During my junior year of college, while sitting in Dr. Rosenberg's "Human Anatomy" class, I decided I wanted to be a college professor. One might have expected that class to be dull-so many nerves, blood vessels, and bones to learn-but I was utterly captivated every day of class because Dr. Rosenberg made it so interesting. And he knew so many fascinating things! That semester I decided that my life's goal would be to gain a great deal of scientific knowledge and share it with others, and I made my first step toward an academic career in biology. Since then, I have learned two important lessons that shape my approach to teaching: 1) effectively communicating knowledge takes just as much work as acquiring it, and 2) teaching and research go hand in hand as one is not independent of the other.

A recent National Science Foundation report says that higher education is currently producing only a few highly qualified science students, while leaving most students scientifically illiterate. This finding confirms a long-held view that greater emphasis is placed on research than undergraduate education. Every college science teacher knows that most students will not go on to become scientists. So why should a researcher be motivated to teach science well? For me, the desire stems from being surrounded by science, in particular, biology. Daily, citizens encounter new biological information that requires them to make decisions. Should cloning of humans be allowed? Can human life span be increased by 50 years? Should tax dollars be spent on conserving biodiversity and why? In short, our society consists of those who produce science and those who are the consumers of science. The latter group is not trivial. Any researcher who seeks public grants should care dearly that the taxpaying public understands the importance of solid science!

My goal in the classroom is to teach my students how to evaluate science critically so that they may become those who conduct "good" science or those who are smart users of science. To this end, it is necessary for me to recognize the diverse array of students enrolled in my biology class and their reasons for being there. For my lecture or lab exercise to appeal to nearly all of them, it must be interesting, interactive, and reach them at the individual level. The first step I take toward reaching my students is to get to know them as individuals, rather than as "the class." Using a student information sheet filled out by each student at the beginning of the semester, I learn their names, academic majors, career plans, and hobbies. In addition to increasing the breadth of topics we can discuss informally, this information allows me to target my audience: to illustrate my examples, I can tailor lectures and lab exercises to use information they find pertinent. Second, I strive to create an atmosphere that will be conducive to learning. I am clear with them from the beginning that I expect good teaching from me and good work from them. I set ground rules, without being inflexible. For example, I do not make a big deal of one late homework assignment so long as no bad habits are being formed.

The best way to make material interesting is to be innovative. Most biology courses have a lab component that allows a teacher to be more creative than is possible during lecture. I have co-developed a number of activities to give students hands-on experience with concepts in evolutionary biology. To illustrate the principles of optimal foraging for resources, I co-designed an exercise called Darwinopoly that had the students actively foraging for candy throughout the corridors of Gilmer Hall. They found that even humans exhibit a variety of foraging strategies which conform to the predictions of theory! To illustrate the principles of sexual selection, we have students bring to class contemporary examples of sexual selection in humans which we then discuss. Classification of common fasteners (e.g. screws, nails, rivets) serves to demystify the realm of phylogenetic classification.

Not all biology classes seem so rooted in concept as evolutionary biology. Introductory biology labs and dissection-based labs are more challenging to innovate. In these classes, elementary facts can still be related to larger biological concepts in an easily understood, interesting fashion. In one introductory lab that focused on microscopic identification of various single-celled life forms, I brought anecdotes about how various single-celled life forms have caused plague, often because of ecological damage wrought by humans. These tidbits of information put an interesting spin on an otherwise mundane exercise.

I want my students to know that biology is not about committing facts to memory-it is an active, ever-changing field. I strive above all to get them to engage the material and evaluate contemporary biological issues. In short, I view my teaching as an extension of my research and graduate training, rather than as a task conflicting with the pursuit of my dissertation research. It has proven to be even more rewarding than I imagined when I was sitting in Dr. Rosenberg's class.