

'Ambition and impatience' blamed for fraud

Washington. Fresh efforts to crack down on scientific misconduct could follow last week's revelations of extraordinary and systematic fraud by a graduate student in the laboratory of Francis Collins, director of the National Center for Human Genome Research (NCHGR) at the National Institutes of Health (NIH).

Collins was the senior author of five papers, each of which will be partially or wholly withdrawn in the wake of the fraud. His student is alleged to have fabricated data in studies of a genetic inversion that is believed to cause childhood leukaemia.

Speculating on why someone would do such a thing, Collins blames the impatient

ambition of the gifted. The brightest students sometimes lack patience with the tedious business of conducting experiments properly, he says. Perhaps tellingly, Collins says the student's father was "a scientist of some renown".

He adds that the student, who accompanied Collins when he moved from the University of Michigan to take charge of NCHGR on the NIH campus in Bethesda was exceptionally bright, "probably the most impressive you'd come across in ten years". Collins also denies that the work was inadequately supervised. "This wasn't somebody working away in a corner. It was a student I was very involved with."

The fraud was uncovered when an anonymous reviewer of a sixth paper, submitted to the journal *Oncogene*, noticed that a figure appeared to have been falsified.

Collins said that he had considered resigning his post at NCHGR after the fraud was uncovered in August, but had been persuaded by friends not to do so. "This is the worst nightmare a scientist has, that the truth could be undermined right under your nose," he says. "I knew that some people might question if I could continue to play an effective role as head of the centre, but I was encouraged by people whose judgement I value not to draw that conclusion."

Collins was due to address the annual meeting of the American Society of Human Genetics at San Francisco when news of the fraud broke in the *Chicago Tribune*. He prefaced his lecture with an explanation of the case that appeared to win the support of those present, whom he referred to as "my family".

But Kenneth Ryan, a professor of obstetrics at Harvard University and chair of a national commission that has called for tighter regulation of government-funded science, said the case raised questions about what supervision the student was receiving.

"My heart goes out" to Collins, Ryan added. "It could happen to anybody. But this is science's problem, and scientists should get their heads together and take it seriously." The US government is currently considering changes in the definition and handling of misconduct in response to the Ryan commission's recommendations.

Under current rules for investigating scientific misconduct, the case should have been kept secret until an investigation was completed by the University of Michigan and passed to the Office of Research Integrity, which would determine sanctions and make a public announcement.

But, in a move designed to minimize scientific fall-out from the case, Collins wrote to 100 colleagues on 1 October, outlining the sequence of events and listing the papers to be retracted. The letter did not identify the student. But his identity could be readily inferred from the papers, and he was named in the *New York Times* last week as Amitov Hajra.

A lawyer for Hajra told the newspaper that he would have no comment until the University of Michigan had completed its investigation. A spokeswoman for the university says that will take "several weeks".

Hajra had been studying the core binding factor beta (CBFB) gene, which is believed to combine with another gene, smooth muscle myosin heavy chain (SMMHC), to form a fusion protein which divides and multiplies to cause leukaemia. He and Collins were the only authors of a paper published in *Genomics* (26, 571; 1995) on ▶

Scientists 'too quick' to back claims

Boston. David Baltimore, the Nobel laureate and professor of immunology at the Massachusetts Institute of Technology (MIT), last week criticized scientists who had been "much too quick" to support allegations of scientific misconduct against Theresa Imanishi-Kari, his co-author on a 1986 paper in the journal *Cell*.

Imanishi-Kari, a researcher at Tufts University in Medford, Massachusetts, was acquitted of the charges earlier this year (see *Nature* 381, 719; 1996). In his first public appearance to discuss the case, Baltimore complained about the behaviour of the "self-appointed fraud-busters" at the National Institutes of Health (NIH), the bullying tactics of Congressman John Dingell and his staff, and what he called the error-ridden reporting of a "monolithic press".

Baltimore was speaking at a colloquium sponsored jointly by MIT's Science, Technology and Society programme and Harvard University's history of science department. He made various suggestions about an appropriate response to allegations of scientific fraud.

Such charges, he said, should be addressed in an even-handed manner. "If one approaches a case with a preconception that fraud has occurred, many steps in the scientific process which appear fraudulent merely reflect the personal and creative aspects of science." It is important to return to the presumption that fraud in basic research is rare because of the "near certainty" of it being detected, he added. "We do not need fraud police."

He admitted that both incidents and allegations of fraud occur occasionally, but rarely, and that the US federal government needs a mechanism to respond. "But such an investigation should not involve people who are interested in

proving guilt or non-guilt, nor should an accuser be taken on as an adjunct to the [investigative] committee's activities," he said after the meeting.

Baltimore pointed out that universities have to be able to respond fast, with an inquiry board sufficiently separate from both the work and the parties involved to be able to operate independently. "You need to safeguard everybody, both the accused and the accuser, and an ombudsman can do that," he said.

MIT has adopted more rigorous protocols for dealing with academic misconduct since charges were first brought against Imanishi-Kari. The guidelines are designed to protect the privacy of both those who report apparent misconduct and the alleged offenders. They instruct supervisors to bring such situations promptly to the attention of the institute's senior officials.

"One area where MIT and Tufts failed [in handling the Imanishi-Kari case] was in having a clear, written record of the proceedings," Baltimore said. "That wasn't surprising since, at the time, no-one had any conception that this would blow up in the way that it did." He now advises students to maintain detailed accounts of experiments so that "five or ten years from now, they'll be able to reconstruct everything that they did".

Journalists, Baltimore said, need to approach such cases with an open mind. "Reporters must look behind the situation and conduct their own investigation, and not just be the prisoners of leaks." One of the panellists at the colloquium, Malcolm Gladwell, who covered the case for the *Washington Post*, admitted that the press was "manipulated" and "pulled along in the creation of a controversy and sustaining of a controversy".

Steve Nadis