

## Science: a common language

**Science and technology can be used to build relations between countries. Thus, scientific diplomacy is becoming increasingly important.**

The year 2009 saw the inauguration of Barack Obama, the first African-American President of the United States, and ushered in a new era for science. Whereas the previous administration of George W. Bush regularly sidelined science, President Obama quickly made it clear that science and technology will have a central role in the new regime. Within his first days of office, federally funded stem cell research was allowed. By May he had appointed a 20-strong Council of Advisors of Science and Technology, which included two Nobel laureates. A stimulus package for research was rolled out, and the administration announced their intention to increase research funding to 3% of the gross domestic product. Along with these measures, the new administration has also adopted science diplomacy.

Science diplomacy, simply put, is the exchange of science and technology across borders with the aim of improving foreign affairs and the livelihood of the world. This is not a new concept. To repair broken dialog between the United States and Japan, President Kennedy established a science and technology agreement between the two countries in 1961. It is argued this helped to strengthen a weak relationship that at the time was based solely on security concerns. Better known are the scientific exchanges that occurred between the Soviet Union and the United States during the Cold War, when official diplomatic relations were all but stalled.

Perhaps the most fruitful use of scientific diplomacy occurred 30 years ago this year with the signing of a Science and Technology Cooperation Agreement between China and the United States. The 1972 Shanghai Communique of President Nixon and the Chinese premier Zhou Enlai, which ended 23 years of isolation for China and the United States, briefly mentioned cooperation in science and technology. Gradually, with the help of the National Academy of Sciences, visits by scientists increasingly laid the foundations for the science diplomatic mission of 1978, when Frank Press, the science advisor to President Carter, along with a host of representatives from most technical federal agencies, met with Chinese officials. What quickly followed was the Science and Technology Cooperation Agreement a year later. Although tensions still exist between the two powers, this historic agreement has led to many research advances, more Chinese students studying in the United States and billions of dollars in economic growth.

Since that time, the use of science diplomacy has taken a back seat. However, recent world events have thrust the use of this diplomatic card back into the limelight. The war on terror has strained diplomatic ties between many countries and the United States. A 2004 Pew Survey of many Muslim states confirmed that the most countries had negative views of America. Yet although American politics has been heavily criticized, a Zogby International poll of six Arab states found that most viewed American science and technology in a favorable light. The

American Association for the Advancement of Science (AAAS) and other organizations, along with the present US government, have realized this disparity marks an opportunity for the United States to leverage this positive image of science and technology to improve diplomatic relations.

In 2008, the AAAS opened a new Center for Science Diplomacy with the aim of promoting international understanding and prosperity. The AAAS was most recently involved in a ten-member delegation sent to Syria to explore future cooperation in health, agriculture and scholar exchanges, among other areas. The year 2009 also saw 200 participants from 18 countries attending a joint meeting of the Royal Society (UK) and AAAS to explore new frontiers in science diplomacy. The present US administration clearly endorses such efforts, as reflected by a recent speech President Obama gave in Cairo that set out to redefine the United States' relationship with the Islamic world. In this speech, President Obama announced a new fund to support technological developments and the establishment of a new science envoy program to foster scientific collaboration in the Middle East, Africa and Southeast Asia.

Although the use of science diplomacy is clearly warranted in today's world, many issues need to be addressed to facilitate its use. In addition to the US government, universities, nongovernmental organizations and foundations must be involved. But this raises the thorny question of how to organize and fund such diplomatic efforts. Such efforts must also be sustained to work well. Science diplomacy should also not rest on the shoulders of the United States—President Obama needs to involve other developed countries such as the European Union and Japan in this venture. Notably, the European Union already provides dedicated funding for multilateral cooperative projects. Such cooperation would only strengthen diplomatic efforts. Finally, to encourage future collaborations, the US administration must look at ways to make science education and research more accessible to the outside and not be hampered by visa and immigration difficulties.

Reliance solely on science diplomacy, however, would be naive. Indeed, efforts to build relations by this route have failed in Iran. While the AAAS was organizing an event to discuss bridge-building with Iran via science, Glen Schweitzer, the director of the National Academies for Central Europe and Eurasia, was detained by Iranian security guards and accused of trying to initiate a nonviolent or 'velvet' revolution. The National Academies have since suspended further talks with the Iranian government.

Science is a common language that has no borders. Thus, scientific diplomacy will probably have an integral role in relationship building between nations now and in the future, but doing this well will require sustained effort. It should not be considered a quick fix in fostering diplomatic relations.