

Strict Internal Review May Curb Research Fraud

William Brinkman's Opinion piece "Integrity in Industrial Research" (PHYSICS TODAY, March 2003, page 56) is commendable for setting the record straight. There are many misconceptions about pressure in the industrial environment, but my own experience was very different. The years I spent at Bell Labs (1975–77) were the happiest and most important period of my professional life. And I was under much less pressure during that time than after I became a tenure-track assistant professor.

However, the issue raised by Jan Hendrik Schön's case is not industrial versus nonindustrial research. The real problem is that the company allowed so many grossly fraudulent papers to be submitted for publication under its name. While working at Bell Labs, I published more than 20 articles in refereed journals. I remember the internal review process as an unmitigated nightmare, much tougher than the journal refereeing process.

The pressure, in fact, was on being right rather than on achieving at all cost. One grossly fraudulent paper would have been stopped; a series of flashy results would have triggered merciless scrutiny. Why is this no longer true?

Brinkman says, "Most of the management was paying more attention to applied research because we really were trying to deliver technical value to the company." That focus, however, does not justify the failure of the internal screening process, which, instead of involving upper-level managers, should be handled by peers and the direct supervisor.

The screening that took place in the Bell Labs of 2000 could not

match that of the Bell Labs of my youth. The deterioration in the screening process is part of the problem—and solutions should be sought there.

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In the April 2003 issue of PHYSICS TODAY (page 32), Jim Dawson reports on US research grants to former Soviet Union (FSU) weapons scientists. I'd like to provide an addendum on what has been happening with the Initiative for Proliferation Prevention. Since its inception in 1994, the IPP program has, at \$20–25 million per year, engaged more than 200 FSU institutes and more than 13 000 weapons scientists and engineers.

However, what is most pertinent

to Dawson's article is that, unlike programs of the International Science and Technology Center in Moscow and the Science and Technology Center in Ukraine, IPP directly engages industrial partners in the US as third parties. The method used is a contract—called a CRADA (cooperative research and development agreement)—between a US industrial partner and a US national defense laboratory, whereby the industrial partner matches funds that the US Department of Energy provides for one or more of the FSU institutes and its US national laboratory partner. The match from the industrial partner may be in cash or, more often, through in-kind contributions. Incidentally, as of 1999, grants made by DOE have been split between FSU institutes and national labs at the ratio of 70/30, not the 50/50 split that used to be. Thus more grant money goes to FSU institutes.

What is exciting about this process is that, as a result of the direct involvement of the industrial partner, a number of IPP projects

Interference in a Double Rainbow

Atmospheric optical phenomena, especially rainbows, are fascinating. Various texts and the scientific literature¹ have done well in explaining the rainbow in terms of geometric optics. The phenomenon of the double rainbow is shown to be one collective optical pattern not always seen or recognized as such. In particular, knowledgeable observers have aptly described the dark zone between the primary and the secondary rainbows as an optical inter-

ferometric condition. The effect of the interference is clearly visible in the photograph. However, the destructive interference in the dark zone is not complete; witness the mountain image in the background.

Reference

1. See, for example, J. D. Walker, *Am. J. Phys.* **44**, 421 (1976).

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Letters and opinions are encouraged and should be sent to Letters, PHYSICS TODAY, American Center for Physics, One Physics Ellipse, College Park, MD 20740-3842 or by e-mail to pletter@aip.org (using your surname as "Subject"). Please include your affiliation, mailing address, and daytime phone number. We reserve the right to edit submissions.