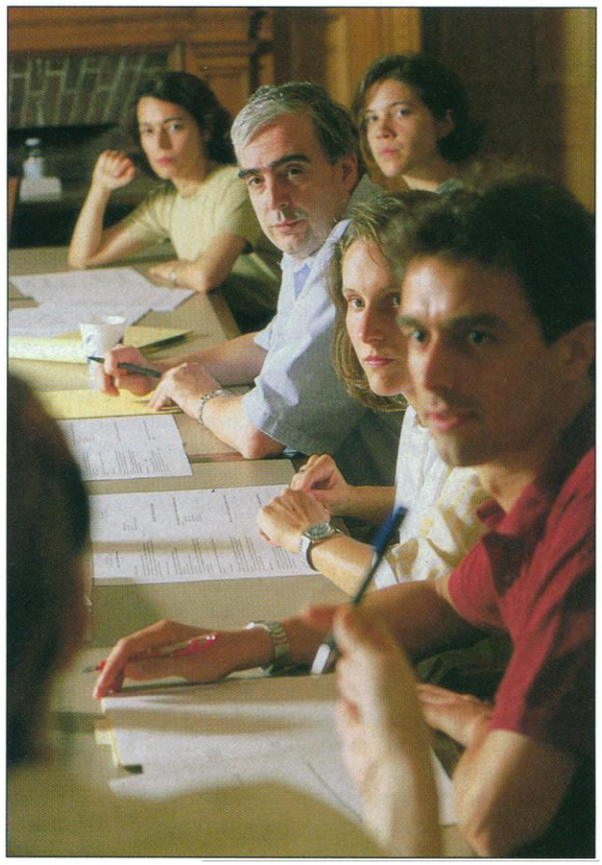
Getting to the Front of the Bus

Postdoctoral associations are sprouting throughout North America, giving voice to a population that most universities have ignored

Eliene Augenbraun had heard the stories. Since coming to Johns Hopkins Medical Center in 1992 as a postdoctoral fellow in cell biology, she'd heard about postdocs too scared of their hard-driving advisers to take a vacation or even a day off, of foreign postdocs paid $8000 a year because they feared that asking for a raise might cause a vindictive professor to decide to withdraw the sponsorship needed to retain their work visa. She'd heard about—and even knew firsthand—postdocs who had been assaulted after parking blocks away in a rough Baltimore neighborhood because they were denied university-subsidized parking at secure garages. But because they were dependent on their advisers to recommend them for the scarce faculty jobs they coveted, "people complained quietly and in hushed tones," Augenbraun says. She even has a story of her own (see sidebar on p. 1516).

Before long, Levi Watkins had heard the stories, too. As a professor of cardiac surgery and associate dean for postdoctoral programs at Johns Hopkins University Medical School, he began to meet regularly with Augenbraun and other postdocs from the new Johns Hopkins Postdoctoral Association. Although "cordial but noncommittal" at first, Augenbraun says, the 55-year-old Watkins soon felt a bond with these young postdocs. He had never forgotten his early days in segregated Montgomery, Alabama, where his family had listened to sermons by the Reverend Martin Luther King Jr. and where he had skipped school to join King's freedom marches. Or his college days at Tennessee State University, where he led marches protesting Nashville's racial conditions. Or his experience as the first black medical student ever at Vanderbilt University Medical Center. When the postdocs told him that their low pay, poor benefits, and invisibility within the institution made them feel as if they were sitting in the back of the academic bus, he says, "that touched me. I knew what they were talking about, and the analogy was a good one."

Despite their feelings of isolation, the Hopkins postdocs were not alone. Since 1992, disaffected postdocs have banded together at more than 15 research institutions and national laboratories across North America. At most of these institutions, a small core of committed activists has pushed hard for institutional changes, including improved salaries, benefits, career training, and protection against exploitation. At some universities, the postdocs have found institutional allies like Watkins. At a handful, deans have taken it upon themselves to push for better treatment of postdocs. But at most other universities, change has come slowly, if at all. That slow pace has also led postdocs to call for help from the government agencies that fund the universities where they work, although the National Institutes of Health (NIH), the largest supporter of postdocs, appears loath to dictate policies to the private sector.



On the table. Regular meetings with Penn's Trevor Penning, center, allow postdocs to air concerns and offer input on university policies.

The causes of postdoc activism aren't hard to find: a tight job market, longer tenure in low-paying and temporary positions, and an uncertain status on campus. A survey that tracked 1980s Ph.D.s in biochemistry, for instance, found that 86% did postdocs and 40% did two or more. And National Science Foundation figures show that the average tenure for a postdoc in the 1990s is 45% longer than in the 1960s (see p. 1517). In one of the most comprehensive surveys of postdoc attitudes, covering 1322 Canadian postdocs from all disciplines, respondents said that they generally felt valued by their research group but not by their institution, and were unhappy with their salaries and career prospects. The survey also found that job satisfaction, including a sense of receiving proper credit for their work, declined the longer they remained postdocs.

Top worries. Jobs and salaries now outweigh health and safety as the major concerns of postdocs at Johns Hopkins.

Universities have not been blind to these developments. Last year the Association of American Universities (AAU), whose 62 members employ most of the roughly 38,000 postdocs in the United States, pro-

CREDITS: (TOP TO BOTTOM) TOMMY LEONARDI; JOHNS HOPKINS POSTDOCTORAL ASSOCIATION SURVEY

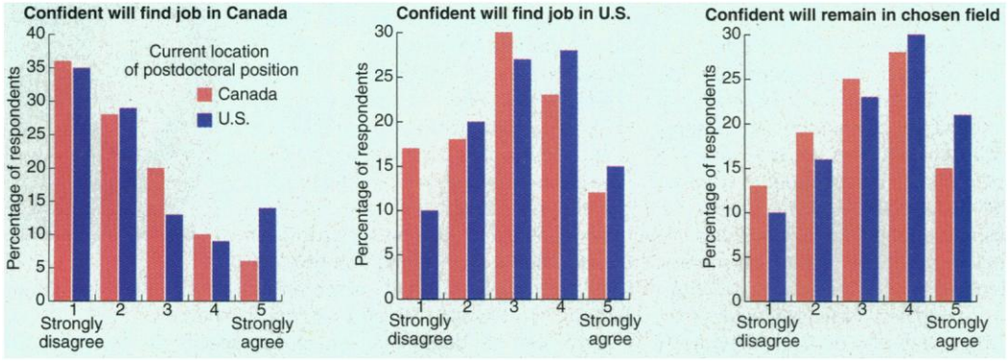
posed a series of steps that universities should take to address the issue. "At some universities, PIs [principal investigators] have been able to bring in postdocs, pay them what they will on whatever basis they choose, and keep them as long as they want—with no benefits and no grievance procedure," says Steven Sample, president of the University of Southern California in Los Angeles and chair of the AAU committee that wrote the report. The report recommends that universities assign responsibility for postdoctoral fellows to one administrator, who would ensure health care coverage for postdocs and set a limit on the duration of a postdoc, along with issuing standard policies for postdoc stipends, benefits, workers' compensation, grievance procedures, and misconduct. This summer AAU is surveying its members about the status of their efforts and plans to review the results at a meeting this fall.

Many faculty members won't be happy with these sorts of changes, predicts Rama Kasturi, a former postdoc and temporary assistant dean at the University of Cincinnati Medical School. Kasturi ran into faculty resistance while establishing a postdoctoral scholars program there in 1998: "Some department chairs do not wish to yield one inch of control to anyone on any subject," she says. But Sample says university administrators need to stick to their guns: "When that memorandum comes from the provost, it might give heartburn to some people. But they'll get over it."

The Johns Hopkins postdocs have had more success than most in bringing about changes. By 1994 the university had formally recognized the association and approved minimum salary guidelines, which recommended—but did not mandate—that postdocs receive at least what NIH postdoctoral fellows and trainees get. The postdocs also gained their first representative on the committee that set the school's postdoc policy. In June 1999 the university adopted sweeping changes in postdoctoral policy, including closer oversight of departmental policies and minimum salaries for postdocs that are pegged to the NIH pay scale, although salary increases will be phased in over 3 years. Anyone who stays longer than 6 years must be hired as an employee with full benefits. All postdocs must have health insurance; if their grant or fellowship won't pay for it, the department must. Each department is required to form a committee that will meet annually to formally evaluate each postdoc's work, and there are plans for a new career-counseling center.

Although the postdocs are still pushing for dental insurance, lower parking fees, and the same health plan as employees receive, Watkins says he feels that "we're well on our way." And the postdocs say he deserves some of the credit for their progress. "He basically trained us in civil rights activism, and that made us so much more effective," Augenbraun says.

Some universities aren't waiting to be pushed into treating their postdocs better. In 1997, the University of Pennsylvania School of Medicine established an office of postdoctoral programs, which activists cite as a model. Mentors are required to send each new postdoc a detailed letter of appointment that specifies duties, salary, benefits, and term of appointment, says Trevor Penning, who directs the office. Stipend levels must match or exceed NIH fellowships, and postdocs are also entitled to 6 weeks of paid parental leave. Penning's office also runs



Border variation. Canadian postdocs working in the United States have a decidedly more optimistic view of finding a good job and remaining in their field—whether north or south of the 49th parallel that divides the two countries.

CREDIT: *RESEARCH EVALUATION*, APRIL 1998

What Postdocs Want—and How

Postdoc activists are no longer agitating for changes just within their own universities—they are pushing for reforms nationwide. In October 1998, postdocs from nine universities, research institutes, and national laboratories met in Palm Springs, California, at the annual conference of the Group on Graduate Research, Education, and Training, a subgroup of the Association of American Medical Colleges that includes faculty and deans from major North American medical schools. The meeting, informally dubbed the "postdoc summit," produced "a laundry list of what it takes to treat postdocs well," says Victoria McGovern, a program officer at the Burroughs Wellcome Fund in Research Triangle Park, North Carolina, which helped fund the meeting. Their recommendations include:

Written contract. Agreed upon in writing by postdoc, supervisor, and host institution, the contract would ensure that principal investigators and universities comply with federal laws on family leave, harassment, and discrimination based on race, gender, age, or disability; that postdoc performance be evaluated annually and in writing; and that universities provide formal grievance procedures for postdocs.

Uniform job title and benefits. Regardless of source of funding or academic department, all postdocs at a given institution should have the same job title, and that title should not be shared by non-Ph.D. technicians or graduate students.

Postdoctoral associations. Universities should support either a postdoctoral association or central postdoctoral office, which would conduct a survey to gauge the needs of postdocs, offer an orientation and a manual for new postdocs, and provide courses on science survival skills such as writing grants and research papers and landing a job.

Postdoc representation on institutional policy-making committees.

National postdoctoral organization. Funded by contributions from universities that train postdocs or federal agencies, the organization would offer a postdoctoral voice in national science policy debates, support fair labor practices and salaries and benefits commensurate with their Ph.D., keep postdocs abreast of job trends, and help them identify funding sources for fellowships and research.

The postdocs have enlarged their network since then, communicating online through the Association of Science Professionals, says Patricia Bresnahan of the Gladstone Institute of Virology and Immunology in San Francisco, who organized last year's meeting. They will meet again in October to explore creation of a national association. "We got postdocs on the agenda," Bresnahan says proudly. **–D.F.**

Irreconcilable Differences

Tension between a trainee and an adviser is not limited to science. But postdocs with grievances may be especially powerless because of their ambiguous status—neither student nor staff—and the tremendous power that faculty members hold over them. The problem is exacerbated by academic cronyism, postdocs say: Few faculty members are willing to openly criticize their peers, and institutional grievance procedures offer postdocs little protection from retribution. At the same time, such conflicts often serve as a rallying point for efforts to organize postdoctoral associations on campus by highlighting the flaws in existing policies. Here are brief descriptions of two conflicts that helped push two postdocs out of science.

ELIENE AUGENBRAUN was a leader in organizing the Johns Hopkins Postdoctoral Association. But she faced a deteriorating relationship with her adviser, cell biologist Ann Hubbard. Feeling powerless to mend the relationship, Augenbraun attempted to move to the lab of one of Hubbard's collaborators and to transfer her National Institutes of Health (NIH) fellowship. Hubbard blocked the move, Augenbraun says, and tried to foil her attempt to take a leave of absence from the fellowship by demanding that she instead abandon the award and promise never to ask for NIH funding again. "She was being a bully, and no one would stand up to her," Augenbraun says.

Hubbard denies trying to block Augenbraun from retaining her fellowship. But she does recall her reaction to Augenbraun's proposed move. "I said to [my collaborator] that it would create a difficult situation ... but that it was his decision to make."

Augenbraun didn't change labs. She also didn't file a formal grievance, before a grievance committee consisting mostly of faculty members that would recommend action to the dean, although some officials urged her to do so. One reason was that only one member of the medical school faculty whom she asked would agree to testify on her behalf. She also felt that any favorable decision would have been a Pyrrhic victory, as she would still be working in an area in which Hubbard was a major player.

Instead, Augenbraun abandoned plans to become an academic researcher and in 1995 obtained a science policy fellowship to work at the U.S. Agency for International Development. She now runs a company called ScienCentral that produces science news for television and the World Wide Web.

Cancer immunobiologist **CHERYL LOVE-SCHIMENTI**, a former postdoc at the University of California, San Francisco (UCSF), who worked at the San Francisco Veterans Administration hospital, says that conflicts with her adviser, Daniel Bikle, and the university's inability to resolve them fueled her disillusionment with research. In particular, she says, Bikle was angry at her for a series of injuries and health problems she suffered that kept her from work, a situation that generated a hostile attitude in the lab. "He used to tell me that he didn't know how on Earth I had earned a Ph.D. I'd go into every group meeting nervous and with a sick stomach," she says.

Bikle says he "doesn't remember ever specifically saying [those words]." He says her discomfort stems from a different source—a failure to do her job. Love-Schimenti's performance declined after a successful first year in 1994, he says, causing her to "feel humiliated" when presenting her results to the lab group. "She wasn't performing," he says.

Love-Schimenti says a series of triumphs in early 1996, including a 3-year, $146,000 grant from the Department of Defense, an invitation to speak at a breast cancer meeting, and publication of one of her papers helped the relationship for a short time but that another injury caused her to miss work again and revived the antagonism. As the relationship worsened, Love-Schimenti took her concerns to a higher level, and the issue was aired at an informal meeting in May 1997 involving her, Bikle, and two UCSF officials. But although she says that Bikle was told to stop his "harassment," Bikle says that he was never asked to change his behavior. No written records exist of the meeting. By then Love-Schimenti was trying hard to find another job, but she says Bikle also foiled her attempts to land a research position at a new cancer center. Bikle denies taking any actions to hinder her.

Love-Schimenti eventually found a research job elsewhere at UCSF, but has since left research and is training for a career in graphic arts and Web page design. Bikle says he regrets that her postdoc experience turned sour and that other issues "just got in the way" of a potentially successful academic career. **–D.F.**

monthly open roundtables for postdocs and sponsors workshops on such career skills as preparing for a job search and good interview techniques. Last year the University of California, Berkeley, which has established similar policies, hired a former Berkeley grad student to help organize a postdoctoral association. And the school is prepared to go to bat for what is needed. "You really need a dedicated high-level administrator [to back them up]," says chemist and graduate school dean Joseph Cerny, who oversees the office.

Postdocs at other schools are still looking for that level of commitment from administrators. A group founded in 1995 at the University of California, San Francisco (UCSF), has prodded the school into establishing its first career center for postdocs. The university has also formalized its grievance process for postdocs, brought postdoc representatives onto committees that set postdoctoral policy, established an annual orientation for postdocs, and negotiated a high-quality group health insurance plan. But co-founder Patricia Bresnahan, now a postdoc at the Gladstone Institute of Virology and Immunology in San Francisco, says that a recommended minimum salary is a guideline, not a requirement, that incoming postdocs are not informed about the grievance policy, and that some postdocs pay for the new health insurance policy out of their own pocket. Still, she acknowledges that there has been progress. Adds postdoc Sharon Stranford, past president of the group, "at UCSF we have it better than most places."

One of those places, say postdocs there, may be the University of Utah, Salt Lake City. Joni Seeling, who helped found a postdoctoral association there in 1997, points out that Utah postdocs have no minimum salary scale, no time limit on appointments, no university-sponsored training in career skills, no formal evaluations, and no official grievance procedures. Some postdocs also have to pay for their own benefits, she adds. "What you realize is that you're here at the whim of the PI," Seeling says. "If they decide they don't like you anymore, they can fire you with no notice."

John McCullough, associate vice president for academic affairs at Utah, agrees that most of the postdocs' complaints are legitimate, although he says that university policy does require written contracts for postdocs. "If they don't [have them], I'd like to hear about it," he says. The university is "recon-

sidering some parts" of that policy, so that "postdocs have the rights they deserve ... and everyone knows the rules of the game." And although McCullough says that "we would be very happy to listen to a group of postdocs," Seeling says that postdocs want formal representation on the committee that sets policies that affect them. "We're looking for rights," she says. "We want to be acknowledged as part of the university."

Many postdoc groups would like help from NIH and other federal agencies in their push for recognition. In particular, they believe that supporting more postdocs on fellowships and traineeships, and fewer on research grants, would improve conditions by reducing the number of principal investigators tempted to exploit the labors of their postdocs for their own scientific advancement. "You have a PI whose career depends on the labor force in the lab, and yet he is also designated to look out for the postdoc's interests [as a mentor]. That can represent a conflict of interest," says Bresnahan. NIH should also require PIs to follow clear and binding training mandates as a condition for receiving NIH funds to pay for postdocs, argues Cincinnati's Kasturi. "NIH has absolutely abdicated its responsibility on this subject," she says. "Basically, they just hand out this money, and they ask nothing in return except that the research be published."

Not so, says Wendy Baldwin, NIH's director for extramural research. NIH expects universities with training grants to offer postdocs educational and career experiences as well as the opportunity to conduct research, she says, but it's very hard to separate the two: "It's hard to learn about research without doing research." She also recognizes the temptation for a PI to ignore the training component: "If I need a technician, but I can get a postdoc for the same price, someone who is highly motivated and eager to learn, then it's hard to say no."

Although the current system has flaws, Baldwin says, she would not want NIH to lay down rules about how universities should treat postdocs. "I'm not convinced that we should be setting internal hiring policies [at universities]," she says. "I think we have to be very careful about how heavy-handed the government is about what you can do and what you can't do. ... There are labor force issues that are not NIH issues."

One issue that clearly falls within NIH's control is its treatment of the 2230 postdocs—half visiting fellows from other countries—on its Bethesda, Maryland, campus. NIH began to look more closely at their situation 5 years ago, says Michael Gottesman, head of NIH's $1.5 billion intramural research program, "when we were trying to figure out how to run NIH on a steady-state budget." Although recent healthy increases have eased that worry, he says, NIH director Harold Varmus and others still saw a need to help postdocs "gain their independence." Toward that end, NIH created $1000 awards for postdocs to present their work at meetings and an internal committee to hold workshops on career-related skills. Several institutes also offer postdocs a chance to compete for funding that they can take with them to their first "real" job. And this spring, NIH issued its first guide on training and mentoring, which acknowledges that postdocs and graduate students "could benefit from a more explicit set of expectations."

But given the reluctance of federal officials to intervene in the affairs of their constituents, the task of reshaping U.S. postdoctoral training is likely to rest with postdocs, faculty, and research administrators themselves. At Johns Hopkins, Watkins says he is beginning to get calls from deans at other universities who have heard about how his institution has improved its culture for postdoctoral education. "It has been very important to me personally and to the university," he says, "that the postdocs are full-fledged members of our medical family—that they are, in fact, on the front of the bus."

–DAN FERBER

Dan Ferber is a writer in Urbana, Illinois.

NEWS

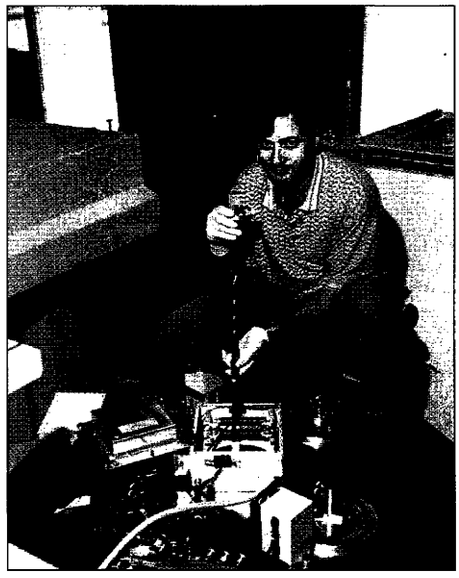
Will the Job Market Ever Get Better?

Although predictions of scientific supply and demand are notoriously unreliable, there are trends that contain both good and bad news for postdocs

Tony Mendez wanted to teach and do research at a major university. But only a few such positions were advertised when he finished his Ph.D. in nuclear physics at Florida State University in 1993, and the market hadn't improved much when he completed a postdoc at the University of North Carolina in 1996. After failing to make the short list anywhere, he set his sights on small liberal arts colleges. Wrong again. "A lot of people, like me, had the perception that they can try for the small colleges," says Mendez. "But these places were being flooded, too." Today, Mendez works for a company in Tennessee that builds cyclotrons. He misses the classroom, but with a family to support he's glad that the pay is better in industry.

Renee Williard could see the storm clouds gathering in 1995 as she finished her Ph.D. in pharmaceutical chemistry at the University of California, San Francisco (UCSF). Realizing that the academic job market was so tight that her chances of getting a university position were almost nil, she chose a postdoc involving research on health policy. "I felt like I was jumping off a cliff into the unknown," she says. It turned out that grants and permanent jobs in that field were equally scarce. Today Williard holds a part-time job coordinating pharmacy benefits for San Francisco's department of public health and also works as a consultant and free-lance medical writer.

Anecdotes abound of disenchanted postdocs whose dreams of becoming a research professor at an elite university have been ground to dust by today's tight job market. And even those who get their wish don't have an easy time of it. Although unemployment may be low—1.5% in 1997 for those 1 to 3 years post-Ph.D., according to the latest figures from the National Science Foundation (NSF), below even the 1.9% for a similar cohort in 1995—the job search can be long and harrowing, says Charlotte Kuh, executive director of the Office of Science and Engineering Personnel at the National Research Council (NRC). "We educate graduate students, they go into postdocs, stay there longer and longer, and then at the end, it's not at all clear that there's a real career for them," she says.



Industrial grade. Physicist Tony Mendez abandoned plans for an academic career and joined a company that makes cyclotrons.

That sense of disillusionment, if not despair, has stirred many scientific organizations to take a closer look at the job market for

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