



## “Bioscience and Biotechnology” encounters a milestone at the 10th birthday

“Bioscience and Biotechnology” (Biotitech) is making a great leap forward on the occasion of its 10th anniversary, thanks to a series of good news. The most impressive one was bestowed from Ministry of Education, Culture, Sports, Science and Technology, who selected Biotitech for “The 21st Century COE (Center of Excellence) program”. This novel program, launched initially as “Top 30”, intends to emphatically support the carefully screened departments of Japanese universities based on their past academic and educational performances and future plans. As Dean of Biotitech, I acknowledge the all professors, staffs, alumni, and students for this honor. Being selected in this program, Biotitech will be requested to be the world-class base for education and academic research with marked individuality or outstanding characteristics. In addition, Biotitech must exhibit leadership in its education and academic study within Tokyo Tech, since Biotitech is one of the only four departments in Tokyo Tech that were selected for The 21st Century COE. There are a few more glad tidings that should be mentioned here. First, Professor Masuo Aizawa, a former dean of Biotitech, was elected as President of Tokyo Tech, for the first time from the professors who reside in Suzukakedai Campus. Second, “Suzukake Hall”, a student union building, was built as a welfare facility for students and teaching staffs and has been open since October. This hall had been a dream of Tokyo Tech and a number of people had devoted considerable efforts to it. We are very pleased that the student union building was first built here prior to O-okayama Campus.

Now that Biotitech is influential in Tokyo Tech to a great extent, globalization of our academic research and standardization of support for students and technical staffs are urgent agenda. To this end, we built a new program that would support the group studies organized beyond the usual boarder of research areas in order to establish the close relationship with the foreign research institutes and universities. The main purpose of this program is to obtain a worldwide reputation such as, “Biotitech is a leading research center of ...” and five groups have already started their activities. We also restarted Biotitech Seminar, the semiannual colloquium discontinued for a while, in which two speakers selected from the professors in Biotitech are supposed to give a talk. This seminar would provide us with opportunities for free discussions and cooperative works. As with the support for students, we established Aizawa Fund based on Prof. Aizawa's donation and his intention to encourage mental toughness of students. This fund will support the selected students who want to go abroad for the purposes associated with their mental training but not with their thesis works. Furthermore, in order to take advantage of COE21 to its potential, we are planning to build up a system for research associate and postdoctoral fellow and for the student supports. I would greatly appreciate your further cooperation for our continuous efforts to improve and upgrade Biotitech.

Professor Ichiro Okura  
Dean, Graduated School of Bioscience  
and Biotechnology  
Tokyo Institute of Technology

## 10周年を迎え益々飛躍する生命理工学研究科

生命理工学研究科は、今年度で発足後10周年を迎えることとなりました。この記念すべき年に非常に喜ばしい出来事が重なり、生命理工学研究科にとって大躍進の年となりました。その最たるものは、文科省「21世紀COEプログラム(COE21)」に採択されたことでしょうか。これは、厳選された大学部局の研究教育を重点的に推進しようとする新たなプログラムであり、トップ30という名前で当初計画されていたものです。これに選ばれたということは、生命理工学研究科の研究教育活動のレベルが世界的に見ても優れたものであり、今後さらに発展する見込みが強いと認められたということです。このような名誉に与ることができたのも、各教官・職員・卒業生・学生諸氏の努力の賜物です。COE21には東工大から4部局が選ばれましたが、生命理工学研究科はその一つとして今後の東工大の研究教育において牽引力になっていかなければなりません。



また、全学的な事項でもありますが、元生命理工学研究科長の相澤益男先生が今年度より学長に就任されました。すずかけ台キャンパスを中心に活躍された先生が学長に選出されるのは今回が初めてです。さらに、学生および教職員の福利厚生施設である学生会館として新たに「すずかけホール」が完成し、10月より利用が可能となりました。学生会館の建設は、東工大の長年の夢であり、これを実現させるために多くの方々のご苦勞なさっております。このような学生会館がすずかけ台キャンパスに最初に出来たことは、すずかけ台の住人にとって大変有意義なことでもあります。

以上のように、すずかけ台キャンパスそして生命理工学研究科の東工大における存在感が益々大きくなっている感があります。そんな中で、現在我々が取り組んでいる新たな試みをいくつか紹介したいと思います。まず、専攻の垣根を越えた特定のテーマに対するグループ研究を奨励し、世界の研究機関と交流を持つように促す制度を設けました。これにより、「・・・の研究といえば東工大生命理工」といった世界での認知度をより強固なものにしていこうと考えており、現在、5つの研究グループが組織され試行段階に入っています。また、以前にも行っていた研究科セミナーを再開しました。これは、半年毎に教授・助教授から二人を選び、教授会の後に御自分の研究を紹介してもらおうという試みで、共同研究などへの起爆剤としての効果を狙ったものです。また、相澤先生のご意向とご協力により、精神的にたくましい学生を奨励するため、研究と無関係な目的による海外渡航を支援する相澤基金が設けられました。さらに、COE21採択を受け、リサーチアソシエイトやポストドク制度の整備および学生への援助の充実などを計画しております。今後とも皆様のご協力を得て、生命理工学研究科の発展のためさらなる努力を続けて参りたい所存です。

東京工業大学大学院生命理工学研究科長  
大倉 一郎

## With the first decade of Bioscience and Biotechnology department

Dear Colleagues:

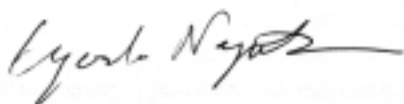
First of all, please accept my sincere congratulations for the 10th anniversary of Department/Graduate School of Bioscience and Biotechnology of Tokyo Institute of Technology. My career there as an associate professor started in 1991 and continued until I moved here into University of Tsukuba in 2001, so that it overlaps well the first decade of THE DEPARTMENT history. The story of pioneers sounds similar in that founders and their co-workers worked hard (I appreciate it!) but members of the organization face difficulty, though ambitious and delightful. This was indeed the case with myself. For instance, my laboratory bench was in the fifth floor of G1 building, whereas my office was in the second floor of R3 building, until B2 building was available. I can not count how many times I walked and run through a valley between two buildings.

B1 and B2 buildings were set, and the active DEPARTMENT history began. The vivid atmosphere encouraged me to grow the basis of my science; students with a spirit of enterprise activated me; collaboration and discussion with colleagues in a variety of research fields inspired me; great helps of senior professors, colleagues, and THE DEPARTMENT office always supported me and did more when I met impedance. Thus I should say that I had a good time with good friends. I would like to express my best gratitude to all in THE DEPARTMENT.

Here in Tsukuba I am enjoying an academic life, although I am a bit confused with the system of this university consisting of mutually independent education and research systems called Gakugun (学群) and Gakukei (学系), respectively. I have started my new career in a small space (which is, of course, much wider than my past 36 m<sup>2</sup>-Nagatsuta laboratory space) with PDs graduated from THE DEPARTMENT and visiting students from THE DEPARTMENT. Collaborations with colleagues who are and were in Nagatsuta are ongoing. These help me so much to take off here.

Friends! I welcome you. Further, I am looking forward to hearing from all of you, who I shared unexchangeable time with and owed much to.

With warm regards,



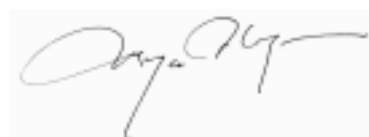
Kyosuke Nagata  
Department of Infection Biology,  
Institute of Basic Medical Sciences,  
University of Tsukuba,  
1-1-1 Tennodai, Tsukuba 305-8575,  
Japan

## New Science and Research Park, New Graduate School, New Laboratory and New research Projects

Dear all

I can remember the days while I had studied at Tokyo Institute of Technology as a student and also as an Assistant Professor. It was not long past. When I was came to the Kitakyushu Science and Research Park at about one and half years ago, there are fully under construction including research building where I am at now. At the Science and Research Park, national, municipal and private universities and research institutes carry-

ing out research in the fields of biotechnology, bioengineering, computer science and environmental engineering. I opened my new laboratory at Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology from 1, April 2001. At the time, as the experimental facilities were not prepared here, my group have to put up with inconvenience very much. A one and half years later, now we have good experimental environment and facilities in my laboratory in order to develop top-notch researches. Currently, my research group is developing new technologies for cultured cell based drug discovery and chemical safety proofing. These research projects have featured biosensor technologies, cellular engineering, neural engineering, and bioelectronics technologies. The research outputs have been taken into the industry-academia cooperation to develop practical technologies. In this context, I would be happy if I can find more opportunity to work together with you to contribute scientific activity, industrial activity and social activity in the not-too-distant future.



T. Haruyama, Ph.D.  
Professor  
Department of Biological Functions  
and Engineering  
Graduate School of Life Science and  
Systems Engineering  
Kyushu Institute of Technology

Moving, moving ...

---from the basement to the 11th floor.

Hello, dear colleagues,

It is one and half year since I left Nagatsuta. Now I work as an associate professor of the University of Tokyo.

In April last year, I moved to the Department of Molecular Pathology, University of Tokyo. The department has a history longer than 100 years. It was in the main building of the Faculty of Medicine in the Hongo campus. The building also has a long history: it was built before the World War II. The department keeps a big stock of paraffin-embedded tissues for pathological inspection, which occupies a considerable space in the building. Unfortunately, the lab space we could use was only in the basement. I stayed in the lab for all day long without knowing whether it was rainy, cloudy, or sunny outside.

In April this year, after one-year-patience, I moved again, from the basement to the 11th floor of a new building. Now we can use a big and clean lab space. View from my office is so nice. I can enjoy Mt. Fuji on a sunny morning.

Although I moved twice, I still work on signal transduction mechanism of peptide growth factors, hoping to contribute to development of a new therapeutic drug.

With best regards,



HGF

TGF- $\beta$



Keiji Miyazawa, Ph.D.

Department of Molecular Pathology  
Graduate School of Medicine  
University of Tokyo  
Hongo, 113-0033, Tokyo, JAPAN

## My Ten Years at Nagatsuda Campus

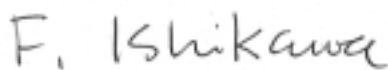
Dear Colleagues:

Six months have passed since I moved from TIT to this University. I joined TIT early in the autumn of 1992. I still remember the very first day I stepped into Nagatsuda Campus. It was a beautiful hot day. My room on the fourth floor of the B1 Building was almost empty. When I looked out from the window, I was impressed by the hills surrounding the campus. The green tree leaves occupying the hills were shining vividly, swaying to the left and to the right in the wind. I was very happy to be there. I had just finished my post-doc work in the U.S. and it was my first laboratory I was responsible for. It is well known that in the U.S. most assistant professors have independent groups. However, even in the U.S. the physical and financial scales one assistant professor can own is typically very small. My first laboratory was exactly such of a kind that a fresh assistant professor would find in the U.S. on his or her first day of employment. The almost luxurious freedom generously given by TIT to do my own research project made me very excited, however. Such freedom along with responsibility triggers the primary motivation of doing science, I believe. I felt as if the tree leaves had been celebrating the start of my lab.

I was very fortunate to have been given continuous support in TIT from many fellow scientists, the office personnel and students. Of course, I kept trying to do my best during working hours at the lab (and also at karaoke bars, although unsuccessful in this case). Without their encouragement, however, I would have lost my way to continue my work. Moreover, thanks to the interdisciplinary composition of the scientists in the campus, I came to be acquainted with many people in fields distinct from mine. They are my dearest treasures and you cannot imagine how much they have enriched my life.

I believe many young scientists reading this essay, either in Nagatsuda Campus or somewhere else in the world, are in the same situation as I was ten years ago. Put faith in yourself and strive for the best.

With Best regards,



Fuyuki Ishikawa  
Kyoto University  
Graduate School of Biostudies  
E-mail fishikaw@lif.kyoto-u.ac.jp

## Chemistry is the Key to Understand Life

Dear colleagues:

My name is Hideya Yuasa, a new associate professor of Department of Life Science since October, 2000. I am new as an associate professor, but have spent 17 years in this institute. I started my life in Tokyo Tech as an undergraduate student at Department of Chemistry and moved to a graduate course of life science (Seimei Kagaku Senkou) in Suzukakedai before the current graduate school was organized. After obtaining PhD degree, I enjoyed two years postdoc at Alberta University in Canada and one year experience in RIKEN Frontier Program. In 1994, I came back home as an assistant professor in this department. I am specialized in bioorganic chemistry and glycotechnology, in

which we are trying to make the artificial molecules with interesting properties that would give new concepts to the developments of drugs and bio-related materials.

What I am always concerned about for the students today in this department is that they might have chosen to study life science because they think they're not good at chemistry and physics, as opposed to what most of my generation would have thought of. I, for example, selected the life science department because I was fond of chemistry and thought this science would be an important basis to investigate life. If you want to be a good car mechanic, you might as well learn the properties of the materials that constitute the engine, tires, suspensions, and the other car components. In the same way, studying chemistry should be very important to be a good life scientist. Though it is my job to get them to be interested in this field, I always feel difficulty in teaching chemistry even to the students of my lab. If you have a wonder drug or advice for the above issue, please contact me (hyuasa@bio.titech.ac.jp, <http://www.hashimoto-lab.bio.titech.ac.jp>).

With best regards,



Hideya Yuasa, Ph.D.  
Department of Life Science  
Graduate School of Bioscience  
and Biotechnology

## I'd like to contribute toward enriching research and education further

Dear everybody,

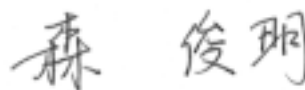
Let me write a bit about myself.

I'm Associate Professor at the Department of Biomolecular Engineering. My recent research focuses on understanding the catalysis of the enzymes in non-aqueous solution such as organic solvents and supercritical fluids. My major was polymer chemistry during graduate school student, so I'd shifted to the different fields, but what I learned there stood me in good stead later. Because most of biomolecules such as nucleic acids, protein, and carbohydrates are also macromolecules.

I stayed in the United States for nine months last year to investigate novel biomaterials. An English conversation class, international women's club, and alumni associations were deeply concerned with the university. I was surprised that the volunteer system of a lecture is also arranged. I felt there is a significant difference in Japan and the US about the relation between a university and a local resident. We have many things whose example is followed.

There are many excellent staff and students in Tokyo Institute of Technology. I believe this department will provide a great environment to search for truth and to give full play to our creative imagination.

Best regards,



Toshiaki MORI, Ph.D  
Department of Biomolecular  
Engineering,  
Graduate School of Bioscience  
and Biotechnology

## Working with young students is fun!

Dear Colleagues,

It is a great pleasure for me to have an opportunity to introduce myself to you all. Two years have passed since I moved to the Suzukake-dai campus of Tokyo Institute of Technology as an assistant professor in October, 2000. I was then promoted to an associate professor in October, 2001. Before coming here, I had been studying mouse genetics as a postdoctoral fellow at Fred Hutchinson Cancer Research Center in Seattle, USA for four and a half years.

The scientific environment surrounding me has drastically changed since I came here. The communication tool (language) has of course changed, but the most significant change is the way I interact with other people. During the postdoctoral work as well as during my PhD work in Kansai Medical University in Osaka for six years, I had been in quite small laboratories and working alone. There were just me and my supervisor. Now I am working with a lot of graduate students in the lab. I also have a chance to interact with undergraduate students by giving lectures. There are a lot more work to do now and I am getting much busier than before. However, it is also much more fun to work together and interact with young ambitious students.

I am currently studying basic cell biology. I am trying to elucidate how specific proteins are sorted for trafficking to the lysosome, and how specific proteins are localized to specific regions of the axon in neurons. As a member of the Tokyo Institute of Technology, it will be wonderful if I can contribute to our society through these studies with my students.

With best regards,



Masayuki Komada  
Department of Life Sciences

## Dead or Alive?

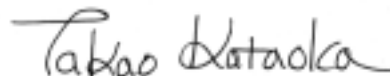
Dear colleagues,

It is my pleasure to introduce myself. Apart from two year's stay in Switzerland, I have been in the Suzukake campus for almost ten years. Last August I have moved from Department of Bioengineering to Research Center for Experimental Biology, Tokyo Institute of Technology. The building is relatively new (completed in 1997) and is located at the back side of Gene Research Center. As a join-use facility, this center mainly maintains experimental animals and provides various experimental equipments. Using some spaces in this center, I started a new laboratory with a couple of graduate students last year. Because of their completion of master or doctor courses, I have actually made a fresh start with four undergraduate students this April. It is somehow laborious to teach them experiments by myself. I am also struggling to get grants like young guy of my age. Although it must be a big challenge to supervise an own laboratory, "Dead or Alive?" might be not only a key phrase for my research project, but also for my laboratory.

After getting Ph.D., I have been mainly studying the killing pathways mediated by cytotoxic T lymphocytes (CTL) which play an essential role in host defense by eliminating virus-infected cells and transformed cells. In addition to the cell murder, during an oversea research experience, I was especially intrigued by the molecular basis of the cell suicide termed programmed cell death (apoptosis). Just then

the Nobel Prize in Physiology or Medicine for 2002 has been awarded for the discovery concerning "genetic regulation of organ development and programmed cell death". The research field has been increasingly competitive for the last ten years and might be more and more in the future. To survive in the field of "Apoptosis", I will do my best not to push the switch leading to death.

Best regards,



Takao Kataoka, Ph.D.  
Research Center for Experimental  
Biology

## Self-Introduction and First Resolution

Dear colleagues,

I am grateful for this opportunity to introduce myself. On April 1, 2002, I was appointed to be a lecturer of the Department of Life Science. Now I have started to work at Room 501 of B1 building in the Suzukake-dai campus.

I was born in Fukushima pref. and had moved to Tokyo, Osaka and Saitama. I entered the Faculty of Science, Tokyo Institute of Technology in 1987. In those days, bioscience and biotechnology became one of the popular scientific targets in Japan and the two departments were newly established in our university. After I graduated from Tokyo Tech and was awarded a Ph. D. degree in 1996, I moved in a piece of beautiful land surrounded by mountains, Nishi-Harima, Hyogo pref. There is SPring-8, a synchrotron radiation facility, which became unexpectedly famous in the arsenic analyses for collecting evidences in a criminal suit. The facility can produce various energy ranges of photons (from infrared to g-ray) and many kinds of experiments (spectral analyses, crystallography, etc.) can be performed there. I was involved in the construction of the facility for X-ray protein crystallography and studied on the determination of protein structures.

After the completion of human genome analyses, three-dimensional structure of biological macromolecule is a next target in the comprehensive studies of bioscience. Many projects of protein structure determination have been started around the world. The results will be patented and applied to drug design, engineering of proteins and so on. Also, it will be easy for researchers to determine the structure of their desired proteins by themselves, since the techniques will be developed in concentrated studies.

Since moving to the new environment, half year has already passed. I have re-started my research for the determination of various protein structures and the methodology of crystallography; however, I have been facing the difficulties of the education which I have never experienced, and recognizing the importance of it. Recently, the significance and environment of education and scientific research are changing. In these situations, I should straighten myself and will enjoy it.

Best regards,



Takashi Kumasaka, Ph. D.  
Department of Life Science

## Starting my work in TITech

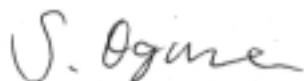
Dear Colleagues:

I am glad to introduce myself to you. On October 1, 2001, I have been appointed to be assistant professor of the Department of Bioengineering, Tokyo Institute of Technology.

Before appointing to be assistant professor, I studied here as a student, and I felt this institute is very attractive. So, it will be a great pleasure working in this institute. I would like to contribute to this institute as much as possible.

If you have an opportunity to come Suzukakedai campus (re-named from Nagatsuta campus), please feel free to visit our lab.

With best regards,



Shun-ichiro Ogura  
Department of Bioengineering

## Road to Perdition?

Dear colleagues,

On January 16, 2002, I was appointed an assistant professor of the Department of Biological Information. I'm a graduate of TIT-bio and married. My wife, Mary, is also a graduate of TIT-bio, now working at another university as an assistant professor. My wife and I are extraordinary workaholics: We love seeing a movie, riding a motorcycle, and diving under the sea, but don't have enough time for these activities.

I'm deeply concerned about the future of Japan and the future of Japanese science. Last year, my wife and I visited Turkey as 90% tourists and 10% scientists (note to taxpayers: at our own cost). In Istanbul, we met a Turkish scientist who worked with us sometime ago in Japan. He told us what happened to the beautiful country over the last decade. Economic crisis hit all over the country, causing inflation at an annual rate of over 100%, and the government had little money to spend for science (Now the situation seems to be getting better). Who can say the same thing will never happen to Japan? Even worse is the problem of education. It seems to me that not studying hard and not working hard have become the virtue in this country. British prime minister Tony Blair addressed in 1996 at the general election: "My three priorities for government would be... education, education, and education." I'm neither a politician nor a bureaucrat, but I'm thinking what I can do in my situation. No answer yet.

A few weeks ago, two Japanese won the Nobel Prizes in Physics and in Chemistry. I sincerely hope this news opens eyes of kids and youth to natural science.

With my best regards,



Yuki Yamaguchi  
Department of Biological Information

## Joyful laboratory life

Dear, colleagues,

Now I am working as the assistant Prof. of the Department of Biological Information. And I enjoy lab life in

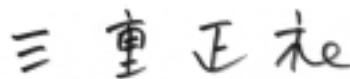
Suzukake-dai campus with young students every day.

I did not imagine this situation when I entered Tokyo Institute of Technology. I entered TITech as the first year student of the Faculty of Bioscience and Biotechnology in 1991. At that time, I didn't know where Suzukake-dai campus would be. However, I spent a quarter of my life in Suzukake-dai campus till now. During my campus life, I experienced numberless joys.

One of the recent joys of my campus life was the meeting with graduated foreign students again. When I belonged laboratory, the members were very international. The countries of members were America, China, Korea, Iceland and Thailand. They could speak Japanese. However, I had to speak English when I drunk with them. But it was very funny. I heard various things about cultures, education, and so on. However, such a time did not continue for a long time. With the time, foreign seniors graduated and went to each way. And I also graduated. After graduation, I had an opportunity to meet them again. They came back to Japan on business. They reminded me of the joyful days I had spent them. They have not changed much, but they became a professor or project leader. It was a glad thing and also became encouragement to me.

If you have an opportunity to come near Suzukake-dai campus, visit your graduated laboratory.

With best regards,



Masayasu Mie, Ph.D.  
Department of Biological Information

## My Uncommon Career

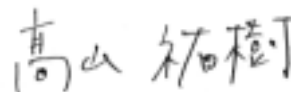
Dear colleagues,

I have been appointed to be Assistant Professor of the Department of Biomolecular Engineering, at the Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology on December, 2000. I am glad to introduce myself to you at this column.

I had gone to Suzukakedai campus for 5 years in master's and doctoral courses after graduation from Tokyo College of Pharmacy (Tokyo University of Pharmacy and Life Science, at present). After finish the doctoral program on Mar. 1999, I worked as a pharmacist at an apothecary, for I have a license of pharmacy and want to put the license to practical use. During the job I met an opportunity to get acquainted with a variety of persons and to know their thoughts as well as to have knowledge of medicine, therefore I spent dearest time in the pharmacy. Fortunately, I had a chance to get back to TITech as staff in 2000's winter. At that time I like the job in the pharmacy, but I decided to be assistant professor.

Now I belong to the laboratory where I spent my student days. My research area is development of efficient methodology for synthesizing of useful compounds including pharmacologically active compounds and organic materials. I feel happy to make a research and education at this institute.

With best regards,



Yuuki Takayama  
Department of Biomolecular  
Engineering  
Graduate School of Bioscience and  
Biotechnology

## A Short Stay at ETH

Dear all,

I am now in my second year in this position. I graduated from Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology in May 2000, and after postdoctoral work for a year, took this position.

Last year, I had the great opportunity that I visited to ETH using an exchange program of researchers between Tokyo Institute of Technology and ETH. I had some kinds of shocks there. A first small shock is that the morning in ETH is very early. People go to work at 7 or 8 am and classes start from 8 am. The second one is about a postdoc in ETH. They almost plan to transfer two or three postdoctoral position in the world to gain the actual results, for example Switzerland, Germany, England and USA. And when they are offered the academic position, they can have the independent lab and project irrespective of his position. My friend who was from Germany was also going to USA from next year. So, I asked him "How about Japan?" He said "No". The reason is as follows. The first, he doesn't know about Japan at all (although he never been to USA) and next, Japanese don't understand German and English (of course, he speak either German and English). He thinks that although Japanese is poor linguists, they can understand Chinese! The third one is about a professor. A class in ETH was held in German. The professor, who was from USA, was made to correct his German by his student during his first stay. He learned German hard, and he was told in his second stay that his German was better than before. Postdocs in ETH come from all over the world, they can write the thesis in any language that is easy to write. Necessarily, the professor does check that. I saw the thesis written in Spanish for the first time there (I don't know whether there is the thesis written in Japanese there.). This opportunity gave me an impact on my career goals.

Now, I enjoy the lab life in this university, interacting with many young students and learning English. I hope I can discover an important biological phenomenon connected with the industrial application during my stay in Suzukakedai.

With best regards,

八波 利恵

Rie Yatsunami, Ph.D.  
Graduate School of Bioscience and  
Biotechnology

## From a historic city Nara to a flourishing city Yokohama

Dear everyone,

I lived in Nara for 7 years before coming here. Nara is surrounded by mountains, as you know, there are many famous temples and shrines remaining from early times. Such a peaceful environment helped me to relax when I was tired out by my experiments. Moving to Yokohama from that historic city this May, I immediately noticed that this flourishing city is filled with many kinds of information and stimuli. Influential individuals often say "It is important for us to have ability to distinguish the true nature of things from the chaos of information". Although such a phrase is rather banal and stereotyped, the bustle of this flourishing city reminded me of that.

I am quite sure the same is true in the case of the biosciences. More and more scientific magazines are being published, and increasing numbers of presentations are made

at every academic conference with every year. In addition, now we can easily gain access to these reports through the Internet. It comes to be more important that the true nature of an area of research is recognized out of the increasing flow of information without being affected by the present fashion, whereas, we are now required to investigate what society wants now or in the near future, which are often materials linked to innovative medicines or methods for healing illness. I once heard this somewhat ironic statement: scientists in the Department of Engineering or Agriculture aim to find and make what society will use within 20 years, but scientists in the Department of Science investigate what might be used within one century. Now all researchers are required to contribute shortly to society. This requirement is quite reasonable, I understand, but in a sense I think it is also "putting the cart before the horse". Distinguishing the true nature of things, proposing new concepts regarding the processes of life and building new scientific knowledge are fundamentally the very aim for biosciences, and these are considered likely to be useful for society in the near or distant future. It is simple intellectual curiosity about life that sometimes becomes the motivation for real progress in bioscience. Although in some cases such scientific activities completely agree with benefits for society in the near future by leading to innovative medicines or therapies, it is perhaps the most important thing to balance our inquisitiveness and benefits for society.

As for me, I'm still looking for the true nature of my new project amidst the chaos of information. Here at the Tokyo Institute of Technology I have a suitable environment for such a search, and I hope I will be able to not only achieve my own goals in biosciences but also make a worthy contribution to society.

Best regards,

Toshiaki Tanaka

Toshiaki Tanaka, Ph.D.  
Department of Biological Sciences  
Graduate School of Bioscience and  
Biotechnology

## Something changed and changeless


Dear all,

I entered Tokyo Institute of Technology in 1991 as a first student of Faculty of Bioscience and Biotechnology. Our first campus life at O-okayama was not enough for conveniences, for example, we could not have a locker. But professors and students of our faculty were very active in a lecture or a basic experiment class. Then we study in Nagatsuta campus from the third grade. After graduation of this course, I studied for 5 years in the same doctoral course and I am working now as a research associate in Nagatsuta campus, where I have spent a pleasant campus life for 10 years long.

I have found something that changed here in this 10 years. For example, first, vending machines for something to drink were located on the first floor of B1-building, when I was in a master course. Before that, we had to go to another building with an about 5 minutes walk to get a soft drink. Second, a mailbox was moved from a front of Sougou Kenkyuu Kan to Suzukake gate. And ATM of the bank and the post office was constructed there. It is very convenient for a people who walk to Nagatsuta campus from Suzukakedai station. Third, a canteen and shop of co-op were approached to B1, B2-building in 2002. We have easy access to these shops.

I feel that Nagatsuta campus has been changed to be convenient and that there is also something changeless. That should be activity in B1, B2-building, which is indicated in the fact that the building is lighted during a night. I would be more than happy to work here to contribute to activities of Graduate School & School of Bioscience and Biotechnology.

With best regards,



Hiroyuki FURUSAWA, Ph. D.  
Department of Biomolecular  
Engineering  
Graduate school of Bioscience and  
Biotechnology

## Seek and Find


Dear colleagues,

I am a chemist. After four and a half years career at a general chemical company, I came to this campus last year. As easily you can imagine, I was concerned to tight aimed projects of chemical products at the company. Though the purposes of those projects are so distinct and strict, much primitive chemistry are concealed in them. The beauty of chemistry would come up from the comprehension of molecular mechanism. But molecular systems are sometimes too complicate to extract a simple principle. So we are sometimes caught in a trap on the way to the aim. But with our own persistent experimental activities, even a misunderstanding brings us somewhere further field beyond our first supposition. The seeking matter and the finding are not always the same. Research and development play a complementary role vis-a-vis. In the more independent situation here, we are wandering out of bioscience to find something about life by trial and error.

In our group, we are researching the chemistry in weak perturbations. At the self organized structure or self organization process of (bio) molecular systems, weak interaction and / or small differences in molecular shape can control the whole morphology and dynamics of supra structures. Using weak phonon or photon, furthermore, using interface or surface we believe that we will be able to control the bio systems and create novel chemistry with life.

I would like to try to seek and find with due caution not to boil my mind hard.

Cordially yours,



KAWASAKI, Takayoshi  
Okahata-Mori Lab.

## After entrance at Tokyo Institute of Technology

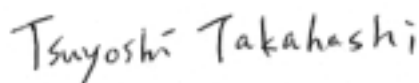
Dear all,

I am glad to introduce myself to you in this opportunity. When I entered Tokyo Institute of Technology (TITech) in 1992, the faculty of Bioscience and Biotechnology was just established. Those days, there was no faculty to which the name was attached with the "Bio", and I said to a friend "I belong to the faculty of Bioscience and Biotechnology", and then he asked me "what is studied?" That is, the field of Bioscience and Biotechnology has been very flesh, and I was attracted and interested in this field. Now, there are

many faculties and departments relevant to Bioscience and Biotechnology, it is thought that the faculty of TITech has been recognized as one of the leading faculties in the field of the Bioscience and Biotechnology in Japan.

I learned many things in TITech. Even now, I remember that Professor Aizawa, the present president of TITech, gave a lecture eagerly about 10 years ago. Furthermore, after belonging the laboratory at a fourth grader, I was led to Professor Ueno, Associate Professor Mihara and other members of the laboratory in many things relevant to research. Now, I am working as an assistant professor in Tokyo Institute of Technology, and I want to do my best in the research and so on. Furthermore, it is thought that I have to give the students that I have learned in the past about 10 years. Since I do my best, I need your help well in the present and the future.

With best regards,



Tsuyoshi Takahashi  
Department of Bioengineering  
Graduate School of Bioscience and  
Biotechnology


## 生命理工学研究科の皆様

皆さん、こんにちは。私は、ルノープログラムに第一期生として参加し、2001年4月からのフランス滞在を終えて、帰国しました。ルノー財団は、フランス語、フランス文化や欧州文化の海外普及促進を目的とする財団です。ルノー財団の発案・後援によるこのプログラムは、日本人の大学院生が、日本の学位取得の枠組み内において、学業・研究をフランスで継続し、かつ欧州特にフランスの機構や制度、経済や分化などを学ぶことが出来る教育プログラムです。日本の8大学（北海道、東北、東京工業、東京、名古屋、京都、大阪、九州）の大学院から、毎年3名程度の学生が選出され、フランスのポルドーまたはストラスブールの大学に留学することが出来ます。4月から15ヶ月間のプログラム期間中は、毎月6000フランの奨学金が支給される他、日仏間の往復航空運賃、ヨーロッパ研修旅行費用なども、ルノー財団によって支給されます。

私が留学したのは、ストラスブールというフランスの北東部の、ドイツとの国境地帯にある都市です。ここでは、3つの大学が集まって大学群を形成しています。私は、そのうちの1つである、自然科学系の研究で評価の高い、ルイ・パスツール大学に所属し、研究を行ないました。私のいた研究室では、私を除いた全員がフランス人で、専門である生命科学に関する知識が得られたことはもちろんですが、彼らとの研究室生活を共に送ることが、とても興味深い経験でした。

また8月のヨーロッパ研修旅行では、一ヶ月かけてフランス・ドイツ・スペインを周り、たくさんの美術館や歴史的建造物などを訪れました。

渡仏前は不安なこともありましたが、会った人達は皆親切で、温かく迎えていただきました。また、異なった宗教やバックグラウンドを持つ人々と交流することが出来、旅行者として通り過ぎるだけでは分からない、多民族国家フランスの様々な面を見ることが出来ました。この留学経験から得たことを、これからにつなげて行きたいと思えます。最後になりますが、留学という素晴らしい機会を与えてくださったことに、深く感謝します。ありがとうございました。



生命理工学研究科 生体システム専攻  
齋藤研究室 修士2年

## 生命理工学研究科の皆様

突然ですが、皆様はアルメニアという国を御存じでしょうか？黒海とカスピ海に挟まれたコーカサス地方にあり、かつてはソ連の一部だった国です。この度私は、昨年2002年から新たに設けられた「相澤基金海外体験研修」の第1回研修生として、この国に留学してまいりました。相澤基金は、生命理工学研究科の学生を対象に、自分の専攻分野とは異なるフィールドで特定のテーマについて海外で一定期間（最長1ヶ月）研修し、幅広い知識と見聞を身につけ、併せて国際的リーダーシップを養うことを目的としたプログラムです。私は幼少の頃よりピアノを学んでおりますが、小学生の頃に聴いたアルメニア人ピアニストの演奏会に強烈な印象を受けました。以来、いつかは音楽の国アルメニアに行ってピアノを学びたいと思い続けておりましたが、今回幸運にもよい機会に恵まれ、兼ねてよりの夢が実現したのです。しかし、未知の国アルメニアは何ぶん情報が少なく、知り合いの伝手からモスクワ大学の先生を介し、やっとアルメニア本国に受入先を見つけることができました。ピアノの勉強と日本語の指導、2つのテーマを掲げ、夏期の休暇を利用して渡航しました。

アルメニアの首都エレバンまでは、飛行機を乗り継ぎ、23時間の旅でした。すでに秋の風が吹いていた日本と異なりアルメニアの気候はまだまだ夏本番。連日30℃を越える真夏日は、ハードな日程をこなさなければならぬ身には少々つらかったのですが、息つく暇もなく私は、教鞭をとることになるエレヴァン人文学大学のミハイル＝アミルハニャン学長を訪ねました。学長は私を大変に歓迎して下さい、学生たちの日本語上達には日本人による授業が不可欠であるとおっしゃいました。そして、授業カリキュラムの詳細について綿密に打ち合わせをしました。1クラスは約20人、男性の多くは兵役のため、ほとんどは女性の生徒でした。私が担当したのは大学3～4年生のクラスでしたが、学生達は非常に熱心で、全て日本語で行う私の授業を真剣に聴き、聞き取りにくい部分は即座に友だちどうしで確認し合っていました。こちらもかなり注意深くゆっくり話したのですが、4年生の一番よくできる学生に「中村先生の日本語は発音がきれいです」と褒められ、すっかり一本取られてしまいました。カバンに忍ばせておいたロシア語辞典も、幸いにして日の目を浴びることもありませんでした。授業終了後は決まって補習を開きました。基本的には授業が理解できなかった学生への個別指導のつもりでしたが、できる学生は学習意欲も旺盛なので、結局クラスの大半がやってくることになり、毎日大変でした。しかし、アルメニアという遠い国で、これほど多くの学生が我々の言語を意欲的に学ぼうとしている姿勢に、いち日本人としてこれほど嬉しいことはありませんでした。

午前中の授業のあとは、昼食と少しの休憩をはさんで、

こんどは自分が生徒になる番です。午後はアルメニア国立コンセルヴァトリーピアノ科に通い、エレナ＝アバジャン教授からアルメニア音楽について、基礎から徹底的な指導を受けました。アルメニアは歴史的に音楽教育の盛んな国のひとつですが、独立以来の経済不況で物が不足しているためあまりにもピアノの状態が悪く、面喰らってしまいました。音程の狂い、鳴らない鍵盤、こんな半壊のピアノが国立音大のレッスン室にあるなど、日本では考えられません。しかし、アルメニア人の学生たちはそのボロボロピアノを絶妙に弾きこなしているのです。私の最初の課題は、このピアノと格闘することでした。音大にはピアノの絶対数が不足しているため、レッスンは常に予約待ちです。アバジャン先生は生徒も多く多忙なので、レッスンのできない日は、先生が一番弟子で現役の若手ピアニストであるアンナ＝アコピャンさんに補習をお願いしました。彼女は私と同じ歳ながら、すでにプロの演奏家として活躍しており、そのレッスンも非常に濃密でした。しかし私が何よりも苦労したのは文化背景のギャップです。例えば「歌を歌うように」「踊りを踊っているように」と奏法を指示されても、そもそもアルメニアの歌や踊り、ひいてはアルメニア人の感覚がよく分からないのでなかなかうまく表現できませんでした。そこでピアノのレッスン以前にアルメニアの伝統音楽を勉強すべく、伝統音楽の録音を聴き漁ったり、古いロシア語の文献を辞書を片手に読みました。連日の睡眠不足と疲れで、日中の強烈な日ざしは時として目眩を感じさせましたが、勉強の成果は確かな充実感として徐々に私の身体に染み渡りました。これだけ断続的に勉強したのは大学受験以来だったかもしれません。しかし同時に、なかなか本題のレッスンに入れないという焦燥感が日増しに募ったのも事実です。私の留学期間は、今回のテーマを進めるには本当に短かすぎました。

お別れパーティーの席で、エレナ先生が私にプレゼントを下さいました。アルメニア人作曲家によるピアノ曲の楽譜です。「ユウキはアルメニアの音楽の基礎を、短期間でよく勉強しました。日本でこの曲をよく勉強して、来年またアルメニアに帰ってらっしゃい。たくさん人の温かい心に見送られ、私は感謝の気持ち一杯にアルメニアでの研修を終えました。未筆ながら、今回の研修にあたりご協力下さった教官やラボの仲間にご場を借りて御礼を申し上げるとともに、今後多くの貴兄がこの研修を通してよい経験をされることを願っております。

中村友輝

生体システム専攻  
高宮・太田研究室 M1

## From the editors,

We are very much pleased to send you this news letter with the help of members of the committee of BIOTITECH news letter and the alumni/alumnae of Faculty of Bioscience and Biotechnology in Tokyo Institute of Technology. We would like to ask you to send your letters in which you can describe your recent interesting events, private happiness, exciting studies and/or successful business. Any comments or opinions related to BIOTITECH are also welcome at any time. The following e-mail address is available for your convenience: kohsumi@bio.titech.ac.jp or tkamachi@bio.titech.ac.jp We can arrange your letters as articles in the next news letter.

Contributors, including those who send letters through e-mail, must include full name, address, and daytime phone and facsimile numbers. We need your recent profile or information including a brief description on our current work to update the TIT who's who list. You are very welcome to send your correspondence in any form and contents.

We hope that this news letter gives you a good opportunity to keep your mutual communication with one another and make your international network solid.

With best wishes,



Suzukake Hall

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