

research. "Historically, we have gone through peer review on research projects," he says. "There isn't a penny in here for research." Catholic University asked for \$13.9 million to build new facilities to house the laboratory, now in cramped quarters in several campus buildings. Litovitz adds, "What we're talking about here is a laboratory which has an international reputation. Our whole thrust is to get basic research into technology as fast as possible."

Columbia University needed a \$20 million building to replace crowded, outdated organic chemistry laboratories. A spokesman for Columbia, commenting on the unusual method used to

obtain funds, says it was "the only avenue open" for seeking funds from DOE so late in the budget process.

In the end, Congress awarded \$5 million to each of the construction projects providing that DOE conducts a thorough view before any money is spent. Louis C. Ianniello, DOE materials science division director, says, "There are some problems as the result of the procedure we went through. Usually it doesn't happen this way. I don't think everybody's decided how we're going to handle it." At the moment, DOE officials are waiting for guidance from the White House Office of Management and Budget.

—I. Peterson

## Reagan approves plan to revamp the federal laboratories

A year-long review of the federal-laboratory system, unveiled by the White House July 15, outlined a number of "serious deficiencies" which the reviewers said were affecting both the quality and effectiveness of work done at these laboratories. The President was obviously impressed with the White House Science Council's analysis and the series of corrective measures it recommended. Following a July 12 briefing on the review panel's report, President Reagan authorized the Office of Management and Budget (OMB), together with the Office of Science and Technology Policy, to immediately begin implementing recommendations contained in the Science Council report.

An anticipated \$15 billion of next year's \$45 billion research and development (R&D) budget will go to support work conducted within the nation's more than 700 federal laboratories. But the review panel reports that largely as a result of management shortcomings, the United States is generally not getting an adequate return on its massive investment in these labs.

In terms of resource use, the panel found that laboratories with clearly defined missions performed better than those without. Performing best of all were those having both a clear mission and close interaction with the users of their research. As a rule, panel chairman David Packard said, Defense Department labs most often met these dual criteria.

For contrast, Packard pointed to three Department of Energy (DOE) weapons-oriented centers — Lawrence Livermore Laboratory, Los Alamos National Laboratory and Sandia Laboratories; all, he said, were ripe for mission redefinition. "A good deal of their effort was diverted to alternate-energy programs in the 1970s," the Hewlett-Packard board chairman said. He added that although considerable money was pumped into those areas then, "We did not get any mileage out of it." As a result, he said, "We're recommending that those laboratories increase their involvement with weapons."

Similar problems plague many of DOE's former nuclear laboratories, Packard said. Noting his panel would like to see the government do more materials-science work, he suggested materials could become "a very important new mission opportunity

...allocated to these laboratories."

Packard's panel also recommended:

- setting up an oversight committee for each laboratory — with university and industry representation — to monitor the lab's programs for productivity, excellence and appropriateness to mission.
- giving laboratory directors between 5 and 10 percent of their institution's budget for discretionary spending to encourage independent research. The oversight panel could adjust spending if it was found the independent programs selected did not spur sufficient innovation,
- using some discretionary money to fund relevant research at universities, en-

couraging labs to cooperate, not compete, with universities and industry,

- authorizing OMB to fund R&D programs on a predictable, multi-year basis,
- allowing laboratory size to increase or decrease (to zero, if necessary), depending on its mission and the quality of its work,
- appointing laboratory directors for a finite term which could be cut short or extended, depending on both the laboratory's and director's performance, and
- creating personnel systems independent of the Civil Service so that labs can offer more competitive salaries and can reward the best performers.

—J. Raloff

## Rape season: Legacy of our past?

The males of many mammalian species, including higher primates, go through a predictable period of rutting—a seasonal period of sexual excitation accompanied by increased aggression — and scientists have wondered if men experience a similar rhythm, a vestige of our evolutionary past. A statistical analysis of rape reports from 16 locations has now revealed a clear cyclical pattern for crimes of sexual violence, and the authors of the study speculate that seasonal environmental cues such as temperature may indeed play a role in these periods of heightened sexual aggression.

Richard P. Michael and Doris Zumpe of Emory University in Atlanta analyzed two years of FBI crime statistics from 13 states and three large cities. Using census data, they calculated monthly rates for four crimes in each locale — rape, assault, robbery and murder — and (as they report in the July *AMERICAN JOURNAL OF PSYCHIATRY*) they found that in 14 locations rape peaked in the summer, specifically in the eight-week stretch from July 7 to Sept. 8. They also discovered a significant annual rhythm for assault, which also tended to peak in the summer months, but the other two crimes showed no such pattern: Robbery peaked in the wintertime, but in only five locations, while murder showed no seasonal pattern.

They also found that assault and rape were closely related; although rape was much rarer than assault, the relative magnitude of the two seasonal changes was

very close. In addition, the authors report, the magnitude of these changes was closely related to temperature changes in each location, a finding that lends support to the long-suspected link between temperature and human behavior.

However, Michael and Zumpe emphasize that the temperature-behavior link cannot be simply explained as a matter of hot weather facilitating aberrant social interaction. If that were the case, they note, geographical differences in temperature would also be expected to influence the rates for assault and rape, which they did not; locations such as Puerto Rico and Arizona had rape and assault rates comparable to those of Illinois and Maine. The old "thermic law of crime," which predicts increased human aggression in hotter climates, simply doesn't hold, the scientists conclude.

The summertime peaks for rape and assault suggest that sexual aggression is a subcategory of assaultive behavior — a behavior which, the authors speculate, may be entrained by environmental cues. Day length is known to act through the retina, brain and sex glands in triggering increased aggression at the start of mating season in many non-human primates, they say; and while the act of rape is certainly something different from natural mating behavior, they add, the involvement of the neuroendocrine system in seasonal patterns of human aggression is consistent with what is known of other social animals.

—W. Herbert