D.C. Members—TV and Radio Reviewers Needed

Entries in the AAAS-Westinghouse Science Journalism Awards Contest are due in mid-November. All entries, covering science stories from acid rain to space exploration, must be screened for scientific accuracy before submission to the final judging round.

This Award, administered by the AAAS Office of Communications, honors outstanding reporting in the sciences and their technological applications, excluding medicine. By encouraging the highest quality science journalism, the Award plays an important part in advancing the Association's goal of improving the public understanding of science and technology. Because so many people rely on the broadcast media for much, or all, of their news, the scientific accuracy of these reports is especially critical.

We are asking AAAS members in the Washington, D.C., area to help us screen radio and television entries in the Awards Contest. If you would be willing to come to the Association's headquarters (1333 H Street, NW) to screen entries in your scientific discipline, please contact Joan Wrather, Office of Communications, 202-326-6440, by 16 November 1987.

Scientists and Lawyers Look at Fraud in Science

How much fraud is there in scientific research? How can it best be found? What should happen to the perpetrators? Is there something we can do to assure the "whistleblower" that his or her allegations will be taken seriously and handled discreetly and that standards of due process will be applied? These are the kinds of issues that formed the focus for a recent workshop, sponsored by the National Conference of Lawyers and Scientists (NCLS). The NCLS is a joint project of the AAAS and the American Bar Association.

The issue of ethical misconduct among research scientists and engineers, especially the fraudulent reporting of research results, affects both the scientific and legal communities. Misrepresentation of research threatens the entire fabric of scientific conduct and brings institutions into the legal arena where charges of misconduct must be handled. The topic is a critical one, with many more questions than answers—from how institutions should best guard against misconduct to such basic questions as how much scientific fraud is really going on and just what constitutes fraud.

Project director Albert H. Teich noted that the purpose of the workshop was "to provide an opportunity for individuals and institutions from both the scientific and legal communities to learn from each others experience in dealing with allegations of misconduct, in order to improve the way such allegations are handled in the future."

In a paper commissioned for the workshop, Patricia K. Woolf of Princeton University stated that the incidence of fraud in science appears to have increased in recent years. What we still do not know, she observed, is whether the scientific frauds that have been reported are "bad apples" or "the tip of the iceberg." "While there is no evidence of an epidemic of fraudulent science," said Woolf, "there is a persistent and growing concern with a variety of ethical problems in scientific research and publication. As institutional mechanisms for receiving and evaluating allegations develop, estimates of the prevalence of misconduct will improve."

Participants at the September NCLS workshop directed their attention to incidents of fraudulent reporting of research and other clear misrepresentations. The definition of "fraudulent science," however, is not straightforward, as indicated by several questions about whether such practices as automatically including the head of a lab as lead author on publications coming out of the lab, should fall into the category of misrepresentation.

Several workshop participants described specific incidents in which they had been involved, either as whistleblower, lab head, editor, government grantor, or university official. All characterized the process of investigating allegations as long and tedious, with few incentives for pursuing the perpetrator, and many headaches for those diligent few who do follow through. Participants encouraged the adoption by both granting institutions and universities of clear-cut guidelines for reporting, investigating, and settling cases involving fraudulent research.

Both the National Science Foundation and the National Institutes of Health have guidelines in place for investigating cases brought to their attention. In extreme cases, the agencies have the power to bar an institution or individual from receiving further research funding. On the whole, however, both NSF and NIH rely very heavily on the university where the researcher is located to do an investigation, report its findings, and take whatever punitive action the university feels is called for.

This role of policing faculty is one that does not come easily to university administrators, noted Stanford University President Donald Kennedy. He likened the universities' role as enforcer to that of "the fellow in the small Texas town—we got made sheriff because we have the only gun." He said that watching for misconduct and reporting it are roles the university can handle pretty well, but being responsible for punishing faculty flies in the face of what most universities are all about. William R. Wilkerson, assistant provost for research at the University of Virginia, echoed these sentiments, saying he feared universities might "come to grief because of failure to fulfill unfulfillable commitments."

Benjamin Lewin, editor in chief of the journal *Cell*, described how scientific journals become involved in scientific fraud. He told of several incidents in which, after fraudulent research had been published, attempts were made to print some sort of retraction or correction. Sometimes, he pointed out, this is not possible. Lewin said that it is not the responsibility of the scientific journal to editorialize

on the accuracy of published research. If a manuscript is approved through the peer review system and becomes part of the published record, journals are really dependent on other researchers in the field to correct the record. Nevertheless, Lewin did assure workshop participants that the majority of fraudulent research findings are caught by journal editors or reviewers before they reach publication.

One concern raised by a number of speakers was how to better assure confidentiality to whistleblowers—those individuals who go public with charges of misconduct. At least one individual who had acted in this role in the past, and whose allegations proved to be true, said he would not do it again, nor would he encourage others to do so. He indicated that his experience was extremely unpleasant, with consequences such as being ostracized within his own research community, and even having his own research investigated. NCLS workshop participants agreed that establishing guidelines, including the provision for bringing charges anonymously, is critical to protecting the whistleblower and encouraging individuals—especially younger scientists and engineers—to come forward when they suspect misconduct.

Creating guidelines for use by universities as well as funding agencies was seen by conference attendees as the essential first step in making sure that incidents of fraud are reported and are then investigated and handled in a consistent manner.

The NCLS will sponsor two more workshops on fraud and misconduct in science. A report on the first workshop is in preparation; a final report will be published at the end of the project.

JOAN WRATHER
Office of Communications

Deng Pufang and Delegation Meet Disabled Scientists

Deng Pufang, the son of Chinese leader Deng Xiaoping, stopped at the AAAS during a recent trip to the United States where he and his group learned more about services and opportunities available to disabled persons in this country.

Deng headed a delegation representing the China Fund for the Handicapped. He has a very personal interest in the issue. Deng was a physics student at Beijing University at the start of China's "Cultural Revolution." Red Guards either threw him or forced him to jump from an upper-story window at the University and he has been paralyzed since that time.

In 1984 Deng established the China Fund for the Handicapped, a nongovernmental organization with a number of mandates, including determining the needs of China's disabled population, assisting the government in developing legislation to aid that population, and improving educational and employment opportunities for disabled persons.

Geerat Vermeij, left, greets Deng Pufang during luncheon at AAAS.

While in Washington, D.C., the delegation met at AAAS with representatives of the Association's Resource Group of Scientists and Engineers with Disabilities. One of those participating in the program was John Gavin whose idea it was, in 1975, to add disabled scientists to the concerns of the AAAS's Office of Opportunities in Science (previously limited to assisting in the advancement of women and minorities in science). Gavin described the growth of the Resource Group from only himself to some 1200 disabled scientists and engineers in all fields of science.

Lex Frieden, executive director of the U.S. National Council on the Handicapped, told the Chinese delegation how important access to education is to people with disabilities. When he broke his neck in an accident at age 20, he said, he could not

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