

GRADUATE JOURNAL

Goodbye to romance

During my medical studies I loved reading anecdotes about the life and work of eminent scientists. How they came across their famous discoveries in the cloistered atmosphere of distinguished universities. How intimate scientific circles seemed to pose an enigmatic problem, contemplate it — sometimes for years — and then solve it elegantly. How these idols wove science, life and companionship together.

Today I'm disillusioned about the conditions under which research is carried out. Science seems to be developing into a business, interested in a quick and focused 'return on investment'. Within the short time of their contracts, researchers have to come up with results at all costs, including exhaustion or loss of privacy. Competition with other groups and dependence on external funding generates a huge pressure that is far from the scientific arcadia of my fantasies. Actual science doesn't resemble what can be read about it in biographies.

My graduate programme aims for the best it can do. It furnishes me with the skills that this science business requires: broad knowledge of the field, scientific writing, an array of methodologies, diligence and persistence. It can't change the face of research. But the beauty of science itself is left untouched. I hope to retain at least some of this naivety. ■

Tobias Langenhan is a first-year graduate student in neuroscience at the University of Oxford, UK.

International ventures

Finding a job abroad adds distance to the string of challenges job-seekers face. How do you get to the people you need to reach? Will you be considered if you apply from another city, let alone another continent? Should you move to the location first and then launch your search?

Start at home by researching the place you want to work, getting a clear idea of employers you are interested in and building relationships. Combine information-gathering with online activities as well as engaging your university librarian. These activities will provide the foundation for your search.

Next, begin to craft your correspondence. In a long-distance search, written and telephone communications carry added weight. Don't cut corners on your marketing package. Make sure that your resumé or



With Deb Koen
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CV is professionally presented (see *Nature* 427, 570; 2004), your e-mails and letters are error-free, and your telephone skills are polished (see *Nature* 429, 584; 2004).

Next, network at home. You might secure a position with a local organization that has operations in your targeted area, or join an international concern that has a satellite office nearby. Proving yourself in your current location might secure an assignment at a branch in another country. At the very least, you can get in touch with colleagues abroad. And don't forget to

seek referral from advisers or supervisors with ties to where you want to go.

These preliminary steps create the foundation for a strategic visit. E-mail or ring organizations to let them know you will be there soon. Your contacts will take you seriously if it's clear that your move is imminent. Ideally, plan a two-week visit with some interviews lined up and spend the rest of the time setting up further meetings.

Once there, make the process as seamless as possible: know any legal requirements and show potential employers your familiarity with the culture and the language.

An international job search takes determination and time, but combining a long-distance campaign with personal follow-up will move you closer to your destination. ■

Deb Koen is vice-president of Career Development Services and a columnist for *The Wall Street Journal's CareerJournal.com*.

MOVERS

Ram Sasisekharan, chief technology adviser, MVM Life Science, Cambridge, Massachusetts



Not many people would sink their teeth into sequencing sugar structures when the human genome held such mouth-watering promise. But Ram Sasisekharan sought and accepted a challenge from his thesis adviser, Robert Langer at Massachusetts Institute of Technology (MIT).

Sasisekharan found the long-ignored sugars field — severely hampered by a lack of tools and technology — an opportunity in disguise. Unlike DNA,

sugars can't be amplified through tools such as the polymerase chain reaction. They are also made up of complex structures in varied abundance. He used a number-based approach to identify the different pieces, allowing mathematical manipulations to solve the structure. "Sequencing DNA is like walking through a ladder, but sequencing sugars is more like putting a puzzle together," he says.

The puzzle complete, he and Langer set up Momenta Pharmaceuticals. With a detailed structural knowledge of polysaccharides, it is possible to improve existing drugs, create generics and discover novel drugs by better understanding their role in cell function.

With \$83 million raised, Momenta is launching a heparin drug and delving into cancer. By discovering how cancer cells gain a growth advantage by altering their sugar coat, Sasisekharan hopes to develop insights for a potential new avenue of therapeutics.

Stressing the importance of mentors, Sasisekharan notes that meeting Langer was a career-changing event. Although a graduate student at Harvard University, he heard Langer give a talk during a chance visit to MIT. Langer's 'can-do' approach to science inspired him to be passionate about big-picture problems.

"The most exciting thing is to be able to bring a team effort to a complex problem," he says. His latest team is MVM Life Science Partners, the US subsidiary of the UK-based life-sciences investment firm.

The move towards an integrated, systems-biology approach to science is a welcome change for Sasisekharan. He encourages young scientists to gain exposure to challenging problems that are also practical in nature.

In doing so, he's turned seemingly useless molecules into potential therapeutic drugs. It can't get much sweeter than that. ■

CV 2003–05: Professor, biological-engineering division, Massachusetts Institute of Technology, Cambridge, Massachusetts.

2003–current: Member, joint steering committee, Momenta Pharmaceuticals/Sandoz-Novartis Venture, Cambridge, Massachusetts.

2001–current: Co-founder and board member, Momenta Pharmaceuticals, Cambridge, Massachusetts.

1996–current: Core member, NanoTechnology Lab, Massachusetts Institute of Technology.