

THIS WEEK

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Commit to mentoring!

Not everyone can be a great mentor, but leaders of research groups should be supported and guided in this activity.

Calling all researchers: what type of mentoring did you receive during your early career? Were you nurtured in a way that balanced supervision and independence? Were you left to sink or swim, and perhaps rescued by a kindly postdoc? Did your supervisor test your results and claims to destruction, or just assume or hope you had done the job right? Were they perpetually invisible or always available? And, if your experience was less than great, who could you turn to for help?

Every year since 2005, *Nature* has held a competition to find outstanding scientific mentors in a particular region, with local judges drawn from across disciplines. Awards are given for a lifetime's achievement and at the mid-career stage. Each nomination includes independent narratives by five researchers who were mentored at different stages of the nominee's career; these narratives detail the nominee's output of successful scientists, and provide anecdotes about their mentorship practices and key moments in their relationship with the nominator. This year's competition was in Spain, and the four winners are celebrated on page 139.

These awards have not acquired the same public profile as some given for discoveries. But they have attracted high-level attention. The prizes have been handed over by a Nobel laureate (Canada), government ministers including heads of science ministries (Germany, South Africa and Spain), and even a president (Italy). And justly so, given the importance that researchers themselves attach to mentoring (see *Nature* 550, 549–552; 2017).

So who wins? Judges of the Australasian competition in 2006 decided to capture the characteristics from the dozens of entries received (see *Nature* 447, 791–797; 2007). Common features include a nominee's absolute commitment to the well-being of individuals in their group, a spirit of generosity in allowing credit, and the ability to adapt their approach to the character of the trainee. (For the exemplars who have won the awards, see go.nature.com/mentoring.)

These are character strengths rather than skills that can be easily taught or learnt. Other aspects of mentoring are more practical and can be encouraged: a level of availability; attention to the framing of a new project; methods by which lab members can help to maintain objectivity by checking each other's data; a balance between giving advice and nurturing independent-mindedness; and support for trainees gaining experience in peer review and in writing grant applications, without turning such experience-gathering into exploitation of labour.

In too many university departments, the experiences of younger researchers are left to the inclination of the head of their research group. Too often, there is no departmental culture of support and good practice in research mentoring. It may be only by luck that one young researcher finds colleagues in other groups who experience shared challenges.

One reason for this is the fierce independence of principal investigators. That independence is one of the strengths of academia, but it can

be accompanied by a rejection of potentially helpful central initiatives. Even worse, some academics who resist training in mentoring do so because they wrongly believe that they already know how to do it. A proportion of research group leaders combine their independence with equally tenacious support for their group members, as the *Nature* awards demonstrate. And credit is due to those principal investigators who seek out others for informal meetings to share and develop practices.

“Too often, there is no departmental culture of support in mentoring.”

There are even government-funded regional support groups for mentors, such as the Atlanta Society of Mentors in Georgia.

Some foundations and government funding agencies require that the young scientists they fund have mentoring plans. That's good news, even if some funders do too little to spot-check how well the plans are being followed.

Ultimately, it is to deans and heads of department that one should look for research-cultural leadership. More universities, for example, should consider mentoring when assessing promotions.

Meanwhile, congratulations to the winners of the *Nature* mentoring awards, this year and over previous years, who just do it superbly. ■

Niche appeal

Plants might be able to survive in more varied climates than was thought.

Officially, Peru's most important export is copper ore. Unofficially, its most significant contribution to nations across the Americas is probably the pepper tree. Before the iconic palm trees came to Los Angeles, the streets of southern California were known for the knotted trunks and pink berry clusters of the Peruvian pepper (*Schinus molle*). And after it was introduced alongside the potato to sixteenth-century Mexico, the pepper tree became so common there that many Mexicans today see it as a national symbol.

To botanists, the pepper tree is technically an invader in Mexico, and has been studied as such. Last year, for example, a study used its geographical range to analyse how scientists model the spread of such invasive plants. The authors found that the tree was doing better than expected and was managing to grow in parts of Mexico that models suggested should have an unsuitable climate. The expected climatic constraints, in other words, weren't constraining the spread of the tree at all. The researchers put this down to human activity: people were deliberately planting and nurturing the tree and helping it to survive otherwise inhospitable conditions