

Q&A

Robert Margolskee, an expert in the molecular mechanisms of taste, has recently accepted a faculty position at the Monell Chemical Senses Center in Philadelphia, Pennsylvania.



How did your interest in the molecular biology of taste evolve?

In high school, I was intrigued by molecular-biology techniques and their potential in conducting neuroscience studies of brain function. In college and medical school, my professors questioned my interest in a field that didn't yet exist. But as a postdoc I saw colleagues use molecular techniques to study vision and smell. I realized taste was a complete 'black box': we had no idea how taste cells worked at the molecular level. So I saw it as an opportunity to identify and clone taste receptors.

What was your first 'aha' moment?

In late 1991, we found a new protein in taste cells that was closely related to the protein transducin, which transmits visual signals to the brain. At first we took this new insight into the taste system to mean that if transducin-like proteins were in taste cells, taste might be closely related to other sensory systems

such as vision. We found that although the taste version of transducin (ultimately called gustducin) was structurally similar to transducin, only the signalling outputs of the two were similar.

What do you consider to be your greatest scientific achievement?

We molecularly characterized gustducin's involvement in sweet, bitter and umami (the monosodium glutamate taste). That is a stepping stone to further studies of taste signalling elements, which we have found are expressed elsewhere in the body and contribute to non-taste functions in the stomach and pancreas. At Monell, I plan to circle back to the role of these proteins in health and disease.

Do you get bombarded with questions from the food industry?

No, but I have been in some interesting forum discussions with molecular neuroscientists and chefs. It is interesting to compare

notes, and at some point I'm sure we'll get to the level of understanding how taste works to apply it to the creation of a meal or dessert.

What do you value most about the scientific process?

There is a purity and a clarity in discovery and publication that is closely related to nature and truth.

What is the key to navigating a successful scientific career?

I wish I knew. I guess it is a matter of balance. You have to balance everything in your life — personal and professional, bench work and supervising others, what appeals to you and what will get funded. To be effective and successful, you must find a way to follow your heart and anticipate what the journal editors will say. But in the end, I think you can approach your career in different ways and end up coming to the same point. ■

Interview by Virginia Gewin

POSTDOC JOURNAL

Communicating science



Take one scientist. Blend in professional science communicators. Incubate in crisp mountain air. The result: an ability and a desire to discuss science with all sorts of audiences.

Two months ago I'd never made a film, designed a website or written a science news piece. By the end of August I'd had a major part in all three. How? I was fortunate to participate in an intensive two-week science-communication programme at the Banff Centre, a crucible of literary and performance art nestled in the Rocky

Mountains of Alberta, Canada.

Participants receive hands-on training with a broad range of media. Our teachers included accomplished professionals in television, radio, web and print journalism. Their mentorship, combined with audio and film equipment and web-design support, taught me how to talk science successfully via multiple media. Our group, for example, made lively podcasts, which we called 'Bunk Debunk', to define scientific jargon in clear terms.

I attended the programme, in part, to improve on the

campus-radio science show that I host. Now I feel invigorated — able and eager to talk science effectively, not only through radio and podcasts but also via television and print media. My passion for public science communication nearly matches that for my research. Now I'm certain that I want to nurture a career in science communication, whether as a sideline to my research or, perhaps, as my full-time job. ■

Julia Boughner is a postdoc in evolutionary developmental biology at the University of Calgary, Canada.

IN BRIEF

Endangered papers

Conservation scientists take up to three times longer to publish their work than other biologists, according to a new study that warns this could affect time-critical environmental decisions. Ryan O'Donnell and two other PhD students at Utah State University in Logan examined more than 2,000 articles published in 14 life-science journals in 2007 to calculate the delay between last data collection and submission. The median delay for papers on conservation was 696 days, compared with 189 days for evolution and 605 for taxonomy. The authors suggest the hold-up arises because many conservation biologists do governmental work and have other obligations besides publishing.

Bridges to biotechnology

Oregon's engineers and other skilled workers who lost their jobs in the economic downturn have a new alternative, thanks to a recently established biotechnology retraining scheme. The Bioscience Foundations Program, which is jointly funded by a US\$136,000 federal-stimulus grant and the state of Oregon, aims to match people to short internships at Portland-based bioscience companies — particularly medical-device firms — that could lead to permanent positions. Internship applicants will be interviewed by the firms themselves; those selected will be tutored by bioscience experts on process and compliance in the industry, as well as on issues of policy, environment, ethics, and research and development.

Gender imbalance persists

Men continue to make up the majority of doctoral scientists and engineers in the United States, according to the US National Science Foundation's most recent 2006 Survey of Doctorate Recipients, released on 24 September. The report says that men comprise some 68% of America's 561,230 doctoral scientists across all science fields and 90% of the nation's 121,520 doctoral engineers. The last survey, conducted in 2003, found that men represented 70% of doctoral scientists and 91% of doctoral engineers. Of the 10,920 doctoral scientists and engineers across all fields who are neither working nor seeking work, three-quarters are female, the latest report says, up from the two-thirds reported in the 2003 survey.