Teaching Experience: (See my CV for details). I have taught many courses at all levels ranging from classical mechanics algebra based labs, regular and remedial help sessions, algebra and calculus based lectures for Freshman physics to a variety of Biomedical Physics courses to advanced graduate level courses that include Statistical Physics, Classical Mechanics and Quantum Mechanics. Since I have been at UNC Charlotte, I taught Classical Mechanics I, Classical Mechanics II at the 4000 and 5000 levels, Classical Mechanics at the 6000 level, Quantum Mechanics I, Quantum Mechanics II at the 4000 and 5000 levels, Thermal Physics, Statistical Physics at the 6000 level. I also have supervised (or in progress) 8 undergraduate students in research (4 for Honors Thesis in Physics) and 2 students that I co-supervised. I have (or in progress) supervised 3 MS graduate students in Physics, co-supervised 1 M.S. graduate student in Chemistry, supervised 2 Ph.D. students in Bioinformatics and co-supervised 2 other Ph.D. students in Bioinformatics. I also have served on numerous graduate Thesis committees from Physics, Optics, Bioinformatics, Chemistry, Electrical and Mechanical engineering and Computer Science. I also have supervised 2 postdoctoral fellows, co-supervised 6 postdoctoral fellows, and co-supervised 2 Research Associates.

Teaching Interest: Teaching is a great opportunity for me to share my knowledge and experience with others. Personally, I find it very exciting to learn why something works a certain way, and enjoy sharing my excitement with students and colleagues. I consider myself a student. I am learning something new all the time. As I teach a subject I always find new things to learn, and often make direct connections with my research. I feel that this combination makes the academic environment special. In my lab, I enjoy teaching students and post doctorial researchers in an informal setting with many one-on-one conversations.

Teaching through Research: Active involvement in a research project is a great hands-on teaching tool to train a student how to deal with the unknown, and the unexpected. Interpret data and to question it. Find ways to test if the results are real or if you are making a mistake. Redefine a hypothesis, and how to make educated guesses. These basic skills do not require a student to develop new theories or methods, as is expected of Ph.D. students. I have involved many undergraduate and graduate students in my research. Research projects develop problem-solving skills for the real world. In addition, I show students the interdisciplinary aspects that are present in life science, and how other areas such as material science rely on computational and statistical physics.

Learning is hard: I have come to the conclusion that learning is hard. I always knew that Physics and other subjects that I really enjoy are hard for me to learn. If a student is finding learning something is difficult, this does not mean the subject is beyond you. It just means learning is hard. What matters, is whether learning something is interesting and enjoyable. The way I view learning is that it is a process that is essentially identical to learning how to play a sport. If a person likes to play a sport (say basketball) he/she needs to practice at playing the game over and over and over again. This is tiring, and is hard training. What drives the person is their passion for the sport. The same concept applies to learning. Never give up because something is hard to learn. Rather, expect learning to be hard. That is, plan on keeping up with your homework, because this is the process of practicing and working out your “brain muscles”. In my classes, I view myself as a coach, and I am giving you insight into the subject (game) and telling you how to train. Therefore, I expect my students (players) to work hard, and to be team players by trying to help classmates understand. Only after you have exerted much effort into learning something, if you find that you are not competing well with your peers, you perhaps need to consider pursuing a different field. Some people are born to be tennis players, others basketball players, swimmers, runners, etc. Why do we expect anything different from education and the learning process?