Magnet Lab Decision Repels MIT

Stung by losing a major research award to Florida State University, the Massachusetts Institute of Technology charges National Science Foundation officials with manipulating the facts

WHEN THE NATIONAL SCIENCE FOUNDATION awarded a grant for a new national magnet laboratory to Florida State University last month, foundation officials probably expected no more than a pro forma protest from the Massachusetts Institute of Technology, which had put in a competing proposal. But the MIT administration has loosed an astonishing public blast at NSF, accusing foundation officials of manipulating the peer-review process.

MIT protested the award as soon as it was made (*Science*, 24 August, p. 851) and on 5 September the university lodged an appeal with the National Science Board (NSB). Nine days later, the board announced it would stand by the decision, and NSF officials are considering the case closed. "The board has voted not to reconsider the decision, so I guess it's a done deal," says David Sanchez, NSF's assistant director for mathematical and physical sciences. But, although MIT has exhausted its formal appeals, the university is not letting NSF have the last word: On 15 September, MIT officials fired off another public salvo.

Their basic charge is that Sanchez and former NSF director Erich Bloch misled the NSB by placing MIT's proposal in the worst light possible. Bloch and Sanchez each wrote memoranda to the NSB recommending Florida State, emphasizing "strong, long-term support from the state of Florida" and the university's commitment to the project.

J. David Litster, director of MIT's Francis Bitter National Magnet Laboratory, claims that these memoranda distorted MIT's financial commitment to the magnet lab and misrepresented the technical judgments of NSF's peer-review panels, which had recommended awarding the laboratory to MIT. "The NSF staff documents . . . presented selected information to you in such a way as to minimize the serious risk to the future of high magnetic field research in the U.S.," Litster wrote in a 12-page letter to the NSB on 4 September.

The MIT complaints may be more than run-of-the-mill whining about the allocation of scarce federal research dollars. MIT's Bitter lab, which Litster says is likely to close because he expects staff will now drift away, supports research with the highest magnetic fields currently in existence (the lab achieved a record field of 35.3 tesla in 1988). Some 300 researchers from outside MIT use the facility and their continued access to state-of-the-art magnets is now uncertain. "Much research is driven by high fields," says Horst Stormer, a Bell Labs researcher who co-discovered the fractional quantum Hall effect at the Bitter lab. "If I get another 10 tesla, I can figure out another bit of physics that I couldn't do before."

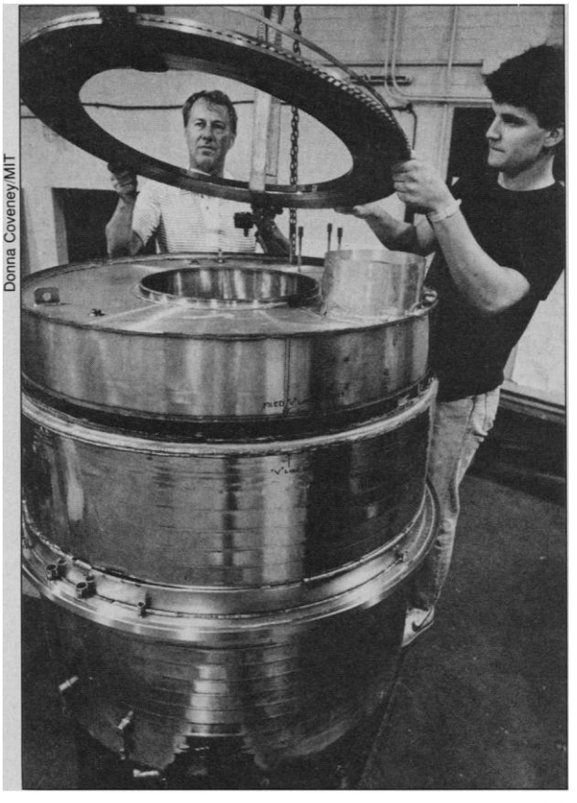
In establishing the new lab, formally known as the National High Magnetic Field Laboratory (NHMFL), NSF wanted a facility capable of developing magnets with field strengths as high as 45 tesla. When two NSF peer-review panels examined proposals from MIT and Florida State, they had no difficulty pronouncing MIT's submission "technically superlative." MIT proposed building a facility with 17 magnets greater than 21 tesla—including a 45-tesla magnet—in just over 4 years; Florida State would have only eight to ten magnets, two or three with a maximum field strength of 30 tesla, at the end of 5 years, and might require another 3 years to develop a 45-tesla magnet. The panels did express concerns about MIT's commitment to the NHMFL and described the enthusiasm expressed by Florida officials as "remarkable." But they said MIT's track record outweighed its perceived lack of enthusiasm.

The NSB, however, overruled its peer reviewers and awarded the lab to Florida State, apparently on the strength of a 1-hour oral presentation from Bloch and Sanchez and their memoranda. Since these memos constitute a paper trail, they have become the focal point of MIT's attack, on the following grounds:

■ **The numbers game.** According to Bloch's memo, MIT's total financial commitment to the NHMFL would be $18 million, compared to $58 million advanced by the state of Florida. Sanchez refers to the difference in cost-sharing as "striking." But this MIT figure excludes $19.5 million in facility costs—costs that are included in Florida's $58 million.

Sanchez and Bloch both allude to the differences in total funding sought by MIT ($68 million over 49 months) and Florida State ($60 million over 60 months). But at the request of the NSF staff, Litster says, the MIT figures included both the costs of operating the Bitter laboratory and building the NHMFL. Since the Bitter lab will receive $6 million from the NSF in 1991, the total cost to NSF of the two proposals is about the same.

■ **Recruiting faculty.** The Sanchez memorandum stated that MIT had "no recruitment plan" for the "many faculty nearing retirement age," a stark contrast with Florida State's proposal to create 22 slots for tenured faculty, 20 for visiting faculty, and 12



Bitter record. *This magnet at MIT's Francis Bitter lab should set a world record next year.*

for research faculty. Litster, however, points out that under MIT's proposal, 15 MIT and Boston-area faculty and about 46 visiting faculty would have been accommodated at the NHMFL after 1 year. He adds that the 81 permanent employees of the Bitter lab now have an average age of 47, and that only one MIT researcher will reach retirement age within the next 7 years without an immediately obvious successor.

■ **Serving the users.** Sanchez's memo states he is "satisfied" that users of the Bitter lab would be accommodated during the transition from MIT to Florida State. NSF is even willing to consider providing funds for users to take their experiments to the Grenoble magnet laboratory in France, he says. Yet in an open letter to the NSB, five members of MIT's Magnet Lab Users' Committee said the decision to locate the NHMFL at Florida State would have a "severe negative impact ('catastrophic' might be the proper word) on magnet lab users for many years." "Flying to Grenoble, that's ridiculous," says Bell Labs' Stormer. "If we don't have the high fields here, we might as well give up and do something else."

■ **International competitiveness.** Sanchez's memorandum states that MIT's selection "would result in increased interaction with international manufacturers rather than U.S. institutions." The same memorandum makes no mention of Florida State's intention "to rely initially on a collaboration with Grenoble to provide dc magnets," which are expected to make up a substantial fraction of NHMFL's instruments. Litster calls this "egregiously misleading."

In an interview with *Science*, Sanchez declined to answer Litster's charges point by point, because to do so would constitute a "pissing match" which is "not appropriate" for NSF. MIT, however, seems to have no such qualms. ■ **DAVID P. HAMILTON**

Genetic Privacy Makes Strange Bedfellows

W. French Anderson, gene therapy pioneer, and Jeremy Rifkin, anti-genetic engineering activist, may seem as unlikely a pairing as any scientist is likely to envision. And yet when John Conyers (D–MI) unveiled legislation last week to protect an individual's genetic information, Rifkin announced that he and Anderson were on the same team supporting the bill. In a bizarre coincidence, Rifkin's announcement came on the very day Anderson won final approval to begin his long-awaited, first-ever gene therapy trial (see p. 1372)—a trial that had been opposed by Rifkin. So Anderson isn't exaggerating when he says: "The fact that Jeremy and I agree on something tells you that it must be very important."

The bill, which will be formally introduced by Conyers, who is chairman of the Government Operations Committee, is designed to regulate the collection, maintenance, use, and dissemination of genetic information gathered from individuals by the federal government and its contractors and grantees. It would forbid agencies to release genetic information without the individual's written consent, except in the case of a medical emergency or a criminal investigation where probable cause or reasonable suspicion has been shown. The bill gives individuals the right to file a suit or an injunction against an agency that has released, or is intending to release, such information without permission. It also provides criminal penalties for unauthorized release.

Wendy Barrows / David Hathcox

In agreement. *Rifkin (left) opposed Anderson's work but got his support for privacy legislation.*

Anderson, who had planned to appear with Rifkin at a press conference unveiling the bill, was notably absent, however. At the last minute, the Department of Health and Human Services denied him permission to attend as a National Institutes of Health employee although he could have chosen to appear as a private individual. "The feeling was that I am so closely identified with NIH that my appearance could tend to damage the objectivity of NIH in the eyes of the public," Anderson told *Science*. Nevertheless, Anderson says he not only supports the concept of genetic privacy legislation but also Rifkin's approach. Anderson explained: "I strongly support the concept of this bill . . . because it will lead to public discussion of the serious ethical issues of genetic privacy."

Because the legislation applies just to government agencies and federally funded institutions, it only goes part of the way toward addressing what Rifkin and his supporters view as their biggest fear: that genetic information will be widely used to discriminate against individuals attempting to obtain employment, education, or insurance.

Paul Billings, chief of genetic medicine at Pacific Presbyterian Medical Center in San Francisco and a supporter of the bill, has in fact already documented cases in which people with no apparent disability have been stigmatized because of the results of genetic tests. Billings, who is also a visiting scientist at the Human Genome Center at the Department of Energy's Lawrence Berkeley Laboratory, says, "I think that both the NIH and DOE have moved remarkably slowly in recognizing that genetic information has a history of abuse. And as the body of information expands, that problem is only going to get worse." Adds Billings: "One could argue, 'Why hasn't the Genome Project taken the lead on this privacy issue?' It does seem to reflect a kind of ambivalence on the part of the scientific community."

But Rifkin views the bill as just the first step in a new campaign. "I predict that we will see in this decade a genetic rights movement as potent and as powerful as the civil rights movement of the 1960s," he says. And he would like to see the legislation eventually broadened to include private employers and insurers who are already using or would like to use genetic screening. But that will be a tough fight. Even the limited bill announced by Rifkin and Conyers last week is expected to run into opposition: "We expect that some trade associations and industries will not be happy with this bill," says Rifkin. But political fights are Rifkin's forte, as his scientific opponents (and sometime supporters) know all too well.

■ **SUSAN KATZ MILLER**

Susan Katz Miller is a free-lance science writer based in Baltimore.