Annual HOPE Forum in Helsinki
27-30 August 2014
Inspiring Young People to Study Physics

About 100 participants from 35 countries attended the first annual forum of the HOPE network organized in Helsinki by the local committee - Ismo Koponen, Antti Laherto, Pia Saarinen and Tiina Hallikainen.

Keynote speakers from Europe and the USA presented their initiatives and recommendations on how to inspire the young to study physics. The meeting also included a special session dedicated to Laura Tugulea’s memory to mark her significant contributions to physics education.

Keynote Talks

Pekka E. Hirvonen, from University of Eastern Finland, “LUMA-Suomi program – Horses for school physics courses”.
LUMA Centre (LU stands for ‘luonnontieteet’, natural science in Finnish, and MA for mathematics) is an umbrella organization for the collaboration of schools, university and the business sector. Pekka described how Finland has decided to fund LUMA centres to inspire and

Paula Heron, University of Washington, USA, “Broadening participation and deepening engagement: an agenda for research on student interest in physics”. Paula highlighted questions that need to be considered when trying to identify the factors that can encourage young people to study physics such as “Should more young people study physics?” A brief overview of US education in physics was presented with a focus on women and ethnic minorities. A deep investigation of the profile of those students who have chosen physics along with those who did not is essential for understanding the processes at work in the choice of field of studies. Recent results from the literature can also give some indicators on this issue. P. Heron presentation can be found here.

Mick Storr, Formerly CERN, Switzerland, “CERN’s outreach activity and how it inspires and educates physics teachers and physics students world-wide”. At CERN, the European Organization for Nuclear Research, physicists and
motivate children and youth in mathematics, natural sciences, and technology through the latest methods and activities of science and technology education.

P. Hirvonen presentation can be found here.

Peter Main, Institute of Physics, UK, “Increasing the number of physicists: breaking the vicious circle”. Peter presented an overview of the situation in the UK and various initiatives in the UK to increase the numbers of physics students including specific actions towards girls. With the aid of official national data, he showed the trends in subject choices in schools and universities. He highlighted that in UK students deliberately chose physics and not by accident, and that ‘Science capital’ is key to science aspirations and participation as reported in ASPIRES final report.

P. Main presentation can be found here.

Rolf Hempelmann, Saarlands University, Germany, “German Schülerlabor: Development, position today, impact”.

Starting approximately 15 years ago, the initiative regroups hands-on laboratories for school students and now comprises more than 300 laboratories. Because the initiative is widely spread over the country, it has a positive impact on inspiring the young generation to decide to study in science. This initiative has been integrated into the education of trainee teachers, but only recently has it been realized that they also represent powerful platforms for empirical educational research.

R. Hempelmann presentation can be found here.

engineers are probing the fundamental structure of the universe. Mick presented some of the initiatives employed by CERN to help school pupils, students, teachers and the general public learn more about CERN, particle physics and our place in the universe. In his talk, many of CERN’s outreach initiatives and physics developed there (the latter very brief) were discussed.

M. Storr presentation can be found here.

Round Table Discussions
Two round tables were organized in order to discuss and share with the audience ideas about “Inspiring the young” and “University Outreach and Widening Participation”.

Partners’ presentations
The forum also provided the opportunity for eight partners to present their initiatives during short contributed talks. In addition, many more were presented at the poster session where 44 posters demonstrated the diversity of approaches adopted by partners to make physics studies more attractive to young people.

An overview of HOPE and the working groups was presented by Ivan Ruddock.

Marisa Michelini presented the Forum’s scientific conclusions.

General conclusions were presented by Nadine Witkowski.

HOPE events
Progress in HOPE

Progress of WG1’s activities was presented by its leader Marek Trippenbach and a list of instruments already developed was proposed:

- # Questionnaire for university students
- # Interviews for university students
- # Template for good practices in School-University relations
- # Template of good practices and outreach to schools
- # Template for student competitions
- # Questionnaire for secondary school students
- # Questionnaire on stakeholders’ opinions on school-university activities
- # Statistics on university physics student admissions and graduation in all European countries.
- # Outreach in general, done by universities and other organisations

Some of the instruments are already published in the private area of HOPE.

Progress on the work of WG2 was presented by Hay Geurts and previews of WG3 and WG4 were given by Ales Mohoric and Eamonn Cunningham respectively. Questionnaires of WG2 are already published on the private area of HOPE. Review of WG3 activities will be presented in the next newsletter.

Related events

XIII International Conference “PHYSICS IN THE SYSTEM OF MODERN EDUCATION” (PSME-2015), June 1-4, 2015, St.Petersburg, Russia see more here

GIREF - EPEC International Conference “Key competences in physics teaching and learning”, July 6-10, 2015, Wroclaw, Poland, see more here

11th Conference of the European Science Education Research Association (ESERA), 31 August – 4 September 2015, Helsinki, Finland see more here

23-25 April 2015 Hannover (Germany)
New Competences for Physics Graduates WG2 - 2nd meeting. Register now, deadline for registration: March 1rst

7-9 May 2015 Granada (Spain)
Global challenge WG3 - 2nd meeting.

June 2015 Zagreb (Croatia)
Improvements in the Training and Supply of Physics School Teachers – 1st meeting

9-12 September 2015 Coimbra (Portugal)
Second Annual HOPE Forum

More details on HOPE events here

HOPE was advertised

I.S. Ruddock, University of Strathclyde (UK) in a paper presented at GIREF-MPTL Conference, Palermo, Sicily (July 2014)

N. Witkowski, UPMC (France) in a paper presented at Frontiers of Fundamental Physics symposium, Marseille, France (July 2014)

M. Michelini, University of Udine, during her invited talk in AAPT congress held at Minnesota University (July 2014) and during her invited talk in LASERA international Conference held in Mexico City (Oct. 2014)

S Croci, by Italian Physical Society in an invited talk on Hope in the Congress of the Italian Physical Society (Sept. 2014)

H. Ferdinande, Ghent University (Belgium), during an invited talk in Novi Sad (Oct. 2014)

A. L. Simoes Gamboa and Natalia Andreeva, ITMO, St. Petersburg (Russia) on web site and flyer (Nov. 2014)

Antonio Gandolfi, AIF President, and Marisa Michelini during the Association for Physics Teaching (AIF) Italian Congress held in Perugia (Nov. 2014)

N. Nancheva from University of RUSE
Related documents

Document related to WG1

Women in to Science and Engineering: [WISE campaign to promote women in science, technology and engineering](https://www.insp.upmc.fr/webmail/imp/view.php?popup_view=1&mailbox=INBOX&actionID=view_attach&id=2&mimecache=c04ace373c49fda414). This report reviews a large proportion of the recent research in this area and sets out the facts and the fiction. It is explained why many years of activity, energy and money focused on addressing this problem have made little, if any, impact. Instead it is identified what the research really indicates we should be doing if we want a more diverse STEM workforce.

Documents related to WG2

[Council conclusions on entrepreneurship in education and training](https://www.insp.upmc.fr/webmail/imp/view.php?popup_view=1&mailbox=INBOX&actionID=view_attach&id=2&mimecache=c04ace373c49fda414). Conclusion and recommendations from the Council of European Union about entrepreneurship in education and training, are summarized in the report.

ACA Newsletter (Academic cooperation association) December 2014 [Heinnovate : not about scoring but engaging](https://www.insp.upmc.fr/webmail/imp/view.php?popup_view=1&mailbox=INBOX&actionID=view_attach&id=2&mimecache=c04ace373c49fda414). HEInnovate offers free assessment and provides examples of good practice in innovation and effective management at higher education institutions across Europe. In order to understand how HEInnovate works, ACA spoke with Georgi Dimitrov of the European Commission, who shared with us the underlying ideas of HEInnovate, the experiences and the lessons learned one year after its launch.

Document related to WG3

Eurydice report: [Modernisation of higher education in Europe](https://www.insp.upmc.fr/webmail/imp/view.php?popup_view=1&mailbox=INBOX&actionID=view_attach&id=2&mimecache=c04ace373c49fda414). This is the second report in a series following the evolution of the modernisation agenda for higher education in Europe, following a 2011 report on funding and the social dimension. It examines policy and practice related to the student experience of higher education through three stages: access, which requires awareness of the offer of higher education, the requirements to be admitted, and the process of admission; progression through the study programme, including support that may be provided when problems are encountered; and the transition from higher education into the labour market.

Document related to WG4

European commission: [The International Computer and Information Literacy Study (ICILS)](https://www.insp.upmc.fr/webmail/imp/view.php?popup_view=1&mailbox=INBOX&actionID=view_attach&id=2&mimecache=c04ace373c49fda414). The 2013 European Commission Communication on Opening up Education underlined the importance of solid evidence to assess developments and take full advantage of the impact of technology on education, and called for sustained effort and international cooperation to improve our knowledge-base in this area. The International Computer and Information Literacy Study (ICILS) is an important new contribution to this knowledge base on digital competences and the integration of technology in teaching and learning.
4 place Jussieu
Paris 75005
France

unsubscribe from this list  update subscription preferences