TEACHING STATEMENT
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The subjects that have interested me the most throughout my education have had the most lively, interesting and engaging teachers. Or was it the other way around? I was introduced to my hobbies, rock-climbing and pottery, via great mentors and teachers. Surely, this is not only a coincidence: A good teacher will do wonders to increase the interest in their field.

There are many qualities that make up a good teacher; beyond the most immediate characteristics—clear presentation of material and charismatic/engaging teaching style—I make an effort to be sensitive to the students and to react to them, both as a group and as individuals.

During my few years as a teaching assistant at UC Berkeley and more recently as an instructor at MIT, I have been constantly looking for ways to improve my teaching skills. At Berkeley I had two great role models with very different styles: John Neu and Ole Hald. Both are extremely engaging and prepare rigorously for each class (even for a course that they have taught many time before). They differ in how they keep their class engaged. Hald stops often, asks questions, and has the students explain the material themselves. Neu, on the other hand, engages the students by punctuating his intensive lectures with anecdotes and inappropriate remarks (all in good humor, of course).

As I develop my own teaching style, I keep these two mentors in mind. I remind myself to stop and check that the students still see where the lecture is going. Give the students an opportunity to catch-up. A break (à-la Neu), gives the students a moment to "catch their breath" and serves as punctuation for the lecture. Asking the students questions (à-la Hald), helps the new material settle by urging them to think about it. During office hours, rather than solving my students' problems, I give them some chalk and guide them as they solve their problems themselves.

Since written accounts of most topics are easily available, my main role as a teacher is to provide a connection between the material and the students. In that regard I attempt to make the material relevant to their backgrounds and to provide, as much as possible, a foundation for their future, whether it be in academia or elsewhere. I try to gain my students trust, thereby having them think less about grades and more about the material. I strive to foster an environment in which students are comfortable enough to ask questions and participate during lectures. I stress the importance of asking questions and allow ample and frequent time for them.

For small classes, I am especially fond of the group-work method: At some point during a lecture, usually toward the end, I have the students work on a small problem in groups of 3 or 4 while I walk around the classroom and see how they are doing. This helps the students get to know each other, helps me evaluate the strengths and weaknesses of the students without having to wait for grades from problem-sets or quizzes, punctuates the lecture, and gives the students an immediate, hand-on involvement with the new material. While group-work is not always appropriate, when it is, I found it to be very effective.

Besides serving as a recitation instructor for several different courses, I have also taught two courses as a lecturer. In an effort to make UC Berkeley's *Numerical Analysis* course more practical than theoretical,

I was asked to create and teach a course for students that have had no prior programming experience. This *Introduction to Matlab* course was very successful and I taught it twice times at Berkeley and twice more at MIT. Since it was a "pilot" course both at Berkeley and MIT, it was not taken for credit. This year, the mathematics department at MIT is considering creating a similar course that will be taken for credit. The second course I have taught, once at Berkeley and once at MIT, is *Numerical Analysis*. I am slated to teach it at MIT again this year.

The thing that surprised me the most about teaching was that it actually *increased* my research productivity. With a reasonable teaching load, the schedule and interaction with students helps me structure my time more efficiently. Of course, I am happy to take part in the students' education, but I am even happier when this, in turn, helps my own research.

Other than structuring my time, teaching has another great benefit for me. Having to think about the material, even basic material, forces me to re-learn it, and I find myself asking questions that perhaps I should have asked earlier. When viewing the material through the eyes of the students, I see, once again, subtleties and complexities of the material that I thought I had understood.

As a way to promote the material, and to deepen my own understanding, I would like to teach graduate level courses in my field. Specifically, I would like to teach courses on *Physical Mathematics*, and *Asymptotics and Singular Perturbations*.