

**Speech at Plenary Session, “Summaries from Concurrent Sessions”  
- Summarizing Track F Concurrent Sessions -**

**“Science Policy Challenges and Opportunities: Where Light and Shadows  
Interact, Often in Full View of the Public”**

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and  
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**1. Engaging Policy Makers in Scientific and Technological Issues**

Our Panel distinguished two domains of public policy. The first is Policy for Science. It involves priorities and funding for science, engineering, math and science education, and the best roles of universities, industry, and government. It involves the promotion or restriction of certain kinds of research, including controversial topics. The second is Science for Policy. This work draws upon and invests in research and new technologies to solve or manage important societal problems. Education, innovation, economic development, energy, environment, and health are universal challenges; the actual programs in each country depends upon leadership, wealth, and collaborations among government, academic, private and non-profit sectors.

Scientists need to understand more about the political process. We need to be respectful and helpful to public officials and their staff. It is patronizing to say policymakers don't understand; we must be more persuasive. Politicians can help us translate our capabilities to the perceived needs of their constituents. Also, it is wise to find ways to thank those who are champions of science. As Mr. Omi emphasized, politicians need our support and want our votes. We must understand that politicians do not always want to make difficult decisions (any more than we do!), especially when advice and evidence may seem in conflict. The chance to influence a decision will be greater if a relationship has been established previously with the political figure. Finally, we need to recognize that our elected officials have many truly compelling needs to address, not just our priorities.

Mechanisms for organized, unbiased technical advice to governments have been created in many countries. They should be encouraged and connected. They include National Academies of Science, the Inter-Academy Panel, the AAAS, the U.K. Parliamentary Office for S&T and its counterparts in the EU and Japan and many other countries represented here. Governments should make regular use of such advice.

## **2. What do the media have to say about science and technology? A lot!**

This rich discussion recognized that people need to know about science, because of its importance not just for broad societal challenges, but also in their daily lives, now and in the future. We have opportunities together to stimulate their curiosity and enhance their reason. Journalists are the translators of news about science and about risks and benefits of technologies. Therefore, scientists must learn to communicate with the media, listening carefully to their questions and helping them shape an effective and credible story. People respond to stories that may be relevant to their lives, not abstractions about scientific theories and or abstruse descriptions of technologies. Not every scientist, but at least some of us, must be willing and able to interact with the media. And we should not be surprised when journalists insist on finding someone with a contrary view, in the name of “balance”.

The session examined the relationships among scientists, professional media journalists, and the publics we both serve. The journalists explained how they choose stories, how they gather information, and how they may try to assess the impact of what was eventually published. Some discussed the changing business models in the media, the difficulties in maintaining a focus on science stories, and the rise of Internet-based reporting.

We recognized some of the difficulties scientists have in explaining their work, the pitfalls in dealing with the media, the dangers of artificially balanced stories, and the cultural barriers to be overcome for science news to reach large populations in the developing world. There is also a backlash against science in some sectors of the public. Scientists are no longer universally seen as heroes, if they were, and suspicion of the motives and impacts of science and technology seems to be increasing, just at a time when more and more people realize how important science and technology are to their futures.

Nearly everybody agreed on the need to explain things better. The media have difficulty communicating to scientists, and scientists and engineers have difficulty communicating with the media, especially about the uncertainties underlying real or potential risks. Both have to face the reality that the public has a short attention span, may not be listening, and surely has many competing worries.

## **3. Utilizing All of our Talents: Drawing on the Capabilities and Values of Women**

This session had a tremendous group of very impressive women participating in the Forum from all around the world. Our chair, Professor Kuniko Inoguchi, is the Minister for Gender Equity and Social Justice, a position created as part of the structural reforms of the Koizumi government since our Forum last year. These women and the few men present were passionate about creating interest in engineering and science among girls and attracting the values and capabilities of women to leadership positions. Networking and mentoring of women throughout their careers are crucial to overcome isolation and exclusion in male-dominated fields. Together with organizations in other countries, the AAAS has a deep interest in promoting education of girls and successful career paths for women in science and

engineering. And for minorities and men, too! Everywhere we need more brainpower for the rapidly-emerging knowledge-based global economy.

I am delighted to share the remainder of the Track F report with my colleague, Dr. Indira Samarasekera, a native of Sri Lanka, a noted chemical engineer, and President of the University of Alberta in western Canada.

Dr. Samarasekera: If one looks at Nature, recombination is a greater source of novelty than mutation. Recombination involves the male and female; therefore, involving women in science in much larger numbers, together with men, will provide diversity of opinions and bring that source of novelty required to transform the paradigms of science. It will give rise to new discoveries, and new kinds of questions will be addressed. It is critical that we address women scientists in both developed and developing countries. There are three critical areas that require focus:

- 1) Promotion – outstanding women must be identified, mentored, and included in traditionally male networks so they can rise to leadership roles in business, government and academia. This will help promote policies that not only enable women to more effectively participate, but also create a climate that captures the strengths of women scientists.
- 2) Participation – in order for women to be promoted to leadership positions, we must develop a larger pool of outstanding women by facilitating participation in their critical mid-career years. Flexible and affordable child care is essential as women juggle their personal and professional responsibilities. Flexible career paths are desirable, too.
- 3) Preparation – throughout schooling, much more needs to be done to promote recruitment of girls and boys to scientific careers.

Finally the Grand Challenges we face, whether the new frontiers of neurosciences, global warming, or questions of the origins of the universe, will benefit from full participation of women and men from all nations of the world.