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News

Bubble-fusion scientist debarred from federal funding

Office of Naval Research passes verdict on controversial researcher Rusi Taleyarkhan.

Eugenie Samuel Reich

A nuclear engineer who claimed that he could perform 'bubble fusion' in a table-top apparatus has been debarred from receiving federal funding for 28 months, according to the US Office of Naval Research (ONR). Three years ago, a *Nature* **investigation** raised concerns about research by Rusi Taleyarkhan, of Purdue University, West Lafayette, Indiana, who claimed that nuclear fusion reactions could be triggered by firing sound waves into deuterated acetone¹.

In 2008, a Purdue **investigation** concluded that Taleyarkhan was guilty of two allegations of research misconduct: citing work from his own lab as 'independent' confirmation of his findings, and adding the name of a student to a publication when they had not contributed to the research. Taleyarkhan appealed against the ruling, but was subsequently stripped of his named professorship and banned from serving as the principal supervisor for graduate students for three years, although he remained on faculty.

The ONR, which had funded part of Taleyarkhan's research, has now reviewed Purdue's investigation. Its conclusions state that Taleyarkhan's misconduct was "so severe as to merit debarment" from federal funding. Although the ruling was made in May, when the debarment came into effect, no public announcement was made.

Nature has now obtained documents from a source at ONR that relate to the debarment. These documents include a letter from the suspending and debaring official of the US Navy, Mark O. Wilkoff, to Taleyarkhan, and a memo reporting the results of a Science and Technology Investigation Board convened by the ONR to evaluate the Purdue investigation.

According to the memo, records at the ONR "provide evidence of participation by Dr. Taleyarkhan in research fraud offenses". The memo notes that the Purdue investigation "appeared to have no affect [sic] on Dr Taleyarkhan's professorship", and that this had prompted the ONR to impose a more severe penalty.

The memo says that the investigation's findings "are serious enough to warrant debarment because they are based upon the willingness of Dr. Taleyarkhan to engage in fraudulent, unethical and dishonest business practices", and that this "seriously and directly affects his present responsibility" to apply for US grants. It emphasizes that an ONR-funded study at the University of California, Los Angeles, failed to replicate the *Science* paper.

The memo notes that Taleyarkhan had identified errors in the Purdue and ONR investigations, but that these were judged insufficient to change the penalty. Taleyarkhan declined *Nature's* requests to comment on the matter.

Bubbles popped

Reception to the ruling was mixed among scientists who had brought the allegations. "It is good news," says Lefteri Tsoukalas, a former head of nuclear engineering at Purdue. But Tsoukalas adds that "there ought to be some kind of mea culpa by Purdue".

The university had originally exonerated Taleyarkhan of misconduct, but was required to open an investigation after Tsoukalas alleged to the ONR that the university "had failed to fulfill its contractual obligations while handling allegations of research misconduct on its ONR-funded projects", according to the ONR memo.

Purdue said that it had not been involved in the debarment process. "The Navy's debarment determination, which affirms Purdue's investigation, speaks for itself," a university spokesman told *Nature*.

Kenneth Suslick of the University of Illinois, Urbana-Champaign, an expert in acoustic cavitation, says he's happy that the ONR confirmed Purdue's finding of research misconduct, but disappointed that the university does not seem to have investigated allegations of data falsification.



Rusi Taleyarkhan has been barred from receiving federal funding.

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He points out that in September 2008, following the misconduct finding against him, Taleyarkhan won a US\$185,000 National Science Foundation grant to conduct work related to bubble fusion. The grant continued until August 2009.

Myers Vasquez, a spokesman for the US Navy, says that Taleyarkhan's name has now been added to the 'Excluded Parties List' that government agencies are required to check before making awards.

References

1. Taleyarkhan, R. P. *et al. Science* 295, 1868 (2002).



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