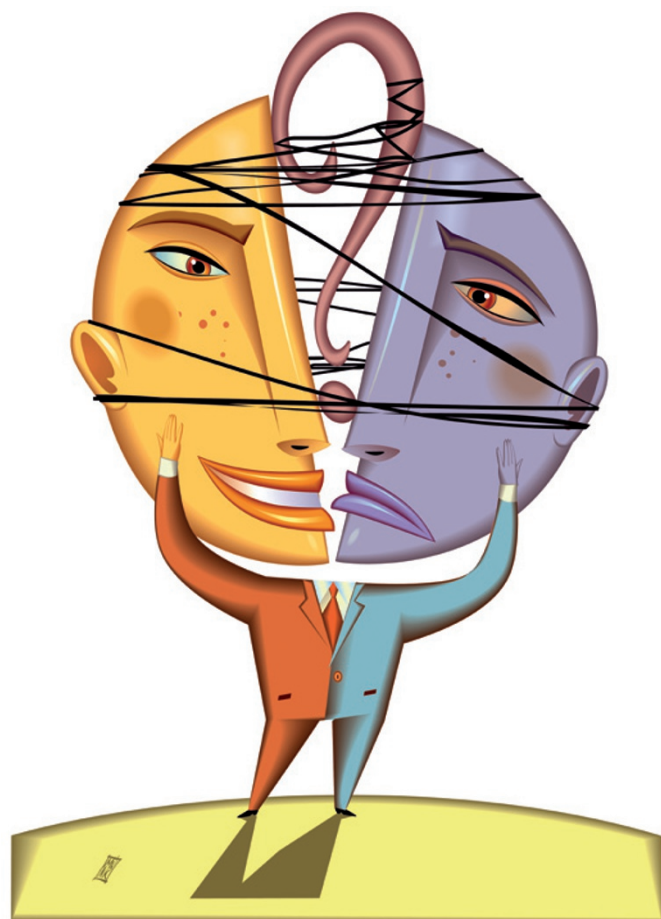


CAREERS

TURNING POINT Astrobiologist's passion for Mars science creates opportunities **p.328**

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faculty members on reviewing applications — 10–20 hours, depending on the size of the pile — and the costs are even higher. No one wants a candidate to turn down an offer.

The joint hiring of academic couples has quadrupled since the 1970s. By 2008, 36% of academics in the United States had a partner who also worked in academia. And the rate was highest among scientists: 54% of male and 83% of female scientists had a partner in academic science, most in a similar field (L. Schiebinger *et al. Dual-Career Academic Couples: What Universities Need to Know*; Stanford University, 2008). With so many female scientists partnered with an academic, strategies to increase the number of women employed as faculty members in science, technology, engineering and mathematics should include a means of addressing dual-career opportunities.

The UNL tackled this question using an Institutional Transformation award from the US National Science Foundation's ADVANCE programme, which aims to improve the representation of women in academic scientific careers. The university came up with a process that should transfer well to other institutions.

FROM THE START

The UNL Dual Career Assistance initiative addresses the two-body problem early in the negotiation and recruiting process. Primary candidates are informed about the programme once they have been shortlisted, but before they are interviewed. They are told that if they have a partner who is qualified for a faculty position, the partner should send a letter of interest, a CV and a statement of research and teaching interests to the ADVANCE office. The director of the ADVANCE programme notifies the appropriate department chair and the college dean of the potential dual-career hire.

This initiative gives the candidate a safe place to disclose their relationship status without making it a factor in deliberations, and provides a relay office to alert all parties. The extra time allows the university to bring the partner to campus for an interview as soon as the offer for the primary candidate is put together. The original search committee is left out of the flow of information, so that it doesn't inappropriately weigh relationship status as a criterion for selection. After all, it may be hard to resist the urge to speculate on how having a partner will affect a candidate's likelihood of accepting an offer. But relationship status, of course, has little to do with the candidate's suitability for the position.

If a candidate with an academic partner is ►

COLUMN

Working together

The right administrative system can ease the job search for dual-career couples, argues **Mary Anne Holmes**.

It is a process common on university campuses around the world. A faculty search committee ploughs through piles of applications, sorts them, evaluates them, brings the best candidates to campus and interviews the top few. It eventually arrives at the perfect person for the job. The head of the department makes the offer — only to discover that the perfect candidate has a partner, and the dreaded two-body problem must be addressed.

It can be a nightmare: the whole search

collapsing as the clock runs out and the committee tries to find a position for the partner. But at the University of Nebraska–Lincoln (UNL), we have developed a means of dealing with the problem to help both candidate and recruiter.

By the time a job offer is made, a substantial amount of time and money has been invested. At the UNL, departments spend between US\$9,000 and \$18,000 simply advertising a position. Factor in the time spent by

► ultimately selected for a faculty position and the partner's target college and department are interested, the partner is flown to Lincoln for an interview. If the interview goes well and faculty members in the target department vote to make an offer to the partner, two offers go forward. If the department is not interested, the process stops and the primary candidate and their partner have to decide whether to come to the university with just one job (we have lost a few candidates this way).

The ADVANCE grant supplies one-quarter of the salary for the partner for up to three years, with the department, college and provost's office each supplying a further quarter. The university's office of research provides start-up funds. This three-year bridge funding buys time for all the administrators to find a permanent funding stream for the partner, which might be provided by a new funding line or the retirement of an existing faculty member.

Sometimes, the primary candidate has a partner who does not want to stay in academia. We can assist with external job searches through our networks and the local chamber of commerce, or the partner can look for a job independently.

The UNL's original ADVANCE grant was for five years, and we anticipated that as many as eight dual-career hires would be made over that time. In fact, after four years we have hired 12 partners.

What happens when the ADVANCE funding runs out? Bridge funding could help. But there are ways, in principle, for universities to institutionalize this process without any grants. One model could be to reserve a proportion of new positions for dual-career hires. The provost or dean could refrain from filling a few positions each year, or could raise an endowment.

Overall, the UNL has had more success with these formal procedures than with informal last-minute requests to accommodate a partner. The programme works in large part because department chairs agree to cooperate: if we accept a partner now, the reasoning goes, another department will help us in the future. Some administrators have expressed concern that a formal dual-career programme will raise the expectations of partners, only for these to be dashed when no position is forthcoming. However, we find that prospective faculty members appreciate the transparency of the process.

Dual-career partnership is not a passing fad. Addressing this need must be an integral part of future universities if we are to attract and keep the best and the brightest. ■

Mary Anne Holmes is a professor of Earth and atmospheric sciences at the University of Nebraska-Lincoln and director of ADVANCE-Nebraska.

TURNING POINT

Alberto Gonzalez Fairén

As a teenager in Spain, Alberto Gonzalez Fairén watched US astronomer Carl Sagan's television series Cosmos, read the book based on the series and knew that he wanted to be a scientist. He is now an astrobiologist at the SETI Institute's Carl Sagan Center for the Study of Life in the Universe in Mountain View, California, and the NASA Ames Research Center in Moffett Field, California. In October, Fairén will collect the Harold C. Urey Prize for outstanding achievement in planetary science from the American Astronomical Society, based in Washington DC.

What was it about *Cosmos* that sparked your interest in science?

Listening to Sagan telling stories about how science is done and how scientists work, and describing the thrill of scientific discovery, I said to myself, "That's what I want to do."

You did a master's degree in genetics. How did you move from that to Martian environments?

It was the other way around. I've been very interested in planetary science and astrobiology since I was a teenager, but there were no university programmes in the field in Spain at the time. Genetics was a distant second interest to me, but I needed to graduate to start my PhD and begin working as a planetary scientist. Astrobiology was starting to become respectable, and I thought that a background in genetics would be appropriate for an astrobiologist interested in Martian environments.

What are your plans for the future?

I'm leaving the SETI Institute because 'soft money' — working solely off grants — is no longer an option for me. When you have a family, you need some kind of stability. I've been offered two academic positions in the United States, and I've won a starting grant from the European Research Council. If I accept one of the offers here, I will stay in US Mars science, which is very attractive right now, especially after the success with the Curiosity rover landing. If I go back to Europe, I will have substantial funding to launch my own group, which seems the logical next step.

Describe your biggest career milestone.

Carbonates are minerals produced in water; the fact that none had been found on Mars had long been used to argue that there were never oceans on Mars. But my adviser told me about a river in Spain that was very acidic; I knew that carbonates do not form in acidic water. I was two years into my PhD and proposed that



oceans on Mars were also acidic and that this acidity inhibited the formation of carbonates. A team including me and my adviser submitted a paper on the subject to *Nature* on 7 January 2004. NASA's rover Opportunity landed on Mars days later — and found direct evidence for such acidic environments. We had accurately anticipated the rover's results. Our paper was published on 23 September 2004, and was central to the completion of my PhD.

Does the Urey prize have a special meaning for you?

It won't help me to get grants or positions, but it is a high personal honour. There is a long list of names of very, very, very important people in planetary science who have won this award.

Has it been difficult to adjust to living and working in the United States?

Not really. Life in California is not so different from life in Spain, and I already had a good command of English. The biggest difference is that the United States rewards effort and merit.

Do you have any regrets about your career?

No. Some time ago I realized that my errors were necessary to bring me to where I am now. I didn't begin to pursue my PhD until I was 30, and while I was away from science I worked as a bartender, a taxi driver, a film-rating classifier and a teacher, among other things. But I got my PhD in 2006 and started working for NASA, and that was a turning point in my career. It offered me the freedom and resources to pursue my own investigations. My career would have been totally different without the NASA experience. ■

INTERVIEW BY KAREN KAPLAN