SPECIAL REPORT

Safe passage

Lengthy visas delays and persistent security checks have turned foreign scientists away from the United States. Now the country is striving to woo them back. **Geoff Brumfiel** and **Heidi Ledford** report.

When *Nature* first contacted Olexei Motrunich two-and-a-half years ago, he was beside himself. The 30-year-old Ukrainian physicist had studied and worked in the United States since 1994, and had just taken a postdoctoral position at the University of California, Santa Barbara. But when he travelled home to visit his parents in July 2003, he found himself trapped — his application for a visa to re-enter the United States had disappeared into a mysterious web of post-September 11 security checks (see *Nature* **427,** 190; 2004). Today, Motrunich is back in America. His visa was renewed after a six-month delay, but exactly what sparked the background check is still a mystery.

Five years after the terrorist attacks of 11 September 2001, foreign scientists are reporting fewer problems in trying to enter the United States. Waiting times are down and, according to a survey by the Washington-based Council of Graduate Schools, admissions in the sciences are rebounding. Yet anger and unease continue to cloud many researchers' views of America. "It's very hard to overcome the perception that's developed over the past couple of years," says Debra Stewart, the council's president.

US immigration changed suddenly and dramatically after the 2001 attacks. Congress passed legislation requiring face-to-face interviews with every visa applicant, leading to lengthy delays — even in European countries where the visa process was traditionally smooth. Scientists had longer waits than most because their fields of study often appeared on the government's Technology Alert List. Many researchers' applications were sent to Washington for background checks that could take months, according to Barry Toiv, director of public affairs for the Association of American Universities, a Washington-based group that represents university interests. "We went through a very difficult period following 11 September," he says.

The situation has improved greatly since then, according to Tony Edson, deputy assistant secretary of state for visa services at the US Department of State. Embassies and consulates have increased staffing, and new computer systems have been installed that allow applications to pass electronically between embassies and Washington agencies. To reduce the number of security checks, consular officers are receiving some additional training in handling scientific cases, and they are being encouraged to consult science attachés when appropriate. "We've added extra people, we're investing in infrastructure," Edson says. "That has improved the situation."

Waiting game

The average wait still varies widely from country to country, but state-department statistics on the length of the Washington-based security checks that many scientists encounter show dramatic improvement. The average wait has dropped from 2.5 months in 2003 to two weeks by last December.

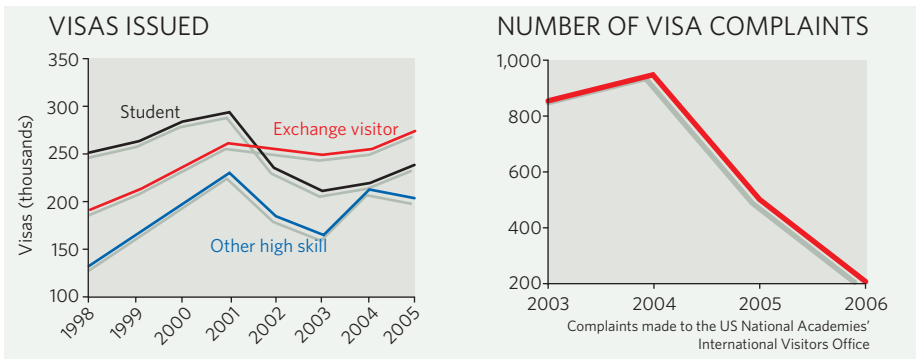
But those statistics do not reflect the trouble individual scientists can have when entering the United States (see 'The cold shoulder'). When Goverdhan Mehta, a chemist and former director of the Indian Institute of Science in Bangalore, applied for a visa to become a visiting professor at the University of Florida at Gainesville in February, embassy officials delayed his application and badgered him about how his research might relate to chemical weapons (see *Nature* **439,** 901; 2006).

Mehta was so incensed that he declined the visa when it was eventually offered to him. The University of Florida has renewed its invitation, but Mehta remains ambivalent. "Certainly I am not going to subject myself to the same process," he says.

Stewart says that such stories are still damaging the United States' image in the international scientific community. "Every time there is a high-profile case like that it's five steps backwards," she says.

To try to improve the views of foreign students and scholars, many US universities are now reaching out to the international community, according to Marlene Johnson, executive director of the Association for International Educators. International student offices have boosted staffing and many universities have opened recruiting offices in countries such as China. "I don't know of a single major research university that was recruiting before 9/11," Johnson says.

The increase in recruitment and drop in waiting times seems to have had a positive effect (see graph). According to a survey by the Council of Graduate Schools, released last month, graduate admissions in the 2005–06 school year were up sharply. Places offered to students from India and China, the largest suppliers of science and engineering students, rose 28% and 20%, respectively. That may have



SOURCES: NSF & NAS

US VISAS IN FOCUS
Nature's collection of news on immigration controls.
www.nature.com/news/infocus

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US security measures have left many foreign scientists tied up in red tape.

contributed to a less impressive, but still positive, 1% rise in admissions to PhD programmes in the life sciences and a 5% rise in physical sciences. Final enrolment numbers out later this year are expected also to show a positive trend, says Stewart. "We're seeing a turnaround."

Not reflected in the numbers are those, such as Mehta, who have given up on coming to the United States. "The visa trouble was definitely one reason why I went back to Germany," says Stefan Gilb, a chemistry professor at the Technical University of Munich, whose visa renewal was delayed during his time at the University of California, Berkeley. And Reza Mansouri, an Iranian physicist, was pulled out of line by security in May at a US consulate in Montreal, Canada. After several hours of delays he decided to go home rather than be hassled further. "I told them 'I don't need a US visa. Bye-bye'," he says. Mansouri did eventually get his visa, however, and is due to arrive in San Francisco this week.

Most education experts suspect that, despite delays, scientists and graduate students will ultimately come back to the United States. "We have 4,000 institutions and the capacity to absorb a whole lot of international students," says Peggy Blumenthal, a vice-president at the Institute of International Education, a group based in New York that tracks the flow of foreign students and scholars. Well-stocked labs with strong funding opportunities mean that "particularly in fields such as science and engineering, we will continue to attract the best and the brightest", she adds.

But America's hegemony is not ensured. In Australia, overseas enrolment has more than doubled from 2000 to 2004, and, according to a recent government report, today roughly a quarter of its one million undergraduate and graduate students come from outside the country. Significant rises have been reported in Europe, and China and India are attempting to expand their domestic higher-education sectors, especially in science and engineering. These trends were already apparent in the late 1990s, and in a way, says Stewart, the restrictions since 2001 may have helped the United States come to terms with the increasingly competitive global market. "We still have the best doctoral programmes in the world," she says. "But it's not our God-given right."

For his part, Motrunich has decided to stay, at least for now. He's leaving the University of California, Santa Barbara, to begin a new job at the California Institute of Technology in Pasadena this autumn. Whatever his problems with the US immigration system, his colleagues have never made him feel unwelcome, he says. "In the scientific community, the fact that one is from a foreign country plays no role." ■

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The cold shoulder

Stefan Gilb
For chemist Stefan Gilb, the changes to US visa policy have been too little, too late. Three years ago, Gilb flew home to Germany to renew his visa before beginning a postdoc position at the University of California, Berkeley. Gilb expected the process to take two weeks, but was stuck in Germany for three months. Gilb thinks the consulate in Frankfurt sent his application for added security checks because his work involved lasers. "I told them what research I was doing and they put me on the list," he says. "Nobody would tell me how long it was going to take."

A year later, when Gilb had to renew his visa again, the process took just a week. But he has since returned to Germany, to the Technical University of Munich, a decision he says was strongly influenced by his visa troubles.

Olexei Motrunich
Ukranian physicist Olexei Motrunich was also stuck in his home country for months awaiting a visa. In 2004, he waited six months to begin his postdoc at the University of California, Santa Barbara. Motrunich wasn't given an explanation either, but suspects it was related to his research at the time, which included work with satellites and neutron interferometry.

The visa difficulties didn't deter him from deciding to stay in the United States, however, and he is about to start a new job as an assistant professor at the California Institute of Technology in Pasadena.

Goverdhan Mehta
Indian chemist Goverdhan Mehta is a former director of the Indian Institute of Science in Bangalore, current director of the International Council for Science, and has been a science adviser to India's prime minister.

Mehta has a number of collaborators in the United States, and has travelled there on a visitor's visa. But when he applied for a visa to become a visiting professor at the University of Florida at Gainesville, embassy officials delayed his application and questioned the nature of his research. Mehta describes the experience as "humiliating".

The debacle created a diplomatic wrinkle just before President Bush's first visit to India. Eventually, the US embassy in India issued a statement of regret, and when Mehta's visa was approved, US ambassador David Mulford informed him personally. Mehta declined the visa. The University of Florida has renewed its invitation, but Mehta has not yet decided whether or not he will accept. "The experience was too rattling," he says. "It will take time to heal." **H.L.**