POLICY ISSUES RELATED TO
INTERNATIONAL STUDENTS AND RESEARCHERS IN THE UNITED STATES

THE IMPORTANCE OF FOREIGN-BORN SCIENTISTS AND ENGINEERS TO THE SECURITY OF THE UNITED STATES

Statement of
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Committee on Science and Technology
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Good afternoon, Mr. Chairman and members of the Committee. My name is Harvey Fineberg, and I am President of the Institute of Medicine (IOM). Chartered in 1970 and a component of the National Academies (which also includes the National Academy of Sciences, National Academy of Engineering, and National Research Council), the IOM provides unbiased, evidence-based, authoritative information and advice concerning health and science policy to policy-makers, professionals, leaders in every sector of society, and the public at large.

I am pleased to have the opportunity to testify today to remind members of this committee of the important contributions foreign-born scholars, scientists, and engineers have made and continue to make to this country. Foreign-born scientists and engineers have come to the United States over the years, stayed in large numbers, and we are more prosperous and more secure, in large part, because of them.

Importance of Foreign Scientists and International Collaborations

Fifty years ago, many of the United States' scientific leaders came from Europe. There are the famous names like Einstein, Fermi, and Teller (without whom we might not have been the first to build the atomic and hydrogen bombs), von Braun (without whom we would not be ascendant in rockets and space), and von Neumann (without whom we might not be leaders in computing and information technology). But there are dozens more names, like Bethe and Gödel, who may not be known to the general public, but who

formed the backbone of American science and engineering – plus an enormous number of journeymen scientists and engineers whose individual contributions will never be celebrated, but without whom the United States would be neither as prosperous nor as secure as it is.

Today, it is not just Europeans who contribute to our prosperity and security; the names are like those of Praveen Chaudhary (former director of Brookhaven National Lab), Venkatesh Narayanamurti (dean of the Division of Engineering and Applied Sciences at Harvard), C.N. Yang, (Nobel Laureate physicist, from the Institute for Advanced Study in Princeton), Katepalli Sreenivasan, (recent director of the Institute for Physical Science and Technology at the University of Maryland, and current director of the Center for International and Theoretical Physics); and Elias Zerhouni (director of the National Institutes of Health).

Importance of International Students

International exchanges of students and skilled professionals can benefit both the sending and receiving countries. Certainly, the U.S. science and engineering research enterprise depends critically on international students and scholars.

The United States has relied upon a steadily growing influx of graduate students and postdoctoral scholars from throughout the world. International students now constitute more than a third of U.S. science and engineering (S&E) graduate school enrollments, up from less than a quarter in 1982. More than half of the S&E postdoctoral fellows are temporary residents, half of whom earned a doctorate degree outside the United States.[1] Including undergraduates, more than a half million foreign citizens are studying at colleges and universities in the United States.

Many of the international students educated in this country choose to remain here after receiving their degrees. More than 70 percent of the foreign-born S&E doctorates who received their degrees in 2001 remained in the United States for more than two years.[2] These skilled migrants are an important source of innovation for the U.S. economy.

Importance of International Scientific Exchanges

Equally important, but often lost in this discussion, are short term visits of international scientists to the United States. Many of these individuals are prominent researchers, officers in international scientific organizations, or members of their national academies of science. Many are invited speakers or presenters at scientific meetings or need to come to the United States to consult with partners on collaborative projects.

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[1] National Science Board. 2004. *Science and Engineering Indicators, 2004 (NSB 04-2),* Arlington, VA: National Science Foundation.
[2] M.G. Finn. 2003. *Stay rates of Foreign Doctorate Recipients from U.S. Universities, 2001*. Oak Ridge, TN: ORISE.

Many have been to this country a number of times in the past. They are reasonable, intelligent people, and the kind of people our country wants as friends.

Unfortunately, we are alienating them one at a time. Some of our visa policies simply do not make sense to them, and they become irritated enough with their experiences that they vow not to return to the United States, and unfortunately, they tell their colleagues about their experiences.

When enough people have concerns, we lose the goodwill of our partners, and meetings begin to be held outside of the United States. Even before the ICSU President Goverdhan Mehta encountered difficulties obtaining a U.S. visa in 2005, the International Council of Sciences was reluctant to encourage meetings in the United States. In 2007, the International Union of Pure and Applied Chemistry (IUPAC) debated long and hard whether to hold the 2011 General Assembly in Puerto Rico or Turkey. Puerto Rico narrowly won, but the debate focused on U.S. visa policy, and particularly whether scientists, especially those from Cuba, will be able to get the necessary U.S. visas to attend.

The National Academies' International Visitors Office

The National Academies' International Visitors Office (IVO), funded by the presidents of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine, assists international scientists in their efforts to come to the United States for meetings and other collaborations. The office works closely with the Office of Consular Affairs at the State Department. Personnel there have been extremely responsive to our concerns, and we commend that office for its work.

The IVO collects information on large scientific meetings in the United States and forwards that information to the State Department for distribution to embassies and consulates worldwide. Since 2003, the IVO has registered 420 meetings, 104 in 2007 alone. The IVO also provides meeting organizers with general information on the visa process, advice on what applicants can do in the event of a visa delay or denial, and individual assistance to their attendees as needed.

In addition, the IVO:

- Maintains a Web-based questionnaire to collect information on visa difficulties experienced within the scientific community;
- Reviews and analyzes data collected to report relevant statistics on the nature and scope of the problem;
- Maintains contact with the Department of State, the Department of Homeland Security, and other agencies that either administer visa programs or work with visa-related issues; and
- Works directly with the State Department's Office of Consular Affairs to resolve specific cases.

From the fall of 2002 through the end of December 2007, 5,878 cases have been reported to the IVO, and almost 900 of these were in 2007 alone. One of our primary messages is APPLY EARLY, yet still there are problems. For example, the International Union of Pure and Applied Biology (IUPAB) will have its 16th International Biophysics Congress in Long Beach, California on February 2-6. As of January 25, many of the 30-member Chinese delegation were still awaiting their visas, including the head of the delegation, a man who will be on the ballot for IUPAB President.

I wish I could say that this delegation's experience is unique. Unfortunately, it is not. Over and over, we hear of prominent scientists who have not received a decision on their visas with only days left before a meeting. They end up cancelling flights, and losing money on meeting registrations and hotel reservations. We also continue to receive regular reports from scientists who receive their visas after the meeting has passed. None of this engenders goodwill toward the United States.

Other complaints that we hear regularly are:

- Difficulty scheduling visa interviews, and long waits once scheduled;
- Denial of visas due to "lack of ties" to home country despite clear evidence of scientific employment;
- Delays due to security clearances;
- Delays despite all documents being in order;
- Inability to extend J-1 visas from within the United States; and
- Arrogant and rude treatment upon entry to the United States by immigration and customs officials.

The Impact of 9/11 and Globalization

To be sure, 9/11 and globalization have changed the balance point. Both have caused the United States to fundamentally rethink our policies, but we need to make sure that new policies put into place make sense and do not do more harm than good. The international image of the United States has been one of a welcoming "land of opportunity"; we are in the process, however, of replacing it with one of a xenophobic, suspicious, fearful nation. The policies that superficially appear to make us more secure also are, ironically, having the opposite effect

Protecting Americans from threats obviously must be a high priority, but *real* security will be achieved only by a proper balance of excluding those who would harm us and welcoming those who would do us good, by a proper balance of openness and secrecy. With selected, thoughtful changes to U.S. policies, we can achieve *both* goals, making our homeland safer and our economy stronger.

Ensuring Security

The National Academies agrees that the nation must take precautions to ensure security. If visits by foreigners to the Unites States are considered especially at risk, then the system must be protected with the technologies, information, and resources needed to

do a proper job. Anything less, and the system remains vulnerable. Some visa applications must be carefully subjected to expert scrutiny to ensure our national security, but the level of security must be tailored to the magnitude of the risk. This can be done by educating and training staff and keeping security procedures focused and streamlined. We need to determine where protection is essential-and then protect those areas vigorously.

The current system:

- Fails to identify the most vulnerable points of the system (everyone interviewed);
- Spreads resources too thin by treating all applicants as equal threats (thereby preventing in-depth interviews);
- Does not manage information well – does not have necessary focus on identifying those who pose the biggest threat (more security does not make us more secure; better management does);
- Lowers people's sensitivity to the most critical elements of the system;
- Builds ill-will against the United States through repetitive processing of those with a good track record; and
- Diverts resources from monitoring those who pose a higher risk.

Security in the broadest sense must be achieved through accumulation of new knowledge and the wise application of it. If we include too many applicants in the security review procedures, then the bureaucratic burden in guarding the entire system becomes excessive – leading to inefficiencies, delays, and security risks. The United States needs to recognize what is important to secure and what is of limited or marginal significance, and respond appropriately. Not everyone is of equal risk.

Academic Visits and Exchanges with Cuba

I also would like to say a word about Cuba. Section 212(f) of the Immigration and Nationality Act of 1952, as amended, authorizes the president to deny entry "of any class of aliens into the United States [who] would be detrimental to the interests of the United States." President Ronald Reagan built on that policy, and in Presidential Proclamation 5377 restricted the entry into the United States of officers or employees of the Cuban Government or the Communist Party of Cuba. Since all education and research institutions in Cuba are state entities, as are many public universities in the United States, scientists and scholars are denied entry into the United States solely because their employer is the Cuban state.

The policy has been unevenly applied through the years, but has been strictly enforced since 2004 when Congress and the Administration made democracy in Cuba a high national priority. From January through October 2004, only five professors from the University of Havana were granted visas to travel to the United States in response to invitations to give classes and lectures, or for research visits. Prior to 2004,

approximately 25 university faculty members traveled each month to the United States for such visits.[3]

In fall 2004, more than 60 Cuban scholars were denied visas to attend the XXV International Congress of the Latin American Studies Association (LASA) held October 7-9, 2004 in Las Vegas, Nevada. Their applications had been pending since May. In early 2006, 58 Cuban scholars and researchers were denied visas to attend the XXVI LASA Congress in San Juan, Puerto Rico.

In explaining the 2004 decision, State Department spokesman Richard Boucher made clear that the visas had been denied "as a group" on political grounds:

> [T]he primary purpose of denying these visas is … to bring the pressure on the Cuban Government and on people who are employed by the Cuban Government so that they understand that their treatment of people in Cuba has implications…[4]

Denials of Cuban visa applications have become routine. A letter from Bengt Gustafsson, Professor of Theoretical Astrophysics at the University of Uppsala, Sweden and Chairman of the International Council for Science's Committee on Freedom and Responsibility in the Conduct of Science, expressing concern about this situation and two recent cases involving prominent Cuban scientists was published in the October 22, 2007 issue of *Chemical and Engineering News*. Dr. Gustafsson wrote:

> I am writing to express my grave concern as to the current policies and practices of the U.S. government with regard to visas for scientists from Cuba. The president-elect of the Federation of Latin American Chemical Societies, Alberto Nuñez, was invited by American Chemical Society to attend its recent meeting in Boston on Aug. 18–24. He applied for a visa in good time and made his arrangements to fly to Boston from Havana immediately after returning from a series of International Union of Pure & Applied Chemistry (IUPAC) meetings in Europe. He received notification from the U.S. State Department on Aug. 14, when he was still in Europe, that his visa application had been denied.
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> The reasons for the visa refusal for Nuñez, who has previously visited the U.S., were not communicated. However, his case mirrors that of another eminent Cuban scientist, Miguel García Roche, who is president of the Latin American Regional Group for Food Science, which is affiliated with the International Union for Food Science & Technology. He was refused a visa in June to attend a meeting of the American national affiliate to the union.

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[3] *Retreat from Reason: U.S.-Cuban Academic Relations and the Bush Administration*. Latin America Working Group Education Fund, Washington, DC, 2006

[4] State Department Daily Press Briefing, Washington, DC, October 7, 2004, http://www.state.gov/r/pa/prs/dpb/2004/36917.htm.

In both of these cases, the result is that the Latin American scientific community has been excluded from representation in meetings of American scientific societies. This is in clear breach of the principle of universality, as articulated in the International Council for Science statute 5, which is adhered to by IUPAC and all affiliated unions:

> "The principle of the Universality of Science is fundamental to scientific progress. This principle embodies freedom of movement, association, expression and communication for scientists, as well as equitable access to data, information and research materials. In pursuing its objectives in respect of the rights and responsibilities of scientists, the International Council for Science (ICSU) actively upholds this principle, and, in so doing, opposes any discrimination on the basis of such factors as ethnic origin, religion, citizenship, language, political stance, gender, sex or age. ICSU shall not accept disruption of its own activities by statements or actions that intentionally or otherwise prevent the application of this principle."[5]

While every country has the discretion to decide who it will allow to enter its borders, the Universal Declaration of Human Rights, the International Convention on Civil and Political Rights, and the American Convention on Human Rights all preclude discrimination on the grounds of political belief or association. As affirmed by the American Association for the Advancement of Science,

> [t]he power of nation[s] to exclude aliens seeking to enter their territory on a temporary (visitor) basis … must be exercised reasonably [under international law], without discrimination, and without arbitrariness. Under the non-discrimination standard, governments must ensure that their laws, regulations and administrative practices do not use race, sex, religion, nationality, color, political beliefs or other invidious classifications as a basis for denying entry.[6]

While the United States government may believe that the current policy toward Cuban academics is a reasonable one, it has become a serious concern within the international science community. As mentioned earlier, the U.S. policy of refusing entry to Cuban scientists on political grounds combined with the difficulties that foreign scientists continue to experience in attempting to secure visas or gain entry into this country are actively discouraging foreign scientists from applying for visas and international scientific organizations from holding meetings here.

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[5] http://pubs.acs.org/isubscribe/journals/cen/85/i43/html/8543letters.html

[6] Alastair T. Iles and Marton Sklar, *The Right to Travel: An essential Freedom for Scientists and Academics,* Washington, DC: American Association for the Advancement of Science, Science and Human Rights Program, February 1996.

Action Agenda

The National Academies has been actively involved in discussions on U.S. visa policy with the higher education community, scientific societies, and the federal government, including the Departments of State, Homeland Security, and Commerce. Important changes in Administration policy have been made to meet a number of the concerns of the research community; however, further improvements in policies and their implementation are needed.

1. **Congress should relax the requirement that all visa applicants be interviewed.** We need to avoid repetitive processing, especially of those with a proven track record. Many visa applicants invest considerable time and effort to travel to and apply for U.S. visas at our nation's embassies and consulates. Consular officers should again be given the discretion to waive the interview requirement for those who have been to this country multiple times and who have established reputations and strong professional connections in their home countries. This is especially needed for China because visas issued to Chinese citizens are of particularly short duration due to reciprocity agreements. Current agreements result in a higher percentage of repeat applicants.

2. **The Technology Alert List (TAL) should be reviewed regularly by scientists and engineers outside the government, and scientifically trained personnel should be involved in the security-review process.**[7] The Technology Alert List was originally developed as a screening tool to prevent nonproliferation. Now, however, it is also used to screen scientists and students in scientific fields. Visas Mantis security reviews are triggered by matches against the TAL. The list is no longer public, but when it was, the science community noticed that much of the information on the TAL was already in the public domain or could be obtained from multiple countries and sources. The National Academies and the higher education and scientific communities have offered to assist with the revision of this list.

3. **The State Department should find a way to domestically reissue student and exchange visitor visas for those who have remained in status and are applying for the same visa classification.** This has long been a priority of the higher education and scientific communities, and was included in the 2004 and 2005 joint community statements.[8] This recommendation was also included in

[7] This recommendation was contained in two recent NRC reports: *Policy Implications of International Graduate Students and Postdoctoral Scholars in the United States*, National Academy Press, NRC, 2006. *Science and Security in a Post 9/11 World*, National Academies Press, NRC, 2007.

[8] The presidents of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine signed onto the May 18, 2005 joint community statement on visa policy. A similar statement issued in May 2004. Both proved extremely effective in stimulating action on a set of common issues. See http://www.aau.edu/homeland/05VisaStatement.pdf and http://www.aau.edu/homeland/JointVisaStatement.pdf.

the Department of Homeland Security's Secure Borders and Open Doors Advisory Committee's recent report.[9]

4. **Section 214(b) should be revisited as a screening tool, and explanations for denials should be clearer.** Section 214(b) of the Immigration and Nationality Act requires that applicants for student or visitor visas prove to the satisfaction of consular officials that they do not intend to immigrate illegally to the U.S. Because the criteria for proof of non-intent are not clear, either to visa applicants or to consular officials, this provision has been the cause of many problems. Denials are often form letters that simply refer to Section 214(b), a reference not helpful to applicants. One could remove this burden of proof from science students and scholars who participate in qualified academic programs, exchanges, and meetings by allowing consular officials to accept certified statements of intent not to immigrate.

5. **The politicization of decisions about the entry of Cubans using Section 212(f) of the Immigration and Nationality Act should end.** Cuban scholars and researchers should not be denied U.S. visas simply because they are employed at universities operated by the Cuban government or because of their political ideology or nationality.

Finally, I would like to end with an observation from *Secure Borders and Open Doors:*

> Today's visa process is not necessarily more error-prone than in the past; however, the omnipresence of telecommunications and news media, as well as enhanced global competitiveness, magnifies the impact of actual and perceived errors. While any specific category of error may be small, their impact can be great on individuals and specific groups, and on the cumulative perception of the process.[10]

The United States must continue to encourage and welcome talented students, scholars, and scientists from around the world. While progress has been made with respect to granting visas for foreign students and scholars, we must continue to work to ensure that policies and practices are in place that encourage the free movement of foreign students and scholars to and from the United States.[11]

Thank you for the opportunity to testify. I would be pleased to answer any questions the Subcommittee might have.

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[9] *Secure Borders and Open Doors: Preserving Our Welcome to the World in an Age of Terrorism*. Secure Borders and Open Doors Advisory Committee, Department of Homeland Security, 2008.
[10] Ibid, page 27.
[11] *Science and Security in a Post 9/11 World*, National Academies Press, NRC, 2007. Report recommendation number 5.

Attachment 1

International Visitors Office
Visa Questionnaire Statistics
As of December 31, 2007

http://www7.nationalacademies.org/visas/Visa_Statistics.html

NOTE: Cases reported to the International Visitors Office represent a fraction of the total number of visa applications. In addition, because these are self-reported "hard" cases, it should not be assumed that they are representative of all visa applications.

Total cases reported to IVO since fall 2002: **5878**
Number of cases for which IVO has assisted: **5457**

Statistics for IVO assisted Cases

Pending cases (as of December 31, 2007)

189 Pending/Delayed Cases

83% pending less than 3 months
13% pending 3-6 months
3% pending over 6 months

203 cases current status unknown
Note: IVO has not received an update on these cases. Some of these applicants may have recently received visas.

Closed cases

5254 Resolved Cases

84% Granted
2% Canceled
5% Denied
9% Other/Final status unknown

Average Visa Delays for 2003-2007

2007 figures are as of December 31 2007

Average Delay (in days) = Date Visa Granted minus Date of Visa Interview
Note 1: The number of cases below does not include all cases reported to the IVO office. It only includes cases for which the following information is known for 2003-3/31/2007 cases: 1) date of the visa application/interview, and 2) date the visa was

granted

Note 2: The visa interview date was used to calculate the data summarized by year and/or month. For example, if an applicant applied in December 2003, his case was included in the 2003 data even if the case was not reported to IVO until 2004.

Average Delay by Year of Application/Interview

Year	# Cases	Average Delay
2003	856	148
2004	941	75
2005	495	52
2006	849	66
2007	1298	72

Percentage of Cases by Delay Period

2003-2006 Comparison: Percentage of cases delayed for more than 90 days (3 months)
2003: 69%
2004: 25%
2005: 11%
2006: 22%
2007: 19%

Days Delayed	% of 2003 Cases	% of 2004 Cases	% of 2005 Cases	% of 2006 Cases	% of 2007 Cases
>180 (>6 months)	30%	7%	3%	6%	5%
150-179 (5-6 months)	11%	4%	1%	2%	2%
120-149 (4-5 months)	15%	5%	2%	4%	5%
90-119 (3-4 months)	13%	9%	5%	10%	7%
60-89 (2-3 months)	9%	16%	11%	14%	17%
30-59 (1-2 months)	18%	51%	49%	41%	44%
<30 (<1 month)	4%	9%	28%	23%	19%

Average Delay by Visa Category

Visa Category	2003	2004	2005	2006	2007
B1/B2 visitor for business/tourism	149	101	63	58	114
F-1 student	142	56	41	48	85
H-1B temporary specialty worker	153	106	74	108	114
J-1 exchange visitor	163	91	49	41	88
Other/Unknown	159	93	64	53	168

Average Delay by Field of Research or Study

Field	2003	2004	2005	2006	2007
Bioscience	151	72	46	91	97
Chemical Sciences	145	61	46	43	53
Computer Science	123	93	74	35	51
Engineering	136	63	42	58	143
Geosciences	153	45	35	59	37
Information and Communication Sciences	86	60	55	71	28
Medicine/Health	191	105	88	98	91
Physical Sciences and Mathematics	155	86	44	31	63
Social Sciences	189	76	118	52	48
Non-science	81	114	68	15	103
Not answered	163	81	35	20	7