CAREER DEVELOPMENT : ARTICLES

Jay Mellies

Liberal Arts College Faculty: Finding the Sweet Spot

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One day during his postdoc at the Max Planck Institute for Infection Biology in Tübingen, Germany, microbiologist Jay Mellies realized that something was missing. The research was good, but where were the people? Maybe, he jokes, he ate too much Zwiebelkuchen, the German onion pastry. Whatever the reason, he was alone in the lab. It was students he missed.

When he returned to the United States to take a second postdoc at the Center for Vaccine Development at the University of Maryland School of Medicine in Baltimore, he also took a second job, teaching microbiology in the evenings, at nearby Anne Arundel Community College.

"They're really happy if you can involve students in your research." --Sarah Titus

This two-pronged approach--and grueling schedule--was excellent preparation for the professional life of a faculty member at Reed College in Portland, Oregon, where Mellies landed in 1999. Known for small classes and a focus on undergraduate education, most such colleges also require--from their younger, newer faculty members, at least--substantial research activity. Faculty members are expected to balance heavy teaching with research that involves research-inexperienced undergraduate students and--typically--to publish the results of that research in peer-reviewed journals.

CARVING A RESEARCH NICHE

Although many research universities care about teaching, faculty members there always know that research is the key to getting tenure. But faculty members at liberal arts colleges face a constant challenge to find the elusive sweet spot that combines innovative and successful teaching with modest but productive research.

The particular balance between teaching and research varies widely from one liberal arts college to another. Faculty members at some colleges teach eight courses per year, leaving no time for research during the school year and offering little or no research support. At others, professors teach just three courses per year and have research resources--and tenure requirements--comparable to those at some research universities.

Because of the time constraints, and because they don't have graduate students to keep experiments moving, developing a research program "usually means finding a niche that isn't super-cutting-edge," says Thomas Moore, a physicist at

Pomona College in Claremont, California. “You can work on important areas that are being neglected by other people and get serious work done. It just takes creativity.” Several publications in well-respected journals should be sufficient to meet the research requirements for tenure at Pomona, he says.

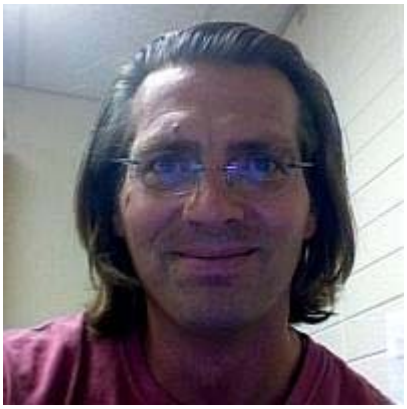

Sarah Titus with her one of her classes.

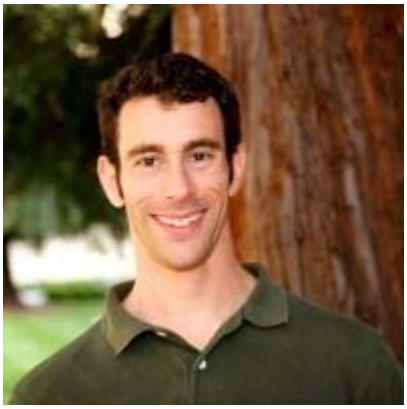
“Teaching really is the number-one goal,” says Sarah Titus, a second-year faculty member in the geology department at Carleton College in Northfield, Minnesota. Many schools, including Carleton, emphasize the educational benefit of research to their students. "They’re really happy if you can involve students in your research,” she says.

But involving students in research isn't easy if the college doesn't offer the resources. Ryan Haaland, who works in the physics and engineering department at Fort Lewis College in Durango, Colorado, feels pressure to engage students in meaningful research, but the instrumentation doesn't exist and it's hard to find the money to buy it. Furthermore, with a teaching load of three classes per term, he says that “there is zero time budgeted [for research] during the academic year," so his research often gets shoved into the summer months. Fortunately, he recently won U.S. National Science Foundation (NSF) funding that will allow him to take students into the field this summer to study sprites associated with lightning storms.

With the right infrastructure and a niche field, a few faculty members achieve nearly as much in the research realm as their colleagues at much larger universities. Mark Goldman, a computational neuroscientist, earned an R01 grant while at Wellesley College, a small liberal arts college in Massachusetts. “Wellesley is a wonderful and special place in terms of the quality of research,” Goldman says, and Wellesley's neuroscience department has a track record of high-level funding. Goldman's R01 grant allowed him to hire a postdoc.

Goldman's undergraduate research assistants, however, often hadn’t taken neuroscience, computer programming, physics, or advanced math. Wellesley provided some excellent role models, but “I wanted to do a little more research,” he says, so he moved to the University of California, Davis, earlier this year.


Ryan Haaland


Mark Goldman

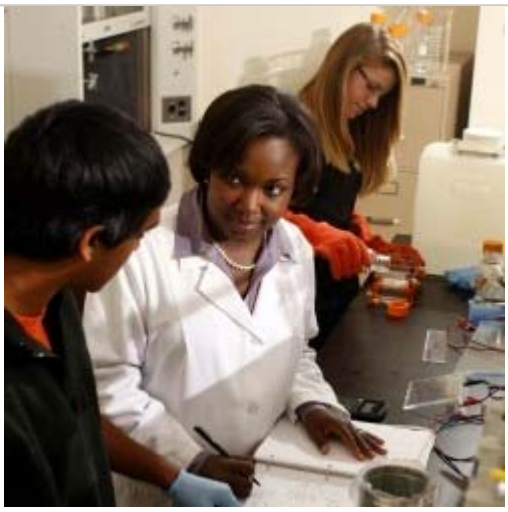

Laura Katz

At Smith College in Northampton, Massachusetts, Laura Katz has published more than 30 peer-reviewed papers about eukaryotic microbiology since 1997, supported by NSF, the National Institutes of Health, and other external funders. She mentors undergraduates, postdocs, and graduate students from nearby University of Massachusetts, Amherst. She also teaches two courses each semester--usually an intro course to 30 to 50 students and an upper-level microbiology seminar to 10 or so students.

Despite her productivity, Katz says, her small-college appointment comes with a stigma. “When I was first starting out, I think people were quick to discount me,” she says. “I had to do even more ... to demonstrate that I was serious about my scholarship. The culture is changing, but slowly, and it can be really frustrating.”

PREPARING FOR THE JOB

Although all liberal arts institutions value both teaching and research experience, they weigh their importance differently in hiring and in the tenure decision. Highly competitive schools such as Smith, Wellesley, and Pomona want new faculty members who are prepared to be productive researchers. “You used to be able to apply for jobs here without a postdoc, and I think that’s really changing,” Katz says.



Loretta Jackson Hayes (center) with research students in the lab.

But with teaching such an important part of the job, such institutions want to hire scientists with teaching experience beyond the normal graduate assistantship. Scientists who have taught their own courses can get interviews--and sometimes win tenure-track positions--without postdoctoral experience. As Loretta Jackson-Hayes was finishing her Ph.D. in pharmacology at the University of Tennessee Health Science Center in Memphis, she was planning a postdoc at St. Jude Children’s Research Hospital. Then she discovered that she was pregnant.

“I realized that I might not have 70 hours [per week] to put in the lab,” she says. Looking for a more flexible schedule, she applied for teaching positions at 2-year and 4-year colleges in the area. In 2003, she was hired by Rhodes College in Memphis as a William Randolph Hearst teaching fellow, a 1-year program that supports minority candidates interested in teaching careers. After a year focused on teaching general chemistry, she moved into a tenure-track position in the same department.

More flexible doesn’t necessarily mean less grueling, though. “I just put my head down and get it done somehow,” says Katz, who’s often up late working on lectures. “It works for me because I love what I do.”

At institutions like Oglethorpe University in Atlanta, Georgia, the teaching load can approach that maintained by faculty members at community colleges: 12 hours in the classroom or teaching lab and up to eight scheduled office hours. Members of the Oglethorpe faculty prepare and teach all the courses and labs, and they do all the grading. Because the balance is weighted heavily toward teaching, says Oglethorpe biologist Charlie Baube, hiring committees look for candidates who emphasize instructional experience. A postdoc or a history of grant funding can help an application, Baube says, but letters and curricula vitae should reflect an emphasis on teaching, "both in their experience and how they structure their application.”

MAKING A DIFFERENCE

Whether these schools draw students from around the country or just from their regions, the opportunities to make an impact on their students’ lives, and to watch motivated students achieve, is one of the job's key rewards. Recently, Baube got a phone call from a 2002 graduate who had just defended his master’s degree. Baube was the second person he called following his defense--after his mother. “You need to enjoy students who are willing and want to come by and talk with you at any time, outside office hours,” Haaland says, whether it’s to talk about physics, personal problems, or their future plans. “We’re a small department, and we know all our majors really well.”

Charlie Baube

Scientists at liberal arts colleges feel pulled in many directions. “Because I’m ambitious about ... what I want to achieve in terms of writing, research, or classes, I never seem to have enough time,” Moore says. But those time pressures really are the flip side of what Moore most enjoys: “[You want] to do a good job because you have lots of relationships with students that you care about and other faculty that you care about.”

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