What Works
Building a Global Lab

When cell biologist George Langford was a young professor at the University of North Carolina, Chapel Hill, in the early 1980s, he faced a problem common to minority scientists: He felt isolated in his own lab. Langford, who was the only black in his department, had trouble recruiting graduate students and finding collaborators. So, he went to Europe.

To be exact, he went to France, where several eager collaborators had invited him to visit the Marine Station at Villefranche. Soon after, he also began a fruitful collaboration with researchers at the Technical University of Munich in Germany. "It's not that there's an absence of racism in Europe," says Langford. "It's that you're seen as an American first, and that's a major advantage psychologically."

Those international collaborations have been a crucial factor in his success. Today, he is a high-profile cell biologist, who runs one lab at Dartmouth and another one every summer at the Marine Biological Laboratory at Woods Hole. And in both labs, he deliberately fosters a diverse atmosphere, where he and his students collaborate with foreign visitors.

DARTMOUTH MEDICAL SCHOOL

Continental style. George Langford *(standing at left)* found international success.

Such colleagues typically perform a variety of vital services for young scientists: they nominate them to professional societies, steer good students to their labs, help troubleshoot experiments, and identify hot ideas. But minority scientists like Langford often have trouble breaking into the informal networks that supply this kind of help. "One of the biggest challenges I had to face was how to become part of a good network of individuals who could provide good and meaningful feedback," he says. "Social networks are very important in science. You can't perform science in a vacuum."

So ever since his 1985 journey, Langford has sought foreign collaborators, and he encourages his students to do the same. In the last year, colleagues and students from Russia, Germany, Ghana, and Kenya have come to his labs, and their work has been published in major journals. In turn, Langford's American students have gone overseas. "I encourage students to go abroad to try to develop good connections with international colleagues," says Langford. "For minority students, in particular, this should be viewed as one strategy to use." And to make it a more accessible strategy, the National Institutes of Health (NIH) have just begun a new program to train minority students abroad (see, p. 1135).

The trip to Europe is, in fact, a well-trod path for minority scientists. The pioneering black biologist Ernest Everett Just—whose chair Langford holds at Dartmouth—also went to Europe in the 1930s to find collaborators. Indeed, in the '40s and '50s many of the few black American scientists were trained in Europe, since they were legally barred from many U.S. institutions. Overseas, they found scientists who had high expectations of American researchers, regardless of racial or ethnic background. That's still true today, and it isn't always the case back home, says Langford. "When I collaborated with some of my white male colleagues who were my own age, I just got the feeling my opinion wasn't valued, and that their expectations weren't as high for me," he explains.

Langford has made sure that feeling isn't a part of his own lab. Darien Cohen, a 25-year-old black graduate student from Savannah, Georgia, says he was drawn to Langford's lab because it's a place where everyone is taken seriously regardless of race, academic background, or nationality. "I don't have to expend a lot of energy to get people to deal with me on a scientific level,"he says.

For example, Cohen says that in other labs, he's worried about asking "dumb questions" about science, fearing that whites will think his ignorance means that blacks, in general, can't cut it science. But in Langford's lab, he asks questions freely.

The diverse culture of the lab has allowed Cohen to make a diverse group of friends. While running Western blots in the lab at Woods Hole, he befriended Dieter Weiss of the Technical University in Munich, discussing everything from motor molecules to German reunification. That collaboration led to a 1992 paper in *Nature* on the way a myosin-like protein works like a motor to move organelles inside the cell.

Those friendships are critical for succeeding in science—and for enjoying the enterprise. Says Langford: "When you sense that others are including you, and that the attitude is that everyone in the lab has something to contribute, then it's easier to be open and creative. This, to me, is a lot of fun."

–Ann Gibbons

Mexico, India, and China in his lab—but "very few Americans." Says Kuramitsu: "If we did not have access to these fellows, these jobs would go begging."

But microbiologist John Alderete, of the same university, thinks schools should—and could—do more to ensure that they are not letting minority talent go to waste. "What have the ivory tower schools done to go out there in the field and purposefully try to get minority students?" he asks. With so many foreigners coming in, many universities have less incentive to seek out good minority students, he believes. For example, says Alderete, schools will say there are few minorities in the eligible pool based on the number of applications they receive, but they're not trying hard enough to accommodate minorities who slipped out of the pool halfway through the admissions process, by missing deadlines or failing to complete all forms. "A good progressive admissions department gets on the phone, and makes contact" with such students, he says. But Alderete acknowledges that it's "hard to get hard data" on the numbers of qualified minorities who are slipping through the net.

Indeed, the secret to getting more minorities fired up about science and willing to submit to the long arduous years of graduate training is still elusive. But shifting more resources away from foreign students is unlikely to be much of a solution.

–Constance Holden