

Key NASA Lab Under Fire For Animal Care Practices

The death of a laboratory rat at Ames Research Center in Mountain View, California, last fall has sparked a heated debate about animal research at Ames, the main facility for such work at the National Aeronautics and Space Administration (NASA). The incident triggered a 6-week ban on animal research at Ames, led three people to resign, and spawned an outside report critical of Ames's handling of the affair. While center officials insist the episode was an isolated incident, the report cited several problems with animal experimentation at Ames.

Ames oversees NASA's animal-research effort, housing everything from tadpoles to rhesus monkeys and preparing them for space experiments by both NASA and outside investigators. Although the work is a key part of its mission, Ames, the report says, has failed to uphold some of NASA's own standards, as well as federal guidelines, for safeguarding animal welfare. "The people here just didn't know the rules," says one Ames manager. The aftermath of the rat's death also raised questions about the practices of the company caring for the animals, as well as a system that allows a contractor to oversee itself.

The dispute began last fall after Sharon Vanderlip, who was NASA's chief of veterinary services and was based at Ames, intervened in a study of the behavioral effects of hypergravity on rats. A postdoctoral researcher on the study, June Li, was implanting sensors, an acrylic cap, and skull screws in preparation for placing the rat in a centrifuge. But in her third surgery, according to a 4 January memo from Vanderlip to Ames Director Ken Munechika, the animal "was left unattended in the surgery suite while under anesthesia and later died from complications associated with inappropriate administration of anesthesia." Vanderlip's memo added that Li "told me she had no previous experience working with rats" before the three surgeries.

Vanderlip then wrote to Li ordering her to halt additional animal work pending further training. On the job since July, Vanderlip had the authority on paper to stop any questionable efforts. But instead of being a government employee with clear authority, Vanderlip actually worked for Team Support Services, the Corvallis, Oregon, contractor responsible for animal care at Ames. Indeed, one week after Vanderlip instructed Li to stop her work, the acting chief of Ames's life sciences division, Emily Holton, and other life sciences managers met without Vander-

lip and agreed to reverse the suspension order. According to NASA documents, Ames officials also decided to remove Vanderlip's letter to Li from the files.

Vanderlip, who has 15 years of experience as an animal-research consultant and at research institutes, says her authority was undermined by her status as a contractor and the fact that her veterinary experience was acquired outside NASA. She also maintains that Ames officials subsequently intimidated



Trick or treat? Report criticizes animal practices at NASA's Ames Research Center.

and harassed her. But Ames officials say the problem instead stemmed largely from personality conflicts between her and officials at her company and NASA. A few months later, Vanderlip resigned, and on 20 March she wrote an angry letter to NASA Administrator Daniel Goldin. (A member of Ames's animal-care advisory panel and a manager at Team Support Services have also resigned, largely in protest of Ames's handling of the incident.)

In addition to describing what had taken place, Vanderlip told Goldin that Ames had tried to circumvent the normal process for obtaining approval from the National Institutes of Health for animal experiments supported with NIH funds. Based on Vanderlip's comments, NIH put NASA's request for that approval on hold, and NASA now intends to submit a new application.

Shortly after receiving Vanderlip's letter, NASA officials at headquarters imposed a ban on all animal research at Ames and convened an outside panel to investigate the matter. That panel, led by Martin Fettman, a Colorado State University physician who conducted research on a 1993 space shuttle mission, reported on 3 April that Vanderlip's concerns about the Li incident were justified, but they could not verify Vanderlip's charges of harassment and intimidation.

The panel also said that Holton had acted improperly in holding the meeting without Vanderlip and that she and others exerted undue pressure to have Vanderlip's decision rescinded. And it urged NASA to make the veterinarian's position a civil service slot so the officeholder could properly monitor animal care. In addition, the panel said Vanderlip's employer, Team Support Services, had demonstrated "an inability to perform the duties" laid out in its \$800,000-a-year contract, primarily by hiring incompetent animal health technicians and then, after firing them, not finding replacements promptly. Company officials did not return calls seeking comment.

As a result of these problems, the report concludes, "animal welfare may have been in jeopardy." William Berry, Ames's acting director for space research, says that the center "took appropriate action" to address Vanderlip's concerns about animal welfare between January and March but that "we should have accelerated" that work.

Reform is now on the front burner at Ames. On 24 May, center officials submitted a plan to address the problems identified by Vanderlip and the Fettman panel, including boosting the authority of the veterinarian, taking a close look at the contractor, and intensifying training for researchers. On 5 June, NASA lifted the ban on animal research. Fettman says he's impressed with Ames's proposals and that he intends to inspect the facilities in August to monitor progress.

The incident and its aftermath have divided life scientists, some of whom defend Ames's conduct. "NASA's involvement with animals probably borders on a state of paranoia in assuring they are properly cared for," says University of California, Irvine, physiologist Ken Baldwin, chair of NASA's life and biomedical sciences and applications advisory subcommittee. "We were dealing with a strictly isolated incident."

But Vanderlip believes that Ames's reaction is part of an attitude among NASA life scientists that they are above laws governing animal care and research. And other scientists agree with her that Ames has been somewhat isolated from recent trends in animal care. "Historically, they've done a good job," says Fettman. "But they've been operating in a vacuum for too long."

—Andrew Lawler