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PRESS TV; INSET: BOTTOM RIGHT: MASHREGH NEWS

Majid Shahriari (above) was killed, and Fereydoun Abbasi-Davani (below) injured, in bomb blasts.

NUCLEAR PHYSICS

Iranian nuclear scientists attacked

Murder and cyber-assault target nuclear programme.

BY DECLAN BUTLER

The killing of an Iranian physicist and injury of another in separate bomb attacks earlier this week in Tehran are fuelling speculation about the implications for Iran's nuclear programme. The news follows hard on the heels of an admission by the Iranian regime that a computer worm had interfered with uranium enrichment at its nuclear facility in Natanz. Iran claims the enrichment is to provide fuel for civilian nuclear power stations, but the once-secret programme — which has repeatedly violated the nuclear safeguard obligations of the International Atomic Energy Agency — is widely seen as an effort to furnish the country with nuclear weapons.

The bombings have had a chilling effect on Iran's physicists. "I am shocked, really deeply shocked," says one, who wished to remain anonymous, given the repressive regime.

Majid Shahriari was killed, and his wife injured, on his way to work at the Shahid Beheshti University in Tehran when attackers on motorcycles attached a bomb to his car on 29 November. Another nuclear scientist, Fereydoun Abbasi-Davani, and his wife, survived an identical simultaneous attack.

Mahmoud Ahmadinejad, who hung onto power as president after a disputed election in June 2009, immediately laid blame on the West and Israel. "The Western governments and the Zionist regime have a hand in the assassination of the two Iranian university professors," he asserted at a press conference in Tehran hours after the attacks. "They will not be able to stop the Iranian nation's activities by such acts."

Abbasi-Davani, whose handful of publications on neutron physics are mainly in Iranian journals, is a key figure in Iran's nuclear programme. He is reported to be a scientist at the country's defence ministry, and a member

of Iran's revolutionary guards since the 1979 Islamic Revolution. He was also named as being among "Persons involved in nuclear or ballistic missile activities" in the 2007 UN Security Council Resolution 1747, which imposed sanctions on Iran over its refusal to stop enrichment of uranium.

Nature has been unable to establish whether Shahriari — who published several papers on nuclear reactor physics and nuclear medicine in international peer-reviewed journals — had any links to the enrichment programme. Shahriari was part of the Iranian delegation on the board of a 'science for peace' project, the non-nuclear SESAME (Synchrotron-light for Experimental Science and Applications in the Middle East) facility, in Alaa, Jordan. SESAME, which opened in 2008 and is the Middle East's first synchrotron, is intended to promote peace through cooperation among member countries in the region, including Israel. But physicist Christopher Llewellyn Smith, president of SESAME's council, says that he has little recollection of Shahriari, and records show he attended only one board meeting, at the opening of the SESAME building.

Although Shahriari's murder is unlikely to be connected with his involvement in SESAME, he is the second member of the project's council to be assassinated. In January 2009, Masoud Ali-mohammadi, a particle physicist at the University of Tehran and one of Iran's representatives on the board, was also killed by a bomb as he got into his car (see *Nature* **463**, 279; 2010). His work on theoretical particle physics was far removed from nuclear matters, leading researchers to speculate that he had been killed by hardliners in the Ahmadinejad regime in response to Ali-mohammadi's support for the reformist movement. This week's attacks, in contrast, bear the hallmarks of a hit by foreign powers, speculates one Iranian expatriate researcher.

Meanwhile, Iran acknowledged for the first time in late November that the sophisticated computer worm Stuxnet was deployed in the Natanz attack. The worm seems to have been designed specifically to damage the centrifuges used for enrichment, potentially causing them to run or brake too quickly. A 23 November report by the International Atomic Energy Agency on Iran's nuclear activities at Natanz noted a temporary shutdown of the plant earlier this month. While conceding the attack, Ahmadinejad claimed on 29 November that any impact had been limited. ■