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Purdue Will Reinvestigate Its Professor Who Claimed Desktop Fusion

By [KENNETH CHANG](#)

Three months after it cleared him of research misconduct, [Purdue University](#) has begun a new inquiry into a professor who claims to have generated nuclear fusion in a desktop experiment, the university acknowledged yesterday.

The new inquiry goes beyond the focus of an earlier one, which looked at whether the professor, Rusi P. Taleyarkhan, improperly omitted himself as an author on two scientific papers. For the first time, a committee is examining whether the underlying research might have been fraudulent.

Meanwhile, details of the earlier inquiry have emerged in a report by a Congressional subcommittee that reviewed Purdue's actions. Although the earlier inquiry cleared Dr. Taleyarkhan of misconduct, it described "what might be characterized most favorably as severe lack of judgment" and said he had "abused his privilege as senior scientist," according to the report from the Congressional subcommittee.

Dr. Taleyarkhan said last night in an e-mail message that the subcommittee's report represents "a gross travesty of justice." He asked, "Where are the Jesse Jacksons and Al Sharptons of the Asian community during this episode that has caused this biased and openly one-sided smear campaign?"

In scientific papers starting in 2002, Dr. Taleyarkhan, a professor of nuclear engineering, said the force of sound waves could collapse bubbles in a liquid and generate temperatures hot enough for hydrogen atoms to fuse and release energy, similar to how the sun makes heat and light. But other scientists have not been able to reproduce the process, called bubble fusion or sonofusion.

Purdue's handling of the controversy has been criticized inside and outside the university.

"I think they fell short of what we would expect of them," said Representative Brad Miller, a Democrat of North Carolina and the chairman of the investigations and oversight subcommittee of the House Committee on Science and Technology.

The subcommittee, citing the need to ensure the integrity of federally financed research, requested copies of Purdue's findings in March. On Wednesday, Mr. Miller sent to Martin C. Jischke, Purdue's president, a letter and an accompanying memorandum by the subcommittee's staff that strongly criticized Purdue.

While the subcommittee did not release Purdue's reports, the memorandum quotes from them and gives a clear chronology of Purdue's actions. University administrators have said confidentiality requires them to

withhold almost all information.

The memorandum cites “numerous failures” in how Purdue addressed concerns about Dr. Taleyarkhan’s research. It says that Purdue did not follow its procedures, that the inquiry was not thorough and that the inquiry committee appeared to ignore the university’s definition of research misconduct.

In a statement released last night, Purdue officials said they would address the concerns raised in the letter and the memorandum. Sally Mason, Purdue’s provost, said that soon after Dr. Taleyarkhan was cleared in February, the university received new accusations that merited a new inquiry. “We will proceed systematically and fairly,” Dr. Mason said, “and in the end, we will take whatever action is dictated by the evidence.”

Up to now, Purdue has focused on two scientific papers published in 2005 that Dr. Taleyarkhan hailed as independent confirmation of his sonofusion results. But the experiments, performed in February 2004, were done using Dr. Taleyarkhan’s apparatus at Purdue, not at an independent laboratory, and one of the authors, Yiban Xu, joined Dr. Taleyarkhan’s group as a postdoctoral researcher a few months later. A second author, Adam Butt, a graduate student, also joined Dr. Taleyarkhan’s group.

Further, in response to a fact-finding committee convened by the nuclear engineering school, Mr. Butt signed a statement that he did not participate in any of the experiments or the analysis of the data and that he had been added as an author to one of the papers a week before submission and was not aware that he was on the second paper until a week before it was presented at a conference. Dr. Xu declined to answer questions about the papers, but the committee noted similarities between them and several of Dr. Taleyarkhan’s.

That fact-finding report was forwarded to Purdue administrators in February 2006.

Purdue’s procedure for handling misconduct allegations is similar to other universities’ in calling for a two-step process: an inquiry committee evaluates the allegation, and if it finds sufficient evidence, then a full investigation is carried out.

But instead of starting an inquiry, Purdue administrators asked first for a “review” of the allegations, a step that is not included in its misconduct policy. The review led to the appointment of an inquiry committee in July. According to the report from Congress, that committee in large part concurred with the findings of the nuclear engineering school’s fact-finding report, that it was “highly unlikely” that the experiment by Dr. Xu and Mr. Butt could be considered independent confirmation, and that Dr. Taleyarkhan had placed junior scientists in “precarious positions” to promote his research.

But the inquiry deemed these to be failures of judgment rather than research misconduct and said an investigation was not needed.

The Congressional subcommittee staff wrote, “It is difficult to understand how the inquiry committee could have then decided that Dr. Taleyarkhan’s actions did not constitute research misconduct,” which

Purdue's policy defines as "serious deviations" from commonly accepted academic practices.

In his letter to Dr. Jischke, Mr. Miller expressed disappointment that the three members appointed to the new committee had served on earlier ones. He said Dr. Jischke had agreed to add one or more outside researchers.

"I sincerely hope that the next inquiry will be conducted in a manner worthy of your great institution," Mr. Miller wrote.

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