



BIOTITECH NO.5

News Letter

Graduate School of Bioscience and Biotechnology
Tokyo Institute of Technology

"Bioscience and Biotechnology" continues to cast off the skin

The first research and educational system for Life Science in Tokyo Institute of Technology is the course of Life Chemistry at Interdisciplinary Graduate School of Science and Engineering which was established in 1976 at Nagatsuta campus as the first graduate school without bachelor student. Twelve years later, Department of Life Science and Department of Biotechnology were born as new departments of under graduate schools. It was 12 years ago. Two years later the School of Bioscience and Biotechnology was established in order to create a new academic core of TIT in the 21st century, followed by the establishment of the Graduate School of Bioscience and Biotechnology further two years later. At the same time innovation of Japanese university has started. Aiming at national investment for level up of research and educational circumstances in Japanese university and style-change of the university, that is, unveiling the ivory tower and returning profits to the society, as the counterbalance, large changes in educational program and in post-graduate system in many Japanese private as well as national universities has been accelerated together with stilted reduction of student number.

In TIT, a unique curriculum in which some subjects of culture are mixed with the specialized subjects has been realized since president Koroku Wada: 50 years history. In this occasion our curriculum has brushed up to fit the recent requirement of society. For the specialization, our graduate school has been once evaluated on the occasion of its establishment. Therefore, the change was restricted to the extremely developing fields during these ten years. Actually, the changes seem to be rather drastic: in undergraduate school four departments were combined to two departments, that is, Bioscience and Bioengineering, and in graduate school two departments were divided into five departments, that is, Life Science, Biological Science, Biological Information, Bioengineering, and Biomolecular Engineering. It will take some time for the new educational and research systems to work as planned. However, another big wave, that is, incorporation of national university, is coming and a further molt is expected in very near future. Six and three years ago, the first graduates leave our school and the first doctors were born, respectively. Now many graduates of our school and graduate school work in research institutes and in various companies. Life science is growing very rapidly and in 21st century contributes in wide. In order to make a chance for the graduates of our school and graduate school to communicate each other, news letter as well as lists of graduates and school members have been published. On the occasion of tenth anniversary of our school, the first gathering of our graduates is planned on January 27th, 2001. All of our school members expect a successful gathering which makes a new page of our history.

Professor Hironobu Hashimoto
Dean, Graduate School of Bioscience
and Biotechnology
Tokyo Institute of Technology

脱皮を続ける生命理工

東工大に初めて誕生した生命科学の研究・教育組織は、1976年当時初めての大学院大学としてスタートした総合理工学研究科の生命化学専攻である。それから12年後21世紀を見据えて生命科学を東工大における研究・教育の一つの柱にしようと、学部にも生命理学科と生物工学科が誕生した。それが今から12年程前である。その2年後に後発の生体機構学科と生体分子工学科を加えて生命理工学部が、さらに2年後に理学系と工学系の2専攻からなる生命理工学研究科がスタートした。時を同じくして日本の大学における大きな変革が始まった。大学の研究教育環境の向上のための国家の投資とそれに見合った大学における研究・教育成果の社会への還元を求める風潮、さらに少子化に伴う大学生人口の減少による大学間の競争の激化と相まって、大学審議会の答申に添った大学の組織改革、いわゆる大学教育の大綱化と大学院の重点化を我先にという状況が出現した。

東工大の学部教育は、和田小六学長以来教養教育を重視し、専門課程にも教養科目を配置したくさび形と称するカリキュラム構成となっており、大綱化を行う必要性はそれほど切迫したものではなかったが、長年のカリキュラムを見直すいい機会としてより時代に合ったものとして整備した。大学院重点化については、生命理工学研究科スタートの時点ですでに大学設置審の評価も受けているので、この度の大学院重点化ではここ10年程の生命科学の進歩に合わせた最低限の変更にとどめた。といっても、2年にわたる改組で今年度完成した新しい組織では、学部の学科が従来の4学科が生命科学科と生命工学科の2学科に、大学院の2専攻が分子生命科学専攻、生体システム専攻、生命情報専攻、生物プロセス専攻、生体機能分子工学専攻の5専攻になり、大きく様変わりすることとなった。カリキュラムを含めて新しい組織が順調に機能するには少々の時間が必要であろう。しかし、国立大学の独立法人化という次の波が押し寄せており、さらなる脱皮が生命理工にも求められることになるであろう。

東工大の生命理工学部の卒業生が世に出てから6年、大学や企業などの幅広い分野で活躍している。日に日に進展する生命科学ではあるが、大きな生命科学産業が生まれるというよりは、生命科学が多様な産業と深く関わる形で21世紀における1つの重要な学問分野として成長していくであろう。多様な分野で活躍する卒業生が集まりうる組織づくりが急務であるとの認識のもとに、生命理工に設けた委員会の努力により本ニュースレターや名簿の発行などを行って来たが、学部発足10周年である今年度、1月27日に初めての卒業生の会も企画されている。新しい歴史への1頁となる会への卒業生の皆さんの参加をお待ちしている。

東京工業大学大学院生命理工学研究科長
生命理工学部長

橋本弘信


Culture shock and Heat shock

Dear all,

stayed in US for 3 years before I came here. I had two kinds of shock when I came back to Japan. First one was culture shock. I was working as a postdoc in the Scripps Research Institute in San Diego, California, where the weather is perfect through the year. As you might know, most people in US have ideal life style. They go to work relatively early in the morning, and go home early in the evening. Parents pick their children at school after work and go home together. Although they do not stay in the laboratory for a long time like Japanese scientists in Japan, they can work efficiently, because they have excellent support system in US. As they do not have to stay in the lab until midnight, women who have small children can work equally with men. And in fact, there are many female bosses in US. On the other hand, how are female scientists doing in Japan? I have to say that this country has not changed much after the World War II. There are only few female bosses, although the number of the female graduate school students has extremely increased these days. Why? There are many reasons for it, and it is always really difficult to change the current situation. However I think that Japanese women's way of thinking has to change first of all. Some (many?) women do not want to work equally with men, because they think it is not feminine. And what is really sad to me is that some women in Japan do not have their own reason for living, although they have ability.

The second one was heat shock. It is extremely hot in summer in Nagatsuta campus, especially when we have to turn off the air condition because of limitation of electricity. Anyhow, I enjoy the lab life in this university, interacting with many young students. And I hope I can discover an important biological phenomenon during my stay in Nagatsuta.

Best regards,



Junko Kanoh, Ph.D.
Department of Life Science

New Laboratory, New Challenge, New Millennium Dear Colleagues:

I am glad to introduce myself to you by using this opportunity. On June 1, 2000, I have been appointed to be Professor of the Department of Biomolecular Engineering, at the Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology. I am very happy to take the role of research and education at this prominent institute.

In Japanese "traditional" sense, however, I may be unique, because I was working abroad for more than ten years (namely, in Germany for 7 years and in USA for 4 years) at universities and cancer research institutes, and also in the industry (Pfizer Pharmaceuticals Inc.) for four and half years. Interestingly, hitherto I had only 2.5-year career of working at a Japanese university (Osaka University Medical School). Since I joined Tokyo Institute of Technology in this June, I am currently engaged in teaching students as well as in setting up my laboratory at the Nagatsuta Campus, which is my new experience and challenge differing from what I had in Germany and USA. But, it is great excitement!

In the upcoming 21st century, as you are well aware, science will change so dramatically that we have never experienced. In particular, bioscience shall encounter a based medical science and biotechnology. Currently, my laboratory is seeking the creation of new technologies for genome-based drug discovery. Based on my experience in the industry as well as in the academia abroad, I would like to encourage students to become internationally competitive scientists with broad scientific scope, strategic business sense, and communication skills. In this context, I would be more than happy to work together with you to contribute as much as possible to important scientific and social activities of Tokyo Institute of Technology in the 21st century.

With best regards,



Toshihisa Ishikawa, Ph.D.
Department of Biomolecular Engineering
Graduate School of Bioscience
and Biotechnology

In newly established Department and Laboratory in Sojo University (renamed from Kumamoto Institute of Technology)

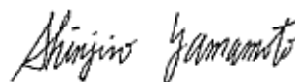
Dear colleagues,

I had gone to Nagatsuta campus for 3 years in doctoral program and 5 years in work. When I entered Tokyo Institute of Technology in 1990, a new building of the School of Bioscience and Biotechnology was constructed. I looked everything including the building, equipments, people and environment was new and beautiful because I had just moved from Shizuoka to Yokohama. I spent hard and enjoyable time in Nagatsuta campus.

Now I belong to newly established Department of Applied Life Science in Sojo University which was renamed from Kumamoto Institute of Technology this year. My laboratory is cell culture engineering and I will study development of efficient production process of useful compounds by using a variety of cells including plant and animal cells. Everything are new in this university and Kumamoto. Again I am similar situation in this university as I experienced in Nagatsuta campus.

There are a lot of delicious seafoods and foods, good environment, natural beauty, and history in Kumamoto. If you have an opportunity to come to Kyusyu, visit Kumamoto and my university. The nearest train station to the university is Kumamoto Kodai mae (this name is old yet).

With best regards,



YAMAMOTO, Shinjiro
Department of Applied Life Science
Faculty of Engineering
Sojo University

Okazaki National Research Institutes

Dear Colleague,

I moved to Okazaki National Research Institutes in March 2000. Previously, I worked in TITech for nine years as a staff of Prof. Handa's lab as a Faculty of Bioscience and Biotechnology member. During that time, I spent three years at Institute Pasteur in Paris.

When I came to TITech, there was no building for our Faculty and considerably fewer students. Then, Nagatsuta campus was developed as well as our study. It was a very exciting period when I worked with many undergraduate and graduate students in TITech and studies on gene regulation could be developed, thanks to the students.

Okazaki city locates 40km east of Nagoya having 340K people. The distance is very similar to Nagatsuta and Tokyo. Okazaki National Research Institutes are located near Higashi-Okazaki station and consists of three major institutes, which are National Institute of Molecular Science, National Institute for Physiological Science and National Institute for Basic Biology. About 400 staffs, graduate students and postdocs are working in the institutes. The size of the campus is almost the same as Nagatsuta Campus, but people number less than one tenth of TITech. Although it is a pity that there is not so many young students in our institute, like TITech, as it has only graduate course. The institutes are so well organized, however, that we can concentrate on our research.

Recently this year a new center was established based on these three institutes, which is called Center for Integrative Bioscience. I am working in the Center as a member of the Department of Bioenvironmental Research. Culture, climate and lab are quite different from Tokyo and TITech (though the differences are not so great as foreign countries). I am enjoying the difference and trying to develop what I learned in TITech.

One of the aims of Okazaki National Research Institutes is to offer cooperative research facilities involving Inter-University Research Institutes and you are welcome to collaborate with our institutes. I hope we will have a chance to meet again.

With best regards,



Hajime Watanabe
Department of Bioenvironmental Research
Center for Integrative Bioscience
Okazaki National Research Institutes

The second life in Tokyo Institute of Technology

Dear colleagues:

In the August in 1999, I came back to Faculty of Bioscience and Biotechnology in Tokyo Institute of Technology as an assistant professor after the 3 years research life in a pharmaceutical industry. I had studied nucleic acids chemistry for 6 years in T.I.Tech. I began to study in the same field again in the same institute.

The 3 years company life had passed very fast. So, when I came back to T.I.Tech I believed I still stayed with the frontier of nucleic acids chemistry and the surrounding field even after my 3 years absence. It was no longer than several weeks, however, before I noticed that the changes and the progress in this field were much faster than I had imagined.

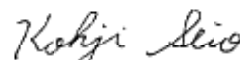
Among these changes, what surprised me most was the remarkably rapid progress in the human genome project and the innovation in the high-through put assay of genes or

mRNAs such as DNA chip and DNA micro array technology. When I was a student such topics were just dreams or at most the subject in the distant future we would meet in the 21st century. I felt as if I had been far behind the times.

One year after, now I know there still remains a lot of subjects yet to be studied in the new age of nucleic acid chemistry. The high-through put technology requires much more improved nucleic acids probes having high affinity and high selectivity. The DNA molecule on the DNA chip should be synthesized purely by improved synthetic methodology. The progress in the gene diagnosis and gene therapy will make it possible to medicate many diseases by using the oligonucleotides having improved *in vitro* and *in vivo* properties. In all these themes the contribution of the nucleic acids chemists will be, I believe, quite large.

Now, I am very happy to face such exiting new era of nucleic acids chemistry with the many active and intelligent young students in the laboratory. I will make the most of this good situation for my researches and education in my second life in T.I.Tech.

With best regards



Kohji Seio
Faculty of Bioscience and Biotechnology

Walk, Don't Run

Dear Colleagues,

After having spent my happy student days at Hokkaido University for as long as fourteen years, I came to TIT as an assistant professor at the beginning of the 90s. Before coming here, I imagined that TIT was a typical urban university with its campus surrounded by huge buildings. So, I felt relieved to see the Nagatsuta campus rich with green but not with colorful advertisements. In addition, I could fortunately continue my research project I had been carrying out at Hokudai. That was on the mechanism of remodeling of sperm chromatin in fertilized frog eggs.

During the last decade, biological sciences got developed rapidly. According to one of my friends, who is a little cynical, biology is getting complicated, technological and expensive more and more, day by day. He says that biologists can not afford to think what life is and experimental biologists are doing their daily experiments only to do another experiment. Perhaps he is right, at least in part. I sometimes feel that something might be lacking in my lab life even when experimental data are steadily accumulating. We may be too busy to understand really what we are doing. So, it seems lucky for me to have recently got an obligation to give some lectures on biology to students, due to that I became an associate professor at TIT. It gives me a good chance to look back on my work and put it in order. This sometimes makes me realize latent meanings of my work as well as a new research project for the future, and reminds me of a phrase; walk, don't run.

Many people say that rambling is also good to get a hint for scientific research unexpectedly. I agree. Without any practical advantage, rambling itself could be pleasant and I like it very much. This may be the reason why I took fourteen years to pass through my student days at Hokudai. Anyway, a longer and more winding road would be nicer to look back on and perhaps should be more worthwhile to go. With best wishes,



Keita Ohsumi
Associate Professor
Lab. of Cell and Developmental Biology
Graduate School of Bioscience and
Biotechnology

Tokyo Institute of Technology

Department of Pharmacology Tokyo Metropolitan Institute of Medical Science

Dear Colleagues,

It is my great pleasure to introduce you to the newly formed Department of Pharmacology, at the Tokyo Metropolitan Institute of Medical Science. I moved to this Institute on October 1, 1999, after working in the Department of Life Science at the Tokyo Institute of Technology (TIT) for approximately 7 years. The facility that we now occupy is much larger than the department at TIT. We have all new lab benches and desks and have already purchased all our necessary equipment. The members of my department, investigators and graduate students, are appreciative of the organization and efficiency of the lab, as this helps them to concentrate on their experiments.

When I was at TIT, I performed my research by myself. Now I have three investigators to help me. One of them, Dr. Tomohiko Maehama, who graduated with a Ph.D. from TIT and thereafter worked at Wisconsin University in the US, for 3 years, started to work here on January 1, 2000. His enormously novel finding in the US was that PTEN, which was assumed to be a tyrosine phosphatase, has activity as a lipid phosphatase that hydrolyzes the phosphate ester bond at the D3 position of phosphatidylinositol 3,4,5-trisphosphate. Another investigator, who will join us on October 1, 2000, is Dr. Takehiko Sasaki. He graduated from Graduate School at Tokyo University, and thereafter worked for 3 years at the Amgen Institute, in Canada. His prominently novel finding at the Amgen Institute was that knockout of phosphatidylinositol 3-kinase causes colon cancer. We also welcome Dr. Sasaki's wife, who had worked at the Amgen Institute with him, to join our group in this Institute. As you can see, all the members in my department have made significant contributions to the field of lipid signaling. Being together in my department will promote productive collaborations among these successful investigators to further advance the science of lipid signaling.

Finally, I would like to thank all my friends of Bioscience and Biotechnology at TIT, who helped me a lot over the years and who went drinking with me to refresh. I also want to thank Dr. Sekine who helped me immensely and gave a chance to introduce my new laboratory to all members of TIT.

With best regards,



Yasunori Kanaho, Ph.D.
Department Director
Department of Pharmacology
Tokyo Metropolitan Institute
of Medical Science

11 Years in TIT

Dear Colleagues:

On July in 1989, I moved to Department of Biomolecular Engineering, Faculty of Engineering, Tokyo Institute of Technology as an associate professor. With establishing Faculty of Bioscience and Biotechnology, all the department member including me moved to the new faculty in 1990.

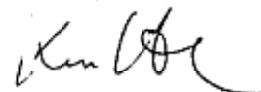
In 1999, I came back to my alma mater (University of Tokyo). Since I was still a faculty member of Faculty of Bioscience and Biotechnology for one year (additional post), I moved out from TIT last March. In actual fact, I taught in TIT as a part-time lecturer in the first semester of this year.

Therefore, I had been working in TIT for 11 years.

My great assets are alumni and alumnae. I taught them a lot of things including "how to advance the investigation" instead of "how to make data" and I was also taught many things by them. At graduation examination (presentation), most of my students had less data than other students. I certainly owe them many apologies for that they felt small. But, I believe that this teaching method can make them to surpass me. Graduates from my laboratory in TIT were less than 40. They are actively working as excellent investigators in companies or as excellent faculty members in universities (lecturer in Kinki University, research associate in University of Tokyo, research associate in Hiroshima City University). One of my pleasures is that the graduates visit my office and talk to me about their recent situation.

Several years ago, when I was in hard financial difficulty (research funds), many seniors gave me advices or kindly helped me. Thanks to you, my investigations were able to continue. I express my deep gratitude to Prof. Masuo Aizawa (Department of Bioengineering at that time), Prof. Ichiro Okura (Department of Bioengineering), Prof. Satoshi Nakamura (Department of Bioengineering), Prof. Takeshi Endo (Research Laboratory of Resources Utilization), Prof. Tatsuya Yamagata (visiting professor in Department of Biomolecular Engineering), and Prof. Seiichi Nakahama (Department of Polymer Chemistry). I shall never forget what you have done for me.

My delightful memory in TIT is a study meeting named "SATISFY (Seeking After Truth IS For Young)". Thank you very much for the happy time with my best friends.



Kenichi Hatanaka
University of Tokyo

Crystallography directed Proteomics

Dear Neighbor

I realize that some of the most state-of-the-art, sophisticated research is being conducted here. I may offer a very attractive lifestyle, one of many activities and opportunities. X-ray crystallography have ever been contributed to science and does to Structural and Functional Genomics (to identify the role of each gene in the genome) and Proteomics (with similar aim for each protein in the cell or organism) in the near future. The sequencing of the genomes of Drosophila, bacteria, archaea, and eukarya including the human has opened up research opportunities on a larger scale than has ever been before. Clearly, we know very little about the functions of more than half of the gene products which is expected by the sequences being rapidly decoded with one and all. It is worth to determine what all of the gene products do, how they do it and how we can control these processes. Potential health benefits arising from this new knowledge and information have generated heated discussion, moral fear and the healthful promotion over many medical industrial aspects of the process including the possibility that could make practicable. The inexpensive investment required to determine what all of these gene products do has been led to be convinced of that techniques (x-ray crystallography, computer modeling, bioinformatics and computational methods) will be most effective and efficient in providing the right and reasonable answers. It is apparent that structural biology has become an important tool for the understanding and treatment of disease. As structure-based drug design has proven its value, the demand for high-quality crystals of biological macromolecules has increased. X-ray structures that provide atomic level resolution seem to

2.5 Å resolution, the structure of the molecule crystallized appears to be suitable for publication in any journal that define what is currently fashionable in science. Some intend to construct the expression of targeting genes, while others may try to obtain a crystal diffracts to as good as possible. The development and optimization are need for large scale cloning and expression of genes, purification of gene products and also crystallization screening. The integral membrane proteins about which is currently known little or no, are challenged although it is incompatible with current technology and its facile automation. In addition, X-ray crystallographers have participated in the development of automation of X-ray diffraction data collection and rapid determination of structures. Only academic and non-profit institute can contribute to the quality of fundamental in the surrounding facilities including with pharmaceutical private corporation, medical industrial companies and other institutions.

Best wishes as you begin your research in the area.

Sincerely,

Takao Sato

Takao SATO
Department of Life Science
Graduate School of Bioscience
& Biotechnology

Harmonization

Dear Colleagues:

To introduce myself, it is a great pleasure for me to have this opportunity. I started for my new post in this April, that is, it was the first time to work at TIT. My major is biochemical engineering. Since I graduated from graduate school of engineering, I had been partial in the field of engineering. However, I realized this idea was obsolete and the fusion of research fields was an ideal, when I came to graduate school of Bioscience and Biotechnology.

I want to have acquaintances that have both similar and different backgrounds. Someone who has different knowledge will give different advice, and it might help me to understand the importance of looking at the things from a different point of view. Therefore, I think our organization is in an ideal situation because there are many kinds of laboratories/researchers in our organization. Even though we attend to the seminar of another laboratory, it is surprising to know that we are not entirely different and often have experiences in common. To recognize each other deepens mutual understanding. The academic exchanges between the different fields are sure to make an epoch-making discovery and to advance our research.

Everyone has his own opinion supported by his theory. If we insist on self-assertion each other, we cannot have a profound discussion about anything. For the good collaboration in the research, I think personality and humor are also important things. Both of them reduce the friction and facilitate their productive discussion.

Concerning the hobby, it also seems to include similar characteristics. I am very fond of singing in chorus. I think the chorus also has the same aspect in the view of collaboration. In other words, chorus can never consist of one part, although the role of one part is important. Especially, my part (BASS) is an unobtrusive part! However, I feel proud that our part contributes to agreeable music. A pleasant harmony appears only after the combination of each art in all times. Hence, I will give full scope to my own originality and contribute something to the scientific progress in collaboration with all of you.

With best regards,

Miyanaga

Kazuhiko MIYANAGA
Dept. of Bioeng. (Unno & Tanji Lab.)

Clock in our brain

Dear Colleagues:

Human shows 24 hrs sleep-wakefulness cycle in the room devoid of external time cues from the physical environment. Body temperature and blood pressure increase around morning and day, respectively. It is also a well known for the time of occurrence of several diseases i.e., stroke frequently occurs in early morning. Because the diurnal rhythms are close to, but not exactly, 24 hr, they are referred as "circadian rhythms". Clock Gene Group of National Institute of Bioscience and Human-Technology (NIBH) studying the common molecular mechanism of circadian clocks across species. NIBH is located in Tsukuba science city which is 60km northeast of Tokyo and there more than 65% of national institute of Japan and a few hundreds of private institutes gathered in this city.



In mammals, the site of circadian clock is the suprachiasmatic nucleus (SCN) of the hypothalamus of the brain. Circadian gene expression is a universal feature of clock genes. We discovered several clock genes which showed 24 hrs cycling expression in the SCN of the rodent brain. The genes include, *mp41*, which contain a period repeat sequence, a novel *Dou* protein, *Per1*, *Per2*, *Per3*, *Timeless*, *BMAL1*, *Clock*, *Cry*. To know how such genes affect the circadian rhythm of behavior, we are studying the transcriptional regulation and subcellular localization of these genes and their products, structure and function of *Drosophila* clock genes, behavior analysis, screening of clock related genes, the development of adenovirus based gene therapy system. Recently we found that the circadian expression of *rPer2* and *rBMAL1* mRNA in peripheral tissues of rats is governed by the brain clock in mammals^{1,2)} The differential feedback regulation in the brain pacemaker and peripheral tissues has been discovered by our group.

We are looking for young scientists who have strong interests to study such a neuromolecular biology field. (http://www.aist.go.jp/NIBH/ourpages/renkei_daigaku/nishida/index.html) <http://>

1) Ishida, N., Kaneko, M. and Allada R. Proc. Natl. Acad. Sci. USA 96 (1999) 8819- 8820.

2) Sakamoto, K., et al. J. Biol.Chem. 273(1998) 27039-27042.

Sincerely,

Norio Ishida

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Letters to The Editor

We are very much pleased to send you this news letter which should be circulated every year with the help of members of the committee of BIOTITECH news letter and the alumni/alumnae of Faculty of Bioscience & Biotechnology in Tokyo Institute of Technology. This time, all the manuscripts collected were electronically edited in a manner similar to that of the usual newspaper. 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 as you like. Any comments or opinions related to TITBIOTECH are also acceptable at any time. The following e-mail address is available for your convenience: hmihara@bio.titech.ac.jp or msekine@bio.titech.ac.jp. We can arrange your letters as articles in the next BIOTITECH news letter.

Contributors, including those who send letters through e-mail, must include full name, address, and daytime telephone & facsimile numbers.

We need your recent profile or information including a brief description on your 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,

The Committee of BIOTITECH NEWS LETTER
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東工大生命理工学部・研究科卒業生の
皆さまへ

昨年より東工大生命理工学部の同窓会が発足し、同窓会組織もようやく軌道に乗ろうとしています。今回もこのニュースレターから最近の教官の先生方の動向をお知らせできるかと思えます。今後は、卒業生の方からも近況など形式自由な原稿を募集しています。どうぞ、気軽に投稿して下さい。英語でも日本語でも結構です。