

who got away. UCLA laser chemist Mostafa El-Sayed was showered with offers from other universities once VERIP-3 was announced. "It gave the incentive for other schools to approach people from UC," says El-Sayed, who is retiring with 80% of his pre-retirement pay and accepting an endowed chair at Georgia Tech.

But those dreaded cases have proven to be the rather rare exception, and most faculty taking VERIP are sticking around. Many will be "called back" to teach courses, for a fee of \$5000 to \$8000 per course. But these voluntary callbacks often aren't enough to meet departments' needs. "We are scrambling to cover teaching," says Nick Spitzer, co-chair of biology at UCSD. Seven of the department's 60 members took VERIP-3, and only one or two are interested in being called back to teach, leaving the department to seek temporary instructors.

Some departments are using research space as a lever to get the teaching they need. In the chemistry department at Berkeley, for example, the policy is "that there [must] be a linkage between the benefits that the individual derives from the department and what they give back to it," says chairman Ken Raymond. And that means that if retirees want to keep their research space and access to graduate students, they must do some classroom teaching as well.

Eventually retirees and temporary instructors will be replaced by junior faculty who will cost the university less. Although the net result of VERIP will be a 10% downsizing of the UC faculty, many of the positions vacated are already being returned to some departments, where they are creating a minor renaissance. This year the Berkeley physics department, which lost 25 faculty in three rounds of VERIP, will have six new positions; biology at UC Santa Cruz, which lost a third of its 36 faculty to the VERIPs, just completed six new hires in one year.

But young faculty can't truly replace those with decades of institutional wisdom—the generation that normally takes positions of leadership. "The 55- to 65-year-old set is now a very small set," says UCLA dean of physical science Roberto Peccei. And that, he says, shifts the burden of responsibility to younger faculty. While many of retirees will continue to relieve some of that burden, they have irrevocably relinquished their tenured faculty positions. And therein lies a long-term reward of VERIP—when research space becomes tight, the retirees can be asked to go. And that means UC has postponed the crisis that other universities will face over the abolition of mandatory retirement. "That issue will not be faced by the University of California for another 10 years," says Peccei. "There are not that many people who are that old any more."

—Marcia Barinaga

...AND BEGINNINGS

## NSF to Emphasize Teaching In Early Career Awards

For more than a decade, young faculty members seeking funding early in their careers have been offered a smorgasbord of programs at the National Science Foundation (NSF). Take Michael Spencer, professor of electrical engineering at Howard University in Washington, D.C. In 1981, Spencer won a 2-year, \$40,000 Minority Research Initiation award, which NSF created to help minority scientists take their first steps as independent researchers. Four years later, he received a prestigious 5-year Presidential Young Investigator (PYI) award, a program originally aimed at helping engineering departments attract young faculty who might otherwise accept better-paying jobs with industry. Those awards bolstered Spencer's work in semiconductors, and in 1987 he became director of Howard's Materials Science Research Center of Excellence, which gets \$1 million a year in core funding from NSF.

The programs that have nourished Spencer and thousands of other young faculty members over the years—including research initiation awards in engineering and computer sciences and Presidential Faculty Fellow awards—are part of a continuing effort by the agency to launch young investigators

on research careers. Now, however, NSF wants to use the awards to encourage another pursuit as well: teaching. It is planning to fold most of its early-career award programs into a single effort, called CAREER awards (the name is not an acronym), which will go to young investigators who show promise both as researchers and teachers.

The new, balanced emphasis on teaching and research mirrors the policies of the Clinton Administration and sentiment in Congress about the role of universities. Senator Barbara Mikulski (D-MD), chair of a Senate subcommittee that oversees NSF's budget, has warned foundation officials not to keep funding academic scientists whose only goal is "to make clones of themselves." Mary Good, who heads the Commerce Department's Technology Administration, admonished university administrators last fall about growing public unhappiness with the quality of education on campus.

To encourage young scientists to concentrate on teaching as well as lab work, NSF officials are making several significant changes in the rules. Applicants for the CAREER awards must describe both research and educational plans; officials from their

### FACULTY START-UP PROGRAMS

Program	Purpose	Features	Size
<b>TO BE PHASED OUT</b>			
NSF Young Investigators (Formerly Presidential Young Investigators)	Extended research support for elite young investigators	\$25,000/yr for 5 years plus up to \$75,000/yr if matched by industry; 5–7 years post-Ph.D.	\$45 million in 1994; 150–200 grants/yr
Research Initiation Awards	Research support for young engineers and computer scientists	\$30,000/yr for 3 years; chosen from pool of standard grant proposals. First federal grant	\$18 million in 1994
Minority Research Initiation Awards	Research support for minority faculty in all fields	\$30,000/yr for 3 years; chosen from pool of standard grant proposals. First federal grant	\$4.5 million in 1994
<b>TO CONTINUE</b>			
Presidential Faculty Fellows	Special recognition to small group of young investigators	\$100,000/yr for 5 years; universities can nominate up to two candidates each	\$9 million in 1994; 25–30 grants/yr
<b>STARTS THIS SUMMER</b>			
CAREER (Faculty Early Career Development)	Support for promising young researchers and teachers	Same size and length as standard grant; for tenure-track faculty within 4 years of first academic job	N/A

universities must explain how the plans contribute to the goals of the department and the university—not just to knowledge in a particular field. NSF also plans to drop a requirement that recipients find matching funds for part of their awards. This requirement, which is built into some current awards, is widely disliked among those in more basic fields, where corporate support is more difficult to find. The new program also will not have an identifiable minority component, although NSF officials say they recognize the importance of including underrepresented minorities in the pool of awardees.

Despite these changes, NSF isn't planning to reduce its commitment to young researchers. Agency officials say they plan at least to match the \$75 million now being spent annually on various early faculty career programs (see chart). The CAREER awards will also continue a policy of giving newcomers a break in the increasingly stiff competition for federal funds by offering success rates slightly above the norm for a standard NSF grant. But NSF officials hope that, in addition to encouraging good teachers, the new program will reduce the workload on staff and outside reviewers by eliminating duplicate submissions and erase any taint of "separate but equal" treatment conveyed by the minority awards.

"We want to make it very clear that education is important for young faculty," says chemist Margaret Cavanaugh, who heads the NSF committee coordinating the new program. "If people see themselves as a faculty member involved in both research and teaching, then CAREER is for them."

**Taking a new tack.** The new program, like its predecessors, will be managed by each of NSF's seven research directorates, giving program managers considerable leeway in selecting winners. The new awards are expected to be comparable in size and duration to the standard grant awarded by each directorate, and a few may retain the option of matching contributions from industry.

But although most scientists concede that a faculty member's educational duties deserve greater recognition, NSF's new approach isn't drawing rave reviews from those who benefited from the existing programs. "I question this constant need to start over again when something is working well," says Howard University's Spencer. Lynne Molter, an associate professor of engineering at Swarthmore College with a 1989 PYI award, says NSF should find new money to achieve its new goals rather than convert existing programs. "I hate to say that they shouldn't do it," she says, "but not at the expense of research." A 1985 PYI winner, Georgia Tech professor and associate dean of engineering Jack Lohmann, believes that the PYI program identified a core of future science policy leaders, and he's disappointed that NSF "has

never bothered to ask what it got" from its billion-dollar investment.

Past and current award winners are also worried that universities aren't ready to endorse a balanced emphasis on teaching and research in making tenure decisions. "If the reward system doesn't change, then a lot of people could be hurt," says Deborah Thurston, an associate professor of engineering at the University of Illinois, Urbana, who received a PYI award and a research initiation award in the late 1980s. They also wonder how NSF will measure the performance of applicants in teaching. "Teaching is important at this place," says Barbara Beltz, an associate professor of biology at Wellesley College in Massachusetts and a 1989 PYI winner, "and the award freed me to do more teaching because I didn't have to spend time writing grant proposals. But it's harder to judge someone's teaching abilities than their research."

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## OCCUPATIONAL HEALTH

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### Firing of Toxicologist Prompts Protest

PARIS—André Cicoella's rapid rise from relative obscurity to cause célèbre reached new heights last week. On 10 May, Cicoella, who is widely recognized in his field as an expert on the health hazards of glycol ethers, was fired from his research job at the Institut National de Recherche et de Sécurité (INRS)—France's occupational health research agency—for insubordination. The move drew criticism from Gérard Longuet, the French industry minister, and attracted widespread press attention for a case that has already generated interest among occupational health researchers in Europe and the United States (*Science*, 13 May, p. 898).

L'affaire Cicoella began with a conflict with another researcher over a possible correction to a paper Cicoella had co-authored. He was summoned to a meeting at INRS to discuss the matter, but he refused, insisting, he says, that the dispute be settled by a scientific committee. His refusal prompted INRS to suspend him and bar him from attending an international conference on glycol ethers that he had organized. Researchers who had registered for the meeting then received faxes saying the meeting was canceled, only to be informed a few days later that it was on again—all of which brought Cicoella's plight to the attention of his international colleagues.

After that, the case began to snowball. About 200 of Cicoella's INRS co-workers

There is also widespread concern that the new awards will be less prestigious because they no longer concentrate on a faculty member's potential to do cutting-edge research. "Around here it's noted how many PYIs there are in each department. It validates the appointments that have been made," says Peter Meyers, an associate professor of physics at Princeton University, PYI class of 1987. Adds Georgia Tech's Lohmann, "the program initially had a strong focus on giving a boost to the best and brightest researchers. Now I guess NSF will be supporting a broader distribution of young faculty."

NSF's Cavanaugh agrees that the new award may be viewed differently from its predecessors. But she thinks it will still be greatly appreciated. "We're imagining the award will go to faculty members in their first jobs," she says. "And we hope it will mark the start of a long and successful academic career."

—Jeffrey Mervis

signed a petition on his behalf, and some international attendees at the conference refused to allow their presentations to be published in the proceedings unless Cicoella was reinstated. Some of his supporters, including prominent French toxicologists, even charged that INRS, which is funded by the French national health insurance scheme, was trying to prevent him from speaking about the hazards of glycol ethers, widely used in semiconductor manufacturing, solvents, paints, and other applications. If so,

the attempt backfired. "The administration did not realize the importance [glycol ethers] would take on as a public issue and in the press," says Henri Pézerat, a toxicologist with the Centre National de la Recherche Scientifique in Paris.

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**INRS "did not realize the importance [glycol ethers] would take on as a public issue and in the press."**

—Henri Pézerat

Dominique Moyen, director-general of INRS, insisting that the case is strictly an internal INRS matter, pressed on with disciplinary action. Although an internal disciplinary committee found in Cicoella's favor, Moyen lowered the boom last week. Industry minister Longuet said through a spokesperson that INRS had "gone beyond the limits" in firing Cicoella, and urged Moyen to try to reach a compromise. Early this week, Moyen, sounding defensive, told *Science*: "I am always open to solutions."

—Michael Balter

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