

BILAT-USA 1st Policy Forum

**New Approaches to International S&T
Engagement: Trans-Atlantic Perspectives**

13 May 2010, Washington D.C.

ABOUT THE BILAT-USA PROJECT

The Bilateral Coordination for the Enhancement and Development of S&T Partnerships between the European Union and the United States of America (BILAT-USA) Project, aims to set up a sustainable, knowledge-based, bi-regional dialogue platform between S&T stakeholders from the European Union (EU) – Member States and countries associated with the 7th Framework Programme for Research, Technological Development and Demonstration – and from the United States.

The BILAT-USA Project will

- Support a Trans-Atlantic Dialogue Platform, addressing global issues by bringing together relevant stakeholders from both sides of the Atlantic;
- Provide and disseminate information on S&T cooperation activities and opportunities between the EU and the United States to facilitate the establishment of new partnerships towards the EU's Framework Programme;
- Promote excellence in cooperative research through the organization of science fora at the policy level, symposia on cross-cutting multidisciplinary issues at the horizontal level, and workshops and linked brokerage events at the thematic level; and
- Facilitate networking with other existing 7th Framework Programme projects and initiatives that support cooperative activities.

The project includes various information and awareness-raising actions, such as establishing a comprehensive web-site and databases dedicated to EU-US S&T cooperation, organizing a number of specialized thematic workshops and training workshops, and staging high-level events at the scientific level. It is taking a coordinated approach with the Link2US Project–European Union–United States Research Cooperation Network: Link to the United States.

For more information: www.EuUsScienceTechnology.eu/bilat-usa/

EXECUTIVE SUMMARY

On 13 May 2010, the BILAT-USA Project held its first forum as a session of the American Association for the Advancement of Science (AAAS) Science and Technology (S&T) Policy Forum in Washington, D.C. (USA). The session, comprising two panel discussions, addressed *New Approaches to International S&T Engagement: Trans-Atlantic Perspectives*.

The first panel discussed *new approaches to science engagement taken by governments in the U.S. and Europe for capacity building and development and diplomacy*. Focusing on recent developments within the United States and the European Union, the panel discussed how U.S. entities, including the U.S. Agency for International Development (USAID) and the U.S. Department of State, and the European Union (EU), including the European Commission (EC), are beginning to look for novel approaches for international engagement in S&T. The United States is particularly emphasizing non-traditional and novel partnerships in order to advance developmental and diplomatic goals. The European Commission is utilizing its Seventh Framework Programme (FP7) to build new partnerships not only bilaterally with countries like the United States but also with regions, including the African Union and Latin America. Furthermore, within the EU, Member States like Italy are developing mechanism to expand public-private partnerships to increase economic competitiveness.

The second panel discussed *new approaches to U.S.-European Union (EU) collaboration to address global challenges*. Focusing on mechanisms for increasing scientific collaborations, the panel highlighted two current EU-U.S. government mechanisms while also addressing the issues of cooperation across borders. The EU-U.S. Task Force on Biotechnology Research and the EU-U.S. Energy Council are two key examples of governmental efforts for collaboration. Both the Task Force and the Council bring together scientific leaders and promote joint research and training opportunities. While top level cooperation is essential, most collaborations are formed bottom-up. As a result approaches to encourage and facilitate scientist-to-scientist contact are also important. For scientific powers like the United States and the EU to work together to address science capacity in developing countries, a mechanism should be considered that funds quality research in the countries – and shielded from developed countries political agendas. A global fund, administered by a non-governmental organization, was another mechanism discussed. This fund, would include government funding, but would be uninhibited by political accountability. Serving as a mechanism to overcome bureaucratic barriers, it could assist in increasing cross border collaborations. These and other discussion examples show that the EU and the U.S. continue to have a deep interest in working together to address global issues and utilize S&T cooperation to advance development and diplomatic goals. Moving forward with cooperation, increased innovative mechanisms are still needed to address bureaucratic barriers, along with global challenges.

On 13 May 2010, the BILAT-USA Project held its first forum as a session of the American Association for the Advancement of Science (AAAS) Annual Science and Technology (S&T) Policy Forum, in Washington D.C. The session was titled *New Approaches to International S&T Engagement: Trans-Atlantic Perspectives*. It was split into two complementary panels:

- 1) *New approaches to science engagement taken by governments in the U.S. and Europe for capacity building and development and diplomacy; and*
- 2) *New approaches to U.S.-European Union (EU) collaboration to address global challenges.*

PANEL 1: NEW APPROACHES TO SCIENCE ENGAGEMENT

The first panel discussed novel ways the U.S. government and the European Commission (EC) and EU member states are undertaking international science cooperation for engagement. Science is increasingly being recognized as a tool for furthering foreign policy, supporting development, and building capacity. Within the EU, the European Research Area (ERA) is being realised to mobilise knowledge and human capital, with the goal of increasing economic competitiveness.

The View from the U.S.

Engagement through Partnerships

Dr. Alex Dehgan, the Science and Technology Adviser of the U.S. Agency for International Development (USAID), discussed new tools for diplomacy and development within the U.S. Department of State and USAID. Dehgan stressed that the developing world needs to gain the tools to solve its problems. Issues such as climate change, loss of biodiversity, and emerging infectious diseases are all transboundary issues. As a result, challenges and solutions must be shared. President Obama encouraged a new era of U.S. science and technology cooperation with Muslim-majority countries in his recent “New Beginning” speech in Cairo, Egypt. In it, the Cairo Initiative was launched that sought to create Centers of Excellence and appoint science envoys who could catalyze cooperation. Partnerships are central to these efforts. New partnership programs among Federal government entities are beginning. For example, the National Science Foundation (NSF) and USAID have signed a memorandum of understanding (MOU) to leverage each others core capabilities. USAID is enlisting the help of other agencies such as the Department of Energy (DOE), the National Oceanic and Atmospheric Administration (NOAA), and the National Aeronautics and Space Administration (NASA). Moreover, partnerships need to bring in non-traditional development actors.

Science Diplomacy

Science diplomacy has been used over the past fifty years, most notably during the Cold War. Some see it as a way to address non-proliferation through engagement rather than isolation. It is also seen as a way of promoting values found in science such as respect for evidence, transparency, openness, honesty, and understanding of opposing views.

Scientists typically play an important role as leaders in many developing countries. In Iraq, for example, 70% of the new government is comprised of trained scientists and engineers. In Iran, the foreign affairs advisor to the President is a scientist and the President of Iran is an engineer. Dehgan argues that science engagement is a unique and important diplomatic tool that can be positive and productive for both friendly and challenging relationships. Science diplomacy is a framework upon which a relationship can be built.

View from the European Commission

Ms. Mary Minch, Director of International Cooperation at the EC's Directorate General for Research, discussed the current approaches to cooperation being taken by the EC. Minch stated that strong cooperation currently exists between the EC and the United States. U.S. researchers are a significant third country participant in the EC's 7th Framework Programme (FP7). An important U.S.-EC bilateral agreement also exists. The yearly Joint Consultative Group Meeting (JCM) for the agreement was recently held, during which both sides discussed how to work together on food security, nanotechnology, and energy, among other topics. A new EU-U.S. Energy Council was also launched at the end of last year.

The Challenge

There are many common challenges, but the EC has to decide with whom to work on particular challenges. Cooperation with developing and emerging countries is just beginning. The EC has S&T agreements with many developing and emerging countries, including Argentina, Brazil, Chile, China, Egypt, India, Morocco, and South Africa. These agreements are set up similar to the EU-U.S. Agreement, with JCMs that serve to advance joint activities. Overall, there has been a shift towards partnerships that identify the needs and work within the strengths of a particular country or region. The pervading question is implementation once agreements are signed and priorities set. Along with its activities with the United States and other third countries, the EC is developing bi-regional policy dialogues with Latin America and Africa. The EC has developed a very structured process with the African Union with a focus on S&T. A similar dialogue is being held with Latin America.

Supporting Bilateral Cooperation in FP7

At the EU level, FP7 has been designed to foster EU competitiveness and is also open to international cooperation. Within FP7's Capacities Programme, a BILAT programme focuses on supporting bilateral S&T relationships between the EU and specific third countries. In addition, there are other related programmes that focus on regional cooperation, including one with ASEAN. These programmes assist the EC by helping network among the stakeholders and elucidate the priority-setting processes for each country or region.

View from EU Member State

S&T in the EU

Dr. Maria Cristina Pedicchio, Member of the EU's Strategic Forum for International Scientific and Technological Cooperation (SFIC), Professor of Mathematics at the University of Trieste, and President of the Cluster in Biomedicine (Trieste, Italy),

discussed the state of cooperation within the EU. Pedicchio noted that S&T in Europe was overall lagging. Research and development is currently only 1.8% of the GDP while the U.S is at 2.8%. She believes that a crucial missing piece is the role of the private sector in S&T within Europe.

The state of S&T in Europe is quite heterogeneous. Northern European countries are generally doing very well relative to the southern European countries. While there are very good social systems and basic research institutions, there are also still many challenges. The greatest challenge for the region is the need to connect research and innovation for increased economic competitiveness.

Moving Forward

There are several pillars that should be further developed to build the capacity of the present research and innovation system in Europe, according to Pedicchio. First, diversity needs to be valued in a positive manner and not seen as a barrier. Within the EU, diversity is not often appreciated as a value to the innovation system. Research as a whole must be more multidisciplinary and focused on grand challenges. Greater mobility must be realized.

To improve the transformation of research into innovations within Italy, Pedicchio has been developing an S&T cluster where scientists, entrepreneurs, private companies, and laboratories can come together to exchange ideas. While this concept is understood within the United States, it is not common practice within Europe. In addition, the cluster has social facilities, such as nurseries to encourage mothers to go to school and work. Further development of areas such as S&T clusters is needed for advancing S&T in Europe.

Discussions

During the question and answer period, the panelists addressed questions about bilateral S&T agreements, entrepreneurship and development assistance, and the EU's Framework Programme.

- Current S&T agreements typically set forth basic principles for cooperation but do not dedicate resources for cooperation. These agreements could be improved with specific mechanisms and/or funding resources for cooperation.
- Support of entrepreneurship could benefit development goals. Dehgan discussed a recent global entrepreneur summit convened by the United States and the recent appointment of a counsellor for innovation at USAID to bring private sector connections. A wider EU-U.S dialogue on innovation has also begun.

PANEL 2: NEW APPROACHES TO U.S.- EU COLLABORATION

The second panel discussed mechanisms for EU-U.S. science and technology cooperation and new opportunities for collaboration.

Cooperation Trends, Challenges, and Opportunities*Current Challenges*

Dr. Caroline Wagner, CEO, Science-Metrix Corporation, discussed issues related to funding cooperative activities between the United States and other nations. Within the United States, most government funding is subject to demanding accountability requirements. These requirements often make it difficult to comply and collaborate with foreign organisations. Many U.S. federal entities do not have programmes that fund non-U.S. citizens or entities.

Even with such challenges, researchers continue to form new collaborations given their benefits. Wagner argues that scientists want access to knowledge, financial resources, and equipment that others may possess. It is estimated that 90% of all cooperation in science begins in person. As a result, encouragement of the bottom-up approach might include an increased number of opportunities for scientists to meet in person. While the internet is assisting in international collaborations, Wagner argues that it tends to facilitate those relationships that have already been established.

The Open Fund Approach

In order for the EU and the United States to join together to assist countries in achieving the Millennium Development Goals (MDGs), Wagner suggested an open fund that is not tied to any political agendas and ensures the quality of research being performed by third countries. Financial resources should be pooled from all participating countries or regions. An outside, neutral organisation, similar to the Global Knowledge Initiative (GKI) or the U.S. Civilian Research and Development Foundation (CRDF), could be responsible for administering the funds.

Current Examples of EU-U.S. Cooperation*The Biotechnology Research Task Force*

Dr. Line Matthiessen, the European Commission's executive secretary for the E.C.-U.S. Task Force on Biotechnology Research, gave an overview of the Task Force. The Task Force strives to promote interdisciplinary actions on biotechnology research and brings together both scientific communities, particularly those that do not traditionally meet, such as social and natural scientists. Representatives from key U.S. Federal funding entities, the U.S. Office of Science and Technology Policy (OSTP), and the EC meet annually to discuss the latest topics on environmental biotechnology, plant biotechnology, animal and marine genomics, obesity, and other issues. The Task Force also coordinates efforts and fosters exchanges. Recommendations from Task Force-funded workshops have led to the development of key priorities for the U.S. and the EC. In addition, Task Force workshops have trained a large number of young scientists from across the Atlantic. The Task Force celebrates its twentieth anniversary in September 2010 and is the longest running scientific consultative mechanism between the EU and the United States.

The Energy Council

Dr. Phyllis Yoshida, Deputy Assistant Secretary for Asia, Europe, and the Americas at the U.S. Department of Energy (DOE), discussed the newly established EU-U.S. Energy Council. The Council facilitates cooperation between the United States and the EU in addressing issues of energy security and leveraging shared resources and growing funding on both sides.

The Council was launched November 2009. Chaired at the Ministerial level, it currently has three working groups. One focuses on energy security. This group addresses such issues as natural gas markets, power grid capacity and energy delivery efficiency. The second group is a policy working group which Yoshida co-chairs, while the third focuses on research and technology development.

Discussions

During the question and answer period, the panelists addressed questions about open/joint funding and the Framework Programme.

- Wagner clarified that a pooled scientific fund supplements existing national programmes but would be politically insulated. Such a fund should focus on quality science with developing countries to generate knowledge that would provide local benefit.
- In addressing the incentives for EU member states with relatively weaker research capacities to contribute to the Framework Programme, in which funding is distributed according to excellence, Herlitschka noted that the Programme not only provides funds but also value from participating in collaborative projects with other European and third country organisations and scientists. For example, when Austria began participating in the FP, Austria saw only 70% of its contributions back in Austrian institutions. Currently, Austria is receiving 140% back. Moreover, FP funding should be seen in the context of broader EU funding schemes; some favor member states in need of capacity-building (e.g., EU's structural funds).

Attachment I: Session Agenda

**New Approaches to International S&T Engagement: Trans-Atlantic Perspectives
2:00PM-5:00PM, 13 May 2010**

2:00pm – 2:05pm

Introduction

Dr. Tom Wang, Director for International Cooperation, AAAS; and **Dr. Sabine Herlitschka**, Director, European and International Programmes, Austrian Research Promotion Agency (FFG)

2:05pm – 3:25pm

Panel 1: New Approaches to Science Engagement Taken by Governments in the U.S. and Europe for Capacity Building and Development and Diplomacy

International S&T cooperation plays a key role in addressing global challenges, building competitive economies, and, increasingly, in underpinning sustainable development and fostering positive relationships between countries. The United States and Europe are among the most well-placed regions, with their vast S&T capacities, to contribute to each of these areas. In the United States, S&T cooperation is increasingly viewed as an important component for enabling development and diplomacy agendas; the chairman of the House Foreign Relations Committee, Congressman Berman, recently introduced legislation to enhance science cooperation to strengthen relationships and promote economic development and capacity-building. In the European Union, as European member states become increasingly integrated in a European Research Area, several hundreds of millions of euros have been invested at the European level in S&T cooperation with developing countries. This panel will discuss new approaches to science engagement and how the U.S. and Europe may cooperate to strengthen the goals of capacity building and diplomacy.

Moderator: **Dr. Tom Wang**, Director for International Cooperation, AAAS

Dr. Alex Dehgan, Science and Technology Adviser, U.S. Agency for International Development

Mary Minch, Director, International Cooperation, DG Research, European Commission

Prof. Maria Cristina Pedicchio, Member, Strategic Forum for International Scientific and Technological Cooperation (SFIC); Professor of Mathematics, University of Trieste; President, Cluster in Biomedicine (Italy)

3:25PM – 3:40PM

Coffee/Tea break

3:40PM – 5:00PM

Panel 2: New Approaches to U.S.-EU Collaboration to Address Global Challenges

While American and European researchers have shared data and studied in each other's laboratories and universities for decades, there are now new strategic efforts to advance

Trans-Atlantic cooperation in order to better address global challenges and enhance competitiveness. These range from funding opportunities to broad-based, joint scientific programs. For example, a new ministerial-level energy council has recently been established between the United States and EU to help tackle energy security and climate change challenges. In biomedical research, the U.S. National Institutes of Health (NIH) and the European Commission (EC) have an agreement in which American scientists may receive EU funding and European scientists may receive NIH funding. An EC-U.S. Task Force on Biotechnology Research has also operated for a number of years to coordinate efforts on promoting this area of research. This panel will discuss new and potential approaches to U.S.-EU collaboration.

Moderator: **Dr. Sabine Herlitschka**, Director, European and International Programmes, Austrian Research Promotion Agency (FFG)

Dr. Line Matthiessen, Head of Unit, Biotechnology, Agriculture and Food Directorate, DG Research, European Commission

Dr. Caroline Wagner, CEO, Science-Metrix Corporation

Dr. Phyllis Yoshida, Deputy Assistant Secretary for Asia, Europe, and the Americas, U.S. Department of Energy

Attachment II: AAAS News Article

By Strengthening S&T Ties, Europe and U.S. Seek New Ways to Address Grand Challenges

While scientists from the United States and Europe have collaborated on research projects for decades, there is a new push to strengthen trans-Atlantic ties, including boosting American participation in a key European Union research program.

There are U.S. participants in about 260 of the 7000 projects funded so far under the seven-year program according to figures presented at a 13 May session of the annual AAAS Forum on Science and Technology Policy.

Called the [7th EU Framework Program for Research, Technological Development and Demonstration](#), or FP7, it is the European Union's main instrument for funding research and development activities covering all scientific disciplines. The program runs from 2007 to 2013 and will distribute 50 billion Euros or about \$61.8 billion. The 7,000 approved projects were selected from 43,000 submissions, a 16 % success rate.

The Forum session, a look at mechanisms for international research cooperation from a trans-Atlantic perspective, was organized by the leaders of [two complementary projects](#) aimed at bringing scientists here and in Europe together to tackle important questions in fields such as health, agriculture, biotechnology, and nanotechnology.

There is “still a lot of work to do to improve trans-Atlantic joint activities and tackle the grand challenges that are out there,” said Sabine Herlitschka, director of the Austrian Research Promotion Agency's division of European and international programs. She coordinates the project called [BILAT-USA](#), aimed at strengthening the trans-Atlantic dialogue and increasing American participation in the European FP7 research program through a range of activities. A flip-side effort, [Link2US](#), is coordinated by Tom Wang of the AAAS International Office and seeks to raise awareness among European scientists about cooperative research opportunities in the United States.

According to Wang, the Link2US program is less about match-making between individual researchers and more about creating venues—such as a recently launched electronic portal—where European scientists can quickly learn about funding opportunities by the U.S. National Science Foundation, the National Institutes of Health and other federal agencies. The program recently completed an analysis of 16 existing S&T agreements between Europe and the United States and will produce an analysis by the end of the year on barriers to trans-Atlantic research cooperation.

The AAAS Forum on Science and Technology Policy has, for the past 35 years, been the premier venue for S&T policy discussions. Held 13-14 May in Washington, D.C., the Forum this year attracted over 500 U.S. and foreign leaders from government, education, and business to hear top policy experts talk on range of critical U.S. and international issues.

At the discussion organized by Herlitschka and Wang, specialists explored the existing climate for trans-Atlantic cooperative research and new approaches to tackle global challenges, both in Europe and elsewhere.

Mary Minch, director of international cooperation at the European Commission's Directorate General for Research, noted that mobility of researchers has become a fact of life. Where once a nation might worry about a brain-drain of its young scientists to greener pastures, now the model is what she called "brain circulation," with researchers moving to take advantage of the best research opportunities wherever they appear.

"So we have particular programs," she said, that "help researchers to come to Europe" and Europeans to undertake research activities abroad. "We find that very, very important," she said.

Maria Cristina Pedicchio, a mathematician at the University of Trieste in Italy and a member of the EU's Strategic Forum for International Scientific and Technological Cooperation, said Europe as a whole still lags the United States in the percentage of GDP invested in research and development (1.85% versus 2.68 % in 2007) and must do more to promote public-private partnerships. A recent conference in Slovenia on the state of European R&D recommended a five-fold increase in the amount of money governments invest in research at private companies, Pedicchio said. She, too, stressed the importance of "mobility of knowledge, of capital, of ideas, of people" for international scientific cooperation.

Why do scientists decide to pursue cooperative ventures? Caroline Wagner, the chief executive officer of Science-Metrix Corporation, said there are some obvious reasons: access to knowledge, Maria Cristina Pedicchio research papers, access to research resources and equipment. And while the Internet can help, she said, "90% of all cooperation in science begins face-to-face... If we want to encourage cooperation and collaboration, we have to meet, and we have to start to work together."

There are more incentives than ever to do that. Over the past 30 years, Wagner said, more than a dozen nations, including Switzerland, Denmark, and the Netherlands, have increased the quality of their scientific research relative to the United States. "The quality of science has started to converge," she said, with a rise in collaboration across all fields of science and across national boundaries.

Alex Dehgan, science and technology adviser for the U.S. Agency for International Development, said there also are compelling political reasons to pursue global science partnerships. Scientists often play important roles as leaders in many developing countries, he said. And science promotes important inherent values such as honesty, respect for evidence, openness, and respect for opposing points of view.

Although relations may be rocky with states such as Iran, he said, science can offer a framework that "cracks open that door" to better understanding. It is a myth that "scientific engagement works well only when you are friends," Dehgan said. "In fact it works probably best in some of our mostly challenging relationships." Noting that 60 % of the members of Iran's last cabinet were scientists, Dehgan said it makes good sense to pursue science diplomacy with Iran.

One way to truly tap the science potential of developing nations, Wagner argued, is to get donors, governments and industry together to create "an open fund, a shared pot of money that isn't tied to national prestige." She said there already are some promising steps in that direction, and cited the work of the Global Knowledge Initiative, a nonprofit organization that seeks to be a matchmaker between research institutions in developed and developing countries. The Initiative claims that, because of its independent status, it can be a broker that is "not subject to governmental, corporate and institutional agendas."

Some trans-Atlantic cooperative efforts already are well-established. Line Matthiessen, the European Commission's executive secretary for the E.C.-U.S. Task Force on Biotechnology Research, described the task force as a thriving example. The task force, which is celebrating its 20th anniversary this year, operates as a sort of policy "think tank" that brings together representatives of U.S. and European agencies to compare notes on the future direction of biotechnology R&D. Matthiessen said the task force also has trained more than 100 scientists in environmental biotechnology.

Phyllis Yoshida deputy assistant secretary for Asia, Europe and the Americas at the U.S. Department of Energy, spoke of another, more recent venture in trans-Atlantic science cooperation. The E.U.-U.S. Energy Council, launched in November 2009, is giving a higher profile to cooperative research on energy issues, Yoshida said, with working groups on energy security, policy, and technology. She is U.S. chair for the policy working group, which has been developing road maps for cooperation on energy efficiency standards and labeling, measures to support "smart" power grids and electric vehicles, nuclear safety regulations, and strategies for the public acceptance of carbon capture and storage.

Yoshida said the work of the Energy Council has led to exchanges of researchers, parallel calls for proposals on important research topics on both sides of the Atlantic, joint peer reviews, and other activities.

"We do feel that for the first time in a long time, it's not just talking to each other, but we're actually going to be doing some joint work," Yoshida said. Even steps like putting U.S. and E.U. researchers on each other's peer review panels "really provides a lot of insight into what people are doing and starts people matching up and working together," she said.

"The challenge is: Once you start this, how do you keep it moving?" Yoshida said. The key is to convince funding agencies, program officers, and scientists on each side that there is benefit, she said, and not simply writing reports "because it's good for diplomacy, but because there is something there that really helps everyone."

Earl Lane

26 May 2010