Teaching Statement

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During my post-doc at Harvard Medical School in Boston, it was heart-breaking to see cancer-stricken young kids next-door at the Dana Farber Cancer Institute. The helplessness of these unfortunate patients, due to the limited means of medical science today in controlling the incurable diseases like cancer, motivated me to raise awareness within the newer generation through research and teaching.

My teaching philosophy is to motivate students, by including latest research developments in teaching curriculum and exposing them to current research environments. I feel students should be encouraged to be curious. Now-a-days students aspire to be Mark Zuckerberg or the likes of him, who succeeded in converting a brilliant idea into an established business. If a teacher can inculcate anecdotes and career paths of researcher/entrepreneurs, perhaps that might draw attention to the subject. Once attentive, the sky can be the limit. Providing proper research or study direction will be all that would be required to succeed. Developing proper courses that exposes student to current research might be a very promising impact a teacher can have on his/her students.

I am currently working on a course called “Introduction to Immuno-Prognosis & Immuno-Therapeutics” possibly at the senior level. The course begins with an introduction to the immunity and cell-signaling mechanism of the human body. Thereafter students are taught how the normal cell-signaling mechanism is disrupted during the progression of terminal diseases viz. Drug-resistant TB, Cancer, HIV etc. Next, the current and conventional methods of treatment and their limitations are discussed, followed by an overview of clinical trials for newly designed drugs in the pharmaceutical industry. Prognosis and prevention in the form of biomarker detection and vaccine development, which is an emerging area of research, are taught in subsequent lectures. Finally Immunotherapy (targeted, combined, and molecular) is covered in detail for the above mentioned diseases. The course ends with a project, where the students write a review-report on one of the prognosis/therapeutic research paths of their choice. This might also be an excellent way to prepare for graduate studies.

I emphasize on practical training and scientific-socializing to fuel curiosity among students. By attending several symposia, conferences and career fairs, I met many people working in the biopharmaceutical industries and learned about their latest research and clinical trials. If I get an opportunity to teach an elective course as mentioned above, I would request my several acquaintances in Harvard, MIT, biotech/pharmaceutical companies, to set up lab/industry-tours for my students so that they get to see modern research environment. I would also be glad to ask my contacts in the industries to arrange for internship programs for senior-students, training them on Mass Spectrometry, bio-informatics, genomics, next generation sequencing of genes and bio-analytical chemistry along with use of modern software. This would give them a head start to their future careers.

As required by the department, I am well qualified to teach Physiology and to develop a course in my area of expertise (as described above), which would be very suitable for students choosing Biology major Professional Option, and provide them a strong platform for higher medical/research studies/jobs.

With my current research and teaching experiences, and having received excellent reviews by students and the head of the department, I firmly believe that I will be a welcome addition to the faculty.