Statement of Teaching Philosophy and Experience

Throughout my academic career, I have been heavily involved in teaching and mentoring students from a wide range of cultures and backgrounds. This has included working as a teaching assistant during my graduate studies at University of Hawaii at Manoa where I organized and led 2 undergraduate Physics Laboratory classes of over 20 students each for a total of 3 semesters. In addition, I have also led weekly, 2 hour long, one-on-one tutoring sessions for 3 semesters. The ethnic and cultural atmosphere in Hawaii is one of the most diverse on the planet. The University of Hawaii system not only attracts students internationally from Asia and from around the globe, but also serves as the hub of higher learning for students coming from countries in the Pacific Rim such as the Marshall Islands and Micronesia. In this cultural melting pot, instructors are required to effectively convey information in an inclusive and efficient way while understanding each of the students' cultures and needs as best as possible. For example, these needs may include supplemental instruction if English is not the student's primary language, or additional attention if the student comes from a background where little emphasis is placed on STEM fields. Student evaluations for the effectiveness of my teaching and ability to communicate were "excellent".

My philosophy for teaching undergraduate Physics is to never get bogged down by the theory or equations. The primary driving force of a person's ability to learn is one's own self motivated curiosity. No other incentive to learn is more powerful and longer lasting than this. Therefore an instructor's priority at the undergraduate level should be focused on encouraging and cultivating the student's interest and curiosity. When I begin a class or introduce a new concept to students, I never begin with equations. I always first show them the experiment itself or introduce the context in an illustrative way. This is to engage the students' interest and entice their curiosity before going into anything that may slow them down and deter their motivation. Curiosity is where science is born from and curiosity is what drives science forward. This is true whether one is an undergraduate student or a Nobel laureate.

In society today, there is an unfortunate misconception that Physics is a difficult subject and that it is only for *smart* students. Nothing could be further from the truth. When students feel that they are not good enough or smart enough to follow the class, it is important to let them know that Physics is not about intelligence, but about curiosity driven diligence and hard work. All professional Physicists today stand on the shoulders of the giants of the past, and almost no research is done solely alone, but through collaboration and teamwork. No one is *smart* enough to do all the work by one's self. I usually use myself as an example. I could not attend a leading world-class research institute during my undergraduate school days, but I believe through diligence and hard work, I have had the opportunity to work with some of the most talented and innovative Physicists in the field.

Finally, my experience in mentoring students has also included teaching Geant4 Monte Carlo particle simulations to 3 undergraduate and 3 Ph.D. students at the University of California, Los Angeles (UCLA). My method for teaching this simulation coding toolkit is to learn together with the students by going into the gritty details of the code together. This is because learning how to code is not just about acquiring the skill to code, but about learning the culture of coding. By this I mean that there are certain useful tools and methods of accomplishing a task that can only be learned through going into the gritty details and getting *dirty* with someone more knowledgeable than you instead of learning from a straightforward top-down approach. This can be summed up in the popular saying: "looking at someone else coding is the best way to learn how to code". Through this method my students have grown to successfully been able to take on simulation tasks of their own and contribute effectively to the collaboration.