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Programme details

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Speakers

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Malcolm Harbour MEP, vice-Chair, STOA, European Parliament Karin Hermansson, Research Director, Vetenskap & Allmänhet Ashok Kumar MP, Chair, Parliamentary Office of Science and Technology UK

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Introduction

Camilla Modéer and Carl Johan Sundberg welcomed participants to the seminar and explained the format. The aim of the session was to create an open forum for dialogue. Session I would focus on why a dialogue between politics and the research community is necessary, while Session II would examine how to improve this dialogue. Each session would begin with brief talks by invited guests to stimulate dialogue amongst the groups of participants.

Session I – Why is a dialogue between politics and the research community necessary?

1. Karin Hermansson

Karin Hermansson gave an overview of a recent research project undertaken by the Vetenskap & Allmänhet (Public & Science), entitled *Politics and Science in Sweden*. A booklet containing a short summary of the main findings was distributed to participants. The research was conducted in 2006 and took the form of a telephone interview survey with 595 politicians.

The survey showed that politicians have a high degree of trust in researchers (94%). This is higher than the trust among the Swedish public (71%). It was thought that this finding might reflect the higher educational status of the politicians compared with the general public.

Politicians were asked to consider the level of influence that research has on individual policy areas. The policy areas scoring highly were health (71%), energy and the environment (65%) and education (42%). Areas that scored lowest were social welfare (38%) and business (30%).

Politicians were asked to consider which research disciplines they thought had the greatest impact on societal development. Medicine scored top (86%) with humanities and social sciences thought to be less influential in this respect (39%). Interestingly, when asked how often politicians used research results to inform policies, the reverse ranking applied. Humanities and social sciences scored top (33%) with medicine lowest (16%). Swedish politicians generally have a background in the social sciences, with very few having a medical or engineering background.

¹ The report is available for download at http://www.v-a.se/downloads/varapport2006_5_eng.pdf

The main conclusion from the study was that researchers and politicians need more opportunities to meet. This would encourage the exchange of information in order to make research easier for politicians to access and understand.

2. Dr Ashok Kumar MP

Dr Kumar began his presentation by pointing out that pressure on parliamentarians on scientific issues comes from three main groups: constituents; lobby groups; and the scientific community. He explained that of 646 MPs in the UK Parliament only around 80 have a scientific degree while 30 had been practising scientists before entering the House. He went on to explain that parliamentarians need some way of accessing scientific advice that they can understand. In the UK, the Parliamentary Office of Science and Technology (POST) was established 20 years ago to provide briefing notes on scientific topics likely to be debated in parliament. The office serves both the House of Commons and the House of Lords, and provides impartial information, leaving the politicians to make decisions. He then mentioned that another important source of scientific information in the UK Parliament is parliamentary committees, in particular the House of Commons Innovation, Universities, Science and Skills Committee and the House of Lords Science & Technology committee. They carry out detailed inquiries into government policy and produce reports.

Questions, Comments and Discussion

A questioner picked up on the point that few parliamentarians have a scientific background. He said that the EU is run by lawyers and accountants, who do not care about science and asked "where are the invaders?". Malcolm Harbour responded by pointing out MEPs who do have a science background, and emphasising that there has been a 40% rise in the EU science budget within this parliament.

3. Ulla Burchardt MP

Ulla Burchardt began her presentation by explaining her positions and responsibilities in the German Bundestag. She went on to describe the challenges facing parliamentarians. A key question for this group is awareness of scientific knowledge available and how to access it. Equally important is how this information then is used to inform the decision making process, which requires a solid knowledge base. Politicians are often in the position of having to find solutions which are themselves caused by technological advances, such as climate change.

Finding solutions requires scientific expertise and knowledge to understand cause and effect as well as any detrimental impacts of new technologies on society, the economy and ecology.

There is a need for special scientific advisory bodies with a specific remit to inform parliaments. The German Parliament established the Büro für Technikfolgen-

Abschätzung (TAB) to fulfil this role. TAB has several policy areas which focus on the environment, the economy and healthcare policy. The results of their studies are published to stimulate debate and to feed into the parliamentary process.

Questions, Comments and Discussion

Frau Burchardt was asked to give an example of a situation where scientists and politicians have not agreed on an issue. She maintained that the aim is that scientists and parliamentarians work side by side on studies so that this situation does not arise. Any conclusion reached by such working groups requires a unanimous decision, from choosing a topic to holding a workshop and of course report content. All political parties are represented on these groups.

4. Enric Banda

Enric Banda said that as President of Euroscience he looks at the links between science and politics on a European level, but it is only recently that science has started being taken into account on this level. He said the remarks he would make about bridging the gap between science and politics would not be very nice for scientists to hear.

He made a number of points about how the scientific community could better communicate with policy makers. He said that scientists lobby for vested interests, such as money for new infrastructure, but that the community is fragmented, with each subgroup lobbying for their own machines or equipment. This reflects the way that knowledge has traditionally been divided up into narrow disciplines. He ended by saying that scientists do not have a tradition of teamwork to bridge these gaps, but they should now reorganise themselves in a revolutionary way.

Questions, Comments and Discussion

There was a discussion about science funding from the European Research Council. Professor Norbert Kroll from the ERC said he was happy with the overall budget of £7.5bn for the ERC, but some scientists complained about the amount of bureaucracy involved.

5. Gerhard Schöny

Gerhard explained that he is a student in mechanical engineering at the Vienna Technical University. He described how he became interested in pursuing a scientific career based on watching scientific documentaries, films and by reading magazines and also by his interest in fixing things and understanding how devices worked. The Vienna Technical University is unique in Austria and this is where he took a course in mechatronics. He competed and won both a National innovation contest and the European Contest of Young Scientists, which were real highlights. He emphasised how

important access to this kind of contests is for young people, giving them the chance to meet European peers and the opportunity to speak before eminent audiences.

His current influences come from reading about debates and reading more newspaper articles. This has stimulated his interest in how politicians get information, particularly on the subject of energy technologies, an area in which he intends to specialise. A good example of the importance of this is in responding to climate change. A view of many young people is that politicians just talk about climate but do not take any action. He also commented that he perceives politicians as primarily being motivated by cost issues, without due thought for the wider implications. He further said that he thought these opinions would be shared by other young people.

Questions, Comments and Discussion

Ashok Kumar MP responded by saying that MPs do take young people's views very seriously but they also have to take the views of the rest of their constituencies into account. He added that young people did not have that responsibility. Politicians have to balance things out and take their electoral community with them.

Gerhard Schöny commented that it was important for politicians to better understand researchers. He added that it was perhaps even more important for scientists to interact with society more, by explaining their research and encouraging a wider debate about the consequences of climate change and citizens' personal responsibilities. For example, why do supermarkets have to be illuminated at night and why do we have to open our refrigerators for 5 minutes just to eat some cheese? Scientists can tell us a lot about how human behaviour will affect the planet.

Ulla Burchardt responded by explaining that there has been a great deal of discussion on climate change and the search for solutions. There are examples of many collaborations between politicians, scientists and other stakeholders in this regard in Germany and in wider Europe. In some instances, legislative measures would need to be taken, such as energy efficiency, measures or solar energy generation measures. She explained that it is hard work to get the majority to take these measures forward and that it is very important to get young people involved in these parliamentary discussions. There is an information gap in this regard.

Jorgo Chatzimarkakis said that after Chernobyl everyone was really fed up. "Please act!", they said. The most ambitious climate change package has been launched but then industry lobbies say that they will leave Europe and go to China or the US to do business. He commented that the non-governmental organisations are the most effective lobby groups in the European Parliament. He urged everyone to be informed about that.

Gerhard Schöny closed by saying that it is easy for the media to find researchers to comment on climate change. The important thing is to find global solutions and not just think solely about the European context.

Round Table Discussion I

The tables were invited to discuss amongst themselves on these topics:

- Why is a dialogue between science and politics necessary?
- The most important problems/obstacles?
 - o Differences between countries?

After vivid discussions, some of the tables shared their thoughts and views with the rest of the audience.

Werner Wolf reported back form his table's discussions and said that one problem raised by participants was the lack of bridges between interest groups. The non-governmental organisations do not want to deal with probabilities and take a zero risk mentality. It is important that a dialogue continues but also to be aware that irrational fears and ideologies could not be eradicated.

He went on to say that one key question is how scientific representatives who talk to politicians are selected? Who decides? Other questions raised were whether it is possible to bring full objectivity into dialogue, how scientific arguments are weighed up and how electoral perspectives are considered.

Ana Padilla spoke for another participant group. They concluded that bridges need to be created between politicians and scientists, as showed by the Swedish research survey. One key issue is helping politicians to make decisions where social responsibility is concerned.

Regarding the assessment of risk, the group commented that politicians need to take a balanced view on scientific information they receive. They should be aware that the scientific community does not necessarily have all the answers. There are limitations to scientific discussions and this may affect how messages are communicated to politicians.

Another issue is whether politicians have access to scientific opinions, and the independence of any opinions. Are they all biased in some way? It may be that bias is inherent as a consequence of subject specialisation. It was noted that there is a difference between transparent and hidden scientific bias.

David Dickson reported from his table and said they had come up with lots of views about why dialogue is important. They made the point that one person's pressure group is another's voice of reason. But transparency is not the whole solution to eliminating these biases: just declaring interests gets you only part of the way.

Gerhard Schöny summarised his group's discussions which focused on the differences in communication styles between scientists and politicians. Politicians have their own way of talking as do scientists and the issue was improving their communication with each other and how to continue this dialogue. The discussion in this session would need to happen in the rest of society.

Igor Chlebny said that an example in Switzerland was of interest. There was a referendum on genetically modified crop research where scientific lobbying had turned popular opinion from 2:1 against to 2:1 for. It was considered that this had arisen because of the opportunities afforded for the open exchange of opinions. A ban on genetically modified crop cultivation led to a referendum which then allowed research in the field to continue. The Ministry of Research led a four year programme on GM food safety.

It was noted that it is good for science if there is public pressure on research decisions. In this case the initial ban on the new technology was overturned, allowing scientists to recoup research funding.

Enric Banda said that it is clear that there are more questions than answers. It is unclear who the intermediates are. Are they the national academies, universities or other scientific institutions? How many of these institutions should we have and how should they be organised?

Session II – How do we improve the dialogue?

Camilla Modéer and Carl Johan Sundberg welcomed participants back after the coffee break to the second session and were pleased to see how much dialogue the first session had stimulated. It was clear from the first session that there are differences in research and research policies across Europe.

Session II continued with the theme of how to improve the dialogue between politics and science.

6. Karin Hermansson

Karin Hermansson concluded her overview of research attitudes undertaken by the Vetenskap & Allmänhet (Public & Science), entitled *Politics and Science in Sweden*.

When the public were asked what they considered to be the most important research areas, they responded by citing medical research (96%), with the social sciences scoring less than 40%. The public's views are important since they elect politicians. Since the general public obtain most of their information about science from the media, the influences of media are very important. An analysis of scientifically related articles in party political magazines showed that only 2% of the articles were related to medicine, 12% to science and technology and 57% to the social sciences.

An open question to the politicians surveyed showed that politicians want to be able to find and interpret scientific results more easily. They also expressed the opinion that scientists should participate more in the societal debate.

7. Björn von Sydow MP

Björn von Sydow started by mentioning the recently enforced function in the Swedish Parliament for facilitating contact between researchers and parliamentarians.

He pointed out that the Swedish government does not meet the target of spending 1% of GDP on civilian science, while Swedish corporations are doing well with research and development, and asked why. He said that there is broad consensus in the Swedish parliament, and that there is no significant opposition to more funding, so it is paradoxical why it does not happen. He thinks that there is actually a need for more competition: the corporations fund research and development because they are in a competitive market. You cannot deliberately organise conflict, but you should not always try to avoid it.

In the European context, one cannot handle all countries in the same way as there are many national differences. For example, concerns over the nanotechnology or BSE are not issues in Sweden, and the use of nuclear power is more of an issue in some countries than others. He said that more money is needed to get more science done, but that the

political system is not necessarily the best way of allocating this and we need some public input.

Questions, Comments and Discussion

Björn von Sydow was asked whether he thought the public should vote on research allocations, to which he replied no, because they would just vote for medicine. They need to be introduced to other options.

8. *MEP trialogue:* Malcolm Harbour, Paul Rübig and Jorgo Chatzimarkakis

Malcolm Harbour began by introducing the Science and Technology Options Assessment (STOA) unit at the European Parliament, of which he is vice-Chair. STOA's work is carried out in partnership with external experts.

He went to describe the importance of evidence-based policy making. He added that policy evaluation should be at the heart of European policy-making. Using the work linked to the legislation produced by the European Commission (who already takes an evidence-based approach) as the example, he described how scientific evidence is at the heart of the process. As well as the legislative proposals, impact assessment statements must also be produced. Drafting these assessments is the first point at which interested parties can engage. They could also challenge the assessment when published during consultation, on matters such as whether risks are over or under-estimated.

It is very important to get a whole range of views when consulting on legislation. Lobbying is an important part of this in order to hear people's views. Where there is clear disagreement in the science, politicians need to hear about it.

Concerning EU research funding, projects are selectively targeted where they can add value to political projects. In the current funding framework, information technology is as high profile as medical research. When the European Research Council comes to appraise the success of projects that it has funded, if all projects turn out to be 100% successful, he questioned whether that should be considered a success. It could mean that they have not been ambitious enough in choosing research projects that are more challenging with perhaps bigger pay offs.

Paul Rübig agreed with Björn von Sydow in that science should be considered on a national level, not just a European one, but that also some issues have to be tackled on a global level. There is and should be a lot of people involved in the decision making. We need information both from the top down and the bottom up. He mentioned the European Institute of Technology established by the European Commission this year.

Jorgo Chatzimarkakis raised the point that if any citizens are asked if they are interested in medicine or research they say "Yes!" but if you ask citizens whether the pharmaceutical industry should be involved in EU funded research they say "No!" The European Commission does not operate in an ivory tower, this is not like government, with opposition and backbenchers, there is no in-fighting like in Member States. He added that it is very difficult to engage MEPs in science. Parliamentary invitations have been issued for conferences on the European Institute of Technology or STOA events but they were lucky to attract two or three MEPs. Consequently, the MEPs that do attend have to present the findings to other MEPs. He added that organising and campaigning on issues is difficult and 90% of the work would be for nothing if someone else has a better event agency.

Jorgo Chatzimarkakis finally argued that a major problem is media representation. Most journalists are uneducated. It is important to find the real scientific stars with strong research and communication skills.

Questions, Comments and Discussion

A Swedish journalist countered by saying that not all journalists are uneducated. She noted from the Vetenskap & Allmänhet (Public and Science) study on *Politics and Science in Sweden* that about a fifth of politicians judge astrology to be either very scientific or scientific to the highest degree. "Blind leading the blind"...

9. David Dickson

David Dickson pointed out that both politicians and the media have a very low level of public trust. Dialogue between science and politics is essential, but it is incredibly difficult because the two speak such different languages. Politics speaks the language of power, science the language of knowledge and there is a need for intermediary institutions to translate. These include organisations like POST as well as the media. He went on to explain four critical roles that the media play this intermediary role:

- Providing information about what happens in science. Newspapers write a lot about science, especially medicine, and a lot of it is very good. The caricature of journalists getting their facts wrong is not fair.
- Representing the scientific lobby. The media helps scientists to demonstrate why what they are lobbying for is important.
- As a channel for dialogue between the public and politicians.
- As a public watchdog: keeping an eye on politicians and asking difficult questions about science and society, keeping science straight, e.g. the tobacco industry, and keeping politicians straight e.g. with AIDS in South Africa.

Questions, Comments and Discussion

Jorgo Chatzimarkakis conceded that scientific journalism is good but questioned the quality of the rest of the media? They like to write about sex, drugs and rock'n roll – science is not exciting enough. He said that the word *parliament* came from the word *parlare* – to talk. So, the politicians are there to talk!

10. Al Teich

Al Teich from the American Association for the Advancement of Science (AAAS) reflected on the differences between the US and Europe. He described how Congress established an Office for Technology Assessment (OTA) in the 1970s. The Republicans had not liked the answers they were getting from the OTA and had withdrawn funding 1995. However there remain substantial science and technology capabilities in Congress.

The Congress has many politicians who were trained in law. There are three physicists from Fermi National Accelerator Laboratory who were instrumental in getting funding for this institute during the Department of Energy's budget crisis. There are a number of other trained scientists, amongst the 535 politicians in the House of Representatives (435) and the Senate (100). However the small number of former scientists in US politics has a disproportionate influence on scientific affairs.

Rush Holt has served five terms and is a former AAAS Fellow. Even as a physicist he is able to answer questions, or to know where to look for answers on other issues outside his specialism such as the anthrax attacks.

Power is fragmented in Congress. The Science and Technology Committee in the Congress does not hold all the budgetary power for funding science. The national Institutes of Health and the Department for Defense also have substantial budgets.

Sometimes scientific influence can be outweighed by other lobbies. The Democrats sit on the left and generally take a view more consistent with the scientific consensus opinion, for example on environmental affairs. On the other hand, the Republicans sit on the right and are largely at odds with the scientific community, for example on the issue of stem cells.

11. David Cope

David Cope clarified that the Office of Technology Assessment was not shut down, it just had its funding removed, and there is hope that it could be funded again. In Europe, conversely, there has been a trend to create more such parliamentary organisations, with the newest being in Sweden. He picked up on Björn von Sydow's point about conflict, and said that there is no shortage of conflict in academia, which often spills over into policy-making. In the end, however, a resolution is needed. He then gave a list of things that are useful in dialogue between scientists and politicians, to make the science catch the politicians' attention.

Make it easy

- Make comparisons with other countries politicians always want their own institutions to be the best and are eager to know of relevant activities elsewhere.
- Explain the consequences for key constituencies to whom the politicians relate
- Provide evidence
- Use 'if... then...' scenarios

He pointed out that sometimes the message can be delivered too soon, before politicians know they should be interested in an area. For example, POST's work on GM crops was conducted in 1994 and 1998 but when the issue rose to the top of the political agenda in Britain, in 1999, some felt that this work was dated and not relevant, although it had explored all the dimensions of the debate. He finished by saying that the current and potential future economic situation may mean that messages need to be redefined.

Round Table Discussion II

Camilla Modéer and Carl Johan Sundberg encouraged the tables to discuss what could be done to improve the dialogue between politicians and scientists, and who should take up this activity. Key questions to focus on were:

- What could/should be done to improve the dialogue between science and politics?
- Who should do it?
 - o ... the politicians?
 - o ... the scientists?
 - o ... the media?
 - o ... somebody else...?

After another round of enthusiastic discussions, some of the tables shared their thoughts and views in plenum.

Ranjit Kumar, Indian journalist, suggested that retired scientists could take positions as communicators. This has been done in India recently, where a leading scientist took a major role in communication. He had a big influence on public opinion and policies concerning the education of schoolchildren. There are lots of parties who may seek scientific advice on their political stance. There may be a difference between having a star scientist commenting on a wide range of issue versus having those who limit their activities to commenting on areas closest to their own research specialism. It is important to remember that scientists are themselves influenced by the general media.

A postdoctoral student said that it is important to identify who the leading scientists are and to identify those who show not only scientific talents but also in communicating and lobbying. He went on to say that there needs to be direct interactions between politicians and top scientists at the level of the EU and the USA as well as democratic obligations to interact at the national and international level.

Al Teich explained that the AAAS Congressional Fellowship programme in the US aims to bring scientists into the US Congress, to learn about the political environment and to share their expertise. So far, about 2,000 fellows has been through the programme. The fellows essentially operate as a member of staff for the period of the fellowship, usually for one year. The selection process is very competitive with around 50-100 applicants for two places. Their activities vary from preparing speeches to helping draft legislation.

Yimin Ding, Chinese journalist, said that it is important to remember that the role of parliaments and government varies throughout the world, particularly in the context of developed versus developing economies. In China, the National People's Congress has scientists in it but it is difficult for them to assure the government about scientific issues. The Chinese government is paying a lot of attention to other governmental practices in this regard.

The speakers' key messages

Camilla Modéer and Carl Johan Sundberg asked the speakers to sum up their key messages based on the question 'What is the *single* most important thing to do to improve the relations between politicians and researchers?'

- 1. Jorgo Chatzimarkakis: There needs to be a great deal more trust and confidence between scientists and politicians. The ESOF event is an excellent foundation for this, since more MEPs are coming to the event. However, other mechanisms are also needed.
- 2. Paul Rübig: More competition in research and between disciplines is essential in order to build opinion, particularly in important areas such as nanotechnology, genetically modified organisms and nuclear energy.
- 3. Malcolm Harbour: The idea of having some kind of 'rapid response team' may be a way to pass information between scientists to politicians and vice versa. Lots of European institutions could participate in such a unit. There needs to be greater exposure of politicians to scientists.
- 4. David Dickson: Scientists need to act with more humility and to be able to justify and communicate their research to others. Equally, politicians and journalists need to listen more to scientists. Putting the media on the defensive should be avoided.
- 5. David Cope: One of the best motivators for stimulating scientist and politicians to talk to each other is being in a crisis situation. It was also proposed that scientists and politicians needs to be much better informed about future events, partly by learning lessons from the past. If one is lucky enough to have prescience, it is invariably serendipitous.
- 6. Bjorn von Sydow: Politicians are facing a higher educated public. Science should be an important part of high school education.
- 7. Ashok Kumar: Scientists should participate more in democracy and politicians should listen to them.
- 8. Gerhard Schöny: It is important not to exclude people who are less well educated from the societal debate. They may be the majority of the population in many countries. Don't forget about the young people integrate them!

List of participants

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Griffiths, Martin, POST - UK Parliament

Harbour, Malcolm, MEP

Haugen, Jon Magnar, Norwegian Board of Technology

Heras, Jon, Equinox Graphics

Herkommer, Vera, EMBL

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