

Statement of Teaching Interests

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Teaching Philosophy.

Learning, thinking and teaching are synergistic to scientific research. I have been interested in teaching since I was in high school and consider it a highly respectable career that contributes to passing on knowledge and wisdom from generation to generation. Interaction with students and lesson planning enhances my understanding of the subject material, improves my communication skills and encourages creative and critical consideration of the subject, which is important for the scientific research. I propose to apply multiple teaching strategies to mentor the students. For example, I would explore interesting scientific questions with them, leading them in thoughtful discussions with classmates or other colleagues in UW-Madison. Stimulating students to independently engage in problem-solving surrounding important scientific questions will attract them to science. In addition, I believe in establishing a favorable learning environment that encourages each student to discover scientific areas of personal interest. Greater success and learning are generally observed when students are motivated to work hard on a project that sparks genuine enthusiasm, and each student will have unique interests and skills that they can advance by engaging the project. For example, some may have strong computational skills and interest in addressing questions by applying analytical or programming approaches while others may have strong hands-on ability and enjoy the development of prototypes. Students may also learn to work on projects collaboratively, with each contributing their own skills and talents to achieving the project goals. Finally, as an instructor, I will not only introduce them to facts, but also provide them with insights into scientific history and evolution of scientific problem solving and support them in thinking through or understanding the problem in their own way. We have been pursuing personalized medicine as an effective concept for health management for many years now and I propose to expand that conceptually to 'personalized teaching' and its application to the UW-Madison community. Students are among the most important assets of UW-Madison research community, since students often engage in problem-solving in straightforward, fundamental ways that are often highly conducive to advancing science.

Teaching Experience. I began teaching as an undergraduate student (2005-2009), providing private tutoring to more than 14 high school students in mathematics, biology, physics and chemistry to help them achieve high scores on the college entrance examination. The majority of these students scored high on the examination and entered into the best universities in China, including Tsinghua University, Peking University and Fudan University. I have continued to maintain excellent relationships with them, and they keep in touch with me to discuss some scientific questions. This teaching experience was highly rewarding since it helped me to find a personalized way to help the student understand difficult mathematical or physical concepts and principles. Throughout graduate school in Fudan University (2009-2013), I held a series of teaching assistant positions including population genetics, human evolution, and medical genetics. I expanded on approaches that helped students to solve problems. For example, we established an online workshop where students could ask questions in real-time to advance their understanding. In order to monitor the online workshop in real time, we implemented a cell-phone short-message notification when a question was posted so that we could respond quickly. We demonstrated this as a great way to build a close connection between the teacher, teaching assistants and students since deep discussion among students and teachers utilizing this approach resulted in the generation of two scientific manuscripts. This online system is still being used in these classes. We archived the questions each year so that new students attending the class can review answers to most frequently asked questions. In addition, I also partially mentored multiple B.S. and M.S. students. For example, Dr. Weilin Pu, he received his Ph.D. in Fudan University and later received special funding from Shanghai government for his postdoc research in Fudan University on Genetics and Epigenetic research. He published seven peer-reviewed papers during his Ph.D. program and I was the co-corresponding author in four of them.

Teaching Interests. I have a wide range of teaching interests including human genetics, medical genetics, population genetics, epigenetics and medical epigenetics for undergraduate, graduate, and medical students. I can handle multiple graduate classes, such as:

Genetics 525: Epigenetics
Genetics 565/566: Human Genetics / Advanced Genetics
Genetics 633 : Population Genetics
Genetics 662: Cancer Genetics
Genetics 701 and 702: Advanced Genetics I/II
Medical Genetics 707: Genetics of Development

Meanwhile, I am quite interested in offering a course on "computational biology" for graduate students since I have been working on this field for almost 10 years. In this class, epigenetic biomarkers, epigenetic regulation network, genetic and epigenetic interaction, environmental epigenetics, epigenetic drug target discovery, pharmaco-epigenomics (PeGx) could be explored.