Unlocking the secrets of saliva

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Planning ahead

By Lakshman Samaranayake, Dean

The Year of the Ox is forecast to be full of global economic challenges, but Hong Kong is determined to stand firm and endure the waves of the so-called financial tsunami. Many people are choosing to stay strong-minded in another way, by taking professional and continuing education courses and learning new skills, in an effort to ready themselves for the future.

Mindful of the needs of the dental community, the HKU Faculty of Dentistry provides a wide array of postgraduate and continuing dental education programmes, with the newest one being an 8-day Certificate Course in Dental Practice Management. Sessions will be offered this year in May, June, September, and October. Please see our website, <www.facdentalk.org>, for more details.

Public education and engagement with the general community are increasingly important goals for our Faculty. Accordingly, our recently formed Knowledge Transfer Unit (KTU) aims to coordinate the dissemination of information from our researchers, educators, and clinicians to the local and wider public, via print, online, and mass media, in addition to special events.

The KTU, under my directorship, consists of the Editorial and Publishing Unit, E-Learning and Communications Technology Unit, Communications and Development Unit, and Dental Media Unit. Dr Susan Bridges, Assistant Professor in Dental Education and E-Learning, has been appointed the KTU’s Deputy Director and Line Manager. Please direct any queries or suggestions related to public information gathering or dissemination to Ms Melody Tang, Communications and Development Officer (e-mail, <meltang@hku.hk>).

As our University prepares for Hong Kong’s 3+3+4 educational reform, the Faculty this year continues to plan towards the “new” 5-year undergraduate curriculum for 2010, as well as the 6-year BDS programme for 2012. Both will build on more than a decade of experience in problem-based learning (PBL). As part of the Faculty’s celebrations of 10 years of fully integrated PBL in its undergraduate curriculum, we have been organising the 6th International Conference on PBL in Dentistry, which will be held from 13 to 15 November 2009. Abstracts are now welcome (see <www.facdentalk.org/pbl>).

Finally, knowing more about the mouth reveals more about the body, and oral and saliva biology are emerging as very important fields. To whet your appetite, this issue of Expressions takes a look at the Faculty’s Discipline of Oral Biosciences, focusing on the biology of saliva and the microbes in our mouths. Happy reading!
Researchers, educators, and health care professionals are invited to attend the 6th International Conference on PBL in Dentistry, organised by The Faculty of Dentistry, The University of Hong Kong, to commemorate 10 years of its fully integrated, problem-based learning undergraduate curriculum.

The conference will include keynote addresses by eminent international experts and special workshop sessions. **Abstracts for poster and workshop sessions are now welcome.**
Four outstanding dental practitioners in mainland China have been selected as winners of visiting fellowships in advanced dentistry, in the first round of a fellowship scheme co-sponsored by the HKU Faculty of Dentistry and the Chinese Stomatological Association (CSA).

The 2008 round of the HKU Faculty of Dentistry–Chinese Stomatological Association Advanced Dentistry Fellowships recently concluded with the selection of four winners from a total of more than 200 competitors.

The awardees will each undertake a short-term attachment to study, conduct research, and experience world-class dental education at the HKU Faculty of Dentistry—the only English-medium dental school in China, and the dental faculty belonging to the top university in China for the past 2 years, according to The Times Higher Education World University Rankings.

Important links
The fellowship scheme was established soon after Dean Samarawickrama and CSA President Prof Xing Wang signed a Memorandum of Understanding in May 2008 in Beijing, China, and was given top priority by the two dental institutions.

“This joint venture aims to further enhance links between dental professionals in Hong Kong and mainland China,” says Dean Samarawickrama. “The partnership between HKU and CSA and our new annual joint fellowships are very meaningful, as the CSA is the most authoritative national stomatological body on the mainland.”

Great opportunity
“These fellowships will provide a great opportunity to well-qualified and distinguished young dentists,” says Prof Li-jian Jin, the Faculty’s Associate Dean for Mainland and Global Affairs (pictured above, 8th from the left), who represented the Faculty at the Fellowship Presentation Ceremony organised by the CSA on 13 October 2008 in Tianjin, China.

During the ceremony, Prof Jin presented souvenirs to the nine runners-up and certificates to the two fellowship recipients in the clinical research category—Dr Da-wei Liu from the Peking University School of Stomatology and Dr Xiao-hui Ma from the Capital Medical University School of Stomatology, Beijing (pictured 6th and 9th), CSA President Prof Xing Wang (pictured 7th) gave a warm and heartfelt address expressing appreciation for the establishment of the fellowship scheme and his hopes for a long-term partnership between the CSA and the Faculty.

The two fellowship recipients in the basic research category are Dr Zhi Wang from the West China College of Stomatology, Sichuan University, and Dr Yi Liu from the Capital Medical University School of Stomatology. They received their awards at an international symposium organised by the CSA in Beijing in early November 2008.

The Chinese Stomatological Association (CSA; website: <www.cndent.com>) is a non-profit society founded by law to serve as a bridge between the government of the People’s Republic of China and oral health professionals. The CSA is professionally led by the Ministry of Health and the registration management section of the Ministry of Civil Administration. For more information on the HKU Faculty of Dentistry–Chinese Stomatological Association Advanced Dentistry Fellowships, please e-mail Prof Li-jian Jin at <ljin@hkucc.hku.hk>.
Hats off to Class of 2008!

Dean Samaranayake formally admitted 45 BDS graduates (8 with BDS Hons) to the Faculty’s alumni family at the 2008 Graduation Prize and Presentation Ceremony, witnessed by Faculty staff, alumni, family, friends, and invited guests on 26 November 2008.

An additional 40 taught postgraduates and 7 research postgraduates were bestowed with their degrees, and more than 40 awards were presented to BDS graduates and current BDS students for academic achievement.

Special recognition was given to Dr Ricky WK Wong (Associate Professor in Orthodontics), who won the Research Output Prize 2008. Long Service Awards were also presented to Prof Tak-wah Chow (Professor in Family Dentistry) and Dr Felix IS Yeung (Part-time Clinical Lecturer) for more than 25 years’ service each, Dr Albert MP Liu and Dr Beatrice Ng (both Part-time Clinical Lecturers) for more than 15 years’ service each, and Mr Raymond TC Leung (Audiovisual Officer) for his more than 35 years’ service to HKU and the Faculty combined.

The main address was given by the evening’s Guest of Honour, The Hon John CW Tsang, Financial Secretary of the HKSAR Government. Following the Faculty’s tradition, he received a framed caricature painted by well-known local artist Ah Chung as a souvenir of the occasion, presented by the Dean and this year’s BDS Valedictorian, Dr Ki Hon.

—Congratulations, Class of 2008!

Parting words...

“We finally made it, thanks to our tutors and classmates. I am glad I chose to study Dentistry; this is what I want to do for the rest of my life.”—Dr Rachel SY Wong

“Thank you for the past 5 years: a challenging but lovely journey. Wish you all the best.”—Dr Enoch SL Yeung

“We’ve had a chance to become all-rounded people, and I wish we can all become outstanding professionals in the future.”—Dr Ivan CK Law

“It’s the end of school, but the start of a whole new life. I wish every one of us can do well despite adversity and reach out to a brighter future. Happy graduation!”—Dr Stella C Ngai

“We’ve had the perfect teaching system, legendary PBL, and we’ve all gained a lot from it. Thank you to our facilitators and tutors, as well as our dental surgery assistants and highly skilled dental technicians.”—Dr Bean WF Lam

Photographs and videos of the graduation ceremony can be accessed from the Faculty’s website, <www.facadenthk.org>.
Academic agreement with Amsterdam

The Faculty has expanded its global strategic network of partners by signing a Memorandum of Understanding with the Academic Centre for Dentistry in Amsterdam, Netherlands.

Prof Bob ten Cate, Professor of Experimental Preventive Dentistry at the Academic Centre for Dentistry in Amsterdam (Academisch Centrum Tandheelkunde Amsterdam, or ACTA) paid an official visit to the HKU Faculty of Dentistry and signed a Memorandum of Understanding (MoU) on 6 November 2008 on behalf of ACTA’s dean, Prof JW Zwemmer.

The collaborative agreement will pave the way for teaching, learning, research, and scholarly exchange between the two dental schools.

“I am pleased to have signed the MoU between your Faculty and ACTA,” says Prof ten Cate. “Your Faculty has impressive lines of research headed by global leaders in their respective fields, and I hope that the MOU will result in collaborations that will benefit our two schools.”

Also the President of the International Association for Dental Research and Academy Professor with the Royal Netherlands Academy for Arts and Sciences, Prof ten Cate gave a guest lecture titled “Caries prevention: more than fluoride?” on the evening of 7 November 2008 as part of the Oral Health and Science Seminar series—the Faculty’s weekly continuing education programme for staff, students, specialists, and general dentists.

Prof ten Cate later visited Beijing and spent some free-time biking along the Li river. “I was amazed by the big contrasts between the rural and urban areas, also in aspects of dental care,” he told Expressions. “The trip to Hong Kong and Beijing was actually my fourth visit to China, and I’m impressed with all the changes that have occurred since my first visit in 1993.”

With a staff of 540 and a student body of 850, ACTA is one of the largest dental schools in the world. ACTA (website, <www.acta.nl/english>) was founded by the merger of the two dental faculties of the Universiteit van Amsterdam and the Vrije Universiteit, Amsterdam, in 1984.
More than 40 senior Faculty members took part in the 2008 Faculty Retreat, held at the Hong Kong Cyberport on 10 December 2008. The main theme of discussion and brainstorming at the all-day meeting was the future of taught postgraduate and continuing dental education in Hong Kong in the next 5 years.

Sharing perspectives
After Dean Samaranayake’s introductory address, two guest speakers presented their views of the Faculty as a provider of local specialist training.

Dr John Ling, President of the College of Dental Surgeons of Hong Kong spoke on “Accreditation and quality control of specialist training pathways” and Dr Joseph Chan, Consultant-in-Charge of the Dental Service, Hong Kong Department of Health, spoke on “The future needs of dental specialists in the Dental Service”.

Prof Colman McGrath and Prof Niklaus Lang then presented international perspectives on specialist dental training, after which the attendees formed six discussion groups. Topics under deliberation ranged from course viability and recruitment of high-calibre students, to the examination process and the role of the Faculty in continuing dental education in Hong Kong and greater China.

Great expectations
The latter topic was of particular interest, given the Faculty’s vision of establishing an Institute of Advanced Dentistry as a regional hub for postgraduate and continuing dental education, in close collaboration with the mainland.

This and other potential plans were explained during the afternoon talk titled “Postgraduate and continuing education—past, present, and future”, which was given by Prof Urban Hägg, Associate Dean for Postgraduate and Continuing Education.

For continuing education, the Faculty can further develop its successful weekly Oral Health and Science Seminar series, said Prof Hägg. But, citing the known local shortage of specialists, further cooperation is needed with the College of Dental Surgeons of Hong Kong to facilitate specialist registration.

A new course
In addition, a new Certificate Course in Dental Practice Management was officially launched at the retreat. Jointly organised by the Faculty and the HKU Business School, this intensive 8-day course aims to improve business know-how among practising dental professionals in Hong Kong. Several classes will be offered this year, starting in May 2009. Please visit <www.facadenthk.org> for more details.
Spicing up bones

Chinese red yeast rice, or Hongqu—long-used in Chinese cuisine as a preservative, seasoning, and red food colouring—has biological properties that promote bone generation, two researchers from the Faculty’s Discipline of Orthodontics have shown.

Made by fermenting rice with the red yeast Monascus purpureus, Hongqu is also used in traditional Chinese medicine and contains cholesterol-lowering chemicals, including lovastatin. Prof Bakr Rabie and Dr Ricky Wong made an extract of Hongqu and applied it with the protein collagen to holes that had been made in rabbit skulls. Two weeks later, those holes had begun to fill with new bone. In contrast, holes that had been treated with collagen alone showed only a small amount of new bone at the collagen-bone junction. In another experiment, performed in vitro, rat bone cells that had been treated with Hongqu extract grew by up to 74% faster and had up to 31% more bone-making activity than untreated cells.

Although it is not yet known which ingredient is responsible for Hongqu’s ability to stimulate bone formation, the researchers suggest that its cholesterol-lowering chemicals may be involved, and conclude that Hongqu “is a natural product with potential in treating bone defects and probably also osteoporosis”.

[Wong RWK, Rabie B. Chinese red yeast rice (Monascus purpureus-fermented rice) promotes bone formation. Chinese Medicine, 2008;3:4-9.]

Facing pain barriers

Hong Kong has “a high level of untreated orofacial pain symptoms”, according to the results of a questionnaire survey conducted by researchers from the HKU faculties of dentistry and medicine.

Among 1222 adults interviewed by telephone, about 42% reported having had some form of pain in the mouth or mouth area of the face in the previous 4 weeks. Of those respondents, 79% said their pain had had at least one negative impact on their life, most commonly worrying about oral and dental health (60%) and avoiding certain food (50%). However, only 20% of respondents with orofacial pain had received any professional treatment for their condition. People who needed more bed rest, had sleep disturbances, or were worried about their oral and dental health, and those aged 35 years or older were more likely than others to seek treatment (odds ratios, 2.1-2.9).

Noting the low rate of treatment despite the “substantial” impact of orofacial pain on well-being, the authors call for more research to understand pain-coping strategies and potential barriers to treatment.


Dental development in cleft palate

Western studies have shown that tooth formation in children with cleft lip and palate (CLP) is delayed and asymmetric, but similar studies in Chinese populations are rare. Researchers from the HKU Faculty of Dentistry and the Hong Kong Department of Health recently published such a study on 231 pairs of Chinese children with and without CLP who were registered with the Prince Philip Dental Hospital.

By comparing dental records and radiographs, the researchers found that 8.6% of 2946 tooth pairs in children with CLP were asymmetric. This proportion was significantly greater than the 2.0% of the 3179 tooth pairs in the matched control group. Furthermore, tooth development in the children with CLP fell behind that of the control group by an average of 4.4 months, with 40.0% of upper teeth and 30.1% of lower teeth being delayed by one developmental stage.

Citing the possible involvement of genetic factors, the authors conclude that relative to the controls, the children with CLP had “a higher prevalence of asymmetric and delayed dental development”. [Lai MC, King NM, Wong HM. Dental development of Chinese children with cleft lip and palate. Cleft Palate Craniofac J 2008;45:289-296.]

In brief

- Mini-plate fixation for Le Fort I osteotomy using titanium plates and bioresorbable plates yields comparable results, a team from the Faculty’s Discipline of Oral and Maxillofacial Surgery has found. According to their randomised controlled trial, the two treatment groups of 20 patients had no differences in complications, neurosensory disturbances, or morbidity rates up to 1 year after surgery. Horizontal and angular relapse rates were also similar in the two groups.

- Clinical examinations that visually assess the caries status of teeth may underestimate the caries rate. Faculty researchers have concluded, after examining 3162 posterior teeth of university students. Additional use of bitewing radiography led to a 105% increase in the diagnosis of caries, translating to a correction factor of 1.13 for the caries score obtained by visual examination alone. A correction factor may thus be needed for epidemiological surveys of caries that are done when bitewing radiography is not available, the authors advise.
Fresh faces in the Faculty

Expressions wishes a warm welcome to three senior staff members who recently joined the HKU Faculty of Dentistry: Dr Jukka Matinlinna (Associate Professor in Dental Materials Science), Dr Jeffrey WW Chang (Clinical Assistant Professor in Endodontics), and Dr Martina Lulic (Assistant Professor in Implant Dentistry). They told Expressions about their journeys to Hong Kong.

Have you come far?
Dr Matinlinna: Before coming to Hong Kong, I lived in Scandinavia. At my last post, I was an adjunct professor at the Nordic Institute of Dental Materials (NIOM), Norway. Before that, I was an adjunct professor at the Department of Prosthetic Dentistry and Biomaterials Science, Institute of Dentistry, University of Turku, Finland, and a visiting research scientist at the dental school at Groningen University in the Netherlands.

Dr Chang: I've actually been working and living in Hong Kong, and recently also studied here, as a taught postgraduate (MDS) student in Endodontics at this Faculty. I studied for my BDS degree in Tamil Nadu, India.

Dr Lulic: My last position was as a clinical instructor at the Department of Periodontology and Fixed Prosthodontics at the University of Bern, Switzerland.

How did you enter your current field?
Dr Matinlinna: For my PhD research at the University of Turku, Finland, Prof Pekka Vallittu suggested that I investigate some chemical monomers (silanes) and their reactions that promote adhesion in prosthodontics. That spurred my interests in adhesion promotion in dentistry, ceramic materials and titanium in dentistry and dental technology, silane chemistry applications in biomaterials research, and E-glass fibre-reinforced composites as novel biomaterials. It has been proposed that some of the biggest steps in dental research take place in materials development.

Dr Chang: My grandfather, father, and brother are all dental practitioners, so I grew up surrounded by dentistry. Once I finished my MDS degree in Endodontics at HKU, I saw the difference in myself and wanted to stay on at the Faculty in that field. My interests are restoration of endodontically treated teeth, endodontic disinfection, and endodontic materials and applications.

Dr Lulic: I graduated with DDS and DrMedDent degrees from the University of Zurich, Switzerland, and then worked as an assistant in private practice for 3 years, before enrolling in a 3-year full-time postgraduate programme at the Department of Periodontology and Fixed Prosthodontics at the University of Bern, with Prof Niklaus Lang as my mentor. After he joined the HKU Faculty of Dentistry, he gave me the opportunity to follow him to Hong Kong. I am particularly interested in clinical trials in periodontology and implant dentistry, as well as systematic reviews of different modes of treatment.

What are your goals?
Dr Matinlinna: If I can play my part to promote oral health in Hong Kong, I will feel I have found my place.

Dr Chang: To instil the curiosity to learn and creativity to innovate, and to embrace accountability to one's actions.

Dr Lulic: Education. Research. New experiences.
Unlocking the secrets of saliva

By Lakshman Samaranayake

The human mouth can normally produce up to a litre of saliva a day. Researchers are finding that beyond moistening food to make it easier to swallow, this biological fluid has many other roles and contains components that may be useful indicators of health and disease.

Saliva comes from three main pairs of salivary glands and numerous minor salivary glands. Fluid from the lining of the mouth and throat also contributes to the contents of saliva, as does fluid from the crevices between the gums and teeth, which originates from the blood plasma. Although it is mostly water, saliva contains hundreds of proteins (eg, the enzyme amylase, which helps digest some starches), other organic compounds (eg, the antioxidant uric acid), inorganic ions (eg, calcium ions, which help remineralise tooth enamel), and hormones.

Natural antimicrobials
Saliva helps our mouths maintain the balance of “friendly” and “unfriendly” microbes. Oral diseases can arise when this balance is upset.

Viruses and antibodies against viruses can be detected in oral fluid—most notably, an oral swab test to detect antibodies to HIV in oral fluid has been approved by the United States Food and Drug Administration. Bacteria, bacterial DNA and products, and immune molecules against bacteria form the basis of tests being developed for oral and other diseases. Proteins and genetic material can be used to test for cancer, while steroid hormone levels can be measured to monitor child and neonatal health and development, premenstrual depression, hormone disorders, and ovarian function. In addition, the appearance of drugs from the blood in the saliva allows for quick testing of drug misuse and sports doping.

As shown in the Box above, saliva offers an exciting treasure trove of possibilities in diagnosis, prognosis, toxicology, forensics, therapy monitoring, and general health research. So far, we have just licked the surface.

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Inside Oral Biosciences
By Rory Watt

Oral Biosciences (OBS) is a key discipline bridging clinical dentistry and the physical and life sciences. OBS researchers at the HKU Faculty of Dentistry are investigating microbes found in the mouth, to understand their roles in oral and systemic diseases.

The Faculty’s OBS group began life more than 25 years ago as the Dental Anatomy Research Laboratory. Today, under the leadership of Prof Lakshman Samaranayake, Chair Professor of Microbiology, the OBS laboratory has become an international centre in oral microbiology, especially in mycology (the study of fungi/yeasts).

An amazingly large number of microorganisms (fungi/yeasts, bacteria, archaeae, and viruses) can inhabit the human mouth, as either "permanent" or “temporary" colonizers. Oral microbial communities are highly complex, interdependent, and dynamic. They often form surface-bound layers called biofilms, which can be extremely resistant to antimicrobial agents. Biofilms on teeth are difficult to remove by brushing, and other methods such as scaling, performed by dental professionals, are needed instead.

Finding bad bacteria
More than 600 different species of oral bacteria have been identified to date. Most species are commensals: organisms that generally have no detrimental effects on human health. However, many others are strongly associated with oral diseases, such as Streptococcus mutans in caries (tooth decay) or Porphyromonas gingivalis in severe gum disease known as periodontitis. Caries and periodontitis are actually the result of the concerted actions of many different bacterial types and species. The presence of such a complex microbial population often makes it extremely difficult to identify the major species responsible for specific infections.

An added complication is that some bacteria have “Jekyll and Hyde” properties. Usually harmless microbes can cause infections after environmental disturbances such as trauma, chronic dry mouth, or the use of certain antibiotics.

The Faculty’s OBS group is using a variety of cutting-edge molecular techniques to differentiate between closely related species of periodontal pathogenic bacteria, and to establish how certain species of oral bacteria can sometimes enter the bloodstream to cause life-threatening conditions like endocarditis (infection of the inner layer of the heart) [see also grey Box].

When yeasts take over
Although common transient inhabitants in the mouth, Candida yeasts also have “Jekyll and Hyde” characteristics and are the leading cause of denture-induced inflammation, or stomatitis. Persistent Candida infections are a major problem among patients who have abnormal immune responses (eg, patients with HIV/AIDS or those receiving cancer therapy) or chronic dry mouth (eg, those with Sjögren’s syndrome). If Candida enters the circulation, it can cause serious disease throughout the whole body. For more than a decade, the OBS group has been dissecting the growth, structure, and properties of Candida. This research has greatly improved our general understanding of this family of yeasts and has proven invaluable for refining current treatment strategies and for guiding efforts to develop future antifungal agents.

Dr Rory Watt (e-mail, <rmwatt@hkucc.hku.hk>) is Assistant Professor in Oral Biosciences at the HKU Faculty of Dentistry. He is currently developing novel genetic and proteomic approaches to definitively identify oral bacteria, and investigating several key metabolic proteins in human bacterial pathogens.
Faculty gains ITI Scholarship Center status

The HKU Faculty of Dentistry has been officially recognised as an ITI Scholarship Center by the International Team for Implantology (ITI; website, <www.iti.org>)—a worldwide non-profit network of professionals in implant dentistry and related tissue regeneration that aims to promote and disseminate knowledge about implant dentistry. Approval as an ITI Scholarship Center is given only after strict criteria are met, including the provision of postgraduate programmes and specialty training, active research, use of various implant systems, management of a wide variety of cases, and incorporation of ITI’s mission in clinical and research work. There are currently only 16 other such centres approved by the ITI, which also sponsors scholarships to promote implant dentistry worldwide, through the ITI Foundation Programme.

Congratulations...

…to the following Faculty students and senior academic members:

♦ Dr Winnie SC Wing (Advanced Diploma student in Oral & Maxillofacial Surgery) was awarded an Oral Abstract Scientific Presentation Award and Dr Andrew Ow (PhD student, pictured far right with Prof Lim K Cheung) was awarded an Outstanding Poster Presentation Award at the 90th Annual Meeting, Scientific Sessions and Exhibition of the American Association of Oral and Maxillofacial Surgeons, held in Seattle, USA, on 16-20 September 2008 in conjunction with the Chinese Society of Oral and Maxillofacial Surgeons.

♦ Dr Jukka Matinlinna (Associate Professor in Dental Materials Science) has been appointed as a member of the Editorial Board of the Journal of Adhesion Science and Technology, starting from 1 January 2009 (journal website: <www.brill.nl/jast>).

♦ Dr Mike YY Leung (Advanced Diploma student in Oral & Maxillofacial Surgery) was awarded the Gold Medal for the Best Original Research by Trainees by the Hong Kong Academy of Medicine on 19 December 2008 (see page 15).

♦ Ms Polly PL Fung (BDS V student) received a 5th National Youth Science and Technology Award on 5 December 2008 from the Central People’s Government for academic and research excellence (see page 15).

♦ Dr Susan Bridges (Assistant Professor in Dental Education and E-Learning) has been awarded an HKU Teaching Development Grant for HK$ 518,675 to support a project titled “Blended learning and interactive pedagogies: supporting problem-based learning in dental education”. Her co-investigators are Dr John Dyson, Dr Peter CS Tsang, Prof Colman McGrath, Dr Cynthia KY Yiu, Dr Kevin HK Yip, and Dr Michael Botelho (2008 Chairpersons of the BDS Problem Development Groups).

♦ Dr Kevin HK Yip (Associate Professor in Family Dentistry) has received an Applied Research Grant in Discovery from Johnson and Johnson, USA, to support the research project “Microbiota in saliva and dental plaque from healthy and coronary artery disease patients”. The US$ 31,820 grant will be shared with research collaborators in Hong Kong, mainland China, and Singapore, with Dr Duncan Yu from Johnson and Johnson acting as the team coordinator in Singapore.

♦ Prof Edward CM Lo (Professor in Dental Public Health) was awarded a HK$ 1.33-million grant by the SK Yee Medical Foundation in October 2008, to provide a community dental service for various disadvantaged groups in Hong Kong. The other project members are Dr John Dyson and Dr Chun-hung Chu.

♦ Dr Chun-hung Chu (Associate Professor in Family Dentistry) received a HK$ 300,000 grant from the HKSAR Health Care and Promotion Fund under the Seed Funding Scheme in October 2008, to run an outreach programme providing preventive dental care services to kindergarten children, with Prof Edward CM Lo.

Staff moves

The Faculty bids a warm welcome to:

♦ Dr Xin Peng, Clinical Associate Professor in Oral and Maxillofacial Surgery
♦ Dr Alex Tang, Clinical Assistant Professor in Orthodontics (fractional)
♦ Dr Marc Schatzle, Visiting Associate Professor in Orthodontics

And congratulations to:

The following reappointed Associate Deans:

♦ Prof Tak-wah Chow, External Relations
♦ Dr John Dyson, Undergraduate Education
♦ Prof Urban Hägg, Postgraduate and Continuing Education
♦ Prof Li-jian Jin, Mainland and Global Affairs
♦ Dr We Keung Leung, Research and Discovery

And the following reappointed Assistant Deans:

♦ Dr Frederick CS Chu, External Relations
♦ Dr Cynthia KY Yiu, Undergraduate Education
♦ Dr Chun-hung Chu, Mainland and Global Affairs
Making the news

National research recognition

Ms Polly PL Fung (BDS V, pictured right) has been recognised by the government of the People’s Republic of China for academic and research excellence, in the form of a National Youth Science and Technology Innovation Award. This major achievement, a first for a Faculty student, was reported locally in the Sing Tao Daily in January 2009.

The Central People’s Government grants 100 such prizes annually to young researchers throughout China after considering their academic record and research achievements. This year, for the first time since the inception of the awards, all tertiary institutions in Hong Kong were each invited to nominate one student. Polly was selected as HKU’s representative and was eventually one of only three awardees from Hong Kong.

“I feel immensely honoured to have won this prestigious prize, and I thank the Faculty and HKU for their support,” says Polly, whose portfolio included a research project comparing the performance of laser-induced fluorescence and 3-dimensional X-ray imaging in detecting tooth demineralisation. Her research project supervisors were Prof Edward Lo and Dr Thomas Li. Polly received her award—a trophy and RMB 20,000—at the 5th National Youth Science and Technology Innovation Award Ceremony on 5 December 2008 in the Great Hall of the People in Beijing.

Gold medal for research

Dr Mike YY Leung, a postgraduate student reading for the Advanced Diploma in Oral and Maxillofacial Surgery, was awarded the Gold Medal for the Best Original Research by Trainees by the Hong Kong Academy of Medicine at its 15th Annual Conferment Ceremony on 19 December 2008. His presentation, titled “Can coronectomy of wisdom teeth reduce the incidence of inferior dental nerve injury?” was based on a trial comparing intentional root retention and full extraction of wisdom teeth, which he performed during his Master of Dental Surgery degree, under the supervision of Prof Lim K Cheung.

“This is a great reward for the past 3 years of hard work,” says Dr Leung. “I would like to thank my supervisor Prof Cheung for his guidance and advice.” The research was reported in the Oriental Daily and The Sun Daily in December 2008.

Word of mouth

The Dental Public Health Committee (DPHC) of the Dental Society, HKU Students’ Union, went out and about to several shopping malls at the end of last year, with the aim of promoting oral health in the community.

The DPHC regularly holds public education activities on oral health and hygiene, and organises an Annual Project with the Hong Kong Dental Association. Last September and October, roving exhibitions as part of the Annual Project took place in Tin Shui Wai, Tsz Wan Shan, and Lam Tin. They included talks by registered dentists, dental check-ups, booths demonstrating good oral hygiene, educational poster boards, and games. A Public Smile Contest was also held and attracted many cheery, smiling participants.

Earlier last year, the DPHC also took part in two community centre visits for new immigrants from mainland China, and two kindergarten visits, in addition to a whole-day educational event on HKU campus in conjunction with the University Health Service.
Companies and institutions need to regularly re-evaluate their status and revise their 5-year or 10-year plan, commonly using a “SWOT” analysis. The SWOT analysis is relevant to Faculty alumni and dentists, too. The current global economic crisis is no doubt a wide and deep concern, and a reason for us all to re-evaluate our aims and means.

Self-appraisal
On a personal level, we need to use our time and energy wisely, while maintaining our specific and general dental knowledge. For those of us with a private practice, we need to monitor and adapt to today’s new demands and ever-limited resources. We can use the SWOT method to analyse where we can make improvements in efficiency, identify areas needing attention, explore new directions, and rethink how to get and give value-for-money.

SWOT analysis can be used for a holistic self-appraisal, or for individual projects and situations. The acronym stands for the following:
♦ S: strengths (helpful internal attributes)
♦ W: weaknesses (harmful internal attributes)
♦ O: opportunities (helpful external conditions)
♦ T: threats (harmful external conditions)

Right now, “T” definitely includes the financial tsunami, but there are probably other threats to your practice or career path, in terms of financial, practical, legal, and time factors, and so on, which all need to be mitigated. Opportunities, however, can be seen as the flipside to threats, and helpful strategies and resources may already exist, waiting to be discovered for you to modify your objectives and means, remedy any weaknesses, and capitalise on your strengths.

For example, you could find new or additional partners, incorporate methods of cost-saving, explore new areas of personal and career development, learn business and marketing skills, use emerging technologies to your advantage, offer new or modified services, and so on. Many professionals worldwide are “going back to college” these days in order to move forwards, increase value, and multiply their options.

Your life-long partner
Readers who are Faculty alumni, at any degree level, will already have a great Strength and Opportunity: your alma mater and the HKU Dental Alumni Association (HKUDAA). The HKUDAA, HKU Faculty of Dentistry, and HKU are here to support our alumni and in turn hope alumni can help support us. The Faculty offers a wide range of postgraduate and continuing education programmes; watch out for its new Certificate Course in Dental Practice Management, offered this May, June, September, and October.

Our HKUDAA website, at <www.facdenthk.org/hkudaa>, has been revamped courtesy of our webmaster Dr Dominic Ho and the Faculty’s Knowledge Transfer Unit. It is your resource and can be used without joining the HKUDAA, so please keep it bookmarked. You are also encouraged to share your news and announcements, and make recommendations of useful links and resources for your fellow alumni.

Of course, we hope you join as HKUDAA Members, too. We are negotiating discounts for Faculty facilities and continuing education courses. We are also planning an exciting programme of social and educational events to facilitate alumni sharing and improve professional skills and knowledge. All Faculty alumni (both undergraduate and postgraduate) can join the HKUDAA, and individuals who are not HKU alumni can join as Associate Members. We look forward to seeing you or hearing from you soon!

Dr Dominic HC Lee (BDS 1986) (e-mail: <merydecor@yahoo.com.hk>) is a dentist in private practice and President of the HKUDAA. He is also a professional designer and has designed more than 100 dental and medical clinics in Hong Kong and Macau.

Investment in knowledge
By Dominic Lee

As the world is getting swept under the current financial tsunami, Faculty alumni should try to turn a threat into an opportunity. We can make our valuable dollars go further by investing in ourselves and increasing our knowledge, understanding, and wisdom for the future.
Engaging performance

The Faculty’s fourth Fundraising Concert, held in the Hong Kong Cultural Centre on 16 October 2008, was a resounding success thanks to the artistic talents of award-winning pianist Mr Wenyu Shen and the Hong Kong Children’s Symphony Orchestra, under the baton of the orchestra’s founder, Dr Wai-hong Yip (left in the top photo, with Mr Shen). Organised by Prof Tak-wah Chow and Dr Frederick CS Chu, Associate and Assistant Deans for External Relations, respectively (bottom photo, first and fourth, flanking Mr Shen and Dean Samaranayake), the concert was held to commemorate 10 years of problem-based learning (PBL) in the Faculty’s undergraduate curriculum. “The musical evening was a perfect way of engaging the public while raising funds, and friends, for the Faculty,” says Prof Chow. “In particular, we were delighted to see so many school children in the audience, who are now aware of the Faculty’s existence and missions.”

The Faculty would like to thank all the performers, and donors of student tickets—Mr KTF Kwong, Ms ECL Suen, Mr KL Wong, Mr R Woo, Dr JHC Yeung, and the Shun Hing Education and Charity Fund Ltd—as well as the concert sponsors Sino Group and Tom Lee Music Co. Ltd, and producer Global Cultural Services Co. Ltd.

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Help us nurture our next generation of dentists

Please keep up your support for the HKU Faculty of Dentistry, and help us continue investing in tomorrow’s dentists and dental researchers and educators, to keep Hong Kong and the region smiling.

One-time and recurrent contributions can be made online through the secure website <www.hku.hk/giving>. Your gift may be tax deductible, and through the HKSAR Government Matching Grant Scheme and the Stanley Ho Alumni Challenge (<www.hku.hk/alumnichallenge>), it may go even further in helping the Faculty fulfill its mission of excellence in education, research, patient care, and engagement.

Thank you for your valuable support!
Guide to dental acid erosion

♦ What is dental acid erosion?
♦ What can cause dental acid erosion?
♦ Tips for preventing dental acid erosion

What is dental acid erosion?

The crown of each tooth is covered by a protective, mineral-rich layer of enamel—the hardest substance in the body. Underneath the enamel is the dentine, which surrounds the living dental pulp (consisting of blood vessels, nerves, and connective tissue).

In addition to the normal wear of teeth during eating, enamel can be lost by physical rubbing or chemical dissolving. Rubbing includes tooth grinding (bruxism) and overzealous brushing with abrasive toothpaste. Dissolving can be due to (1) acid attack when bacteria on teeth convert sugars into acids (causing tooth decay or caries), or (2) acid erosion by acidic food, acidic drinks, and regurgitated stomach acid.

What can cause dental acid erosion?

The following can cause dental acid erosion:
- Frequent consumption of acidic food and drink (eg, fruit juice, fruit, sodas, sports/energy drinks, yoghurt, red/white wine, preserved fruit, pickles, etc)
- Frequent vomiting
- Acid reflux

Acid erosion of the enamel can expose the dentine and lead to tooth sensitivity; severe erosion may cause irreversible damage to the pulp and result in severe pain.

The Box shows some signs of acid erosion of teeth.

Tips for preventing dental acid erosion

See your dentist regularly, especially if you have signs of acid erosion. Your dentist can advise you on relieving tooth sensitivity by using a desensitising toothpaste, and can treat mild erosion by applying a fluoride agent to the tooth surface. Severe erosion can be treated with a filling or crown replacement.

You can minimise the risk of dental acid erosion by:
- Avoiding frequent intake of acidic food and drink
- Not keeping acidic food or drink in the mouth for a long time
- Using a straw to reduce contact of acidic drinks with teeth
- Rinsing with water after eating/drinking something acidic; allowing 1 hour for neutralisation before brushing
- Chewing sugar-free gum to stimulate the flow of saliva, which helps to neutralise acid and remineralise teeth
- Not inducing vomiting to lose weight (see a doctor for slimming advice)
- Seeing a doctor if you have acid-reflux disease


Written by Trevor Lane, DPhil; edited by Chun-hung Chu, MDS, FRACDS. This Patient Page is for general informational use and is not a substitute for diagnosis; for specific advice, please consult a dentist.
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Treatment vs Prevention: New Insights on Common Oral Conditions

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Reduction compared with control

<table>
<thead>
<tr>
<th>Plaque and Bleeding Scores</th>
<th>Ordinary Fluoride Toothpaste</th>
<th>Colgate Total®</th>
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</thead>
<tbody>
<tr>
<td>Plaque</td>
<td>0.2</td>
<td>0.05</td>
</tr>
<tr>
<td>Gingivitis</td>
<td>0.2</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Reduction of gingival inflammation at sites without visible plaque

<table>
<thead>
<tr>
<th>Gingivitis Index Score</th>
<th>Baseline</th>
<th>Time</th>
<th>6 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ordinary Fluoride</td>
<td>1.2</td>
<td>0.9</td>
<td>0.8</td>
</tr>
<tr>
<td>Colgate Total®</td>
<td>1.2</td>
<td>0.9</td>
<td>0.8</td>
</tr>
</tbody>
</table>

*At sites with Plaque Index Score = 0

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