



RENSSELAER

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Ms Holly Adams - Inspector General
Office of Naval Research - Suite 1425
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September 2, 2008

Dear Ms. Adams,

I was truly shocked to hear what Purdue has recently proposed as punishment for the alleged research misconduct of Professor Rusi P. Taleyarkhan [i.e., Letter: Woodson to Taleyarkhan, 8/27/08]. For your information, I was previously the Dean of Engineering at Rensselaer Polytechnic Institute (RPI) and before that was the Chair of the Department of Nuclear Engineering & Science at RPI for many years. Moreover, I am a member of the National Academy of Engineering (NAE) and a Fellow of the American Nuclear Society (ANS). As a consequence I have a lot of experience with academic practices, standards and policies and with nuclear engineering research. Moreover, I have worked closely with Dr. Taleyarkhan for many years on sonofusion research and have co-authored numerous papers with him on this subject.

Because of the potential importance of our sonofusion research findings (first published in *Science* in 2002) they have been subjected over the years to an unprecedented level of peer review. Significantly, however, no one has ever found anything wrong with our data or findings. Nevertheless, formal charges and accusations were made against the conduct of Professor Taleyarkhan, and Purdue conducted several in-depth investigations into these charges/accusations. In these investigations all charges associated with research fraud and the validity of sonofusion data were dismissed. In contrast, two fairly minor charges appeared during the most recent investigation concerning (1) Dr. Taleyarkhan's level of involvement in confirmatory sonofusion research done at Purdue and its publication by Xu & Butt [*NE&D*, 235, 2005], and (2) the wording used in one of our *PRL* [*Physical Review Letters*, Vol. 96, Jan 2006] publications. Significantly, these two charges were the sole basis for a finding of research misconduct by Purdue's Review Committee.

I really do not agree that Rusi Taleyarkhan was guilty of any research misconduct, and certainly do not agree with the severity of the punishment proposed by Purdue. In my 33 years of academic experience (including about two decades in academic administration) I have seen reprimands for misconduct being placed in the files of some faculty, but I have never known of anyone losing an academic Chair (and the associated discretionary funds of the Chair), or being put on "probation" for three years (i.e., not being able to be the research advisor of PhD students at Purdue), based on charges such as have been brought against Professor Taleyarkhan. In my experience, this type of thing

is without precedent and is quite unfair. In fact, these actions will seriously affect Professor Taleyarkhan's ability to attract and perform academic research and will likely significantly damage his career.

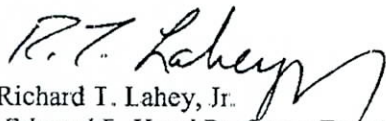
I wish to point out the title of the Xu&Butt NE&D paper was, "*Confirmatory Experiments for Nuclear Emissions during Acoustic Cavitation*"(i.e., they confirmed our discovery of sonofusion). While Professor Taleyarkhan did help them with their experiment (and was acknowledged in their paper for this help), Dr. Xu has given sworn testimony that this new sonofusion data was taken, reduced and documented by him. In the view of myself (and I believe all the other co-authors of our *PRL* paper with Taleyarkhan, which also included Dr. Xu), there is nothing inherently wrong with saying that this new study *independently* confirmed our previous results. There was never any intent to mislead anyone, and to punish an outstanding scholar like Dr. Taleyarkhan based on what amounts to "word engineering" (i.e., the word *independent*, apparently means something different in the physics community than it does in the nuclear engineering community) is truly incredible

The truth is that Dr. Taleyarkhan led an effort which has resulted in a major scientific discovery (i.e., sonofusion). Like many other seminal discoveries this one has had its skeptics and critics, but we have repeated and published these type of results several times, as have others, including Xu&Butt and Professor Forringer (who presented a paper entitled, "*Confirmation of Neutron production during Self-Nucleation Acoustic Cavitation*" at the Winter Annual ANS meeting in Albuquerque, NM, Nov.12-16, 2006).

Rather than recommending punishment for Professor Taleyarkhan, Purdue should be falling all over themselves to support him and his pioneering research (e.g., putting him up for major awards, etc.). Few other universities have faculty who have been associated with such major breakthroughs. I am sure that time will prove the importance of this seminal research, and it would be most unfair to impose sanctions on Professor Taleyarkhan for his leadership of this important work.

I respectfully request that you review this matter and recommend that Purdue reconsider the sanctions that they have proposed.

Sincerely yours,



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The Edward E. Hood Professor Emeritus of Engineering