**Applied Program: Food Engineering**

I have been fascinated with the science of food and food products since long before I knew I could earn a degree by studying the subject. I have always enjoyed experimenting with recipes and discovering how and why food would turn out a certain way. Unfortunately, I was not able to begin my university studies immediately after high school because I failed the National College Entrance exam due to carelessness and a lack of the willpower to study. It was a bitter lesson for me, but I did not give up and spent a sweltering summer studying countless textbooks. The hard work paid off, and I was accepted by the Food and Science and Engineering department of the Tianjin University of Commerce in 1997. This experience also gave me determination, drive and a sense of responsibility. Meanwhile, impressed by my perseverance, my parents promised to give me a chance by offering their financial and moral support.

I was determined not to let this opportunity slip away and I worked and studied very hard. As a result, I was able to earn two degrees at the same time with an excellent academic record. I was also a member of the Class Committee and our department’s Student Union. I took part in many sports such as table tennis and basketball, and developed the habit of working out at the gym twice a week. These extracurricular activities helped me to relax and maintain a focus on my academic studies while also contributing to my self-confidence.

During my sophomore year, I took part in a student research training program. As a group, we conducted research into the properties and utilization of soybeans. This was a tremendous learning process for me because I had to learn and comprehend a level of professional knowledge in a research area with which I was previously unfamiliar, but within one month I was well acquainted with the whole program. By participating in this project, I learned media preparation, food analysis methods and other basic experiment skills. It was very exciting to see my roommates and classmates enjoy the food products that we designed.

Despite my academic success, I still felt that I lacked focus in determining what I wanted to do in the future. I attended a lecture by a celebrated professor named Haoqian Tang, which proved to be a turning point in my academic career. Professor Tang opened my eyes to the advantages of interdisciplinary study by showing us that food science and technology should not be approached as an isolated field that is unrelated to the other sciences, rather that the other disciplines should strengthen and invigorate the subject. Professor Tang’s wisdom held the solution to my lack of focus. Following that morning’s revelation, I took a second look at my plan of undergraduate study and registered for a second major in Information Systems Management, which gave me a tremendous working knowledge in computer technology. Although this second major gave me a huge workload of forty class hours every week, it taught me valuable time management skills and how to use computer technology in the area of food engineering. Thanks to Professor Tang’s provocative interdisciplinary theory, I gained a clearer perspective on the principles of food science and technology as well as my own future.

My professors noticed my newfound vigor and helped to push me to an even higher learning level. During my senior year, we were assigned to design a milk processing plant. I not only accomplished my work in advance but also designed the milk plant using CAD/CAM. This work experience put Mechanical Drawing into practice and also sharpened my insight into the whole procedure of plant design and manufacturing technology. I then found myself deeply absorbed in the design field. My thesis was titled “The Application of the Electronic Nose”, which combined my knowledge of computers with my interest in food engineering. I set up an “electronic nose” with a sensor system and a computer recognition system that was able to detect pork meat odors by using gas sensors that measure the change in voltage due to the presence of certain chemicals. This allowed for mechanically judging whether pork meat was spoiled, which earned me high praise from my supervisor. Although the research only proved a small step toward understanding the spoilage mechanism, it was a big step for me. Through this work, I acquired valuable experience in every aspect of independent research, and I learned the value of integrating many disciplines within one project.

My studies in your Ph.D. program can help me to further develop my interest in the field of food science and engineering. I am fascinated with food engineering theory and equipment and mechanical drawing. I would like to conduct further research into improving existing food equipment or even inventing something entirely new that will help create safer food products. My primary research interest lies in the study of biosensor technology and its applications in the field of food engineering.

At Texas A&M, I am interested in working closely with Dr. Rosana G. Moreira as my supervisor. Dr. Moreira has indicated an interest in further study in biosensor technology and the development of nano-biosensors to detect microorganisms in foods, which falls in line with my academic interests. I would also like to work and study with Dr. Elena Castell-Perez because she is the Director for the Center of Food Processing and Engineering at Texas A & M, and I believe that I could learn much practical knowledge by studying under her guidance.

In the future, I would like to be able to design and develop my own food equipment for use in food engineering. Processing efficiencies related to the use of resources such as energy and water in a number of food operations will require dramatic improvements in the food engineering field. After carefully comparing the strengths of many universities, I found that the Institute of Food Science and Engineering at Texas A & M University would provide the ideal environment to continue learning. It provides a competitive and inspiring academic atmosphere, the chance for active and fruitful research, access to state-of- the-art facilities, and close interaction between students and its distinguished faculty. Perhaps most importantly, Texas A & M food scientists synthesize all of the sciences to make new breakthroughs in research. I know that I can thrive in this environment, and I look forward to your program to enrich my competency as a scholar and accomplished food science professional.