

Summary of Teaching Philosophy:

The core concept of my teaching philosophy is to encourage students towards exploring, inventing and trying new things without the fear of failure. I envision developing courses based on hands-on experience and projects inspired by real-world applications from biomedical imaging, informatics and precision medicine. Instead of covering broad grounds in each course, I aspire to design classes where students can learn by example and apply new skills into subsequent projects while collaborating with clinical partners. Ensuring students' success is central to my teaching philosophy because I believe that success in academia is highly interconnected and we can be only as successful as our students.

Developing Hands-On Curricula

Having taken classes on several subjects at multiple institutions I have found that studying the technical subjects in isolation from their deployment often clouds the true understanding of the matter. To overcome this, I will use my experience in multiple imaging modalities to bring examples of challenging research problems into the classroom. I will develop courses based on informative lectures and case-study practice. Students will receive a lecture on a specific topic and will be given a case to work on their own. Instead of providing students directly with correct solutions, the proceeding lecture will be a discussion session, including an analysis of good and bad solutions, placing the focus on "why". This will enable the students to develop critical thinking and intuition for efficient problem solving — skills that are necessary to address real-world bioinformatic and medical challenges.

Project-based Learning

Project-based learning is a great opportunity to inspire a new generation of researchers. My classes will always include a project-base learning component. Students will be asked to form teams and write a research proposal with specific and realistic aims, outline solutions, identify pitfalls and propose possible countermeasures. Students will also be expected to actively interact with physicians and technicians, including the members of my lab. This approach will allow students to understand the concepts learned during the class in the larger context, enhance their communication and collaboration skills. The class projects could further serve as a basis for follow-up year-long projects or theses in my lab. Exposing students to direct research experience will allow them to build their portfolios and prepare them for the next steps in their careers.

Interface between Teaching and Research:

I believe that teaching is an essential part of the research process. Being able to explain fundamental concepts and complicated paradigms is a great way to learn and grow together with our students. I had a great experience working with undergraduate students at ETHZ, TUM and Harvard. It was enlightening for me to see how young students demonstrate great research potential when they are given the appropriate directions. Being inspired by my teachers, I am very much aware of how much influence a good teacher can have on young students and their career choices. Therefore, I take my role as a teacher seriously. Through my classes, I wish to transfer my passion for research to the students and inspire them to proceed their careers in similar fields. Seeing my students thrive, is not only a great reward but also beneficial, since the students will enhance the scope of my research as they spread out all over the country as future graduates and professionals.
