

joint PhD–medical doctorate programmes. It was also useful later on: sifting through 1,000 graduate-school applications at a time at Stanford was at least as difficult as triaging hundreds of new-investigator applications at the HHMI, he says. He now oversees scientific advisory panels that evaluate the strengths and weaknesses of each investigator's application and the contributions that they would make to their fields. The review officer combines the panel's comments into a single document — and all the documents go through Rhodes for final approval.

The ability to understand, create and evaluate budgets is essential to scientific administrators — especially as they move up the career ladder. McFadden has become adept at budgeting to make sure that her investigators' needs are met. "I've learned a tremendous amount about building a budget and how to do that with fairness," she says. Some projects deserve extra attention — and providing that, without belittling or alienating other projects in the consortium, can be a delicate process.

Having concrete goals — while keeping in mind a broader picture — is another hallmark of success in upper policy-level administration, says Sue Rosser, provost and vice-president for academic affairs at San Francisco State University in California. "The higher up you get in administration, the more emphasis there is on having a goal and getting things done and on time," she adds. Rosser works to make sure that the myriad meetings that populate her days are not empty exercises, but produce something tangible. "I like to have agendas, outcomes, follow-ups, results," she says. For example, last year her institution decided not to renew funding for a multi-year, multimillion-dollar project that did not fit the university's mission. More than a year before the programme was due to end, Rosser and her team began to have meetings about the closure, with detailed timelines to complete the programme's activities and ensure a smooth transition to an interim grantee. Rosser, like Rhodes, has a service mindset — but she is not so closely connected to the people she helps.

"I am trying to help the faculty under me succeed," she says. "And I am not even directly doing that, I am helping deans help chairs help faculty."

A WAY IN

Most people who move from a research career to scientific administration do so when they realize that lab work does not meet their life and career goals. There is no obvious, well-worn career path that reliably culminates in an administrative post, but there are ways to get a foothold — and to find out whether it is the right route. When Cox Delaney recognized that she did not have "the golden hands" needed to succeed in the lab, she got a public-policy fellowship from the American

Association for the Advancement of Science in Washington DC. That had her working on science-policy cooperation between the United States and western Europe, which helped her to develop her interpersonal communication skills. A subsequent job at the Alfred P. Sloan Foundation, a non-profit granting organization based in New York, taught her about scientific funding.

Cox Delaney says that graduate students and postdocs who think they might be interested in administration can gather experience by running symposia, planning



"You need to decide what is the most logical progression for the programme."

Carl Rhodes

talks, dealing with caterers or booking speakers and venues for conferences. "There are a lot of opportunities to step up into leadership roles," she says. "That will give you a sense of whether you like the organizing piece."

Even pulling authors together for a paper or coordinating a simple event such as a journal club can help, if the organizers can observe the people they are working with and find out what motivates them, or can build new skills, says Cox Delaney. She is currently working with all the University of California campuses to find ways to share and save on administrative costs, so that they can pass the savings on to research and education.

Advancing in administration often means nurturing a skill set that goes well beyond research. Cox Delaney puts people who go into scientific administration into two categories: people with a strong understanding of science and good interpersonal skills; and people adept at accounting and funding. Administrators who have both sets of traits are relatively rare — and they are the ones who tend to rise to the highest levels, she says.

Many universities — especially publicly funded, research-based ones — recruit their leading managers from a pool of scientists, who tend to be detail-oriented and adept at handling complexity, and researchers with a particular appetite and aptitude for managing budgets and people will have multiple career options in administration. The path to broader responsibilities, or even a university presidency, could begin with shepherding a single grant. ■

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RESEARCH

Biology in space

NASA is launching an open-ended research programme to investigate how human and other tissue reacts to time spent in space. The geneLAB project will begin seeking grant applications by autumn 2014, says D. Marshall Porterfield, director of space life and physical sciences research at NASA in Washington DC. It will award 'innovation exploration' grants of US\$100,000 for one year; full grants will be for up to 5 years and worth a maximum of \$500,000. The agency wants to send organisms including fruitflies and roundworms to the International Space Station to learn how spaceflight affects living tissue at the biomolecular and genetic level. Future grant recipients would also study bone loss and examine tissue from crew members to look for changes to their DNA that occurred while in space and after returning to Earth.

GENDER

Mothers' careers stalled

Attitudes about motherhood can impede women's career aspirations, even at companies that purport to have family-friendly policies, a study suggests (C. Herman *et al. Gender Work Organ.* 20, 467–478; 2013). Women working in science, engineering and technology at multinational corporations in the Netherlands, France and Italy adopted potentially career-damaging tactics including, for example, avoiding big projects and disguising the need to leave early or come in late because of childcare obligations, the study found. Firms must take stock of how attitudes stymie women who are looking to advance, says study co-author Anne Laure Humbert, a gender researcher at the European Institute for Gender Equality in Vilnius.

FUNDING

Genius grant grows

Awards for the MacArthur Fellows Program, known as genius grants, will this year rise from US\$500,000 to \$625,000. The John D. and Catherine T. MacArthur Foundation in Chicago, Illinois, makes unrestricted 5-year grants to recipients chosen for their creativity, innovation and potential to shape the future. Spokesman Andrew Solomon says that the increase is partly a response to inflation and is the programme's fourth rise since it began in 1981. The 2013 fellows will be announced on 25 September.