



# Sloan Career Cornerstone Center

## Profiles of Biologists



### Natalie Kuldell

**Instructor  
MIT  
Cambridge, MA**

<b>EDUCATION</b>	▶ BA, Cornell University ▶ PhD, Harvard University
<b>JOB DESCRIPTION</b>	Natalie develops and teaches curriculum for undergraduate students as well as interested learners outside the traditional classroom environment.
<b>ADVICE TO STUDENTS</b>	"Learn to write in a compelling way. Learn to speak in front of an audience."

### ▶ INTERVIEW

▶ **What fields of biology do you work in?**

▶ **Kuldell:** Genetics, molecular biology, synthetic biology, biological engineering.

▶ **Q: When did you know you wanted to become a Biologist?**

▶ **Kuldell:** When I was 15 and worked in a research lab over summer vacation.

▶ **Q: What was your college experience like?**

▶ **Kuldell:** Fine, fun, social with lots of hard work. But also very disconnected from what I knew I wanted to do with my career. I was a Chemistry major as an undergraduate since I was told that degree would provide me with good preparation for life science research. The advice was right though I didn't love Chemistry and I really didn't like the lab experience associated with my classes. I did get to do a few terms of research in a Chemistry lab but in retrospect I see how only the smallest fraction of the research I did was really intellectually mine.

▶ **Q: Did you incorporate work experiences while you were an undergrad?**

▶ **Kuldell:** I'm not sure what "work" means but I did research in both a Chemistry lab during the academic year and also returned to my summer research in the life sciences for every year I was in college.

▶ **Q: How did you get your first job?**

▶ **Kuldell:** HA! I was 15 years old and ended up in 13th place for an American Heart Association fellowship program in which the top 12 students got summer jobs at the National Institutes of Health. So I arranged to volunteer there in a lab I really thought did cool stuff, and then one of the fellowship winners had to drop out so I was added to the winners circle (and got to stay in the lab I had already picked instead of one they wanted me to pick)

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▶ **Q: What's the most rewarding thing about being a Biologist?**

▶ **Kuldell:** I think it has to be the awe and appreciation for the living world. The more you know the more amazing it all seems. I'm also a teacher though and the opportunity to share this feeling and appreciation is such a privilege and such great fun.

▶ **Q: Is there an example you can provide that shows how something you've worked on has positively impacted the world?**

▶ **Kuldell:** My students continue to grow and amaze me—the ones who have always known they wanted to do what we do, and the ones who are shown that they can and realize they want to. There are small contributions I've made to the body of scientific knowledge, but far more exciting is to see the excitement and contributions my students lead.

▶ **Q: Do you spend a fair amount of time traveling?**

▶ **Kuldell:** No

▶ **Q: Do you have a mentor? Or did you in your college years?**

▶ **Kuldell:** I have several (luckily)...I don't know what I'd do without them.

▶ **Q: Do you find yourself working more in a team situation, or more alone?**

▶ **Kuldell:** Both

▶ **Q: Do you find you are able to balance work with social/family life while working in your current job?**

▶ **Kuldell:** It's not easy but I try.

▶ **Q: If you had to do it all over again, would you still become a Biologist?**

▶ **Kuldell:** In a heartbeat.

▶ **Q: Did you think that school prepared you for the way the work gets done in the real world?**

▶ **Kuldell:** No -- and now as a teacher who develops curricula I can change that for my students. Graduate school was the first time I got to hear most of the things I say to my college students now.

▶ **Q: Where do you see jobs for Biologists in the future? What should students be doing to prepare themselves to take on those roles?**

▶ **Kuldell:** I think Biologists will have to be two things that I was never trained to be: advocate for their work (with the public, with policy makers, with other scientists, with funding agencies), and literate in disciplines traditionally distinct from biology (e.g. physics or engineering or computation). The second is pretty easy to accomplish if you remain an interested learner throughout your life and have generous colleagues to learn from. The first is harder to grow into since it requires communication skills (e.g. translating from jargon as well as an eagerness to communicate) and an appreciation for the social implications of the work we do---something often thought of as the domain for softer sciences like anthropology or economics.

▶ **Q: What other advice do you have for precollege students?**

▶ **Kuldell:** Learn to write in a compelling way. Learn to speak in front of an audience.

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