



## Towards a New Era in Dentistry

by Professor Takashi Miyazaki: Dean, School of Dentistry, Showa University

This year we celebrated the 80th anniversary of the founding of Showa University. Today we have four schools: the Schools of Medicine, Dentistry, Pharmacy, and Nursing and Rehabilitation covering all fields in the health sciences. The goal of education at Showa University is to apply a team approach beyond any specific professional field. Our graduates are imbued with the spirit and ability to work together with doctors, nurses, rehabilitation specialists, and pharmacists to ensure high quality dental services for our patients. This is especially so for the elderly and medically-compromised patients in need of special care. Our present goal for dental service is not only to treat conventional caries and periodontal diseases, but also to maintain and even recover oral function. Besides the conventional prosthetic services, we put a great deal



of effort into rehabilitation of dysphasia, swallowing disorders, aspiration, and speech of patients with congenital and secondary disabilities in collaboration with hospitals both inside and outside Showa University. Furthermore, in light of recent medical reports showing that the oral care of hospitalized patients is an important factor in the prevention of pneumonia and helps promote early release from hospital, we established an epoch-making Showa University Oral Care Center this year. Our faculty members, along with dental nurses from

our dental hospital, visit regular hospital wards, especially the ICU, to undertake oral care alongside medical nurses and doctors. We encourage students to study and experience this new style of dental service and to actively participate in such medical team-driven services in the future. As a result, we have implemented a new curriculum that includes a course on the "Oral Physician" as one of the four main courses in our undergraduate curriculum. I hope that in this way we can implement new pathways in dentistry.



## 50<sup>th</sup> Annual Meeting of Japanese Association of Oral Biology

by Professor Ryutaro Kamijo: Department of Biochemistry

Showa University School of Dentistry hosted the Annual Meeting of the Japanese Association of Oral Biology (JAOB) from September 21 to 23, 2008 at TOC Ariake Convention Hall and Showa University Kamijo Auditorium; the chairman of this year's meeting was Professor Tetsuhiko Tachikawa. Over 1500 researchers, clinicians, and graduate students, as well as dental students, from all over the country participated in this meeting. JAOB is an organization comprised of members from six fields of basic dental sciences, namely, oral anatomy, physiology, biochemistry, pharmacology, microbiology, and pathology. Ever since its foundation in 1958, JAOB has contributed to the advancement of research and the increase of knowledge for the improvement of dentistry. To celebrate its achievements and 50 years of history, the annual meeting this year

was held with special events including a memorial ceremony, special lectures, and banquets. At the memorial ceremony held on the second day, the opening address was delivered by Dr. Yoshiaki Yamada, President of JAOB, followed by congratulatory addresses presented by Dr. Mitsuo Okubo (President of Japan Dental Association), Kazuhiro Eto (President of Japanese Association for Dental Science), Makoto Asashima (Vice President of Science Council of Japan), and Sen Nakahara (President of Japanese Association of Private Dental Schools). The Memorial Ceremony was followed by the first plenary lecture, "Apoptosis and engulfment of dead cells,"

presented by Dr. Shigekazu Nagata, Professor of Kyoto University Graduate School of Medicine. On day 3 the second plenary lecture entitled "Try hard, and get it done," was presented by Dr. Masatoshi Koshiba, winner of the Nobel Prize in Physics and Professor Emeritus of Tokyo University.

The meeting also consisted of 5 symposiums, 2 workshops, 478 accepted abstracts (96 oral presentations, 382 posters), and 4 luncheon seminars. Also featured were 20 exhibit booths representing 19 companies.

The three-day meeting was a great success.



## A Bridge Over the Pacific

by Professor Kohtaro Maki: Department of Orthodontics

The Third Biennial Showa-UCSF (University of California at San Francisco, CA, USA) Orthodontic Residents' Meeting was held on August 14-15 in San Francisco. Seven young residents from Showa University and 20 from UC participated in an animated discussion concerning their respective scientific research and clinical cases. Professor David Hatcher (Radiology), Professor Janice Lee (Oral Surgery) and Mr. Jack Choi (CEO, Anatomage Inc.) participated and gave lectures as special guests. Four clinical cases and 14 research studies were presented during the two-day meeting. AUC alumni house located in a beautiful wooded area near the university dental hospital was the site of the meeting. The contents of the meeting were as follows:

1) Learning within the Pacific Rim as Applied to Orthodontics  
Comparisons were made concerning

different philosophies and training for evaluating orthodontic patients. Residents compared their clinical treatment approaches and discussed patient treatment from their different perspectives bringing the Pacific Rim concept into focus. Residents joined in groups to work out treatment plans of cases presented by each school.

2) Using New Diagnostic Information for Complex Orthodontic Cases

Each faculty presented complex cases that required further diagnostic information, such as the advanced use of CBCT and other new technologies.

3) Applying Highly Advanced Technology to Orthodontic Treatment

The issues of how to bring CBCT volumetric imaging and other tools into analysis of treatment including genetics were discussed.

This meeting, first held 6 years ago, was designed to help maintain the warm

friendship and strengthen the relationship between the Tokyo and San Francisco exchange visitors. Although oral presentations and discussions in English were challenging for the young Japanese residents, they succeeded in reconfirming the importance of their research and defining the direction of future studies. On the return trip to Tokyo, a deep sense of satisfaction and achievement were inspired by the infinite blue sky and clear trail of vapor seen from the airplane.



## The 7<sup>th</sup> Asian Congress of Oral and Maxillofacial Radiology in Nara, Japan

by Professor Tomohiro Okano: Department of Oral Radiology

The 7th Asian Congress of Oral and Maxillofacial Radiology was held in Nara, Japan from November 20-22, 2008. The president of the Congress was Professor Tomohiro Okano of Showa University School of Dentistry. The 7th ACOMFR was designed to provide a forum for exchanging ideas and concepts of the latest developments in the art and science of oral and maxillofacial radiology. The Congress included a symposium, two workshops, 14 educational lectures, 37 oral presentations of original papers, and 83 poster presentations. More than 400 participants and delegates from fifteen countries from all areas of Asia and some Western countries joined the meeting.

This Congress traces its history

back to the 1960s when a small number of oral radiologists from both Korea and Japan participated in annual domestic meetings in an effort to extend their scientific and clinical competence. In 1984 a Korea-Japan Joint Seminar for oral radiologists was held every couple of years. As a result of this Seminar, radiologists from both countries were

greatly encouraged and the number of participants from not only Korea and Japan but also from other Asian countries grew in number. The Seminar was then formally extended to include all of Asia. In 1996, the first ACOMFR was held in Tokyo with subsequent meetings in Seoul, Beijing, Kaohsiung, Bangkok, and Bangalore.

The highlight of the social program in Nara was a Noh play, which was attended by many members of the Congress. Another program included a Todai-ji Temple Morning Walk guided by the former Bishop of the Temple, Mr. Hashimoto. Since Nara is a representative city of Asian culture, participants most likely found a part of themselves or their own culture in Nara.



## Oral Care Center of Showa University

by Professor Yoshiharu Mukai: Department of Hygiene and Oral Health

The Oral Care Center of Showa University was established in April 2008 in an effort to exceed the quality of services provided by our comprehensive medical university facilities, which include eight branch hospitals. The materialization of the Center together with our medical team approach toward health services and education make Showa University a pioneer in the medical fields. Our new Oral Care Center aims:

1) to contribute to medical team care.

In collaboration with doctors, nurses, pharmacists and others, we focus on preventing aspiration pneumonia and accidental suffocation by means of thorough oral care (organic and functional) for inpatients treated in the eight hospitals of Showa University. In addition, we aim to make subsequent medical care go more smoothly especially for those with eating disorders, dysphagia

and/or halitosis. Eligible patients for this team medical care include those with programmed surgical intervention and those of VAP (ventilator-associated pneumonia) under artificial ventilation; we help with the pre- and post-operative management and prevention of potential infections of these patients. Furthermore, in chronic-stage wards, we help to promote early oral ingestion by providing oral care and eating function therapy simultaneously.



2) to contribute to education.

In order to contribute to the education at our comprehensive medical university, oral care in the hospital wards is taught and practiced by our university students and clinical residents. The main educational objective of the Oral Care Center is to provide the necessary clinical training to future dentists who can collaborate with medical teams as oral physicians and share a role in community medicine.

3) to contribute to local medical care.

In an effort to continue the improvement of the QOL of our hospitalized patients, the Oral Care Center contributes to community medical care by collaborating with domestic networks to promote continued oral care after being discharged from our hospitals.

## The New Dental Medicine Education Unit

by Associate Professor Ryuta Kataoka: Dental Medicine Education Unit

The Dental Medicine Education Unit was founded in April 2008 and I was appointed as its director. As a part of the School of Dentistry, the Dental Medicine Education Unit aims to promote interdisciplinary education with other Education Units from the schools of Medicine, Pharmacy, and Nursing and Rehabilitation Sciences and to direct curriculum development and support as well as educational research.

We collaborate with the other Educational Units to promote interdisciplinary education such as "interdisciplinary PBL for 1st-year and 3rd-year students" and an "early exposure program." This is important to train students to be able to work with other medical professionals. It is consistent with our university's



educational spirit to make a concerted effort to acquire advanced knowledge and interdisciplinary skills, and to learn together by transcending departmental boundaries and utilizing the wide range of facilities of a medical university.

We have started to reform our curriculum by introducing integrated courses and early exposure to clinical dentistry and medicine. Our curriculum should be outcome-focused where the

aim is to produce graduates who are able to have the competencies. The competencies should be the intended outcomes of learning and should be assessed properly. Clarification of the purpose of the assessment and determination of what is to be tested are considered to be the most important steps in finalizing our curriculum reform.

We develop and promote educational workshops and conferences in the fields of medical and dental education with the other Educational Units to attract people to Showa University and enhance its reputation as a center of excellence. We are also developing a research program and collaborative links with other research groups nationally and internationally.

## Research and Educational Activities

### The Department of Biochemistry, School of Dentistry

by Professor Ryutaro Kamijo

The Department of Biochemistry is one of eight basic science departments in the School of Dentistry at Showa University. From its foundation in 1976 to 2000, the Department of Biochemistry was particularly distinguished under the leadership of Dr. Tatsuo Suda. Dr. Suda, Professor Emeritus of Showa University, is now a member of The Japan Academy, an organization that accords special recognition to researchers with the most eminent records of academic and scientific achievement. He is currently the only member of The Japan Academy from the field of dentistry.

All the basic science departments in the School of Dentistry of Showa University are housed in a single building at the Hatanodai Campus in Tokyo. The close physical proximity of the basic science departments fosters considerable interaction both in research and education between the faculty members of the different departments.

At present the Department of

Biochemistry has 6 full-time faculty and 10 graduate students. We seek to understand the processes of life at the biomolecular level. In particular, our department aims at using mouse genetics and molecular biology to identify molecular mechanisms that regulate cellular differentiation and functions of cells in bone, cartilage and tooth. We also study genes that regulate the bone and tooth developmental processes. Specific projects in our department include: 1) the essential role of transcription factor IRF-8 on differentiation and functions of osteoclasts, 2) the involvement of Rac1 on skeletogenesis, 3) the effects of free radicals on differentiation, proliferation, and functions of chondrocytes, and 4) the regeneration of odontoblast-like cells using neural crest-derived stem cells. To disclose these issues we use the skeleton as an organ and the mouse as a model organism. We have generated

several transgenic mice for our research.

The teaching responsibilities of the department for dental students extend from the study of basic biochemistry to the presentation of recent advances concerning molecular aspects of fundamental cellular processes. We also provide training for future researchers who have or will obtain D.D.S./Ph.D. or Ph.D. degrees and are expected to contribute to the advancement of both basic and clinical dentistry.



## Introduction of Foreign Research Fellow

by Dr. Abdullah Al Masud Khan (Dhaka Dental College, Dhaka University, Bangladesh)

I am Dr. Abdullah Al Masud Khan, presently appointed as a research fellow in the Department of Pharmacology, School of Dentistry, Showa University, Tokyo, Japan. I am from Bangladesh. Before coming to Japan I completed my degree in dentistry and worked as a dental professional. I came to know about Showa University from senior colleagues in my country who had studied in the same fellowship program in previous years. Truly, I was looking forward to an opportunity to study abroad; in particular, I wanted to be involved in research. Although there is clinical research activity in our country, the scope of basic science research is very limited in our educational system. For this reason I was a little afraid to become a research fellow in Japan. However, I have received maximum cooperation from my professor, Shoji Yamada and my instructor, Dr. Amano. At Showa University I have had the opportunity to do research on osteoclast activity and I am presently working on the effects of S1P (signaling sphingo lipid) on osteoclasts. We are hopeful that our experiments will

produce some good results.

I am really happy and grateful to Showa University for sponsoring such a fellowship program and helping developing countries such as Bangladesh. In addition to providing me with the opportunity to learn about research activities in depth, I am also learning and enjoying the unique culture of Japan and Japanese lifestyle. I wish to convey my deep gratitude to Professor Shoji Yamada and all the members of his department for sharing their valuable time and efforts with me. I am confident that this valuable research experience at Showa University will be helpful for my future research and educational activities.



I wish Showa University a very successful and glorious future.

## International Exchange Center

by Chieko Kawaguchi: International Exchange Center

Our International Exchange Center was created to address the current globalization of medical education and related research fields. So far Showa University has concluded academic exchange agreements with 18 overseas universities. In addition, we have been supporting several different kinds of international activities such as overseas education for our staff and students, acceptance of foreign research fellows, attendance at international academic conferences, and promotion of collaborative research studies.

Concerning the acceptance of foreign students, we have set up a foreign student commission so that we may offer research & medical clinical training at Showa University and at our affiliated hospitals. This year we have accepted 30 new foreign students.

Regarding outbound students, our curriculum offers our students the chance to study abroad while earning class credits. This past

summer 16 undergraduate freshmen attended a summer program at Portland State University, Oregon where they participated in home stays and hospital visits. At the same time Showa University and Portland State University made a formal agreement to continue carrying out academic exchange programs. Medical and dental undergraduate students from the second year onward will be offered the opportunity to attend overseas clinical clerkships. This year these overseas clerkships will be offered to 50 students. In addition, last year 499 faculty and

officials traveled overseas; this number has shown a year-on-year increase of 4% indicating that our international exchange efforts have proved to be very successful.

In an effort to accelerate the globalization of medical fields, our International Exchange Center aims to build a network for medical-related people. Our university seeks to create a network that promotes mutual educational and cultural exchanges and offer advanced medical education. As branches of a tree, we will reach out to every doctor who needs support, who needs help, who needs a network.



Country	Number
China	2
Bangladesh	3
Brazil	1
Nepal	1
Korea	1

Number of foreign scholars at the School of Dentistry in 2008.

## Overseas Training of Students

### From the University of Southern California in Los Angeles

by Benjamin Lu and Sene Hiradate

During the last two weeks of August 2008, we had the opportunity to visit and observe Showa University, School of Dentistry. As the only two first-year student representatives from the University of Southern California in Los Angeles, we were overwhelmed by everyone's kindness and hospitality. Aside from the sweltering heat, we felt right at home. During the first week of our stay, we were introduced to some of the current research being conducted at the university. The information given to us was very interesting and opened our eyes to the groundbreaking efforts being made at Showa. In the second week, we had the opportunity to observe several clinical departments, which included pediatrics, orthodontics, radiology, prosthodontics and periodontics. Every instructor we interacted with demonstrated his/her vast reserve of knowledge and willingness to communicate that knowledge to us. The cultural exchange program proved to be extremely beneficial for both of us; it enabled us to apply the learning gained from our PBL cases to a clinical setting. We were also particularly impressed with the collaborative efforts of specialists supported by the school's resources to offer extensive treatment to cleft palate and

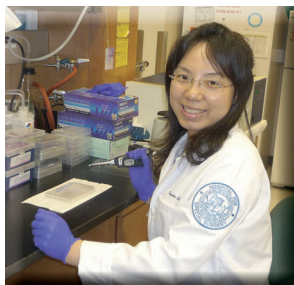


lip patients. It was obvious through the maintenance and routine oral care offered at the dental hospital after operative procedures that these types of patients were in very good hands. The radiology department was also interesting to us; we encountered equipment that we had studied, but had never seen. In fact, the facility was prepared to diagnose pathology beyond the teeth, which we felt enabled for a more comprehensive analysis, thereby contributing to improve a patient's systemic health. Overall, we were extremely grateful for this opportunity and to the Showa University professors, researchers, and students for a memorable and enriching experience.

## Ph.D. Program Introduction

### The Showa University Brand of Science: My Memories

by Baohong Zhao: Cornell University Weill Medical School, Hospital for Special Surgery



After receiving my Ph.D. degree from Showa University School of Dentistry in March 2008, I immediately began my post-doc work at Cornell University. The memories that I have of Showa University are as familiar to me as those of my native home in China, warm and close to my

heart. When I enrolled in Showa University graduate school, I even didn't know how to use pipettes. Time flew by, I grew up, graduated, and left the ivory tower of Showa University. It was then that I realized I wasn't a kid anymore; I had been made into a scientist forever inspired by the Showa brand.

The scientific world outside is exciting and attractive, but cruel and aggressive. However, Showa "armed" me with solid knowledge, research techniques and most importantly, scientific strategies that have furnished me with the skills necessary to survive in this complex and competitive world of scientific research.

Four years of strict, intensive laboratory training in addition

to weekly journal club meetings and research progress reports taught me how to compete and stay at the cutting edge of science.

For scientists the communication skills needed for success are knowing how to express ourselves, give presentations, discuss, defend and rebut. Showa University provides the graduate students with a well-organized scientific literature writing course and many opportunities to give poster/oral presentations at national and international scientific conferences. I was fortunate to have had the opportunity to give an oral presentation at ASBMR (Annual Meeting of the American Society for Bone and Mineral Research) where I received the Young Investigator Award.

In the United States people from various races and cultural backgrounds work together. Therefore, communication skills are a top priority in this society. I appreciate how my mentors and schoolmates from Showa University helped me build self-confidence and self-reliance; they also taught how to work as part of a team. I have benefited greatly from my studies at Showa University and hopefully my future achievements will add to the reputation of the Showa brand.

## Ph.D. Program: Application Information

Showa University's Graduate School of Dentistry Ph.D. course is now accepting applications from international students.

The course that will start in April 2009 offers basic and clinical dental research.

For further information, please visit our English Web site: <http://www.showa-u.ac.jp/>

## Grant-in-Aid for Scientific Research (2008)

by Naoko Nonaka: Department of Oral Anatomy & Developmental Biology

The Ministry of Education, Culture, Sports, Science and Technology- Japan, and Grant-in-Aid for Scientific Research from the Japan Society for the Promotion of Sciences have provided Showa University with several research grants indicated in the Table, besides High-Tech Research Projects.

Our High-Tech Research Projects have proven successful by obtaining highly evaluated results under titles such as "Advanced research to elucidate the pathogenic mechanisms and recovery of stomatognathic function disorders," a project that began in 2005, and another 3-year project that started in 2008, "Innovative research of oral cancer; a study based on molecular evidence to

elucidate the pathogenic mechanisms and to improve the Quality of Life through comprehensive rehabilitation." These grants will be used for research and/or educational purposes.

Fields	Number
Grant-in- Aid for Scientific Research (B)	5
Grant-in- Aid for Scientific Research (C)	33
Grant-in- Aid for Young Scientists (B)	30
Grant-in- Aid for Young Scientists (Start-up)	8
Grant-in- Aid for Exploratory Research	2

Number of Grants-in-Aid for Scientific Research in 2008



## The 26th Annual Meeting of Showa University Dental Society by Executive Director: Masanori Nakamura

The 26th annual meeting of Showa University Dental Society was held at the Showa Dental Hospital on December 6, 2008 with 34 basic science and clinical research lectures and poster presentations. These presentations were followed by an education symposium held in the afternoon.

In this symposium four speakers presented the goals, strategies, and the present and future of education at Showa University, particularly in the School of Dentistry. Showa University is a medical university consisting of the Schools of Medicine, Dentistry, Pharmacy, and Nursing and Rehabilitation Sciences. The educational philosophy of Showa University is to nurture health care personnel who can "feel the pain" of others. Based on this philosophy, one of the important educational objectives of the School of Dentistry is to instill a team approach beyond any specific professional field.

Dean and Professor Takashi Miyazaki presented a new approach to dental education in which he emphasized not only the treatment of conventional

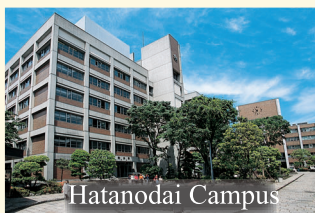
caries and periodontal disease but also the rehabilitation of dysphasia, swallowing disorders, aspiration, and speech of patients with congenital and secondary disabilities in collaboration with hospitals both inside and outside Showa University.

Professor Yuji Kiuchi (School of Pharmacy) spoke about Medical Team Treatment education with interdisciplinary PBL tutorials for the 1st and 3rd-year students of our four schools (Medicine, Dentistry, Pharmacy, and Nursing & Rehabilitation).

Professor Matsuo Yamamoto and Associate Professor Ryuta Kataoka discussed the significance of the sequential clinical clerkship starting with the 1st-year students and the present and ongoing situation of this program in the School of Dentistry. After the symposium Professor Kokichi Matsumoto presented his final retirement lecture concerning education, research and clinical work at the School of Dentistry. Professor Matsumoto is responsible for introducing laser technology to dentistry in Japan.

Cover Photograph <http://www.photolibary.jp/>

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