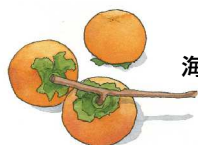


Study in Osaka University ～ A Way to Make Dream Come True ～ 大阪大学留学記 ～夢を実現するために～



海外交流

Le Quoc TUAN *

Le Quoc Tuan 博士は、現在、ベトナム国立 Nong Lam 大学環境・自然資源学部の学部長の職にある。Tuan 氏は、2004 年にベトナム教育訓練省 (MOET) の奨学制度を利用して、大阪大学大学院基礎工学研究科英語コース博士後期課程に入学し (1 期生)、在籍期間中は、博士学位論文に関連する研究活動に集中して原著論文 7 報の成果を挙げ 2008 年に博士号を取得した。その傍ら、2005 年日越学生科学交流セミナー (豊中キャンパス開催) の Chairman、2006 年化学工学学生英語コロキウム (豊中キャンパス開催) の学生実行委員、2007 年基礎工学日越学生国際セミナー (ベトナムハノイ開催) の学生討論 Instructor など、日本-ベトナムの交流活性化に主体的に貢献してきた。ベトナムに帰国後、Nong Lam 大学にて学科長を経て現職に就いているが、国内に限定せず様々な国 (日本、フランス、タイほか) に出向いて、彼自身の国際交流の幅を広げている。Tuan 氏とはその後も交流を続けており、滞在中は、大阪大学基礎工学研究科の理念の重要性について語る事も多い。Chemical Engineering Scientist として、母国の人材育成 (教育) と研究に従事しながらも、国際的な人材ネットワークのキーパーソンとなってくれるものと信じている。以下は、Tuan 氏が大阪大学在籍中に学んだ事、感じた事、考えた事を、率直に執筆頂いた留学記である。(馬越 大)

In 2004, after a difficult entrance examination to select students for Project 322 of the Ministry of Education and Training, I was awarded scholarship by the Government of Vietnam and was sent to Osaka University, Japan. This is the 3rd ranking universities in Japan. To study in a prestigious university in Japan is the pride of many students, but also difficulties in the study, which requires students to their utmost effort to achieve scientific achievements certified by scientists around the world. Requirement of Osaka University is 03 international articles to complete the doctoral program. This is considered a very difficult task, but when successful, it deserves a real scientist.

The first two years of the PhD process in Japan is considered one of the most difficult stages of the process of learning and research because there is a difference in ways of thinking and doing their own research and leading professor. I myself also lacked access to in-depth studies. However, with the hard to find stuff then I had to learn to solve difficulties and problems in research orientation.

Studying four years in Osaka University is a challenge for me. I always remember a slogan of Osaka University "Live Locally, Grow Globally". To become a global citizen, I have to study hard in a stress environment. In this environment, I have been trained and educated with a plenty of knowledge from famous professors. Under a supervision of Prof. Ryoichi Kuboi and Assoc. Professor Hiroshi Umakoshi, I myself choose a way to success by perusing a subject "Membrane Stress Biotechnology". Under stress condition, we can find out various functions of membrane such as

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molecular recognition and chaperone, enzyme activation and enzyme-like function, etc.

Doctoral program was completed with the significant work is considered as “*Liposome-Recruited Activity of Oxidized and fragmented superoxide dismutase*” was published in *Langmuir*. This work was ranked in the Top 100, Academic Achievements of Osaka University 2009 succeeded in finding the reaction mechanism between the denatured protein with artificial membranes has helped me get the subsequent work related to the recovery response proteins, peptides, enzymes become inactivated the enzyme complex capable of survival in the stress conditions of the environment

and continue to show inherent function of the enzyme. This is seen as a basic research related to the ability of the correct protein structure with the help of the membrane.

In the process of learning and working in Japan, I have been involved in major research projects of the University of Osaka, first, the project “The 21st Center of Excellence” of Osaka University, Japan on ecological chemistry, second, “Global Center of Excellence” on Bio-Environmental Chemistry. In these projects, under the direction of supervisors, my task is to complete research projects related to the endurance of the artificial membrane complexes with different components of cells, characteristic especially enzymes. The free enzyme in the cell is easily inactivated in oxidizing environments, high or affected by the toxin, so the enzyme associated with the plasma membrane, or when the substances are inactivated by oxidants (superoxide, hydrogen peroxide, hydroxyl radical ...), then this interaction will make the enzyme becomes more stable, or been restored and continues to catalyze reactions inside or outside the cell. The two enzymes important in my research is SOD (Superoxide Dismutase, enzymes that catalyze metabolic reactions superoxide into oxygen and hydrogen peroxide) and CAT enzyme (catalase, the enzyme that catalyzes the transfer of hydrogen peroxide to water and oxygen. This is two important enzymes in the antioxidant system of the cells under the effect of high oxidants generated by metal ions or cyclic organic structures.

Beside the study, I have some activities to cooperate with the Japanese students and international students by organizing the “Vietnamese and Japanese Students’ Exchange Meeting” in Osaka, Kobe and Kyoto Universities. In these meetings, we can exchange the scientific ideas, strengthen the friendship and promise the future cooperation.

I am very satisfied with the research condition in Osaka University, especially in Graduate School of “*Engineering Science*”, which

through devotion to the fundamental developments of technology through a **Fusion** of science and engineering, contributes to the creation of the true culture of mankind. Library with many kinds of books and references, The Internet with plenty of journals make me pleased when doing research and experiment. All is very convenient for a foreign student. Moreover, I have a good chance to work and study with kind friends, colleagues, teachers and professors. They are willing to help me to overcome many difficulties in daily life and researches. That make the view point of “the creation of the true culture and mankind” to be ideal.

After completing a doctoral program at Osaka University, with the goal of the effort to devote myself to the development of the Vietnamese school and faculty, I determined to return to Vietnam and continued to work for the University of Agriculture and Forestry (Nong Lam University) from 2008 to present. Despite the difficulties in settling down (in

economic terms for the first time), but with effort and struggle, coupled with the encouragement of school leadership and colleagues I gradually realized that university lecturer is a noble profession, it is not balanced to using material that was confirmed by the spiritual and social respect. Because of that, I was assigned the task of teaching the subject of his specialization, which subjects are considered the most favorite subjects that is “Environmental Toxicology”. When become a dean of Faculty from 2010, I always trust in myself that to be educated in Japan is an excellent experience in my life.

Finally, I am proud to be one of the students (Engineering Scientists) in the Graduate School of Engineering Science, Osaka University. When I studied and graduated from Osaka University, I always believe that I can open a new sight to the world as a slogan I have seen in Graduate School of Engineering Science, Osaka University.

