

Conference

- 2019 Particle Accelerator Conference in Melbourne, Australia

Prizes

- No Prizes were awarded in 2019

Website

- www.eps.org/group/EPS-AG

Physics For Development Group**Chairman**

- Joe Niemela

Conference

- The International Day of Light: Illuminating Education

Prize

- None

Website

- <http://www.physdev.org>

Computational Physics Group**Chair**

- Carlo Bertoni

Conferences

- None

Prize

- None

Website

- <http://phycomp.technion.ac.il/~EPS-CPG/>

Technology and Innovation Group**Chairman**

- Markus Nordberg

Conference

- Technology and Innovation Workshop

Prize

- None

Website

- Under construction

Energy Group**Chair**

- Jozef Ongena

Conference

- 4th SIF_EPS International School on Energy, Varenna, Italy

Prize

- N/A

Website

- <http://epsenergygroup.eu/frontend/index.php>

Notes**History Of Physics Group****Chairman**

- Karl Grandin

Conference

- No conference

Prizes

- No prize this year

Website

- www.ehphysg.eu

More about EPS groups:
www.eps.org/members/group_select.asp?type=8737



European Physical Society

6, rue des Frères Lumière · 68200 Mulhouse · France
tel: +33 389 32 94 40 · fax: +33 389 32 94 49
website: www.eps.org
