

U.S.-Iran science exchange

If the Iran nuclear deal unravels, U.S. visa restrictions increase, and/or Americans who travel to Iran are subjected to unwarranted security harassment, opportunities for scientific engagement between the two countries, which are currently limited, will decline to a very low level. This would be a substantial loss to the global scientific community.

Between 2001 and 2016, the U.S. National Academies of Sciences, Engineering, and Medicine sponsored 1500 American and Iranian exchange scientists from more than 60 institutions in the two countries. A comparable number of additional scientists in the two countries have assisted in arranging and hosting events for visiting colleagues who were participants in this program. Many other U.S. institutions, together with Iranian partners, have also arranged scientific exchanges; and hundreds, if not thousands, of individual scientists have traveled in both directions in response to personal invitations.

These exchanges have coincided with the dramatic growth in scientific publications of Iranian scientists in international journals from 3000 in 2001 to 40,000 in 2016. In recent years, about 8% were coauthored with American colleagues. All the while, exchanges have encouraged increased openness of Iranian institutions, which has helped Iran become the leading contributor to international science in the Middle East.

The American scientific community has benefited in many ways from these interactions with Iranian colleagues. For example, Iranian scientists have organized large sets of seismic measurements and made them available on the Internet, shared advances in addressing stomach cancer, demonstrated progress in stem cell research, and shown how diversified use of limited water resources, adjustment of planting seasons, and introduction of new crops can help to cope with droughts.

At times, collaboration reaches beyond the universities and education centers of Iran, involving Iranian scientists who are advisers to the national or municipal governments or who accept limited-term high-level positions in government. These Iranian scientist-diplomats can promote important cooperative approaches and incorporate research findings into governmental planning

processes. For example, in 2014, a request from Iranian government scientists led to American and Iranian research collaboration aimed at countering the rapid shrinkage of Lake Urmia. And in 2015, Iranian scientist advisers played a key role when the city of Tehran invited American experts to provide guidance on how to address urban pollution problems. American experience in environmental monitoring, together with Iranian modeling capability, provided the basis for designing a network of stations throughout Tehran. Similar collaborations involving Iranian government scientists have characterized exchanges directed to food-borne diseases, solar energy, wildlife management, and medical ethics.

Such joint efforts in science hold considerable promise of slowly, but steadily, transcending the U.S.-Iran political stalemate; and cooperation should not be put in jeopardy. Several issues are important in the United States if cooperation is to continue at even a minimum level. Continuation of strong support of people-to-people exchange programs by the U.S.

Department of State is essential. The Office of Foreign Assets Control (OFAC), in the U.S. Department of the Treasury, at times considers academic exchanges and presentations at conferences in Iran as being services that require OFAC licenses, and this policy needs review and clarification. General licenses issued by OFAC permitting a range of exchanges in health and environment protection would be an important step in overcoming reluctance of many U.S. institutions to consider cooperation with Iran.

As for the U.S.-Iran nuclear deal, Annex III of the agreement identifies fields appropriate for civil nuclear science cooperation. A number of these fields are far distant from sensitive activities and could provide an initial agenda for cooperation. They include desalination, laser eye surgery, neutrino astronomy, and nuclear safety. Successful exchanges of scientists in such areas would not only begin to demonstrate scientific benefits from the agreement, but could also increase governmental interest in scientific exchange in non-nuclear fields.

—Glenn Schweitzer*



Glenn Schweitzer has been the manager of the U.S.-Iran science-engagement program at the U.S. National Academies of Sciences, Engineering, and Medicine since 2001. gshweitzer@nas.edu



“...cooperation should not be put in jeopardy.”

*The views expressed in this Editorial are the author's own and are not necessarily those of the U.S. National Academies of Sciences, Engineering, and Medicine.

Science

U.S.-Iran science exchange

Glenn Schweitzer

Science **358** (6359), 11.

DOI: 10.1126/science.aag0553

ARTICLE TOOLS

<http://science.sciencemag.org/content/358/6359/11>

PERMISSIONS

<http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

Science (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. 2017 © The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works. The title *Science* is a registered trademark of AAAS.