

Improving the image of physics

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Courtesy of EPS, photo by Patricia Helfenstein.

The EPS Forum Physics and Society (FPS) was formally established by the EPS Council at its 2007 London meeting. The aim of FPS is to establish a more active EPS role in the relation of physics to society, taking seriously the challenge of maintaining a strong and critical dialogue between physicists and decision makers from policy and economics.

The FPS holds regular meetings typically every eighteen months, making recommendations to the EPS and policy makers. The Belgrade Forum was VI in the series, the first one, "Physics & Society, grand challenge", took place in Graz in 2006. Then followed "Physics education", Zakonapne, Poland, 2007; "Physics teaching, a new deal", Ratrieki, Latvia, 2008; "Science journalism and communication", El Escorial, Madrid, Spain 2010; "Physicists in the market place", CERN, Switzerland, 2012.

Chair of the FPS from 2006 until 2012 was Martial Ducloy, CNRS, Paris, France. Current Chair is Averil Macdonald, University of Southampton, UK.

The VI Forum on "Improving the image of physics" took place on October 2-3, 2014 in the Rector office of the University of Belgrade. Forty five participants from fifteen European countries and USA shared their ideas, discussed and formulated recommendations. Key note talks and workshops were organized around three themes:

1. *Improving the image of physics with students*
2. *Improving the image of physics with employers*
3. *Improving the image of physics with the public.*

"Practicing physics while learning it: changing the focus of instruction" was the theme covered by Eugenia Etkina (Rutgers University, USA) and Gorazd Planinsic (University of Ljubljana, Slovenia, chair of the EPS Physics Education Division), who delivered an excellent interactive lecture, precisely in the format promoted in recent years by researchers in physics education. From their talks naturally followed recommendations like: provide opportunities for students in schools and universities to be actively engaged in learning, as opposed to simply listening to lectures; both in schools and universities, incorporate inquiry into learning; put efforts into familiarizing teachers with the findings of physics education research; support mechanisms for integrating new physics into education, etc.

Another interesting theme was addressed by Ramon Bragos (Technical University of Catalonia, Barcelona, Spain) with a talk about the CDIO INITIATIVE, an innovative educational framework for producing the next generation of engineers with the motto: "Conceiving – designing – implementing – operating real-world systems and products". Bragos' talk inspired the recommendation to create in the future the physics version of CDIO.

Speaking about "The employers perspective", Ove Poulsen (CEO of LORC, Aarhus, Denmark) pointed out that a majority of jobs in public as well as private companies depend on skills beyond those acquired during basic education in the specific physics research environments, like: ability to interact with colleagues, strong listening skills in relation to customer needs, solid understanding of organizational issues and a distinct ability to adapt one's knowledge into new areas of application. The main recommendations that followed were: work collaboratively with employers throughout the educational journey; set up employer liaison boards for physics departments in universities to understand what employers are looking for; set up schemes organizing work placements/internships for students during vacations. The related experience from the UK South East Physics Network – SEPnet was presented by Veronica Benson, employer liaison director.

Finally, coming to the International Year of Light and Light-based Technologies 2015, Christophe Rossel, EPS president elect, explained how the IYL2015 would be an ideal occasion for physicists to interact with young people, public and many other professions in order to improve the image of physics. Thanks to the support and patronage of the United Nations, IYL2015 is a collaborative outreach program on the world scale. In this context, Clare Harvey, from SEPnet, delivered a talk to illustrate an outreach collaborative programme on a smaller scale between university physics departments in the UK, as a direct response to the national STEM agenda and the recruitment needs of the partner departments.

Overall recommendations from the VI FPS will be published soon in the EPS Forum Physics and Society web page. For now, let us mention that one of the VI FPS main recommendations is to refocus universities on the importance of teaching.

Presentations at the VI FPS may be downloaded from this web site.

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