Activists Beset UC, Stanford Labs

Coalitions of neighborhood activists and animal rightists are seeking to block new biology labs in the San Francisco area; costly delays and disruption of research could result

THREE leading California universities have found their plans for new research laboratories under attack by coalitions of neighborhood activists, animal rights advocates, and environmentalists. The facilities, which involve mostly biological research, are facing lengthy and costly delays.

The opponents contend that today's laboratories—with their radioactive isotopes, recombinant organisms, and potent chemicals—are inherently dangerous. They already have succeeded in briefly shutting down research at a new lab at the University of California at San Francisco (UCSF). They have sued to stop construction of an animal facility at the University of California at Berkeley. And they have forced Stanford University to postpone construction of two buildings for at least a year at a cost of up to $1.8 million.

If the protests succeed, they will place an "impossible burden" on research institutions to prove, in advance, that their activities will be harmless, says Ethan Schulman, an attorney for UCSF. He says they already have had "an extremely disruptive effect," creating a "continuing shadow hanging over a number of scientific research projects that has led to a considerable loss of morale within some of those units, and that has actually led some people to leave and seek work elsewhere."

However, the opponents say they have a right to know whether the neighborhood laboratory is dangerous. "I think what we're dealing with is one of the fundamental right-to-know issues," says Ted Smith, executive director of the Silicon Valley Toxics Coalition, which is involved in the Stanford protests.

Another opponent, Lise Giraud, a director of the Palo Alto Humane Society who first became involved as an animal rights activist, says, "Research institutions really have no business having these buildings spring up like mushrooms that are intended to do potentially extremely biohazardous work. We're not saying they shouldn't go up at all. But we are saying they should be looked at very, very carefully."

Four factors appear to underlie the protests:

- Deep-seated fear and suspicion of public institutions such as Berkeley and San Francisco, which are exempt from local zoning ordinances and, in the minds of some people, make bad neighbors.
- Concerns about the safety of genetic engineering.
- A growing awareness of technological dangers, sharpened by accidents such as the ones at Bhopal and Chernobyl, that has led some people to question the use of chemicals and radiation.
- With implications beyond the region, the growing visibility and political savvy of the animal rights movement, which has focused attention on what goes on behind laboratory doors.

Indeed, some observers think the recent protests are just the movement's latest tactic. The fact that all three protests involve animal rights activists lends weight to their view.

Stanford President Donald Kennedy has observed, for example, that the people who questioned the safety of Stanford's new animal facility "marched under the animal rights banner," and that many of the same people showed up to protest construction of a biology building. He noted that similar coalitions have formed between groups seeking to block recombinant DNA research and research on fetal tissues.

"You have to remember that while you can't sue in court over the rights of animals, you can sue over environmental issues," says Judith Pacult, director of governmental relations at UC Berkeley. "So I think we're going to see more and more lawsuits."

Andrew N. Rowan, director of the Center for Animals at Tufts University, who has followed the animal rights movement for 12 years, said animal rights activists at all three campuses apparently seized upon the environmental issues first raised by the UCSF neighbors as a way of promoting their cause.

"What this indicates is that the movement is becoming a lot more sophisticated in its strategies," he said. "They recognize that the animal rights issue is not sufficient to challenge [research] on legal grounds. The movement has become much more aware of political realities and much more skilled at exploiting them."

In California, protesters say they are afraid that genetically engineered creatures will escape and run amok, that laboratory cockroaches will spread disease, that delivery trucks will spill chemicals, and that fumes from rooftop vents will cause cancer blocks away.

Safety experts dismiss these fears. "These laboratories represent, from the standpoint of environmental impact, really no significant potential problems, in my judgment," said Robert McKinney, director of the safety division at the National Institutes of Health, one of the federal agencies that sets safety standards for laboratories. He said there has never been a release from a research lab that harmed the public. Although most university laboratories routinely use thousands of chemicals, the quantities are

UCSF/Charles Callister, Jr.

The prime target

Protesters are trying to prevent research being conducted in this converted office building, which is owned by UCSF in the Laurel Heights area of San Francisco.

far smaller than those employed in industrial operations.

Steve Hill, manager of air toxics evaluation for the Bay Area Air Quality Management District, said emissions from laboratory fume hoods are considered so negligible that they do not require regulation. "There's no real reason to monitor," he said. "It's a total waste of our time."

Official assurances have done little to blunt the opposition to the proposed research facilities at UCSF, Berkeley, and Stanford, however.

At UCSF, neighborhood groups are trying to stop the university from operating laboratories in a converted office building in a middle-class, residential area known as Laurel Heights. The university bought the four-story, 342,000-square-foot building, formerly headquarters for an insurance company, to relieve severe overcrowding on its main campus 10 minutes away. Officials said it would be used for administrative and academic purposes. About half the building was temporarily leased to a state agency.

At first, neighbors complained only that an influx of students and teachers would cause traffic and parking problems. Then they learned the term "academic" would include research by 150 people from the School of Pharmacy who, among other things, are studying how toxic substances affect the body and are trying to find treatments for parasitic diseases and AIDS.

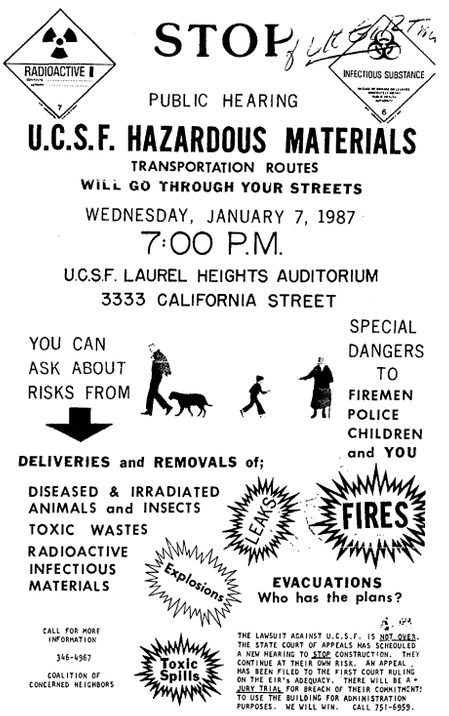
"I'm prepared [to admit] that we made a mistake in not including research as a strong possibility for the building," says Tom Gwyn, assistant chancellor for public service programs. But, he said, "I don't think we misrepresented what we were going to do in the building."

The neighbors also discovered that the university planned to use commercial carriers to deliver radioactive isotopes and chemicals and that fumes from up to 1200 chemicals would be released from roof vents without treatment. The university based that estimate on the number of chemicals now vented from School of Pharmacy laboratories at the main campus.

"The more we found out, the angrier we got," said Margaret Verges, one of the leaders of the protest. "We want them to pack up their bottles and go to an industrial area and do their research there."

The protesters papered the neighborhood with alarming fliers: "Hazardous materials transportation routes will go through your streets. Special dangers to firemen, police, children and YOU. Deliveries and removals of diseased and irradiated animals. . . . Explosions! Leaks! Toxic spills! Fires!"

At a meeting with more than 200 neighbors, university officials tried to explain the



Raising alarm. *The neighborhood was papered with these fliers.*

project. They mentioned, among other things, that environmental sampling around the main campus had revealed no evidence of chemical or radioactive contamination, even after years of research.

But their explanations were shouted down, and in 1986 the neighbors sued. The lawsuit charged that the university had broken its promises on the use of the building. It said an environmental impact report did not adequately describe the chemicals, radioactive materials, and infectious agents that would be used in the building—or what steps would be taken in case of an accident. Further, it said UCSF should have considered other sites, such as properties it owns in industrial areas of San Francisco, before deciding to move research to a residential area.

"Overall, we object to the basic concept of locating a biomedical research laboratory in the midst of a highly populated urban area," Kathryn R. Devincenzi, an attorney for the residents, wrote in papers submitted to the court. "This sort of research is among the most hazardous and should be performed outside population centers in order to minimize the risk."

University officials counter that the protesters have not come up with a single concrete example of hazardous research. "I don't know of any evidence that living in the environment of an institution like UCSF in any way endangers the citizens in that environment," says chancellor Julius R. Krevans.

The university hired a firm to do environmental sampling at two of the new Laurel Heights laboratories. It concluded that even in the worst case, emissions of chemicals and radioactive isotopes would be from 180 to 500 million times lower than established safety levels.

However, in July an appellate court judge ruled against the university. While there is no law prohibiting research in residential neighborhoods, he said, the university must prepare an adequate environmental report and carefully consider the alternatives—and this it did not do. Indeed, he said, even when viewed in the most favorable light, the university's actions "appear to have been carried out in the most cavalier fashion."

The judge ordered research in the new laboratories to stop—apparently the first time a court has closed a major university laboratory because of public fears about the dangers of research in molecular biology.

The university immediately appealed, and 2 days later the state Supreme Court ordered research to resume until it can consider the case. Oral arguments were presented in February and a decision is expected this spring.

UCSF officials were initially optimistic that the Supreme Court would rule in their favor because it agreed relatively quickly to take the case—a sign, they thought, that it was inclined to reverse the previous ruling. But in a recent setback, state Attorney General John Van de Kamp sided with the neighbors, arguing that the university's environmental report was inadequate. "I can assure you, this was quite a blow," said Jere Goyan, dean of the School of Pharmacy.

Although the Laurel Heights laboratories are operating, the Supreme Court has forbidden them to use radioactive isotopes until the case is resolved, and this has hampered research. "We have all sorts of people who just don't have sufficient space to do the work they want to do," Goyan said. "So far we haven't lost any [faculty members] because of it. But if we don't find our way out of this mess in another year or so, there's just one thing that can happen—we'll deteriorate." About ten young scientists have already left campus since the controversy began.

For UCSF, the issue is complicated by the fact that neighbors have long resented any university expansion into residential areas. Trouble between the university and its neighbors started years ago when the main campus at Parnassus Heights began to expand—buying buildings, saturating the housing market with students and staff, and increasing parking problems.

"There has been a history of development insensitive to the needs of a residential community—a history of destroying residential blocks and turning them into the universi-

ty," said Marcia Rosen, who lives near the main campus. After neighbors challenged its expansion plans in court in 1976, UCSF agreed to curb development at the main campus, sell off a number of houses that it was using for offices, and limit the campus population. It was to escape these constraints that the university decided to open its new laboratories in an outlying area. It is finding, however, that some of its new neighbors are as suspicious as the old ones.

The protests involving new research facilities at Berkeley are in many respects similar to those at UCSF. Two groups are suing to block construction of a $14-million building on the Berkeley campus that would house 10,000 research animals and a special containment laboratory for work with infectious agents.

Animal rights activists had been protesting the expansion of biology laboratories on campus since 1984. As time went on they changed tactics, circulating petitions that objected to the building on environmental grounds as well as its use of experimental animals.

Now a group called In Defense of Animals has joined Berkeley Citizens for a Toxic-Free Environment in filing suit to stop construction of the building on the grounds that it would be dangerous. An attorney for the two groups said the Berkeley case is a function of "people becoming aware of the chemicals in their midst and becoming concerned about them just in the last few years."

However, Pacult, the governmental relations director at Berkeley, said the primary motive behind the lawsuit appears to be a desire to stop research on animals. "This building has been targeted as the one to stop if you're going to stop animal research."

The campus has spent $450,000 on initial plans for the 32,000-square-foot building and has been allocated another $752,000 by the state legislature for working drawings. The university plans to ask legislators for the rest of the money this spring.

At Stanford, as at Berkeley and UCSF, the attack on plans to expand research facilities has been led by animal rights activists.

Stanford's woes began in May, when the

A Lab in the Line of Fire

No one has felt the UCSF research controversy as keenly as Nina Agabian, a professor of pharmaceutical chemistry who leads the only research group in the new Laurel Heights laboratories.

A judge shut down her laboratory for 2 days last year, and another judge has forbidden it to use radioactive isotopes. As a result, researchers have to drive to the main campus to do isotope studies, and experiments that used to take an hour sometimes take all day.

The restrictions and the continuing uncertainty over the laboratory's future have driven away about a third of the 30 people in her laboratory, Agabian says: "There have been people who felt that the witch hunt was so incredibly intense that they just couldn't work under it."

Meanwhile, the protests continue to take a toll on her emotions, her energy, and her work. "When we came down here in 1984 (from the University of Washington), we were one of the leading laboratories in the world studying the molecular biology of parasites," said Agabian, who holds a joint appointment at the University of California at Berkeley and directs the new Intercampus Program in Molecular Parasitology. "Now we're severely compromised in our ability to do work. Our research has been cut down to about a third of its productivity. If this continues much longer, it's going to destroy not only my lab, but my career."

UCSF/David Powers

Nina Agabian. *Her work has been seriously disrupted.*

Agabian's group is trying to develop vaccines for malaria, schistosomiasis, giardiasis, and other parasitic diseases that afflict millions of people in developing countries and, on a smaller scale, in the United States.

The group recently reported that it had found a protein on the surface of the *Chlamydia* parasite that triggers an immune response. This could be a step toward developing a vaccine for the disease, which is sexually transmitted and can lead to blindness in the infants of infected women. They have also discovered and cloned similar proteins from the parasites that cause hookworm and schistosomiasis.

University policy does not permit this or any other research to be done in secret. Yet the protesters, pointing out that Agabian formerly worked at the Naval Biosciences Laboratory in Oakland, assert that her work is related to biological warfare. It is a charge she finds both ridiculous and morally disturbing. "We're just as individually opposed to the concept of biological warfare and of doing biological warfare research as responsible people outside the laboratory are," she said. "We don't do it. We're not interested in doing it. We would fight against doing it." In fact, she says it is "immoral in and of itself" for the neighbors to protest work on diseases that do not affect them, but which do cause misery for millions of people in other countries.

During the course of the lawsuit against the university, the protesters have subpoenaed Agabian's records and called her in to give hours of depositions. She also believes they have harassed her, although she has no proof. For instance, she has returned from out-of-town trips to find the electricity to her condominium had been cut off from a switch outside the building, melting the contents of her freezer and ruining her floors. This has happened not once, but half a dozen times, Agabian says.

Since the protests started, she adds, "The university has had to come and put up metal gates so people don't come and stick their faces in my window in the middle of the night."

One of the most frustrating aspects of the controversy, she said, is that the opponents appear to be uninformed about the processes of science—and don't seem to want to find out more. She said the situation at UCSF "certainly should be a matter of concern to all scientists, because it could happen to them with equal irrationality. There's nothing that makes them immune to having their research stopped, as ours has been." ■ G.C.

local humane society challenged a decision to build a $17-million underground building on campus for research animals. The society questioned the morality of animal research, the adequacy of the quarters, and the safety of systems for preventing the spread of disease.

Although the university denied that the facility posed any danger, the county board of supervisors ordered an environmental impact report on the project.

Then the humane society joined forces with a watchdog group called the Silicon Valley Toxics Coalition to question another proposed project—a four-story, $33-million structure with 14 laboratories that would double the space available to the biology department. The opponents accused Stanford of sloppy handling of radioactive waste and hazardous chemicals—although they would not identify specific incidents. They also questioned the general safety of recombinant DNA research, raising the possibility that, for example, genetically engineered organisms might escape and gobble up the world's oil supply. Stanford officials countered that their waste disposal is regulated by a number of agencies. They said the scientific community considers recombinant DNA research safe as long as it is performed according to established guidelines.

Finally, they said the new laboratories would simply expand present activities without creating the kinds of hazards the protesters allege. Scientists waiting to move into the new building are investigating, among other things, how plants and bacteria fix atmospheric nitrogen, how cancer cells resist chemotherapy, and the population dynamics of butterflies.

After both sides presented their views at a county planning commission hearing, the university wearily gave in and agreed to prepare an environmental report on the biology building. The environmental reports will delay the two projects by at least a year at a cost of up to $1.8 million, Stanford officials report.

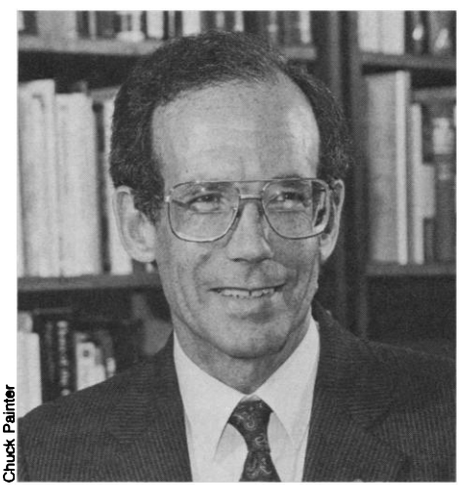
The recent protests took them by surprise because Stanford has built at least five research buildings in the past few years, including a center for molecular and genetic medicine, the William M. Keck science building and a center for electronics research, without being required to write environmental reports.

In a development that may lend ammunition to the protesters, Stanford disclosed on 13 January that a former employee has alleged legal violations, intimidation, and cover-ups in the department responsible for lab safety and hazardous waste disposal.

One of the charges involves an incinerator used to burn medical wastes and the carcasses of research animals. However, an inspection of three buildings—including the incinerator—found no violations of county storage laws, said Bob Holston, acting supervisor of the county's hazardous materials storage program.

Kennedy has appointed a five-member panel to investigate the charges, including Goyan of UCSF; former U.S. Education Secretary Shirley Hufstedler; Nobel Prize–winning economist Kenneth Arrow; and Wolfgang Panofsky, former director of the Stanford Linear Accelerator Center.

Meanwhile, the delays are taking a toll on research and teaching, said Robert Simoni, a biology professor and chairman of the department's building committee. "It really has put our hiring plans in a stew," he said. "We're in a quandary about how to proceed about new appointments, which we desperately need both for our teaching and research missions, because we don't know where we're going to house these people." He said the department also will have to put off buying major equipment, such as apparatus for determining protein and gene structure, until more space is available.



Chuck Painter

Donald Kennedy. *The protesters share "a vague and alarming mistrust of science."*

Officials at the three universities seem at a loss to know how to prevent similar attacks and delays in the future. Looking back on the controversy at UCSF, for example, Krevans acknowledges that it may have been a mistake to assume the public understood the term "academic" included research—a mistake that some community leaders took as deliberate deception. If he had it to do over again, Krevans said, he would be more specific. "Other than that, I cannot think of anything we could have done differently. We had dozens of meetings, did thousands of mailings, and we shared the information fully."

He said the court challenge against UCSF has broad implications. If the university loses, Krevans said, "That raises a question that activities of this kind, which have gone on for 40 years at this institution and at similar institutions throughout the country, are simply not acceptable to society."

Kennedy has proposed that control over construction of university research buildings be taken away from local officials and transferred to a regional agency. A regional body could, for example, balance the concerns of people who are worried about the safety of recombinant DNA research in their neighborhood against its benefits for cystic fibrosis patients over a wide area, he says.

"Universities are too important to their regions and to the nation as a whole to let those institutions become the victims of 'not in my back yard' politics," Kennedy says. "We know how to construct port authorities and air pollution control districts, and we ought to be able to do this."

While local officials sympathize with Stanford's plight, they say they are not willing to relinquish control to a regional body. Ann Coombs, who represents the Stanford area on the planning commission, said that while a regional agency might have a more sophisticated grasp of scientific issues, it would be less tuned in to local land-use problems.

Not surprisingly, the protesters are not enamored of the proposal either. Giraud of the Palo Alto Humane Society, for example, called the idea "outrageous." Its real purpose, she said, "is to circumvent the local government bodies in hope of reaching a level of government that is no longer so directly responsible to its constituency."

In the long run, Kennedy argues, the solution is to raise the level of public understanding of science. What links these movements, Kennedy said, is "a vague and alarming mistrust of science, indeed of the elitism of expertise."

"Unfortunately," Kennedy said, "part of it relates to the disappointing level of scientific literacy displayed by the voters—and by their elected representatives. If a substantial proportion of our adult population believes in astrology and the efficacy of pyramidal objects in promoting health, why should we expect thoughtful analysis of problems like these?"

"We need to realize that improvement in this area is not just needed so that we can raise some kids who can compete with the Japanese in math and science. We also need to produce a generation of voters with at least enough knowledge to avoid being bamboozled by foolishness." ■

GLENNDA CHUI

Glennda Chui is a reporter with the San Jose Mercury News.