THIS WEEK

Misspent youth

It is bad for science when early-career researchers have to work harder, for less reward. Funders and institutions should make fewer demands on them, and provide more support.

'Things are not what they used to be.' How often those in the older generation use this phrase to scold the morals, attitudes and behaviour of younger rivals. And yet, how often do the same people, often in positions of power and responsibility, deny the changes in circumstance that newer generations complain about with justification. So, let's be clear: young scientists today face a harsher, more competitive, stricter, more dispiriting workplace than their bosses and senior colleagues did at the same stages of their own careers. Things are simply not the same as they were back in the day. They are more difficult. In a special issue, *Nature* examines the problems and the possible fixes.

The research community — from individual scientists to institutions and funders — must respond. Much has been written, in these pages and elsewhere, about the glut of PhD students and the insecurity of the postdoc years. It is hard, and getting harder, to get a foot in the research door. Which makes it all the more galling that those who rise to the level of principal investigator, perhaps with an opportunity to build their own lab or group, do not receive the focused support they need to flourish, to sustain their hard-won position and convert it to career success. Universities, funders, senior figures: your principal investigators need you to recognize their struggle and introduce concrete changes to help them.

In the United States, for example, funding success rates for all age brackets are less than half what they were in 1980, so researchers have to spend more time seeking funds. That burden falls most heavily on new faculty members, as our feature on page 446 shows. Young investigators are still learning an onslaught of professional skills — budgeting, grant-writing, managing personnel. They are less likely than their senior colleagues to have support staff, and more likely to have young children, as well as spouses with their own professional obligations. They have less time than ever to do research or ponder big ideas. And all the while, the responsibilities — some unavoidable, some desirable — that are piled onto them, and by delegation onto their postdocs, mount up.

New faculty members need more flexibility and support than established investigators with smoothly running groups, often staffed by long-term scientists and technicians. Too often, however, these young researchers must address urgent needs — to secure funding and publications — by sacrificing more important goals, such as learning how to run a lab and explore new questions. In Britain, the universities of Nottingham and Birmingham run a joint competitive programme to teach early-career researchers essential leadership skills. Yet one of the applicants' frequently asked questions on the website is, 'How can researchers justify spending five days away from the lab?'.

Extreme competition means that researchers have little time for anything not tied directly to getting ahead. This makes them conservative, rather than ambitious. Scientific assessment often comes down to totting up publications and citations, which are most easily gained by forging deeply into a narrow field of research. This steers researchers into the projects most likely to produce scientific papers, often making tidy incremental advances; those who embark on open questions risk stepping off the track to tenure. That is not how science should work.

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nature.com/youngscientists

Efforts are under way to fix the problem. The Global Young Academy, founded in 2010, aims to give young scientists a voice in policy, and to assess opportunities and challenges for career development. A Careers Feature on page 543 interviews leaders from three even newer non-profit groups created to improve the environment for junior researchers. New faculty members and junior researchers everywhere must find ways to stand firm and speak out.

> ***"Researchers have little time for anything not tied directly to getting ahead."***

Those with power to make changes must do so. First, they must provide embedded support for young scientists — improved training and shared access to technical help, administrative assistance, data management and grant-writing resources. Such support is expensive, so it is currently most evident at well-endowed institutions such as the Howard Hughes Medical Institute's Janelia Research Campus in Virginia. More funders and institutions must recognize that this support is not gold plating or paying lip service to grumbles about workload. It is an essential part of modern research, and necessary compensation for the demands that institutions place on modern researchers.

Second, those demands must change. Comment pieces on pages 451 and 453 address how to give academic researchers the freedom to pursue discoveries that matter over work that mostly lengthens publication lists. Funders and institutions should challenge the tyranny of metrics — such as the misapplied impact factor and the pressure to publish. They should develop alternatives to recognize and reward the unquestioned talent in a generation of scientists betrayed by a system no longer fit for purpose. ■

Crashing success

The loss of the ExoMars lander is not a disaster, but a chance to learn.

Landing a space probe on another planet could never be described as routine, but the mood at the European Space Agency (ESA) ahead of its Mars-landing attempt last week did seem unusually calm. Despite the mission being explicitly labelled a test of Europe's ability to master some complex technologies (or perhaps because it was only a test), there was little of the anxiety that often accompanies