

are dysfunctional. Every organization has, on one hand, people whose interests would best be served if the targeted problem is never actually solved and, on the other, rivals who want the credit for solving it, whether or not they contribute. Such types often control resources, influence decisions, and act to advance their interests. Scientists are typically rank-ordered in yearly reviews in which groups work to advance their careers and position others for outplacement. I recommend reading the "Dilbert" comic strip daily.

Third, science has incurred a catastrophic loss of prestige over the past 40 years. These days, scientists are perceived as just another self-absorbed interest group, less significant or effective than, for example, the Klamath Valley horseradish farmers. In a company, those who make the sales—not those who make the deliveries—get the rewards. I recommend that students be taught how to write proposals and sell programs as well as how to promote themselves and their scientific fields.

The values and traditions recounted by Laughlin—above all, truth-seeking—enabled the exploration of the universe and the har-

nessing of knowledge to benefit humanity. Those were remarkable 20th-century feats in which government, university, and industrial science played honorable roles. However, this is the 21st century. Wake up and smell the corruption!

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Continuous Neutron Source Needed

An article in the September 2002 issue of PHYSICS TODAY (page 27) reports a "shortage of neutron sources available to US scientists." As many physicists and others are aware, more than three years ago, the US Department of Energy abruptly decided to permanently shut down the High Flux Beam Reactor at Brookhaven National Laboratory.

The PHYSICS TODAY article reports that the shutdown decision was due to groundwater tritium from the spent fuel storage pool. Actually, the Secretary of Energy saw no public health or environmental concerns for the future operation of the reactor; he based his decision on the abundance of neutrons in the US and on econom-

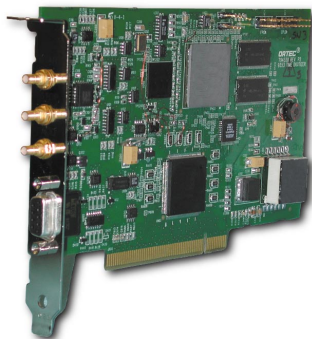
ics. The US Nuclear Regulatory Commission independently determined that the tritium plume in the groundwater did not pose a health risk to any member of the public.

Now the reactor is gone, other facilities are aging, and planned new ones will meet only part of the projected demand for neutrons. Therefore, it is time to start thinking about a new continuous neutron source. Several years ago, the Advanced Neutron Source project was canceled because of cost and proliferation concerns. Since then, new information has been developed on the performance of low-enriched uranium fuels, and the nuclear industry has become extremely aware of cost in the design of future, safer reactors. A preliminary analysis of a heavy-water-cooled, particle-bed reactor fueled with low-enriched uranium indicates that a thermal flux of 10^{16} neutrons/(cm²·s) is achievable. It is important for researchers to have a new world-class continuous source, at an acceptable and convenient site, to complement the forthcoming accelerator-based pulsed source.

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