**Applied Program: Electrical Engineering**

"Nothing in this world can take the place of perseverance. Talent will not; nothing is more common than unsuccessful men with talent. Genius will not; unrewarded genius is almost a proverb. Persistence and determination alone are omnipotent." On an accidental occasion, I read those words. Thenceforward, I, who have grown habituated to finding joys out of the turns and twists of life, have acquired an additional companion on my journey of life---Perseverance. Optimism and steadfast resolution are two most precious qualities that the Creator has endowed in me. These qualities also constitute the rare assets and the eternal driving force underlying my relentless efforts, my intrepid quest, and sustained achievements.

The moment I started my undergraduate studies in the specialized field of microelectronics, I had been supported by the creed of "striving for the best". It was with indefatigable ardor that I devoted myself to the study of every course related to microelectronics, a field in which I am determined to pursue a lifelong career. As I said, I was fascinated by every specialty-related course, further intoxicated with each electrical circuit that I welded and immersed myself in the inquisition of each complicated processing technique. In particular, in undertaking my graduation design, my solid theoretical knowledge and strong hands-on ability were perfectly combined in completing a set of circuits that I independently designed and for which I received highly positive comments from my advisor. My hard efforts paid off. In the entire course of 4-year undergraduate studies, I was awarded special scholarships twice, first-class scholarship once. Upon graduating cum laude and as No. 1 student among 73 students of my grade in the Department, I was admitted into Master's Program in the Department of Physics of my university without being required to take entrance examination.

In my graduate studies, I focused my research efforts on the Dynamical Behavior of Chaos in Josephson Circuits and the Control of Chaos, and on How to Realize the Chaos Synchronization Between Two Identical Josephson Circuit Systems. The chaos study reveals the complexity generally existing in both the natural and the human world, the unity between the randomness and orderliness, the fusion between certainty and uncertainty. In natural sciences and social sciences, in terms if the scope of application, the multi-disciplinary nature, the extent of comprehensiveness, the chaos study has reached an unprecedented level. Furthermore, as chaos study is a multi-disciplinary subject, my research of it has provided me with a versatile golden key with which I can explore into provinces of knowledge that seem apparently unrelated. This gives me a sense of achievement.

On account of my deep interest in this subject and my prominent performance in academic matters, I became a member of a research team on the Behavioral Study of Chaos of Josephson Vibrant Tank, a project sponsored by State Natural Science Foundation. I was responsible for statistics simulation of the model of Chaos Dynamics. Because I adopted the fixed step length 4-phase Longhekuta method for simulation, the choice of step length was a key procedure, apart from the proper construction of the model. The improper choice of the step length would directly result in incorrect simulation results. Having completed a large quantity of numerical simulation, I came to realize that the basis for determining the proper step length lies in the dynamic model itself. A study of its physical characteristics, as well as the determination of various physical and mathematical concepts, would provide a ready solution to the problem. In the process of studying the dynamical behavior of the Josephson Junction with DC bias and RLC coupling by numerical simulation method, I discovered that, under the circumstances in which a biased electrical current is selected, the system displays the dynamical phenomenon of the co-existence between the third stage and chaos. With regard to this phenomenon, I wrote a paper entitled Studies of the DC Biased Josephson Junction Coupled to a Resonant Tank, in which I presented the corresponding geometric structure of the attractor and the attraction domain, thereby providing important reference values for the smooth working of Josephson components. The paper was published in xxxxxxx (Issue xxxxxxx), the most authoritative academic journal on Physics in China. I have also completed two other papers, Control of Chaos in the RF-Biased Josephson Junction and Influence ofo the Thermal Noise, and Control of Chaos in the DC Biased Josephson Junction. Both of them will be published soon. Each step of progress that I have achieved in undertaking this project is a form of reward for my industry. It has also tremendously increased my confidence in accomplishing even more important research projects.

At present, I am responsible for data collection for the project termed Study on the Matching Symmetry of Super-conductor Under High Temperatures and the Vortex of Fractional Quantum. Meanwhile, I act as teaching assistant on two courses Higher Mathematics and Dreamweaver Software. I explained the difficult and perplexing concepts in simple terms and in a vivid manner, helping my students to directly understand the essence of the problem. The students really like what I teach them.

It has been more than 30 years since the establishment of the study of chaos as an academic discipline. Since 1990's, the breakthroughs achieved by the international academia in the field of chaos synchronization and in chaos control have demonstrated the alluring and the bright prospect of the application and development of this science. The synchronization and the control of chaos are two live issues in present chaos science. But, internationally, the theoretical framework of chaos science, including the theory of chaos control and chaos synchronization, is far from perfect. A large part of chaos science is directly formulated on the basis of experiments, without adequate theoretical explanations. In the relatively backward Chinese academia, innovations and breakthroughs in chaos research are sorely needed. Indeed, my inherent passion of "striving for the best" has generated in me the desire to seek the most advanced knowledge and expertise in the United States, to probe into the most sophisticated problems with cutting-edge technology.

I have become increasingly aware that only by borrowing from the Western advanced countries the relatively complete and systematic theories of chaos science and integrating them with the research findings of Chinese scholars in this field and with China's actual circumstances will it be possible for chaos science to be applied on a pragmatic basis. I clearly know that this will be an arduous and long campaign. My usual perseverance and optimism will once again be my weapons in the achievement of future victories.