

IVth Forum Physics and Society - Final document
Science Journalism and Scientific Communication
El Escorial, Madrid, Spain, October 21-23, 2010

The Forum Physics and Society (FPS) aims at establishing 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. FPS aims at catalysing the dialogue through workshops and meetings, gathering decision makers and physicists to put the spotlight on topics of interest to both society and to the physics community. The fourth Forum Physics and Society (FPS) assembly took place in El Escorial, Madrid, Spain 21-23 October 2010, following earlier Fora in Graz, Austria (2006), Zakopane, Poland (2007) and Ratnieki, Latvia (2009).

The El Escorial forum addressed the overall topic of physics and science communication, dealing with three topics (i) Journalism and Communication of Science, (ii) The role of electronic media and scientific responsibility and (iii) Science communication, a tool for recruiting new students.

The meeting format consisted of select keynote speeches and panel discussions blended with workshops, formulating written recommendations for the European Physical Society to implement among its national members, divisions and groups. 30 participants with a proven interest in the topic participated and contributed with their insight.

Overall the Forum recognized a challenge for physics (and science) in its ability to communicate with its stakeholders. The fiscal crisis has clearly demonstrated the vulnerability of the science endeavour which after a period with stable growth, now faces an uphill battle for regaining stable support and recognition. Common trends for all three working groups, as well as in the keynote presentations thus were the notion of scientific social responsibility and its manifestations in the interface between science and society, the renewal of the science system through new talented students coming into physics and, finally, the inability of the Forum fully to grasp the new possibilities available in social media. One basis of all discussions was the triangular relationship between the scientists (generation of results and information), the various media (transfer of information) and the public and its perception of science.

1. What can be done for Science Journalism?

It was generally agreed that the aim of science journalism has several dimensions of which the most important are

- To influence locally politicians and parliamentarians
- To “educate” and empower a general audience using modern media and
- To ensure science that science is also considered a cultural expression.

The discussion on science journalism focused on the new economic and technical constraints set on science journalism in many countries, leading to quality being a subject put under pressure. The Forum noted, that

- Investigative journalism takes time and effort. Modern media are less and less prepared to pay for it

- Journalists normally do not have a scientific background, nor time to keep up with the pace of modern science
- There is a tendency for broadcast media to become more trivial – entertainment rather than information
- Journalists should not be dependent on public relations (PR)
- Over-reliance on the citation index results in the PR machine fuelling the choice of research topic, and creates a vicious cycle

The Forum further noted that quality science journalism could be an important component in addressing the problem of the general public lacking scientific understanding with declining emphasis on science teaching in schools as an evil circle. Based upon these reflections the Forum recommends that EPS takes the following actions:

EPS Website

- Establish a dedicated website as a resource for science journalists and as a portal
- Establish and post on the website a network of experts to offer information to journalists on different fields
- For topical issues (e.g. volcanic ash, earthquakes, energy, etc.), organize a debate among well qualified experts, and post on the website
- Website could also broadcast other interesting science events – lectures, debates etc.
- Communicate exciting news by all possible media, incl. Twitter

Learning opportunities

- Organize regular workshops and summer schools for scientists and journalists to help scientists present their research more accessibly and journalists get a better understanding of scientific issues. Attending the summer school would enhance mutual understanding
- Provide opportunities for journalists to spend time at a research facility to get insight into the world of research
- Advertise summer schools and internships through the website and all forms of information channels, including Twitter
- Provide funding to enable journalists to attend summer schools or undertake internships through a fellowship program

Citations cycle

- Identify alternative mechanisms for evaluating research – a topic for a future Forum

These actions require EPS to focus its attention more on the development of its website, with contributions from national societies. Investments are required to set up the website, and dedicated staff to maintain it.

2. Science and social networks

-New ways of social interactions

The Forum worked intensely with this topic, realizing that social networks mainly are expressions of the younger generation. The Forum, however, realized the immense importance of these new ways of communicating, using platforms where information can be posted, shared and searched in real time. It greatly benefitted from invited social scientists specializing in these interactions as well as from national societies recently having launched such media.

The stakeholders in this transformation of EPS communication strategy is

- The EPS science community
- The young generation members who are already connected
- Society at large expecting pay-back
- The EPS office, which must take ownership

The Forum discussed several ideas and ways in which such development could be advanced, among them:

- Community managers in the EPS office – moderator role (1 h/day)
- Networks of Twitters (science news, physics, young generation,..)
- Link new social networks to EPS website
- Ensure bridges to outside community – define small group of moderators
- Measure feedback, analyse and understand networks mechanisms
- It's a novel philosophy; do not "pick a winner"
- EPS not in control – attempt to guide access points instead

Based upon this discussion the Forum specifically recommends that EPS enter social networks now by introducing the following actions:

- Establish professional community manager at EPS-Mulhouse
- Nominate smaller group of topical managers among membership
- Establish links to physics student bodies
- Establish links to existing EPS divisional networks and member societies

EPS has a special responsibility in maintaining the classical virtues of science, being a learned society of scholars. EPS policies must therefore be developed and include best practice for navigating on social networks, however, the Forum recommends EPS to jump first and analyse later!

The jump into the new social media is complex. The transformation of communication strategy to include new social networks therefore must be planned carefully. The Forum advises to follow these leads in the early phases:

- Launch Twitter site and similar site, now!
- Monitor development – seek collaboration with social scientists
- Encourage members to participate
- Let the outside know about your networks and follow key Twitters actively

3. Mobilization for science

What can be done for attracting young people into science and science education? The Forum carefully considered actions to be adopted by EPS in this topic which already has been the topic of several EPS initiatives. The Forum recognizes that recommendations are of a general nature and thus hard to implement. Specifically the Forum recommends that

- EPS should advocate to governments to set targets for confident, qualified and devoted STEM (science, technology, engineering and mathematics) teachers in schools at the appropriate levels
- Because science is an essential part of our culture and existence, STEM should be given appropriate time in education programs and curricula
- Primary school teachers should have training in science and physics, so they can incorporate it in their lessons in a proper way
- High school teachers must be educated in didactics (teaching abilities) as well as in an academic physics system, based on experimental work. Schools must have conditions and equipment for experiments, inside and outside classroom/laboratory with ample time allocated
- A module related to communication of science should be incorporated at University level (bachelor, masters and doctorate levels).

In addition, the Forum expressed the opinion that going back to the future using science museums and other interactive exhibitions is important and that universities should

- preserve the heritage, in collaboration with science museums and that
- the heritage should be presented, in a physics history context, as a tool to motivate students for physics learning, that
- history courses should include the history of science and technology.

Finally, Governments should take actions, as has happened in some countries already, in

- Supporting and encouraging Science Agencies in increasing the promotion of Scientific and Technological Culture, implying
- Creating local Science Learning Centres and implementing communication science programs at a national scale
- With time this action should create conditions for local initiatives in a bottom up approach.

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