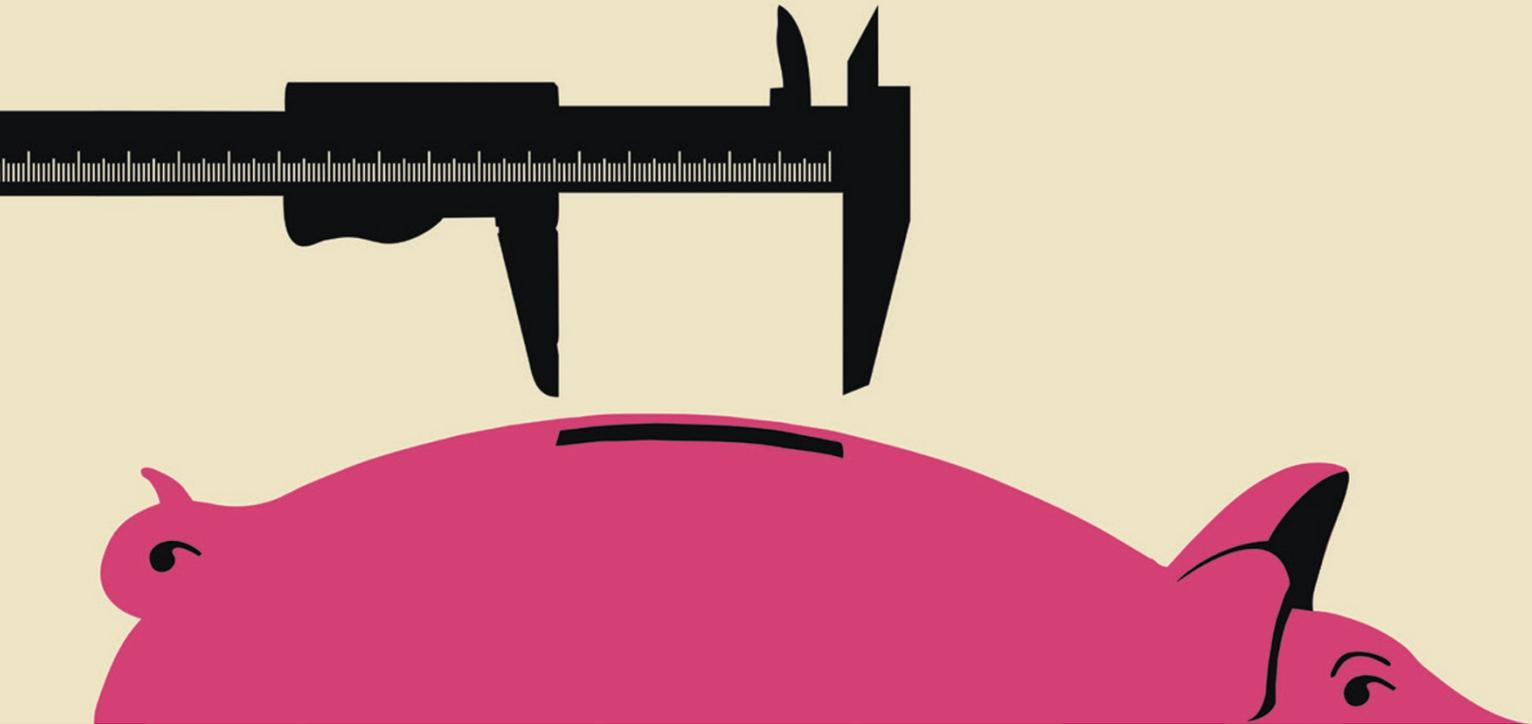


CAREERS

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EMPLOYEE BENEFITS

Plight of the postdoc

As institutions attempt to redefine the postdoctoral position, early-career researchers are joining together to wage a battle for proper benefits.

BY HELEN SHEN

Anna Kalashnikova is a master of efficiency. The University of California (UC), Davis, postdoc arrives at her laboratory by 8 a.m., knowing that she must finish her experiments by 5:35 p.m. every night. After a long day spent studying how disease-related modifications of DNA-packaging ‘histone’ proteins are regulated, she must cycle 25 minutes to her son Maxim’s child-care facility, which closes at 6 p.m. sharp.

For every minute that she is late to pick him up, Kalashnikova must pay extra fees. And as a single mother supporting her child on a postdoc’s salary, there is little wiggle room. Nearly half of her monthly income goes towards child

care, and one-third covers rent and utilities at the house she shares with a roommate. “There’s this constant stress, because if something unexpected happens, we’d be in big trouble,” she says.

Kalashnikova is one of many postdocs in the UC system who are hoping that their circumstances may soon improve. They are in the midst of negotiating a new contract with the university administration — with the current contract set to expire on 30 September, the UC postdocs’ labour union is pushing for improvements on many fronts, including salary, career development and child-care support.

The negotiations come at a time of great turmoil for postdoctoral researchers worldwide, as academic science faces a critical oversupply of postdocs and a shortage of tenured faculty

positions. And as early-career researchers find themselves stuck with low pay and minimal benefits for longer periods, postdocs and their advocates at several institutions, including the University of Maryland (UMD) in College Park and the Howard Hughes Medical Institute (HHMI) in nearby Chevy Chase, are fighting — with varying degrees of success — for greater benefits, and standardized titles and rights (see ‘A postdoc by any other name’).

“These are not new problems, but they are perhaps being more acutely felt now. As grant paylines remain low, universities are hiring fewer tenure-track faculty and postdocs remain an abundant source of low-cost labour,” says Keith Micoli, chairman of the board of the US National Postdoctoral Association in ►

NEIL WEBB/GETTY

► Washington DC, a non-profit organization that has been advocating for postdocs' rights since 2003 (see *Nature* <http://doi.org/65x>; 2012). "The situations at the Howard Hughes Medical Institute, University of Maryland and the University of California system are the latest examples of challenges facing postdocs," he says.

BATTLE FOR BENEFITS

At institutions across the globe, lab heads have had to support a ballooning population of postdocs with tight, government-funded research budgets. Even some major, privately funded institutions have recently cut back on benefits for postdocs. In September 2014, for example, the HHMI angered many postdocs when it announced that it would reduce some of their long-term benefits beginning in 2015.

In an e-mail to employees, the institute explained that postdocs spend a short time at the HHMI and so their benefits priorities often differ from those of other employees.

At the HHMI's Janelia Research Campus in Ashburn, Virginia, postdocs bristled at the institute's reasoning. "They're operating under the assumption that the postdoc is a short, transient position, when the truth is that most postdocs are lasting about five years," says neuroscientist Eric Yttri, co-president of the Janelia Association of Research Scientists, which represents postdocs and other staff scientists.

As of this year, postdocs stopped receiving retirement contributions from the HHMI — a standard benefit given to most other employees that equates to 5% of their annual salaries. In addition, employees hired after the start of 2015 no longer receive 'benefits credits', an income supplement that HHMI gave twice a

month in the past to help offset health-care costs. The credits will continue to accrue for employees who were hired before 1 January 2015, but will remain frozen at 2014 levels.

In exchange for these cuts in long-term benefits, HHMI revamped its employee health-insurance programme, introducing new options that were intended to be more affordable for postdocs. Nevertheless, some postdocs saw their health-care costs rise in 2015 compared to 2014. Cory Schreckengost, director of administrative operations at Janelia Farm, declined to disclose specific details about the organization's employee benefits and costs, but emphasized in an e-mail that "HHMI took mitigating steps specifically for postdocs to limit the effects of the rising medical care costs that impact all HHMI employees".

Janelia postdocs raised vocal objections to this raft of changes, which in turn brought about some concessions. For example, the HHMI added a US\$1,500 annual supplement for postdocs, to be used at their discretion. But the institute remained steadfast on cutting the retirement benefit, citing the same practice elsewhere. "Most universities and research institutes do not contribute to retirement accounts for postdoctoral associates, and HHMI has chosen to move to this standard," the institute wrote in an e-mail to employees.

Despite signs of a cool climate for postdocs overall, UC postdocs have prevailed over economic challenges in the past. They formed their union in 2008 and secured their first

contract with the university in 2010 — all in the middle of a state budget crisis.

Among other advances, the initial five-year agreement provided salary increases, retirement contributions and guaranteed time off for holidays and for personal or medical reasons. "Of course, there is a lot of room for improvement," says Anke Schennink, president of the United Auto Workers local affiliate that represents the UC system's roughly 6,000 postdocs.

The union has already made some progress in its second round, reaching a preliminary agreement with the university on 6 August that would secure postdocs' right to pursue career counselling and career-development activities on paid time.

Given the scarcity of tenure-track positions, the next step for many postdocs will probably involve an exit from academia. "Statistically, it's not in any individual postdoc's favour to be completely focused on any one career path. Having this time put onto paper would basically recognize that a postdoc is a training position, and that it's important for us to work on career development," says Jessica Lao, a postdoc at the University of California, San Francisco (UCSF), and a member of P(ostdoc)-Value*, a grassroots postdoc-advocacy group at UCSF. Lao leads the group's efforts to promote UCSF's career services and pilot programmes for postdocs to tour biotechnology companies and gain hands-on experience in other non-academic careers.

FAMILY MATTERS

Child care is another priority. Many graduate students across the ten campuses of the university system already qualify for financial support for child-care expenses — up to US\$900 per quarter or \$1,350 each four-month semester. But postdocs do not have such benefits.

Also on the bargaining table is salary, a perennial hot-button topic. For UC postdocs, as for many of their US peers, minimum salaries are pegged to guidelines published by the US National Institutes of Health. But stipends that are equivalent in value can mean vastly different standards of living, depending on where the postdoc resides. "California is expensive, if you compare it in terms of cost of living around the country," says Schennink. "We think postdocs should receive fair compensation," she says.

The high cost of living in California has proved particularly challenging for Abby Kroken, a postdoc at the University of California, Berkeley, who now spends more than 60% of her take-home pay each month on housing, compared with 30% when she was a graduate student at the Medical College of Wisconsin in Milwaukee.

Kroken had carefully studied housing rates and living expenses before coming to UC Berkeley in January 2014 to study bacterial eye infections. And although she thought she was prepared, Kroken could not predict

"There's this constant stress, because if something unexpected happens, we'd be in big trouble."



Molecular biologist Anna Kalashnikova takes time away from the lab to enjoy the outdoors with her son.

MICHAEL VOGEL

IDENTITY ISSUES

A postdoc by any other name

What is a 'postdoc'? In academia, the lack of a standard definition can create a host of problems for researchers.

Some postdocs are classified as university employees, eligible for standard benefits such as health care, child-care support and retirement contributions. But many fall into a hodge-podge of trainee or temporary-worker categories that do not qualify for all the benefits enjoyed by graduate students, faculty members and staff. Often, these ill-defined postdocs lack administrative offices that are dedicated to their professional development, fair treatment and job security.

But standardizing the postdoc position is no simple feat — especially when it means extra costs for the institutions and the individual investigators that employ postdocs. Earlier this year, the University of Maryland (UMD) administration in College Park ran afoul of its life-sciences professors when it tried to eliminate one of two hiring categories for postdocs. The now-defunct category was a contract position with a faculty title and few benefits, which made it a less-expensive option for principal investigators. Only 15% of UMD postdocs fell into this class, but it had commonly been used to hire biomedical postdocs.

"Lots of life-sciences faculty were responding to National Institutes of Health and National Science Foundation budget cuts. They were pinching pennies," says Jonathan Dinman, chair of cell biology and molecular genetics at UMD.

The other category, a non-tenured faculty position, provided postdocs with standard health and retirement benefits, paid medical leave and tuition remission for employees and family members — at a cost that many biomedical lab heads deemed untenable. In a letter to the

university president, more than 130 life scientists wrote that forcing them to use the latter category would add expenses that could not be justified to governmental granting agencies, and would lead to personnel cuts and decreased productivity — amounting to a "death spiral".

But others, including UMD astronomer Marc Pound, argued in favour of the benefits expansion. "Postdocs are kind of a silent majority on campus. They come here for maybe three or six years and move on, and they never really have advocates amongst themselves," says the senior research scientist.

Ultimately, the administration created a new classification scheme that started on 1 July — one that guarantees all postdocs some benefits, but enables lab heads to offer a smaller starting benefits package for less-experienced postdocs. 'Post-doctoral associates' will receive the complete benefits package previously offered to most postdocs. 'Post-doctoral scholars' will get the same benefits, except for tuition remission — which had tended to be the most expensive and unpredictable expense for lab supervisors.

Postdocs can be hired directly into the associates category, but lab heads can also choose to hire early-career postdocs at the scholars level. After three years, however, those postdocs must be promoted to associates if their supervisors wish to renew their contracts. And after a total of six years in either category, postdocs must advance to a research-scientist track.

"It's still a mandate, but now we've got three years to adjust and figure out how to do it," says Dinman, a signatory of the letter. "It has increased the cost of doing business; that's for sure, but in the end, I think the right thing was done." **H.S.**

TRADE TALK

Fund manager



Ben Peters is an investment director at Evenlode Income, an independent fund-management company in Chipping Norton, UK. He explains how his PhD in physics helped

smooth his transition into the world of finance and investments.

Why did you leave academia?

I enjoyed my PhD programme in nanophysics and wouldn't have been averse to staying in academia. But having to reapply for funding every few years didn't much appeal to me, and halfway through my programme, I became interested in investment management through my brother-in-law, Hugh, whom I now work with. So after graduating in 2008, I moved into this industry.

How has your PhD work helped you in your role as a fund manager?

Mathematical and statistical-analysis skills are highly valued and important in this industry. They helped me to get through the door. I constructed a method for quantitative analysis of companies' financial information, and I use statistical techniques to look at the risk in any investment. I also developed a lot of soft skills by doing research, particularly on collaborative projects. If you're an experimental scientist, as I was, you have to be flexible — you might have to change research directions and all PhD students learn how to organize themselves and react to what is going on — it's a good skill for this field.

What do you enjoy about your job?

I'm finding out how the world works. As a physicist, I was beginning to understand the material world, but this is more about the human and economic worlds. The interactions of people around the globe and what they do and how they create value — I find that fascinating. As a fund manager, I have to figure out how the world works and how it might evolve over time, but also accept the extremely uncertain nature of economic systems. So I have had to develop an investment process that ultimately results in action — making an investment — while knowing that it is a game of tilting the odds, rather than one of certainties. ■

INTERVIEW BY JULIE GOULD

This interview has been edited for length and clarity.

that her husband, who relocated with her, would be unable to find work for about 11 months. Between the high cost of living in Berkeley and the couple's student-loan obligations, they soon depleted their savings and had to borrow money from their parents to make ends meet.

"It felt like I'd made a gigantic financial mistake in trying to advance my career," says Kroken. For the first time, after focusing exclusively on an academic-research career, she began to consider a job in industry. She also thought about moving back to Wisconsin.

But things began to turn around last December, when Kroken's husband found work as a technical writer. By following

a strict budget, the couple is now close to restoring their previous savings.

Kroken says that her supervisor has given her much-needed encouragement to continue pursuing an academic career. But despite her improved outlook, she says that the past year and a half has underscored just how important adequate compensation is for her continued professional development. "I do want to be a professor, I do like research and I even like writing grants," says Kroken. "I don't want to have to leave this career path because I can't afford to do it." ■

Helen Shen is a freelance writer in Sunnyvale, California.