

# CAREERS

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## RETIREMENT

# Sticking around

*Academics who delay retirement could create roadblocks for early-career researchers.*

BY VIRGINIA GEWIN

**G**raeme Hugo, a demographer at the University of Adelaide, Australia, doesn't mince his words. He says Australia has inadvertently created a 'lost generation' of academics: those under 40 years old. Hugo says that the academic workforce is now dominated by baby boomers who were hired in droves during university expansions in the late 1960s. More than half of the academic workforce is over 50 years old, so he expects 40% of academics and lecturers to retire over the next decade.

But this is not the ideal situation for young academics it seems to be. Faculty members are delaying their retirement and, increasingly, vacated permanent posts are divided into contractual, non-tenure-track jobs. Tired of navigating the stream of temporary posts, nearly 40% of Australian academics under the

age of 30 plan to leave academia or the country, according to a survey conducted last September (see [go.nature.com/rnhl4w](http://go.nature.com/rnhl4w)).

"The old academic system — the romantic notion of sitting at your desk pondering the nature of the Universe — is gone," says one of the survey's authors Emmaline Bexley, a social scientist at the University of Melbourne. Her results bolster a growing concern that the best and brightest will, increasingly, avoid the insecure, underpaying jobs that seem to dominate academia.

Australia's academic workforce woes are acute, but they also illustrate how chronic global trends are making it increasingly difficult for young academics to establish independent research careers. "Postponed retirement and a general increase in life expectancy, coupled with the continuing shift towards more non-tenure-track and part-time positions, are producing a discouraging

situation for entry-level faculty," says John Curtis, director of research and public policy at the American Association of University Professors (AAUP) in Washington DC.

The huge turnover once expected from baby-boomer retirements doesn't look likely to happen. "Even when academics retire, universities do not necessarily replace tenure-track lines in a one:one ratio," says Paula Stephan, who studies the economics of science at Georgia State University in Atlanta.

The proportion of teaching staff with full-time tenure-track jobs in the United States has dropped by more than half, from 16.1% in 1975 to 7.6% in 2009, according to AAUP data (see 'Employment status of US university teaching staff'). Conversely, the number of full-time non-tenure-track faculty members rose by just under half, from 10.3% to 15.1%. The proportion of part-time faculty members hit a peak of 41.1% in 2009.

Early-career researchers need to be aware that demographics will shape their prospects of a permanent post in academia. For some, non-tenure-track posts, despite concerns about poor job security, offer a viable option and a welcome level of freedom. Others may want to re-evaluate their academic ambitions.

## ARRESTED RETIREMENT

Baby boomers will eventually retire. But the predicted retirements may come in a series of swells rather than the surge expected with mandatory retirement, which ended in the United States in 1994. "The pipeline isn't emptying like administrations thought it would," says Cathy Trower, director of the Collaborative on Academic Careers in Higher Education at the Harvard University in Cambridge, Massachusetts. Some academics predict that there will be little turnover of tenured positions in the next two decades. "There is not going to be any massive wave of retirements for a while — we've got 20 years to wait for the anaconda bulge of baby boomers to work itself out," says Frances Rosenbluth, deputy provost for social sciences and faculty development at Yale University in New Haven, Connecticut.

There are exceptions. Administrators at Cornell University in Ithaca, New York, for example, have taken the unusual step of launching a campaign to raise US\$100 million to recruit new faculty members before the expected onslaught of retirements. US federal government agencies, many of which also have an ageing workforce, are preparing for future recruitment needs. For example, ►

► the US Office of Naval Research in Arlington, Virginia, anticipating the retirements, continues to develop its young-investigator programme, this year up to \$8.5 million to attract researchers.

The recession has only exacerbated a growing trend towards deferring retirements; no one expects a retirement boom, even if the economy improves. The Higher Education Generational Survey, conducted by Verstra Research for Fidelity Investments in Boston, Massachusetts, a financial-services

corporation that provides retirement savings plans for people employed in the higher-education sector, found that more than half of faculty respondents expect to delay retirement or to never retire. Similarly, a survey of faculty aged 60 years and older by retirement-planning company Teachers Insurance Annuity Association and College Retirement Equities Fund in New York, published in December 2011, found that 60% of respondents would like to and expect to work past the conventional retirement age of 65. And 15% of the respondents say that they will have to continue working past the age of 65 because of financial concerns. "It's a real concern if this 15%, the ones who want to retire but don't feel they can financially, starts to increase — because that has the potential to become a workforce-management issue," says Valerie Conley, a higher-education researcher at Ohio University in Athens.

In the United Kingdom, the latest figures from the Higher Education Statistics Agency in Cheltenham indicate that the number of faculty members aged over 65 at higher-education institutions with science faculty members increased from 970 in 2006 to 1,375 in 2010, a jump of almost 42%. That number is likely to increase, especially if proposed government plans to cut public-sector pension benefits go through. "Changes in pensions could make retiring at a point you might otherwise want less accessible — and in turn that means posts are not as vacant as they might otherwise have been," says Sally Hunt, general secretary of the University and College Union in London.

### WORKFORCE REPERCUSSIONS

The University of California, Berkeley, exemplifies what happens when an institution with an excellent benefits package repeals its mandatory retirement age: there is no incentive to leave. The number of older faculty members has grown exponentially since 1994; out of

about 1,500 faculty members, 75 are older than 70 years, according to Marc Goulden, director of data initiatives at the university. As the number of older faculty members has risen, the number of young tenure-track faculty members has fallen: in 1980, roughly 16% of the faculty members were under 35 years old; just 6% were in this age bracket in 2011.

The economic downturn has made finding ways to encourage retirement a hot topic on US campuses where budgets are tight. "The question taking shape seems to be, 'what do we have to do to get them to go?', but that's the wrong focus," says Goulden. "We can't get them to go now that mandatory retirement no longer exists; we have to build a fluid, flexible system where older faculty can contribute to the university, perhaps even electing to turn over their tenure-track line for another position that is mutually beneficial to all."

Phased-retirement schemes — such as a reduction in the workload over a three-year period in exchange for a commitment to leave — are having the most success in encouraging retirement. Such schemes were in place at 32% of US campuses in 2006, according to an AAUP survey by Conley conducted in 2007 on the changes in faculty retirement policies. Such schemes seem to ease faculty members into the transition towards retirement, and help administrators to manage the campus workforce, says Claire van Ummersen, a senior adviser for the American Council on Education, an organization in Washington DC that represents more than 1,600 campuses.

But with increasing student enrolment, universities are relying more on contract staff to teach. "The increase in universities' use of contingent faculty members to teach is a sign that the trinity of teaching, research and service is breaking down," says Martin Finkelstein, from the department of education leadership, management and policy at Seton Hall University

in South Orange, New Jersey. He says that one emerging reconfiguration of faculty functions is a move towards limited-contract faculty members who teach or conduct research.

Taking a contract position at a 'dream' university, just to get a foot in the door, may be tempting, but may not be the best decision for someone who is eager and able to hold out for a tenure-track post. "Most people who start out in contract appointments stay in contract appointments," says Finkelstein.

For young academics, the most frustrating thing is the lack of job security that comes with fixed contracts. "The huge numbers of staff on short-term contracts remains one of the great secrets of UK higher education, and we must do more to support staff who find themselves continuing to operate without decent job security even after years of training and work within higher education," says Hunt.

### TENURE-FREE WILL

Efforts are afoot to improve job security. In 2008, campuses in the United Kingdom, for example, started implementing the Concordat to Support the Career Development of Researchers, coordinated by Britain's research councils, to establish standards for research staff on fixed-term contracts. "There is a move towards universities providing open contracts for research staff, moving away from fixed-term contracts," says Janet Metcalfe, director of Vitae, an organization in London supporting doctoral researcher career development. The number of fixed-term contracts in the United Kingdom has declined in recent years — from 43.2% of positions in 2004 to 33.3% in 2010, according to data from the Higher Education Statistics Agency (see [go.nature.com/o9xg2c](http://go.nature.com/o9xg2c)). Some institutions, including University College London and the University of Bristol, have publicly stated their intentions to move away from fixed-term contracts.

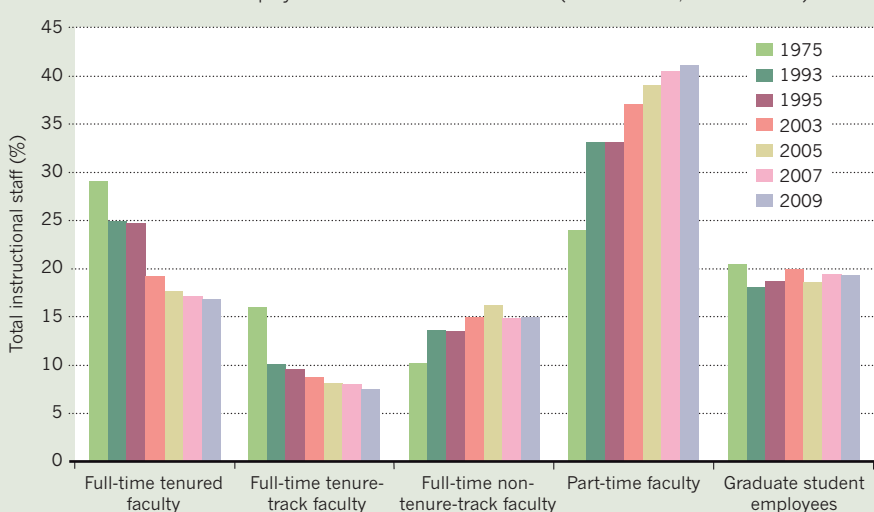


**"Universities do not necessarily replace tenure-track lines in a one:one ratio."**

Paula Stephen

### EMPLOYMENT STATUS OF US UNIVERSITY TEACHING STAFF

Trends in instructional staff employment status in the United States (all institutions, national totals).



There are also moves to create new types of non-tenure-track positions — particularly at medical schools. Van Ummersen says that medical schools are filled with full-time non-tenure-track positions; mainly clinicians who teach and conduct research. Typically, staff are hired through the hospital, rather than by the medical school or university, to keep pace with the hospital workload. The positions come with promotional opportunities, but unlike tenure-track positions, they carry no penalty if the requirements of promotion are not achieved. The University of California's outgoing provost, Lawrence Pitts, expects that universities will follow suit and create different types of faculty positions to meet the needs of the institution. But, given their traditional conservative approach to faculty governance, those changes will be evolutionary rather than revolutionary, he says.

Trower says that not having to worry about tenure can give researchers certain freedoms. “Junior faculty members often don't take as many risks if they need publications to get tenure,” she says. She suggests that breakthrough science often comes from places such as interdisciplinary centres at universities, which, unlike departments, are typically filled with non-tenure track positions.

“Young scholars tell me that they are happy on non-tenure-track lines because they have a life and a sense of balance,” says Trower. Goulden's data on why early-career researchers elect to leave academia bolsters this idea (M. Mason, M. Goulden and K. Frasc *Academe* 95, 11–17; 2009). “Our survey data show that young researchers believe the hours are long and the possibility of having work–life balance diminishes if one seeks tenure,” he says.

Hugo is convinced that, at least in Australia, the prospects for young academics are still good. But, he says, universities need to build more flexibility into recruitment schemes to deal with the constraints imposed by people working longer.

Van Ummersen says that there are opportunities for universities to be creative — for example, establishing ‘half-time’ tenure-track lines that could be split between early-career researchers and faculty members entering phased retirement agreements — to help meet career and personal issues for both junior and senior faculty members.

“Universities have only begun to change the way they adjust to the needs of faculty members,” says van Ummersen. “The university was invented for monks in monasteries. That model doesn't fit the twenty-first century.” ■

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## COLUMN

# The postdoc dilemma

Balancing a career and the obligations of a full-time job can be deceptively difficult, says **Gaston Small**.

As a graduate student, I overheard a faculty member advise a colleague to include funding in a grant proposal for a graduate student rather than a postdoctoral fellow. The reason? “Postdocs spend all their time writing papers from their dissertation work,” she said. I vowed that, when I became a postdoc, I would not let paper and grant writing disrupt my research in the laboratory.

Fast-forward five years. To my dismay, I do spend much of my time writing and revising manuscripts, many of them from my previous work. I see this as part of the postdoc's primary challenge: balancing a job and a career.

Although I have published six papers from my dissertation work, I have several other manuscripts from the same project competing for space on my desk and weighing on my conscience. Each paper represents collaborations with other early-career scientists, and I am acutely aware that delays affect their careers, as well as my own. I give priority to work related to my current position, but when there are lulls, I dedicate several days to revising one of these old manuscripts in the queue.

Once, at a workshop for early-career researchers, a panellist warned us that it was unethical for postdocs to spend time working on projects other than the one that pays their salary. Yet, when I confessed this transgression to my supervisor, he told me not to worry. I will be writing papers from our current project for years to come, he said. And, hence, will be siphoning time from future projects. It is the perpetual circle of grant-writing life.

The job–career balance is a fundamental challenge for postdocs. Fulfilling the obligations of the project that currently pays your salary is, of course, essential, but at the same time postdocs need to push previous work through the publication process, which often entails multiple revisions. Writing grant applications, and applying and interviewing for faculty jobs are necessary activities; two years of postdoc funding runs out quickly. These additional responsibilities to our careers are as time-consuming as obligations to our full-time jobs.

Perhaps this juggling act is necessary preparation for a career in academia. When I first started as a graduate student, I had a romanticized notion of academics leisurely discussing the fundamentals of ecology with colleagues over a coffee or a beer, sketching graphs on the backs of napkins and filling a blackboard



IMAGEZOO/CORBIS

with equations. The reality has been quite different. The faculty members with whom I've worked are chronically busy. A friendly “how's it going?” to a colleague in the hall is always met with, “oh, really busy this week!”. I too have adopted this response. There is always a deadline looming for the next proposal. There are committee meetings, classes to prepare for and students to advise. Responding to e-mails can take the better part of a working day. This routine does not leave much time for pondering big ideas, or catching up on the backlog of old papers that need to be written.

Embracing this culture of academic life is an important part of the postdoc journey. There is often a tension between current job and peripheral obligations. At least part of the solution is clear communication with your supervisor. When applying for a postdoc, you should find out exactly how you are expected to spend your time and check regularly with your supervisor to make sure that your productivity is meeting these expectations.

After two years as a postdoc, I am still learning how to balance these competing obligations. Last week I received an e-mail from a PhD student who worked with me as an undergraduate during my PhD research. He wanted to know the status of a manuscript I am supposed to be revising. I was mortified when I realized that I had not opened the file in fourteen months. Sorry, Pedro. I'll get right on that. ■

**Gaston Small** is a postdoc in ecology at the University of Minnesota in St Paul.