

# Russian weapons labs become the top priority for Western funding

**Washington.** The shock waves that have passed through the international scientific community following the suicide of two prominent Russian science administrators within the space of a few weeks have highlighted the extent to which Western efforts to support science in the former Soviet Union are now focused almost entirely on the activities of the country's nuclear weapons research complex.

Up to 15,000 scientists and engineers are receiving direct cash payments from international sources to reduce the chances of their selling nuclear secrets to criminals or foreign governments. The economic situation in the weapons research laboratories has worsened significantly in the past year, with salaries from Minatom, the agency that runs the complex, being delayed by up to four months.

The sense of crisis was heightened by the suicide last month of Vladimir Nechai, director of the Chelyabinsk-70 weapons research laboratory (see *Nature* 384, 10; 1996), and by the murders and suicide by the director of a computer science institute last week (see below).

But US scientists in regular contact with the Russian weapons laboratories dismiss talk of an impending collapse. The main weapons laboratories at Arzamas-16, 350 km southeast of Moscow, and at Chelyabinsk-70, just east of the Urals, continue to function with staff at around 80 per cent of their 1990 levels. Civilian laboratories, in contrast, have lost at least half their people.

The International Science and Technology Centre (ISTC), which was established in Moscow in 1994 to keep the weapons scientists busy, has already received US\$140

million from the United States, the European Union, Japan and Sweden for the direct support of Russian scientists with expertise in nuclear weapons and other sensitive military technologies.

In contrast to other efforts by Western governments, the ISTC money is distributed directly to each of the Russian scientists engaged in the work.

The system has bypassed both Minatom

George Soros, the billionaire investor, between 1992 and 1995, assistance for civilian science has almost disappeared. Other technical assistance programmes — including \$1.5 billion allocated by the US Congress since 1992 for Cooperative Threat Reduction (often known as Nunn-Lugar money, after the US senators who conceived it) — have been hamstrung by the requirement that the money be spent with US contractors.

Soros is continuing his interest through a \$5-million contribution to the Civilian Research and Development Foundation, matched by \$5 million from the US defence department. But George Brown (Democrat, California), the congressman who initiated the foundation, is bitterly disappointed at the failure of the Clinton administration to support it more generously.

The Department of Energy, which runs the US weapons laboratories, has established a "lab-to-lab" programme in Materials Production Control and Accounting — worth \$15 million in 1995 and \$40 million this year — to control nuclear materials in the Russian weapons complex.

It also has a \$35-million Industrial Partnering Program to encourage technology transfer from Russian laboratories to US industry. The energy department can spend some of that money in Russia, but the bulk will go to US laboratories and contractors.

The US laboratories are allowed to spend a small amount of money on research at their own discretion, and they have been spending some of that on collaboration with Arzamas and Chelyabinsk-70. But the sums are not large, totalling around \$1 million at Los Alamos in New Mexico, for example.

The defence department has also awarded some contract work to Russian scientists. The *Washington Post* revealed last month that, under one such contract, scientists at Arzamas were paid several hundred thousand dollars by the Defense Special Weapons Agency to compile a detailed (but apparently unclassified) history of the Russian nuclear test programme.

Officials at the US State Department say that the total defence department involvement is "hard to pin down". The Central Intelligence Agency does not support work at the Russian laboratories, according to US government officials.

All of this leaves the ISTC as the principal conduit for US support of science in Russia. According to Glenn Schweitzer, the ISTC's first director and author of a new ►

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The suicide of Nechai, here with Evgeniy Avrorin, his director of research, caused widespread shock.

and the laboratory directors. But, according to a report released last week by the National Research Council (NRC) in Washington DC, it has been "successful and effective" in meeting its primary goal of redirecting weapons scientists towards non-weapons work, and so diminishing the risk of nuclear proliferation.

The ISTC's dynamism contrasts sharply with the faltering progress of other, more widely publicized efforts to aid civilian science and to stabilize the nuclear weapons complex in the former Soviet Union.

After an infusion of \$100 million from

## Institute boss murders five, kills self

**Moscow.** A new tragedy hit Russia's scientific community last week with the suicide of the head of a research institute in Kazan, shortly after he had shot four of his senior colleagues and his wife.

The affair comes on the heels of the recent suicide of Vladimir Nechai, director of the Chelyabinsk-70 weapons research laboratory.

In the latest incident, 64-year-old Karen Zhamogortsyanyan, who was facing staff efforts to replace him as director of the Kazan branch of the Russian Academy of Sciences' Institute of Informatics Problems, shot dead two deputy

directors, a department head and a senior scientific worker. He then instructed his driver to take him home, picked up his wife and drove her to the city hospital. The driver was sent away after parking the car close to the hospital morgue, and Zhamogortsyanyan shot his wife before killing himself.

As founder of his institute, Zhamogortsyanyan was known to be depressed because, as a result of financial difficulties, the staff were about to elect a new director. The four scientists shot in the director's study were said to be the main supporters of this move. **Carl Levitin**