
N. MURGAI

Marine microbiologist Catherine Luria is part of a major ecology consortium in Antarctica.

in the hope of contributing as much as possible to a community resource — usually a big data set (see page 49).

"Certainly there's an allure to a big project, but there's also a clear career risk of being lost in a very large crowd," says Julie Klein, who studies interdisciplinary teams at Wayne State University in Detroit, Michigan. "These are incredibly exciting and important projects, and they're seen as the future of science by some." They are also massive and unruly, she adds, in terms of the competition for attention. "It is often difficult to find one's place in a collaboration of 3,000 scientists," agrees Gonçalo. "At first it seems that every good idea you come up with has already been tried by someone else."

STAND OUT IN THE CROWD

Nearly ten years after starting work on ENCODE, Jason Lieb, a biologist at the University of North Carolina at Chapel Hill and director of the Carolina Center for Genome Sciences at the university, says that standing out in a large team often means taking on extra work. He recommends that new members of the team improve their standing with the principal investigator by taking on extra roles, such as assisting in writing papers, hiring graduate students and scheduling group activities, and perhaps splitting their time between the large project and a smaller one in their home lab, with the aim of writing an independent paper with the principal investigator. Experienced postdocs say that developing leadership skills also helps a researcher to get noticed.

Another potential downside for the young scientist is the administrative effort required to operate these vast projects. For example, the scale of ATLAS, which includes about 3,000 physicists, has resulted in the development of an unhealthy, sluggish bureaucracy, says Fonseca Martin. These projects "don't necessarily get the best out of the people, and they sometimes make difficult the recognition of people's achievements and contributions," she adds, referring to assigning authorship and opportunities for promotion. Sometimes, says Fonseca Martin, a researcher's management abilities can become more important than their scientific ones.

Major collaborations often require much logistical effort, such as organizing meetings and conferences, notes Lieb. "People are tasked with certain jobs, and there's often a chance to take leadership positions in these jobs. If you're willing to try that, it's a good way to cut your teeth on a project." He adds that those who have taken on and performed effectively in such positions can demonstrate to their institute or university that they are team players who could, for example, make contributions to administrative tasks as tenured faculty members.

Along with taking on extra tasks, researchers can increase their profile by visiting and working in other labs involved in the collaboration. This helps them to build contacts and disseminate their research widely. "Projects that do better have postdocs or graduate students spend two or three months working in a lab at another site and then go back to their home institution," says Jonathon Cummings, who studies scientific collaboration at Duke University's business school in Durham, North Carolina.

But some researchers caution that graduate students and postdocs should be wary of becoming too closely associated with a single project, however glamorous, in case they become pigeonholed by peers and potential employers. "I worry that I'll be viewed as the 'person who works in Antarctica' and that will shape what I do later on," says Luria. "People are so interested in the place and fascinated by what we're doing, so it would be easy as a young scientist to have this experience become the defining quality of my work. I'm loving being in Antarctica and being a part of this project, but I'm trying hard to make sure it doesn't define me for the rest of my career."

Getting involved in a high-profile consortium can indeed be a headache, but it is often worth the effort, says Lieb. "People complain that these consortia are very clubby and difficult to get into," he says. "It's kind of true, but there's a reason why it's true. Once you've done it, you're more qualified to do it again. If you're able to get in early and demonstrate your skill at working on a project of this size, you're more likely to get another shot." ■

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EUROPE

Investment increases

Research and development (R&D) investment by European companies is on the rise, according to *The 2012 EU Survey on R&D Investment Business Trends*, a European Commission report released on 20 August. The survey of 1,000 large companies across all sectors predicts an average R&D boost of 4% a year until 2014. Chemical companies project an increase of 5.5%, and oil and gas producers 4.6%. "Employment costs are more than half of total R&D costs," says Alexander Tübke at the Institute for Prospective Technological Studies in Seville, Spain, a co-author of the report, "so an important share of R&D increases should translate into new employment." But, Tübke notes, any resulting researcher recruitment is likely to be in countries with lower labour costs, such as India and China.

EDUCATION

Teachers lack resources

Full- and part-time teaching faculty members without tenure at US academic institutions face challenges that detract from their work and negatively affect their students, says a report released on 23 August by the New Faculty Majority Foundation in Akron, Ohio. A survey of 500 contingent faculty members found that they often don't know until days before a class begins that they are to teach it, and that most have no access to office or lab space, phones or computers. Such practices compromise students' educational experience, the report argues. Maria Maisto, executive director of the foundation, adds that uncertainty and lack of office space also hinder development of student–mentor relationships.

ENTREPRENEURSHIP

Advice for protégés

To benefit from mentoring, fledgling entrepreneurs should be honest with their advisers about business issues such as cash flow; seek out mentors with similar values, personality or interests; and develop trust through frequent meetings, says a study based on a survey of almost 400 protégés (E. St-Jean *Int. J. Training Dev.* **16,** 200–216; 2012). Entrepreneurs who achieve good relationships with their mentors can build management knowledge and skills and improve their visions for their companies, says author Étienne St-Jean, who studies business management at the University of Quebec at Trois-Rivières in Canada.