**Applicant: XX     Program: Optical Communication**

A unique research experience happened in the second semester of my sophomore year when I was recruited into a research team on the Simulation Experiment of Optical-Fiber Communication System, a project sponsored by our institute and led by a supervisor of doctoral program. In the project, I was made responsible for studying the non-linear effects in the single-mode optical fiber. Even though I consulted a large quantity of technical literature, a considerable number of simulation statistics and diagrams were new to me. After some initial disorientation, I carefully analyzed those statistics and diagrams that were most typical of variations. For more than two weeks I virtually “lived” inside the laboratory and, each time a major difficulty cropped up, I warned myself not to stop midway. My perseverance finally ended up in a detailed and substantive treatise which won unanimous praises by faculties members and my advisor commented on it as “a major achievement for an undergraduate.”

This experience turned me into a research-oriented student and triggered my yearning to undertake even more research because doing research gives me a sense of achievement. When your envisioned results turn into concrete reality and your concepts materialized, you are bound to be overwhelmed by your own creativity. Without this sense of delight in the wake of overcoming research challenges, I might pursue the normal course of action for most average undergraduates— seek immediate employment as a professional in the labor market upon graduation. However, I have a different idea about my personal development and a researcher of optical communication is what I want to be.

As a graduating student from the Department of Optical & Electrical Engineering, University of XX, I am determined to pursue a research-intensive Master’s program in Optical Communication subsequent to my undergraduate program in China that ends next summer. In searching for an education and research center of world-class excellence within the field of optical technologies, I have prioritized on the Research Center XX, affiliated with and located at the University of XX. This is because XX, though established in 1998, is strong faculty of 125 staff and 55 Ph.D. students committed to the development of a Danish strongpoint, systems in optical communication networks, in materials technology. Most importantly, XX’s research falls across such specialties as Optoelectronics, Optical Transmission Systems, Communication Network, all of which correspond to my past education and research backgrounds and my future study and research interests.

I deem myself well qualified for undertaking challenging study and research at this prestigious institution. Academically, I have received a solid yet comprehensive education in Optical Engineering. This education background makes me a strong candidate for your program because the Department of Optical & Electrical Engineering of XX is among the top 3 departments in the entire nation, its Optoelectronic Research Institute is most prestigious in China and even in Asia.

A level-headed self-evaluation indicates that I have excelled in three crucial fields, all of which are of special significance to undertaking your program. They are Optics, Communication, and Computer Technology. My academic transcript will show that I have done exceedingly good coursework in Applied Optics, Wave Optics, and Optical Fiber Technique & Application. I have also studied Principles of Communications, Digital Circuits, Analog Circuits, and Signal and System with equally satisfactory results. One thing special about doing my coursework is that I was selected representative of two specialized courses (a position usually for the student who performs best in the relevant courses), which required me to coordinate in the faculty-student interactivity in the teaching-learning process. In connection with my coursework on communication, I studied Fiber-optic Communication Systems by Govind P. Agrawal and Digital and Analog Communication System by L. W. Gouci, which further deepened my understanding of the subjects. My proficiency in C language enabled me to pass the national level-II computer C language test as early as when I was a sophomore, one of the two students in the entire department to pass the test. With an overall GPA of 3.4 and a major GPA of 3.52, I have consistently ranked among the top 5 in my grade comprising of 60 students in terms of academic performance in the specialty. In addition, I have gained sound knowledge in theoretical physics and mathematical physics. All these constitutes a firm foundation for me to embark on more advanced studies.

Apart from the research on the aforesaid Simulation Experiment of XX, I took part in another important research project—XX—when I was a junior student. As in the first research project, it was something strange to me. Yet once again I proved myself an efficient and effective learner. In two weeks, I mastered what usually takes two months to learn. Through repeated experimentation, I simulated the couplers with different parameters until I singled out the coupler which most agreed with the practical standards. An essential outcome of my month-long efforts was my mastery of the Matlab programming software and the beamprop simulation software.

Through an internship during the summer vacation of 2002 at  XX Company in XX City, I gained useful knowledge of communication. Working part-time as an assistant engineer, I was allowed to engage in the design of an end-to-end total solution to the broadband digital access network.

With its unparalleled advantages, fiber-optical communication is bound to replace the conventional electronic communication. As rapid changes take place in fiber-optical communication, it is necessary for students and researchers of fiber-optical communication to constantly upgrade their knowledge and to develop new concepts, methodologies and techniques. If the principle “only the fittest survives” applies to the world of biology, then the principle “only the most advanced survives” applies to the world of technology. Well-founded academically and equipped with important research potential, I hope to study and research under the XX staff members and the pursuit of excellence will be the common objective I share with XX.