Bio Tokyo Tech News Letter No.13

Graduate School of Bioscience and Biotechnology
Tokyo Institute of Technology

Contents

Message from the Dean

Professor Tomoya KITAZUME

Dean, Graduate School of Bioscience and Biotechnology

Tokyo Institute of Technology is planning commemorative events to celebrate the 130th anniversary of the institute's foundation at the end of May 2011. The School and Graduate School of Bioscience and Biotechnology are planning to hold a Homecoming Day during the Institute's Open Campus from May 13 to 15 for a gathering of alumni.

In addition, construction on the 20-floor J3 building on the Suzukakedai Campus is progressing. In 2 years time, the J2 and J3 high-rise buildings will stand side-by-side, and approximately half the Bioscience and Biotechnology laboratories will move to J2 and J3 from our current, cramped space in buildings B1 and B2, providing us with a fresh start in our new spacious research

environment at long last.

Some 20 years have passed since the School of Bioscience and Biotechnology was established; only a few faculty from our early days remain now as faculty breathing new life into the graduate school have joined us from various fields. With the completion of the J3 building, our graduate school will be taking a fresh step forward into the future.

New Staff

Studying Mitosis: How Cells Pass on Their Genome as They Divide

Associate Professor
Toru HIROTA
(Biological Sciences)

My laboratory at the Cancer Institute of Japanese Foundation for Cancer Research (JFCR) aims to understand how cells pass on their genome as they divide. Transmission of the genome depends on the structure and function of chromosomes, and on the machineries that segregate chromosomes, including kinetochores, microtubules and centrosomes. Our ultimate goal is to illustrate the molecular basis for the structure and function of chromosomes and for machineries that control chromosome behavior. These should provide a connection between the perturbation of chromosome dynamics and development of malignant cells. Cell division may sound like one of the classics of cell biology, but there are indeed numerous unanswered questions in this research field. Your enthusiastic contribution to the study of mitosis is awaited.

New Staff

Protein Folding, Chaperone, Prion and More!

Professor
Hideki TAGUCHI
(Biomolecular Engineering)

Proteins must fold into the correct tertiary structure in order to achieve their function. However, protein folding often competes with intermolecular protein aggregation, which usually impairs protein function. Cells prepare molecular chaperones to assist protein folding by preventing aggregation. We are interested in the molecular mechanisms and cellular roles of chaperone proteins, particularly chaperonin GroEL in eubacteria. In addition to chaperones, we are extending our research to pursue the mechanisms of yeast prion propagation and protein aggregation formation. I hope our quest to understand the secret of protein folding will help pave the way for novel protein sciences.

New Staff

Development of Novel Strategies and Biomaterials for the Imaging and Targeting of Diseases Using In Vivo Bio-imaging Systems

Professor
Shinae KONDOH
(Biomolecular Engineering)

I joined the Tokyo Institute of Technology in April 2010. Before that I had been engaged in medical research at the Kyoto University Graduate School of Medicine. This is my first experience in the engineering domain. I aim to apply my knowledge gained through basic medical research and contribute to the fields of education, personnel training, and research here.

As my main research field, I have been developing biosensor-type diagnostic and treatment materials which target cancers (especially hypoxic cancers), and have been optimizing these by evaluating the materials using in vivo optical imaging with laboratory animals. I intend to perform collaborative research to contribute to the discovery of engineering products that can be put to good use in the medical field.

(Photo by Harui ARAI)

New Staff

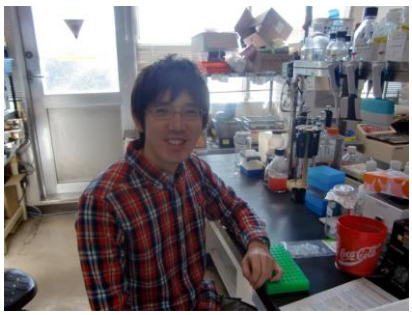
Associate Professor
Kumiko TOGAWA
(Biological Information)

The main goal of our laboratory is to visualize and elucidate cell signaling processes from the cell membrane to the nucleus using the technique of single molecule imaging and quantification. To this end we have focused on the development of novel types of fluorescence microscopy for use in single cell/single molecule studies. We have also established methods to obtain isogenetic cell lines expressing two fluorescence tagged proteins at homogenous and low levels. These techniques allow us to observe multiple molecules simultaneously and to analyze quantitatively the interaction of signaling proteins in living cells.

New Staff

Associate Professor
Nobuhiro NAKAMURA
(Biological Sciences)

How are you doing? Hope you are doing well. Let me briefly introduce myself to you. I was appointed as an associate professor of the Department of Biological Sciences in September 2010. I have been at TOKYO TECH since enrolling here as an undergraduate student in 1994. After receiving my PhD in 2003, I worked in Professor Shigehisa HIROSE's lab as an assistant professor. During that time, I was very happy to experience the joy of teaching and working with many students, and was fortunate to make some interesting discoveries in the fields of molecular and cell biology. Now I am studying the regulatory mechanisms underlying the functions and morphology of intracellular organelle, including endoplasmic reticulum and mitochondria, by focusing on the roles of novel factors regulating protein ubiquitination (such as ubiquitinating and deubiquitinating enzymes). In particular, the ubiquitination of mitochondrial proteins is a hot topic these days due to its close connection to apoptosis, aging, and neurodegenerative disorders such as Parkinson's disease. I hope that my work invokes more research interest and enhances understanding of this field. I will do my best to maximize my contribution to this institute.



Event

Global-COE Special Event "YOUKOSO SENPAI !!"

The Graduate School of Bioscience and Biotechnology has been designated as a Global-COE research/education base since FY2007. This year we also invited graduates of the Graduate School to a lecture entitled "YOUKOSO SENPAI!!", which was held on December 8, 2010 at the Suzukakedai Campus (multipurpose hall). This year, too, speakers talked enthusiastically about their memories of the Graduate School of Bioscience and Biotechnology as well as their current occupations.

Speakers

・Akiko MURAKAMI (Shizuoka University)
・Shinji HONDA (University of Oregon)
・Naoya KOIZUMI (AJINOMOTO Co., Inc.)
・Nozomu TAKEUCHI (Chiba University)
・Itsuki AJIOKA (Tokyo Medical and Dental University)

Event

Summer Holiday Special Lecture for High School Students: "Discovering Fluorescent Proteins and Embryonic Stem Cells"

Assistant Prof. Ichiro HARADA
(Biomolecular Engineering)

The Tagawa Lab introduced green fluorescent protein (GFP) and red fluorescent protein (RFP) expressing embryonic stem cells to the high school students who attended the 2010 Summer Holiday Special Lecture [Series]. During the lecture, the students were also able to participate in various basic procedures, including the separation of cells into color specific colonies and the cell cloning process. This lecture was very timely for the students as the discovery and development of GFP was the basis for Dr. SHINOMURA's selection for the 2008 Nobel Prize in Chemistry. Embryonic stem cells have received a lot of attention in the media recently, and the students enthusiastically participated in experiments using these cells. The students also helped with everyday activities in the lab, including the preparation of Pasteur pipettes used to pick up embryonic stem cell colonies. This helped the students understand some of the practical challenges faced when handling embryonic stem cells, demonstrating to them that this is not as easy as it is often portrayed in the movies and media.
The students were fascinated to view GFP for themselves directly through a microscope. They also toured the labs and were amazed at how different they were from what they were expecting.

Awards

Tokyo Tech Special Contribution Award Presented to Dr. Megumi KUNOU

Prof. Shigehisa HIROSE
(Biological Sciences)

The 2010 Tokyo Tech Special Contribution Award was presented to Dr. Megumi KUNOU (May 26, 2010). This award is given to staff who have made a tremendous contribution to the smooth implementation of research and education over many years. Although Dr. KUNOU is a very busy person, she made time in her busy work schedule to sit down to an interview. Considering her work ethic, Dr. KUNOU's receipt of this prize is completely unsurprising, but I was surprised to learn that she donated all of the 300,000 yen in prize money to Tokyo Tech's 130th anniversary fund. If you are a writer—and even if you are not—this is a person you would want to write about.

For me, Dr. KUNOU is the person who set up a stage that has moved me more than the "Seven Samurai". It was she who was behind the installation of seven computers in the 1st Floor Entrance Hall. When I was acting as Dean, Dr. KUNOU said that we needed easy-to-use computers for students, and even suggested where they could be installed. At that time we had tens of computers for student use, but management was too tight and the computers could not easily be accessed. Until I learned about the actual situation, I had not imagined that the computers were being managed so strictly. Students receive the keys in exchange for their student ID card. First of all, they unlock the lecture room and go inside,

then open the computer storage locker with another key and take out a notebook computer to use. All this seems a bit much, and not just for students. In fact, except for a few lectures, the computers had seen very little use. Moreover, students could only receive the keys during staff working hours, making it virtually impossible for students to use these computers. I was also surprised by the passion shown by the people who devised this management system and implemented it at tax-payers expense for their "work". This became a case of teaching by negative example, and Dr. KUNOU's proposal was implemented in a more radical form so that we now have the current system. Students can now access computers 24 hours a day, 365 days a year without needing a key. I am sure seeing the 1st Floor computer space overflowing with students made Dr. KUNOU very happy.

Here I will take this rare opportunity to mention Dr. KUNOU's background. She was born on July 7, 1958 in Ueno (now Iga) City in Mie Prefecture. Here she lived until junior high school, then at age 16 she enrolled in the Suzuka National College of Technology. At age 20 Dr. KUNOU transferred to Toyohashi University of Technology, studying in the materials science course. She left the university in the second year of her Master's degree course and began working as a technician in the Toshihiro AKAIKE laboratory at Tokyo University of Agriculture and Technology. Here she worked for seven years before coming as a technical staff with Dr. AKAIKE to Tokyo Tech. In 2000 she received her Doctorate degree based on research into synthetic sugar chains and their physiological activity. In addition to her designated duties in the laboratory, Dr. KUNOU also played a central role in the safety management of the graduate school overall, liquid waste disposal, and LAN maintenance/operation. People to note of her work, and approximately three years ago she was headhunted by GSIC, which is responsible for LAN maintenance/operation for the entire institute.

Dr. KUNOU met her husband while a student at Nagaoka University of Technology. One may assume that they were classmates, but in fact her husband is three years younger and specialized in a different field, mechanics. They lived in the same boarding house; her youth reads like a novel. Dr. KUNOU's husband works for a measuring equipment manufacturer. While working at Tokyo University of Agriculture and Technology, Dr. KUNOU lived in the same university faculty residence with her husband and kept a cat called Supra. When the faculty residence was demolished and Dr. KUNOU moved to a privately owned apartment building, as part of the family Supra moved with her as a matter of course. After Supra passed away at the ripe old age of 16, Dr. KUNOU acquired two more cats, Pascal and Macro. Three years ago (2007), when Dr. KUNOU moved to the Ookayama faculty residence, her two cats—now aged 12 and 5 respectively—also moved with her. Both are big-bodied cats weighting 8kg each. Speaking of cats, there was a picture of a cat in the organic chemistry textbook I used in my students days. The authors, Louis and Mary Fieser, were great cat lovers and adored their pets as if they were their children. The textbook also mentioned the cat's name, but it slips my mind now. Since the textbook was only completed because of the cat (because the cat soothed the authors), you could say this cat launched the textbook into the world. Supra, Macro, and Pascal will no doubt continue to be spoken about by future generations as the cats that ran Tokyo Tech's LAN.

While joking that she is "tormented" (her name has the same pronunciation as the Japanese word for "anguish"), Dr. Megumi KUNOU works through the night to support our education and research environment, and I would like to take this opportunity to express again to her my gratitude for this.

October 11, 2010

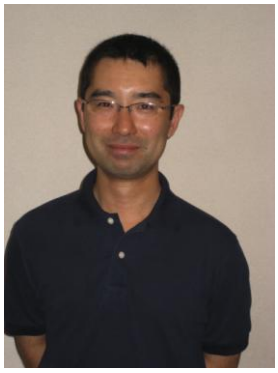
(Sadly, Dr. KUNOU passed away on January 24, 2011 from cancer. Undoubtedly many people will find it impossible to believe she is gone. Despite her battle with malignant small-cell lung cancer and requiring large amounts of analgesic drugs, Dr. KUNOU continued to chase around the campus until well into the night. Finally arriving home, she

would day after day collapse in the entrance hall, her husband pulling her inside. Since her hospitalization at the end of November she was rarely able to go outside, and would talk with tears in her eyes about how she wanted to visit the Suzukakedai Campus one more time.)

Pascal Megumi KUNOU Macro

Ajinomoto Award in Synthetic Organic Chemistry, Japan

Assistant Prof. Takeshi HATA
(Biomolecular Engineering)



In 2009, I received the Ajinomoto Award from the Society of Synthetic Organic Chemistry, Japan, for my project. This award aims to encourage new and original studies in the field of synthetic organic chemistry and support companies that provide grants for projects' seeds.

For my project I am developing new synthetic reactions using chiral amino compounds. Chiral amino groups, which exist in biomolecule-like amino acids and alkaloids, were converted into leaving groups and attacked with various types of nucleophile, leading to other functional groups directly. Thus, this method could be a new synthetic reaction for the transformation of biomolecules. I was able to effectively pursue my project thanks to this grant, and the results of this project were published in *Organic Letters* (published by the American Chemical Society) in 2010. Moreover, this paper was picked up by *Nature Chemistry* in 2010, indicating the utility of the project. This award encouraged me to work even harder all the time.

Finally, I would like to express my sincerest gratitude to Professor Urabe and the staff for their constant support. I would also like to express my gratitude to the all students involved in this project for their devoted and fruitful collaboration.

Student Team Wins Track Award at iGEM for the First Time in Japan

Shoya HIROSE
(Biological Information Course)

At the International Genetically Engineered Machine Competition (iGEM), the Tokyo Tech student team won a track award for the first time in Japan. They also received the Gold Prize, which is a four-consecutive-year triumph for Tokyo Tech.

An international competition for undergraduates. iGEM is often referred to as "Biological ROBOCON". A set of standardized biological parts (or more precisely, DNA on standardized plasmid) called "BioBricks" is distributed to each team and they attempt to design and construct some kind of new biological system by assembling these parts.

Student teams (consisting of 11 undergrads and 1 master course student) kicked off their project in March, receiving advice from Dr. Kiga, an associate professor in the Dept. of Computational Intelligence and Systems Science, and presented their achievements at MIT in the United States last November.

The team focused on intracellular communication. Their system was as follows: When one cell fell into a critical situation, the other one perceived the situation and rescued the cell, then the rescued cell gave a token of its appreciation to the cell that rescued it.

The students succeeded in building a mathematical model for their system, constructing an intracellular network using genes, and engineering E.coli to produce an apple fragrance as the token of appreciation.

Students received financial aid from the Art

and Crafts Education and Research Support Center, Aizawa Foundation and Tokyo Tech 130th Anniversary Foundation to cover the cost of their trip overseas.

They also received advice from the following faculties at the Graduate School of Bioscience and Biotechnology throughout their project.

Yasunori AIZAWA, (Associate Professor, Life Science)
Hirokazu URABE, (Professor, Biomolecular Engineering)
Takeshi HATA, (Associate Professor, Biomolecular Engineering)
Tomoko MATSUDA, (Associate Professor, Bioengineering)

The Tokyo Tech team members were as follows:

Shoya HIROSE, (Junior, Biological Information course)
Eriko UCHIKOSHI, (Junior, Life Science Course)
Mitsuhiko ODERA, (Junior, Biomolecular Engineering Course)
Misaki KANEKO, (Junior, Biomolecular Engineering Course)
Yusuke KANETA, (Junior, Biomolecular Engineering Course)
Shohei KITANO, Junior, (Life Science Course)
Yumiko KINOSHITA, (Junior, Bioengineering Course)
Taichi NAKAMURA, (Junior, Biomolecular Engineering Course)
Thipranpai THAMMAMONGOOD, (Junior, Biological Information Course)
Toshitaka MATSUBARA, (Junior, Bioengineering Course)
Ali MOTAZEDIAN, (Junior, Biomolecular Engineering Course)
Takefumi MORIYA, (M1, Computational Intelligence and Systems Science)

Advisors:

Kazuaki AMIKURA (M2, Computational Intelligence and Systems Science)
Ryoji SEKINE, (D1, Computational Intelligence and Systems Science)
Shotaro AYUKAWA, (D2, Computational Intelligence and Systems Science)
Daisuke KIGA, (Associate Professor, Computational Intelligence and Systems Science)
Masayuki YAMAMURA, (Professor, Computational Intelligence and Systems Science)

The Dimitris N. Chorafas Foundation Research Award and Study Abroad

Yoshiaki MASAKI

(Scripps Institute)

Hello, everyone. I am honored to receive the prestigious Dimitris N. Chorafas Foundation Research Award for my doctoral thesis. This would not have been possible without the guidance provided by Dr. SEKINE and Dr. SEIO as well as the support of everyone in my laboratory. Encouraged by this award, I intend to continue dedicating myself to research in the future.

Currently I am spending my days diligently conducting research as a postdoctoral fellow at the Scripps Institute in the United States. The Scripps Research Institute is known as America's largest nonprofit private research institute and is also an educational institution with an attached graduate school. The institute is especially strong in the field of chemistry and is known for many highly renowned scientists on its teaching staff, including Nobel laureates Prof. K. B. SHARPLESS and Prof. K. WÜTHRICH.

The Institute is located in La Jolla, California, well known as a resort for divers and artists but also a huge base for medical and pharmaceutical organizations including international research institutions such as UCSD, the Salk Institute, the Sanford-Burnham Medical Research Institute and La Jolla

Institute for Allergy and Immunology; giant pharmaceutical companies such as Novartis, Pfizer and Merck; as well as biotech-related venture businesses.

What surprised me, first of all, was the active interactions between laboratories. Since all laboratories can be accessed freely, borrowing and lending of equipment and reagents between laboratories is an everyday occurrence. The building itself is also unusual. The entrances to all the laboratories open onto a central open ceiling space in a structure that naturally enables people from different laboratories to see each other. Perhaps for this reason, it is possible to unconsciously get to know researchers with various different backgrounds through friends and acquaintances. Over lunch researchers discuss their various backgrounds and research, and listening to other fields' viewpoints and approaches, they are frequently made me to think about the narrowness of my perspectives or aspects of my field that I had until then taken for granted as common sense.

In recent years Japanese research facilities have improved and research papers are now easily obtained online; thus I am often asked what advantages there are to be gained by studying abroad. I believe that the experience of conducting research and living with people from a range of backgrounds, overcoming nationality boundaries, provides an excellent opportunity for not only research but also personal growth by presenting you with new perspectives on your values and common knowledge up until that point. How about studying abroad at America's Scripps Research Institute, where you can devote yourself (?) to research surrounded by a clear blue sky stretching forever, a deep blue ocean, and white beaches?

Dr. Masaki is on the far right in the back row

From Students

My First Study Abroad in Berlin

Takashi KANAMORI
(Life Science)

I studied abroad in Berlin for six months from April 2010 to the end of September 2010. I belonged to Prof. Oliver Seitz's group, which is studying peptide and nucleic acids chemistry with the main aim of creating useful tools for biological study; I was engaged in the synthesis of transmembrane peptides. During my study abroad I learned so many things about not only research but also how people think. Before studying abroad, I was anxious about how my life in Berlin would be because I had no idea at that time, but it was very nice and exiting. Everyone around me kindly supported me. Through communication with my lab mates, I noticed that even though we have different cultural backgrounds, we are basically the same human beings. This was one of the interesting things that I learned. Last but not least, I would like to thank everyone who supported me.

Mr. Kanamori is at the center in the back row

The Appeal of the ISABE '2010 International Symposium

Rie BANNAI
(Biomolecular Engineering)

Hello, everyone. I attended the ISABE '2010 international symposium, which was held in Beijing this past spring. Here I would like to write about the appeal of this symposium.

Hosted by Tokyo Tech and China's Tsinghua University, this symposium is a large-scale event attended by researchers from throughout the world. This was my first time making an oral presentation at an international symposium

of this scale. This being only my second experience making an oral presentation, speaking in English was extremely difficult for me, but with the guidance of my instructors and senior researchers I was able to successfully make my presentation in front of a large audience, albeit in somewhat faltering English. It was a deeply memorable experience.

The appealing aspects of this symposium do not stop with such experiences, either. I felt that the symposium's greatest appeal lay in the opportunities it provides for "direct exchange with researchers who are internationally active". This symposium provides many opportunities for attendees to interact. For example, during mealtimes interspersed with the presentation sessions that went on all day, it was possible to talk to various researchers while enjoying the delicious Chinese buffet amidst an atmosphere of frankness. In this environment I was able to talk to researchers across research field boundaries, gaining exposure to various ways of thinking and an opportunity to review my own research through new eyes. This experience enables me to reaffirm the importance of taking an interest in many things and not focus blindly on research, and I intend to put this into practice in my own research life.

Report on the GCOE Symposium on Frontier in Biomaterials Science and Technology for Regenerative Medicine and Gene/Drug Delivery

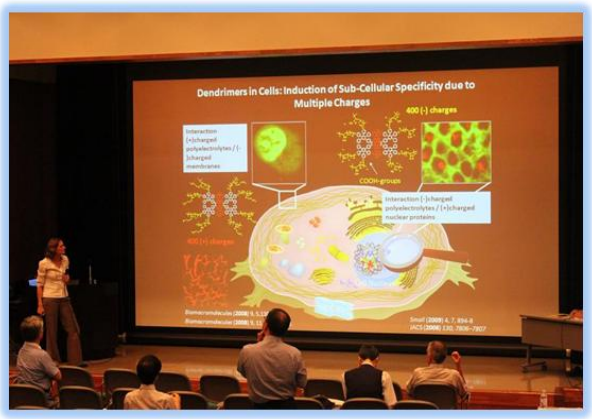
Md. Amranul Haque
(Biomolecular Engineering)

Symposium overview

As the premier international mini-symposium in the field of regenerative medicine and drug delivery, The 5th Global COE International Symposium entitled "Frontier in Biomaterials Science and Technology for Regenerative Medicine and Gene/Drug Delivery" is intended for scientists and students in academia, industry, and higher education. The symposium was organized by Global COE and took place on the 10th and 11th September 2010 at the Suzukakedai campus of Tokyo Institute of Technology, Yokohama, Japan. This conference was the congregation of eighteen well renowned scientists from six different countries to cover a variety of scientific areas within the discipline.

Summary of Topics

The symposium covered a wide range of areas in the field of regenerative medicine and drug delivery system. Topics discussed included: (1) the involvement of elementary events underlying force generation of neurons; (2) the role of periostin in tissue regeneration; (3) the effects of cell sheet tissue engineering in regenerative medicine; (4) the impact of in vitro culture system and engineered extracellular matrix for ES/iPS cell proliferation and generation of cells for liver, blood and CNS; (5) the significance of nanodevices for targeted protein, drug or gene delivery; (6) the importance of multifunctional proteins or nanocapsules for tissue engineering and drug delivery; (7) the impact of liver tissue flow-culture system for biomedical application; and (8) the effects of biodegradable polymers for DNA/siRNA delivery. The aim of the event was to promote mutual interest, understanding, and dialogue between scientists and a variety of other professionals, students and members of the general public who are interested in the biomedical issues bearing on stem cell research and gene/drug delivery system.



Treasure the Moments and Step Forward

Yue YU
(Biomolecular Engineering).

Hello everyone! I am an international student enrolled in the integrated doctoral course; I belong to the Akaike-Tagawa lab. It's my

pleasure to introduce myself in this newsletter. I come from China, and it has been 3 months since I came to Japan and became a member of my lab. Every day has been fulfilled with new knowledge, new experiences, and happy times spent together with other lab members.

The research in our group is aimed at constructing high-level-hepatic-function liver tissue in vitro using embryonic stem cells and induced pluripotent stem cells, and the application of hepatocyte chips for metabolism assay in preclinical drug tests. The research is very interesting and I enjoy knowing more and more about it every day. Last but not least, I want to thank Professor TAGAWA AHN-san, TAMAI-san and all the lab members for their help and direction.

Right Decision

Burana DAOCHARAD

(Biological Systems)

I am Burana Daocharad from Thailand, and now I'm studying in the Integrated Doctoral Program (M1) in Dr. Komada's lab. As an undergraduate, I studied in the Department of Bio-Nano Engineering, Chulalongkorn University. I was involved in research on the use of metallic glass as a biomaterial. I conducted cell culture studies of the biocompatibility of metallic glass and I found cell science to be interesting so I decided to pursue my Master's degree in this lab studying the ubiquitylation and deubiquitylation of cell surface receptors responsible for Wnt signaling since this research could open up a new gateway to the treatment of diseases involving cell signaling defects. So far, I've gained a lot of new experiences from the lab and classes at the Tokyo Institute of Technology which cannot be found elsewhere. I must say thank you to Dr. KOMADA and my lab mates for their warm welcome and for giving me a valuable opportunity to learn. Joining graduate school is one of the big decisions in life but I'm sure I've made the right one.

"Stay Hungry. Stay Foolish" (Stewart Brand, 1960s)

Hyuen Huong NGUYEN PHAM
(Biological process)

"Stay hungry. Stay foolish" is the famous saying quoted by Steve Jobs, CEO of Apple Computer, at the 2005 Stanford Commencement. It gave me, a Vietnamese student, the strength to go to Japan in order to pursue a Doctoral course in Professor Tanji's lab. The experience of doing research and working with a lot of friends from all over the world has helped me to understand more and more the meaning of this saying. Our sensei always tells us that, "Being a Ph.D candidate, you have to think by yourself". Both sayings mean that you should not be trapped by dogma and living with the results of other people's thinking.

College Life at TIT

Lina BAI
(Life Science)

I appreciate having the opportunity to write something here. I have been in Tokyo for 3

months. Maybe this is not a long time, but generally, my new life here is bringing me amazing experiences.

Effortlessly blending the old and the new, Tokyo is a city that defies urban and cultural definition. Cutting edge technology glitters beside ancient temples, flashing neon lights bathe kimono-clad women, and shining skyscrapers tower above stunning Shinto shrines. Tokyo has spots of tranquility and beautiful detail that amaze and astonish.

My college life at Tokyo Tech means the beginning of my academic career. In my first semester year, I can choose whatever courses I like. The most important thing to know is you need to become as proficient as possible in the Japanese language. This undoubtedly makes your life much easier. What is more, you can also get advice from your lab mates, seniors and your professor on problems both in your study and everyday life.

Then life goes on and before you notice it one month will pass by in a jiffy, and then the next and then the next. I am confident I will enjoy my college life at TIT!