

Expressions

Newsletter of the HKU Faculty of Dentistry
2014, Issue 1



New era of learning
Beyond the dental classroom

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References 1. Amornchat C et al. (2004) Mahidol Dent J 24(2): 103–111. 2. Lindhe J et al. (1993) J Clin Periodontol 20(5): 327–334. 3. J Clin Dent 2011;22 (Spec Issue):195-199
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New era of learning

By Edward CM Lo, Dean

As interim HKU Dean of Dentistry, I would like to sincerely thank our past Dean, Prof Lakshman Samaranayake, and to welcome the Dean-designate, Prof Thomas Flemmig, now at the University of Washington, USA, who joins the Faculty on 1 July 2014.

During his decade of deanship, from 2004 to 2013, Prof Samaranayake greatly strengthened the Faculty's infrastructure, capabilities, and reputation in the areas of teaching and learning, research, and knowledge exchange. This period also saw the first accreditation visit by the Dental Council of Hong Kong, and I am very happy to report the positive outcome of the visit (see page 5).

Most recently, the Faculty launched the new 6-year undergraduate dental curriculum, and made major enhancements to the Faculty's premises at the Prince Philip Dental Hospital to improve polyclinic training, the problem-based learning environment, manual skills training with haptics virtual-reality, postgraduate habitats, and research facilities. A team of anchor clinicians is devoted to clinical teaching, and an

annual clinical induction programme starts the second year of the degree.

To provide further learning opportunities for undergraduates, we encourage multiple extracurricular activities, such as special research projects, attendance at research conferences, industry summer internships, service trips at home and abroad, and volunteering in annual Faculty events such as the summer school and public oral health exhibitions.

Since the introduction of knowledge exchange as a core HKU mission in 2009, students and staff take part in special community projects that directly apply academic knowledge. In addition, students visit clinics and interact with local dentists through a mentorship scheme.

Thanks to the above activities, some of which are highlighted in this issue of **Expressions**, the Faculty has boosted awareness of the importance of critical thinking, problem-solving, teamwork, and community service. These initiatives complement developments in the undergraduate dental curriculum and set a firm foundation for student learning and all-round development in the 21st century. ■



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Dental degree locally accredited

By Edward CM Lo, Dean

The first ever accreditation exercise of the Bachelor of Dental Surgery (BDS) Degree of The University of Hong Kong by the Dental Council of Hong Kong (DCHK) for the purposes of the Dentists Registration Ordinance was recently completed.

This exercise involved an accreditation visit to the HKU Faculty of Dentistry in November 2012 by a Visit Team appointed by the DCHK.

While The University of Hong Kong is granted unfettered authority by the laws of Hong Kong to confer its own degrees, the accreditation exercise was conducted by the DCHK to ensure that the dental education and training provided through the 5-year BDS curriculum* is up to the standard required for BDS graduates of the University to be registered as dentists under Section 8(1)(b) of the Dentists Registration Ordinance, without the need to pass the DCHK Licensing Examination.

The DCHK's *Report on the Accreditation* was released in January 2014 and the outcome is very positive. The DCHK is satisfied with the dental education and training provided for the BDS curriculum, and has decided to maintain the specified status of The University of Hong Kong for the purposes of the above section of the Dentists Registration Ordinance.

The two recommendations in the Report (which denote areas that must be improved on) are reasonable and feasible. One of these relates to the continued development and documentation of the 6-year BDS curriculum in the coming years, and the other is about obtaining data from the clinical information system to monitor each student's clinical experience, in respect of which action is already being taken.

The Faculty is happy to take on board the suggestions made by the DCHK and to devise appropriate action plans in our continuing drive to enhance the learning experience of our students, so that they become competent dentists to serve the people in Hong Kong.

**Since 2012-13, and as a result of major academic restructuring in the secondary and tertiary education sectors in Hong Kong, the new BDS curriculum is 6 years in duration, although in parallel, the 5-year curriculum is still being offered, with the last student intake to that curriculum admitted in 2012-13. ■*

Welcome to the Alumni Family



The Faculty Alumni Family greeted its newest members on 5 December 2013 at the Graduation and Awards Ceremony, held at the Hong Kong Academy of Medicine Building, Aberdeen.

The graduating Class of 2013, consisting of 51 undergraduates and 53 taught and research postgraduates, formally marked the successful completion of their studies at the annual Graduation and Awards Ceremony. Sharing in their celebration were 400 family members and friends, Faculty staff and students, and guests.

Also during the evening, 104 undergraduates, 2 postgraduates, and 13 staff were awarded prizes for excellence in teaching and learning, research, and knowledge exchange in the past academic year.

The officiating guest was Prof Donald KT Li (President of the Hong Kong Academy of Medicine), and the presenters of degrees and awards were Prof Roland T Chin (HKU Deputy Vice-Chancellor and Provost), Prof Lakshman Samaranayake (then HKU Dean

of Dentistry and Director of the Prince Philip Dental Hospital), and Dr Sigmund SM Leung (President of the Hong Kong Dental Association).

The event was Prof Samaranayake's last graduation ceremony and public engagement as HKU Dean of Dentistry. In his speech, he summarised the Faculty's achievements during his deanship over the past decade, and he gave pearls of wisdom to new alumni, as well as current students (*see pages 7-8*).

The Valedictory speech was given by BDS Class of 2013 representative Dr Kwan-ning Ma, after which Dr Crystal TY Lee presented souvenirs to Prof Samaranayake and Prof Donald KT Li (pictured below, L to R). ■

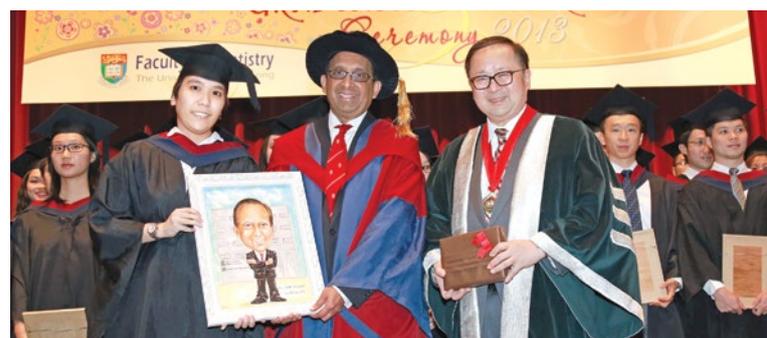


Farewell from BDS Class of 2013

With great power comes great responsibility. I hope all of us can be a caring and respectable dentist, be successful in our career, and pursue a flourishing life!—**Dr Yedda KY Tsoi**

The past 5 years have been both rewarding and unforgettable. I wish everyone a successful future.—**Dr Olivia SC Mak**

Let us be responsible professionals serving the community. Wish everyone a bright and prosperous future.—**Dr Kenny CK Chan**



The Dean's speech

The departing Dean, Prof Lakshman Samaranayake, gave this final public address at the 2013 Graduation and Awards Ceremony:

Prof Donald Li, Prof Roland Chin, Distinguished Invited Guests, Faculty Colleagues, Students, Parents, and Ladies and Gentlemen:

Good Evening.

It is my great honour and pleasure to warmly welcome you all to the 2013 Graduation and Awards Ceremony of the Faculty of Dentistry at The University of Hong Kong. This ceremony is the largest we have ever held, with some 500 guests, and it is dedicated to the graduating Class of 2013, comprising 51 undergraduates and 53 postgraduates, as well as 119 award winners. These achievements are thoroughly deserved and are the result of sustained diligence and commitment to the Faculty's mission of excellence in learning, discovery, patient care, and engagement.

For me, this ceremony is a very meaningful one, as it marks my tenth and last graduation ceremony—and my last public event at the Faculty after a decade of serving the Faculty as its Dean, and after a total of 22 years working in Hong Kong. In a sense, I too am graduating along with the Class of 2013 and moving on in my professional and life journey, while representing HKU as one of the top universities in the world and the Faculty as one of the top dental schools in the world.

It has not been a solo effort as Dean to grow and develop this Faculty into a premier centre where dental education and research thrive and flourish. I am extremely thankful and fortunate to have had the steadfast support and loyalty of Faculty colleagues, successive teams of Associate and Assistant Deans, committee members, and part-time and full-time academic and support staff, as well as external collaborators, partners, and donors. Our Faculty's sterling reputation today and the high quality of our graduates, teachers, and researchers have depended on the dedication, investment, and effort of all stakeholders.

Together, we have been able to fully plan and prepare for a decade of changes.

A decade ago, our research and teaching facilities were ageing; there were no research theme groups; our external grant success, research awards, and number of journal publications were modest; knowledge exchange was not a university core mission; we did not publish research news or health information in the media; we had no web or social media presence; and the list can go on.

Today, we can take stock of our combined accomplishments:

- We have revamped many clinic areas and research laboratories to world-class standards.
- We have updated the Simulation Lab and Problem-based Learning Suite, and we have set up a Haptics Training Unit and Centre for Advanced Dental Care—the first in Asia for both.
- Our research income has gone up from roughly HK\$1.5 million in 2003 to almost HK\$7.8 million in 2013.
- We have two endowed professorships and have signed Memorandum of Understanding agreements with 47 institutions worldwide.
- We set up the first Knowledge Exchange Unit in HKU, and we regularly share news on Facebook, YouTube, and Twitter; 10 years ago we did not even have a website, and our website now is mobile-phone and tablet compatible.
- We print 6000 copies of our **Expressions** newsletter three times a year for worldwide distribution.
- We offer annual student internships and mentorships; and we have a pledging ceremony to mark the point when BDS students undertake clinical duties.

We can be also proud that in the past 5 years or so, our Faculty has remained the top in HKU for research outputs per research-active staff member, and the proportion of journal papers in higher impact-factor journals is steadily rising. As opposed to 4% of the Faculty applying for University Grants Committee (UGC) research grants in the early days of my deanship, we now have 25% applying. And the numbers of UGC and external research grants, and the amounts, received have almost tripled.

In addition, the intake for our postgraduate programmes has more than tripled, from 60 to about 200. Our taught postgraduate programme is perhaps the largest in Asia, and its income has risen to some HK\$21 million. We have redistributed this income to attract more research staff,



reward good researchers and outstanding publications, and modify our infrastructure.

The historic milestones that we have celebrated together include two Faculty jubilees: the Silver Jubilee in 2007 and the Pearl Jubilee in 2012 in conjunction with the HKU Centenary. And on top of that, we hosted three international dental conferences last year: namely, the World Dental Forum II and the annual meetings of the South-East Asia Association for Dental Education and the International Association for Dental Research South-East Asia Division. Another milestone to come is that our undergraduate dental curriculum was scrutinised via a Dental Council of Hong Kong accreditation team in late 2012. As we await the outcome, I am aware that our curriculum has been highly commended by both local and international panels.

In short, ladies and gentlemen, I am leaving you with a world-class dental school, a legacy for Hong Kong that you can be truly proud of.

This has been a team effort that I have facilitated, and I am merely a torch-bearer as Dean, who will pass on the torch to those who follow. It has been my life's honour to serve HKU as the Dean for a decade and appreciate the trust that people had when appointing, and then re-appointing, me as Dean of Dentistry. As the Faculty's longest-serving dean so far, I shall leave a piece of my heart here when I depart for Australia at the end of the year. I look on the Faculty like one of my children, and I wish it all the best as it develops further under new leadership.

As I mentioned, it was the Pearl Jubilee year of our Faculty last year. Like pearls, which need to be polished periodically to keep their shine, we can all regularly schedule time for self-reflection and improvement and to plan for a fruitful future.

I would like to give a few pearls of wisdom, gleaned during my decade of deanship, as my parting words.

To current students, I would say: **"Thinking about learning is learning about thinking"**. Take advantage of the problem-based learning approach that is integrated into the degree programme. Identify and work to your strengths so as to improve your analytical, critical, and life-long learning skills.

To finalists, I would say: **"Succeeding to prepare is preparing to succeed"**. Know yourself better and set a personal vision. Plan practical steps for how to get there, making sure you have achievable short-, medium-, and long-term goals. Use your initiative and ask for help if you need it, and be prepared to be proactive instead of just reactive.

To researchers, I would say: **"Don't limit your challenges, but challenge your limits"**. Keep an open mind, keep learning from experience, keep up-to-date, and remain

inquisitive. Try thinking or doing something outside the box once in a while. Push boundaries, cross disciplines, and seize opportunities for engagement and for creative collaborations.

To dental graduates deciding to be generalists or specialists, I would say: **"Do what you like, but love what you do"**. Whatever career pathway, keep motivated to pursue continuing dental education and to unleash your full potential. You need to invest in continuous self-development with passion, while nurturing compassion, a caring attitude, and a deep desire to help people, so you can deliver the best health care for your patients. Most of all, I wish you could remember one simple word: **integrity**. This has been defined simply as "doing the right thing when no one is watching".

A little later during tonight's proceedings, our newly qualified dentists of BDS Class of 2013 will be swearing the Hippocratic Oath for Dentistry as a code of professional conduct. I adapted this medical oath in 2005 for inclusion in the first BDS yearbook, and our graduating classes have been pledging it on stage since the graduation ceremony of 2009—and I hope this tradition continues into the future after my departure. The public declaration made by our new dentists serves as a promise to do what is ethically right and good.

Now, on behalf of the Faculty, I would like to take this opportunity to whole-heartedly thank the members of our dental community who form our large team of part-time teaching staff, as well as personal mentors for our dental students. Your actions and contributions set a shining example. Indeed, the successes that the graduands and award winners are celebrating at tonight's ceremony have actually involved a multitude of helpful individuals in the classroom, behind the scenes, and at home—including teaching and support staff, colleagues, friends, and family. They are also enjoying this celebration with you.

To close my address, I would like to request the graduands and award winners to please stand up and turn towards the audience and applaud with me, to show a sign of appreciation to all those who have supported you in your wonderful journey culminating today. This is *your* standing ovation to your parents, spouses, families, friends, and teachers, who have helped play a part in who and where you are today, and will be in the future.

Thank you all. ■



Beyond the dental classroom

The undergraduate dental programme at HKU provides multiple opportunities for learning outside the classroom. For example, BDS students take part in annual electives abroad, special research projects, service and knowledge exchange projects, and industry internships.

Overseas experiential learning

Since 1994, all final-year BDS students get to experience a different health and education system at an overseas dental school during an elective that lasts 2 to 3 weeks. This year, however, they also had the option of observing dental outreach services in partnership with a dental school in a developing country, thanks to a grant from the Gallant Ho Experiential Learning Fund. In the funded project, titled "International Capstone Experience", BDSV students travelled to India with Prof Gary SP Cheung, Clinical Professor in Endodontics (see Box).

The grant was offered by the Gallant Ho Experiential Learning Centre to expand experiential learning in the undergraduate curriculum, with an added aim of community impact. According to the grant website <<http://ghelc.hku.hk>>, experiential learning takes place when students integrate knowledge within and across disciplines, venture beyond technical issues, and consider social and human aspects while solving real-life problems. ■



Inspired by India

By Wai-ling Tse (BDSV)

In late February to early March 2014, our team of eight BDSV students paid a visit to the Coorg Institute of Dental Sciences (CIDS), South India, for our elective study under the Gallant Ho Experiential Learning Fund 2013-14 programme. We had never thought of visiting India in the past. The funding gave us a precious opportunity to explore this mysterious country.

In contrast to what we do in Hong Kong, CIDS dental students routinely visit communities in the surrounding districts to provide dental services. The students serve a wide range of target groups, including psychiatric patients and children with special needs. Even with suboptimal resources, they still provide optimal treatments.

We are glad that we had the chance to follow the CIDS dental outreach team (see photos). We appreciated their efforts in serving their communities, and they inspired us to redefine our role in our profession. We would like to apply what we have learnt at HKU and contribute more to society. All in all, we gained a lot from the elective and enjoyed the programme very much.

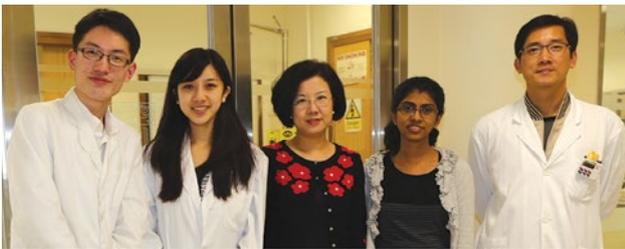


Undergraduate research projects

The HKU Faculty of Dentistry launched its Undergraduate Research Programme in 2012 for students to compete for unpaid summer research internships under the supervision of Faculty staff and postgraduates. So far, 28 students have taken part, including **Stephen PH Kwan** and **Dora Chu** (see Box).

HKU also offers paid internships under an Undergraduate Research Fellowship Programme. In 2012, Dr Crystal TY Lee (then BDSV) was the Faculty's first recipient of this award, when she conducted research with Prof Lim K Cheung on the "Profile and dentofacial deformities and multidisciplinary management in Hong Kong and Glasgow".

In addition, all BDS students conduct a public health research project in their fourth year, in teams under the supervision of Faculty staff. These Community Health Projects often include oral health services and education for needy groups. Project reports are available in the HKU online library system at <<http://hub.hku.hk/handle/10722/1341>>.



Knowledge exchange projects

At the Student Knowledge Exchange Experience (KE) Sharing on 10 February 2014, three groups spoke about their extracurricular service projects last year and of the value of volunteering in the community (see Box). For summaries of each project, please visit the Faculty's Community Projects webpage at <<http://tiny.cc/30jerw>>. The Faculty KE Update 2014 is also available at <http://facdent.hku.hk/docs/2014/KE_Update_2014.pdf>.



Taste of laboratory life

By Stephen PH Kwan and Dora Chu (BDSIII)

In 2012-13, we participated in the Faculty Undergraduate Research Programme to do a laboratory research project on applying a special paste to protect tooth roots, under the supervision of Prof Cynthia KY Yiu and Dr Jeevanie Epasinghe.

During a pilot study during the summer break of 2013, we spent almost every day in the Hard Tissue Laboratory at the Prince Philip Dental Hospital, and some of the experiments even required night-time shifts. The work was harder than we first imagined, but we learnt to be patient and to persevere in solving technical problems. The pilot study prepared us well for the main study this year, which we have just completed.

We have also taken part in research conferences. Dora presented some preliminary findings at the Faculty Annual Scientific Meeting last year. I am planning to present the results of the main study this year at a regional conference of the International Association for Dental Research.

Doing research is hard, but it is fun and rewarding. Teamwork is very important, and we would like to thank our team, Prof Yiu, Dr Epasinghe, and Mr YY Chui, for their support and guidance. We also thank the Faculty for giving us this valuable learning experience in our undergraduate years.

Dentistry in action

How to handle the tooth

With a grant from the HKU KE Fund and under the mentorship of Dr Mike YY Leung, Prof Gary SP Cheung, and Prof Lim K Cheung, our student team gave 11 seminars to 441 school teachers about dental first-aid, such as saving and reinserting knocked-out permanent teeth. Our group enjoyed interacting with the teachers and sharing with them our knowledge of emergency management of dental trauma.—**Tiffany CL Chan (BDSV)**

Health in every bite

This project, supported by the HKU KE Fund, educated parents of babies aged up to 3 years about dental care and good and bad oral habits during infancy. The project should promote optimal jaw and tooth development and alignment. We are grateful to our mentor Dr Yanqi Yang, as we gained valuable experience in project management, making oral health education materials, and giving individual consultations.—**Janet SM Chan (BDSV)**

Tell it on the mountain

Thanks to the HKU SERVICE100 Fund and our mentor Dr Chun-hung Chu, our student team had a successful outreach service project in a remote mountainous region of Yunnan, China. We provided oral health education and emergency treatment to 400 children living in remote villages. In turn, our team learnt how to plan and carry out an education and health campaign abroad, to understand the needs of a community, and to work as a team under challenging conditions.—**Dr Shinan Zhang (PhD student)**

Industry internships

Since 2010, the Faculty Knowledge Exchange Unit has been organising annual paid summer internships with the local offices of well-known international companies that make consumer dental products. After the month-long internships, the students share their experiences with the Faculty in lunchtime talks that also include presentations by representatives from the dental companies about innovation culture and technology transfer. In 2013, six BDS students were awarded industry internships (see Box).

Applications for the 2014 internship scheme are now welcome (see <<http://facdent.hku.hk/index.php/engagement/ke-hub/students>>).



Write Expressions

Rules of engagement

Imagine you, as a student, present the main findings of your research at a scientific conference. One month later, as you are writing your research report for your university course, two people e-mail you after reading your presentation summary in the conference website: (1) a newspaper reporter asks you to send your latest findings since they may be relevant to the public; and (2) a staff member of an academic journal asks if you can submit a research paper so the journal can consider it for publication. How do you answer them?

E-mail your answer to the quiz question above to <dentke@hku.hk> by 31 July 2014. The best answers will be entered into a prize draw for Faculty souvenirs and a book voucher.

Dental innovation

1. Colgate-Palmolive (HK) Ltd

The Colgate internship was a great and fun experience. I learnt a lot about the business side of the dental profession, which is not often touched on in our curriculum. I got the opportunity to collaborate with many clinicians and company staff, and established good relationships. I also got a better understanding of dentistry, so I would highly recommend this programme to all dental students.

—Dominic YS Chow (BDSV)

It was a great pleasure to be selected to join the 2013 Colgate internship. In this memorable month, I had the chance to experience “corporate life” and work with different groups in the company. Not only did I widen my horizons, but I also gained a lot of new knowledge, which will be helpful for my future career. The experience was amazing!

—Nicholas YL Ng (BDSIV)

2. Oral-B (Proctor & Gamble)

The summer internship at Oral B was a great opportunity and a well-spent summer. It facilitated my understanding in the work of different departments in an international company, including marketing and sales, research and development, and external and media relations. Our mentors and colleagues were all helpful and friendly. I would definitely recommend others to apply for this internship.

—Chun-pang Poon (BDSV)

I witnessed the birth of a newly launched toothpaste at a research centre and dental clinics in Beijing. From the visit, I learnt the science of the toothpaste ingredients, while also gaining knowledge of dentistry in mainland China. Moreover, I met many experienced dentists and took part in dental learning events, including HKIDEAS 2013. This was a once-in-a-lifetime experience to learn about things other than teeth. I believe this experience will definitely help enlighten my future career as a dentist.

—Tommy TW Chow (BDSV)

3. GlaxoSmithKline (HK) Ltd

The GSK internship was a mind-opening and rewarding learning experience, as it let me apply my dental knowledge to industry and commerce. Most memorably, I conducted internal training on dentine hypersensitivity for more than 20 sales and marketing colleagues. I recommend this internship to those who are interested in experiencing life in a team in a multinational pharmaceutical company.

—Kelvin KW Choi (BDSIV)

It was an amazing experience to work under the GSK Expert Marketing team for a month, in close collaboration with two other marketing teams in the company. I worked on an evidence-based patient education leaflet about denture care, joined clinic visits, led internal staff training, and helped at an education booth at HKIDEAS 2013. I gained important perspectives in marketing, business, and publication, and, most importantly, efficient communication. This scheme is perfect for any dental student wanting to do something “out of the box” during the summer holiday.

—Dr Nic CH Leung (BDS 2013)

Staff awarded for long service

The following Faculty staff have received HKU Long Service Awards for 15 to 24 years of loyal service to HKU:

- **Dr Michael Botelho** (Clinical Associate Professor in Oral Rehabilitation)
- **Dr Chun-hung Chu** (Clinical Associate Professor in Community and Family Dentistry)
- **Prof Lijian Jin** (Clinical Professor in Periodontology)
- **Dr Katherine CM Leung** (Clinical Associate Professor in Oral Rehabilitation)
- **Prof W Keung Leung** (Clinical Professor in Periodontology)
- **Dr Edmond HN Pow** (Clinical Associate Professor in Oral Rehabilitation)
- **Prof Nabil Samman** (Clinical Professor in Oral and Maxillofacial Surgery)
- **Dr May CM Wong** (Associate Professor in Dental Public Health)
- **Prof Cynthia KY Yiu** (Clinical Professor in Paediatric Dentistry)
- **Ms Vivien Chan** (Administrative Assistant I)



HKU Long Service Awards Ceremony, 17 March 2014

L to R: Prof Lap-chee Tsui, Prof Cynthia KY Yiu, Dr Edmond HN Pow, Dr Katherine CM Leung, Prof Lijian Jin, Dr Chun-hung Chu, Ms Vivien Chan

Graduate honours

• **Ms Weiye Wen** (PhD student in Dental Public Health) has won a Hong Kong PhD Fellowship (2013-14) to conduct research titled "Family-centered oral health promotion for new parents and their infants: a randomized controlled trial". Her primary supervisor is Dr May CM Wong and her co-supervisor is Prof Edward CM Lo.

• **Ms Shiwen Zhu** (PhD student in Orthodontics) has won a Hong Kong PhD Fellowship (2013-14) to conduct research titled "Does viewing 3D projected images affect the reliability of rating facial deformity in patients with repaired complete unilateral cleft

lip and palate?" Her supervisor is Dr Balvinder Khambay.

• **Ms Lingwei Li** (PhD student in Paediatric Dentistry) has won an HKU University Postgraduate Fellowship (2013-14). Her principal supervisor is Dr Gloria HM Wong and her co-supervisor is Prof Colman McGrath.

• **Ms Xiaolin Yu** (PhD student in Oral Biosciences) has won a Lee Shau Kee Postgraduate Fellowship (2013-14) to conduct research in periodontal microbiology. Her co-supervisors are Dr Rory Watt and Prof W Keung Leung.

• **Dr Nalaka Jayaratne** has won an HKU Award for Outstanding Research Postgraduate Student (2011-12) for his PhD thesis titled "3-D assessment of facial deformities and their surgical response" (supervisor, Prof Roger Zwahlen; co-supervisor, Prof Colman McGrath).



Staff moves

The Faculty bids a warm welcome to:

- **Dr Yu-ki Chan**, Postdoctoral Fellow in Oral Biosciences
- **Dr Christopher SY Liu**, Clinical Dental Instructor in Endodontics
- **Dr Galal Omami**, Clinical Assistant Professor in Oral Radiology
- **Dr Sarah SW Wong**, Postdoctoral Fellow in Oral Biosciences
- **Ms Leticia Law**, Clerical Assistant in Oral Biosciences

...And a fond farewell to:

- **Prof Lakshman Samaranyake**, Dean
- **Prof Lim K Cheung**, Chair Professor in Oral and Maxillofacial Surgery
- **Dr John Lo**, Clinical Assistant Professor in Oral and Maxillofacial Surgery
- **Dr Ricky WK Wong** Clinical Associate Professor in Orthodontics
- **Mr Oi-sing Au**, Communications and Development Officer

Dr Paul Tsang wins Research Output Prize



Dr Paul WK Tsang, Research Assistant Professor in Oral Biosciences, has won the Faculty Research Output Prize 2013 for a research article on the antifungal properties of the natural red dye purpurin. Expressions asked him about his team's work.

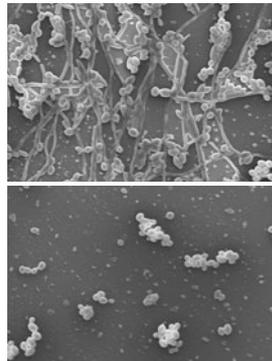
What is your chosen research area?

My research is in the area of microbiology, with the main focus on *Candida albicans*, which is a medically important fungus because it causes various diseases in humans. *C. albicans* is an opportunistic fungal pathogen that cohabits with humans harmlessly in the mouth and digestive system (when it is known as a commensal organism). But it can become pathogenic and cause infection, called candidiasis, in patients whose immune responses are suppressed or weakened. Infection with *C. albicans* around the whole body, called systemic candidiasis, can be serious and even fatal.

However, the current arsenal of antifungal agents is limited and has shortcomings such as toxic side effects and poor activity (pharmacokinetics). In addition, the overuse of antifungal agents has led to the emergence of resistant strains. Therefore, there is a dire need for new antifungal agents that operate by different modes of action, so as to avoid cross-resistance.

What has your team discovered?

In the past decade, my research team has been working vigorously on the isolation and characterisation of substances that have potent antifungal activity. In particular, my laboratory has demonstrated, for the first time, the novel antifungal activity of purpurin, a natural anthraquinone in madder root that is used as a food colouring and in traditional Chinese medicine. We showed that purpurin can trigger a cell death pathway by disturbing the function of the powerhouses (mitochondria) within *C.*



albicans cells. Findings from our studies not only widen the repertoire of antifungal agents, but also lay a foundation for an in-depth analysis of *Candida* cellular physiology, which could identify new targets for future antifungal drugs.

What was the research output prize for?

An important feature of *C. albicans* is its ability to switch between a spherical form (budded yeast) and a filamentous form (hyphae). The transition from the budded yeast form to the hyphal form is linked to the ability to cause infection, and it depends on the acid level (pH) in the fungal cell. In the research paper that won the research award, my team found that purpurin inhibits *C. albicans* hyphal growth.¹ In this way, purpurin prevents the fungus from forming attached communities called biofilms, and it can also disrupt already formed biofilms.

Recently, we have shown that purpurin changes the pH balance inside *C. albicans* cells.² My laboratory is currently investigating exactly how purpurin affects pH balance and shape change in *C. albicans*. We hypothesise that altering the pH in the cell may be a feasible antifungal approach with clinical relevance because purpurin is not toxic to human cells.

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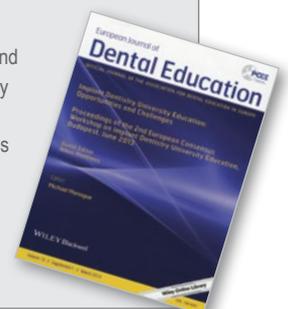
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Dr Nikos Mattheos helps define implant dentistry training



Dr Nikos Mattheos, Clinical Associate Professor in Implant Dentistry, was the Guest Editor of a supplement of the *European Journal of Dental Education* (March 2014, Volume 18, Suppl 1), which is devoted to advancing education and quality assurance in implant dentistry. The supplement includes consensus guidelines for the education of implant dentistry at undergraduate, postgraduate, and continuing professional development

levels, as formulated by the participants at the Second European Consensus Workshop on Implant Dentistry University Education, in Hungary in June 2013. The Consensus Workshop was organised by Dr Mattheos on behalf of the Association for Dental Education in Europe. The supplement is available for free at <http://onlinelibrary.wiley.com/doi/10.1111/eje.2014.18.issue-s1/issuetoc>.



Farewell to Dean of the decade

Members of the Faculty, HKU, and local dental community celebrated a decade of Faculty leadership under Prof Lakshman Samaranayake at a farewell reception on 29 November 2013.

Special guests included Prof Lap-chee Tsui (then HKU Vice-Chancellor), Dr Che-hung Leong (HKU Chairman of the Council), Prof Paul KH Tam (HKU Vice-President and Pro-Vice-Chancellor (Research)), Prof Roland T Chin (HKU Provost and Deputy Vice-Chancellor), and Dr Wah-ching Tam (donor of the Faculty's first endowed professorship).

In his speech, Prof Samaranayake acknowledged the joint achievements of successive Faculty associate and assistant deans, and academic and non-academic staff, who have all helped the Faculty become one of the world's top dental schools. Prof Esmonde Corbet and Prof Tak-wah Chow gave special votes of thanks and wished Dean Samaranayake the best of luck in his new role as Head of the School of Dentistry at the University of Queensland, Australia. ■



Information Day



More than 1000 visitors attended the HKU Faculty of Dentistry Information Day on 9 November 2013 at the Prince Philip Dental Hospital.

Ninety BDS student volunteers led guided tours of the hospital, gave demonstrations in the Simulation Laboratory, Polyclinic, and Problem-based Learning Suite, and answered queries from prospective students about life as an HKU dental student.

In addition, three Admission Talks introducing the HKU undergraduate degree programme were given by **Dr Dominic KL Ho** (Clinical Assistant Professor in Periodontology), **Dr Katherine CM Leung** (Clinical Associate Professor in Oral Rehabilitation), and **Dr Edmond HN Pow** (Clinical Associate Professor in Oral Rehabilitation). ■

International agreements

The HKU Faculty of Dentistry recently signed Memoranda of Understanding or Academic Agreements with six overseas institutions.

Memoranda of Understanding:

- Faculty of Odonto-Stomatology, University of Medicine and Pharmacy at HoChiMinh City, Vietnam (24 October 2013)
- Poznam University of Medical Sciences, Poland (5 November 2013)

- School of Dentistry, Marquette University, Wisconsin, USA (13 January 2014)

Academic Agreements:

- Graduate School of Dentistry / School of Dentistry, Osaka University, Japan (12 November 2013)
- Kyushu Dental University, Japan (25 November 2013)
- Dental School, Okayama University, Japan (28 November 2013)

Dental fibre networking

The First Asian Symposium on Fibre-Reinforced Composite Materials in Dentistry was held at the HKU Faculty of Dentistry on 18-19 November 2013.

The symposium was attended by about 50 delegates from mainland China, Indonesia, Japan, Korea, Malaysia, Thailand, and Hong Kong. A total of 3 keynote lectures, 11 invited talks, and 18 posters were presented during the one and a half days of the invitational meeting.

The symposium was initiated by **Dr Jukka Matinlinna** (Associate Professor in Dental Materials Science; pictured in inset), who also headed the international organising committee. The event was based on three past successful international symposia on fibre-reinforced plastics in dentistry, which Prof Pekka Vallittu (Institute of Dentistry, University of Turku, Finland) had organised for enthusiastic fibre specialists from both academia and industry, with venues in Turku (Finland) in 1998, Nijmegen (Netherlands) in 2001, and Manchester (UK) in 2002.



"This first Asian symposium helped to nourish contemporary dental materials science and encourage further discovery and innovation in the subject in the Asia-Pacific region, with HKU in a key position," says Dr Matinlinna. "Research into dental fibres at the HKU Faculty of Dentistry dates back to the early 1990s with the studies of Prof Tak-wah Chow and co-workers, and today E-glass fibre-reinforced composites with varying resin matrices are the main focus of the Dental Materials Science unit at HKU". Following the success of this inaugural event, the second symposium has already been planned to take place in November 2014 in Tokyo, Japan, hosted by the Nippon Dental University. ■

Taiwan tour



Dr Chun-hung Chu (Clinical Associate Professor in Community and Family Dentistry; pictured 4th from L) was

invited to visit Taipei, Taiwan, on 19 and 20 December 2013 to speak on how to prevent tooth decay and promote oral health.

The visit included talks for the Dentistry Department of the National Taiwan University Hospital and for dentists and members of the Association for Dental Science of the Republic of China. Dr Chu also delivered presentations in a high-level lunch gathering for the heads of local academic institutes and dental associations, and at a special media engagement session with representatives of the local media. ■

Annual Scientific Meeting 2013



The HKU Faculty of Dentistry held its 2013 Annual Scientific Meeting at the Prince Philip Dental Hospital on 12 December 2013.

Winners of the research presentation awards were as follows:

- **Ms Susan LF Zhuang** (PhD student; supervisors, Dr Rory Watt, Prof Niklaus Lang, Dr Nikos Mattheos, and Prof W Keung Leung) won an Oral Presentation Award for her research

presentation titled "Periodontal and peri-implant microbiota in patients with both healthy and inflamed peri-implant tissues".

- **Ms Ying Cao** (PhD student; supervisor, Dr Chun-hung Chu) won an Oral Presentation Award for her research presentation titled "A novel biomimetic mineralisation model to regenerate enamel-like tissue".

- **Dr Waruna L Dissanayaka** (PhD student; supervisors, Dr Cheng-fei Zhang and Prof Lijian Jin) won an Oral Presentation Award for her research presentation titled "Synergistic effects of stem cells and endothelial cells in dental pulp regeneration".

- **Dr Chun-hung Chu** (Clinical Associate Professor in Community and Family Dentistry) won a Poster Presentation Award for his research poster titled "The inhibitory effects of silver diamine fluorides on cysteine cathepsins", co-authored with Dr Lei Mei. ■

Clinicians-in-training

Two clinical pledging ceremonies were held this year for the two BDSII cohorts: on 17 January 2014 for Class of 2017 (BDSIIa, 5-year cohort; top photo) and on 7 March 2014 for Class of 2018 (BDSIIb, 6-year cohort; bottom photo).

The Guests-of-Honour at the clinical pledging ceremonies were Dr Carl KK Leung (Honorary Professor in Forensic Science, Tung Wah College) for BDSIIa and Dr Tin-chun Wong (President of the FDI World Dental Federation) for BDSIIb. The ceremonies

concluded a week-long Clinical Induction Programme, which was a series of workshops on clinical professionalism, ethics, and effective patient communication and management.

"Our clinical induction was an indelible experience," says Teresa HY Lo (BDSIIa). "We learned the importance

of developing mutual trust and a good patient-dentist relationship, and of understanding the needs of patients by standing in their shoes."



At the ceremony, parents and Faculty teachers witnessed the students' pledge to uphold professional conduct and responsibility during clinical training, and to provide oral health care with compassion and confidentiality.

"After pledging, we received clinical badges to remind us of the honour and integrity of the dental profession," says Dennis TF Tse (BDSIIb). "As proud members of the HKU Faculty of Dentistry, we must strive to advance our clinical knowledge and skills in one of the best dental schools in the world." ■

Inspiring true smiles



Congratulations to the Executive Committee of the Dental Society of the HKU Students' Union (Session 2013-14), which was sworn in at an inauguration ceremony on 19 February 2014. The name of the committee, headed by Chairperson Justina CY Chan (BDSIIa), is "Wits", which comes from the word "wisdom". The committee says on the Dental Society website <www.dentsoc.hkusu.hku.hk>: "While we project a professional and mature image, we also strive to be amiable and approachable. We aim to serve the dental community with a lively and upbeat manner. As Wits, 'We Inspire True Smiles!'"

Also, the Dental Public Health Committee (Session 2013-14) of the Dental Society has recently been elected. The committee has organised a series of community activities for this year, including university oral health campaigns, educational visits to elderly centres, and an oral health exhibition. Event details can be found at <www.dentsoc.hkusu.hku.hk/DPHC>. "Our Dental Public Health Committee is keen to raise oral health awareness among the public, while promoting social responsibility among dental students," says Chairperson Ken MH Cheung (BDSIIa). ■



Learning from the professionals



For the fourth year running, the HKU Dental Alumni Association (HKUDAA) is collaborating with the Faculty Knowledge Exchange Unit to offer a mentorship scheme for BDS students. This year, the scheme is being provided to the BDSIIa cohort. Dr Dominic KL Ho, HKUDAA President, delivered the following speech at the Inauguration Ceremony on 25 November 2013:

Good evening, and a very warm welcome to our Mentorship 2013-14 Inauguration Ceremony.

I thank the HKUDAA council, local dentist mentors, Faculty Knowledge Exchange Unit, HKU Knowledge Exchange Fund, and GSK for supporting tonight's ceremony.

I also want to say a big *Thank You* to the Dean, Prof Lakshman Samaranayake, for spearheading this mentorship scheme between students and local dentists for the past 4 years. It has been a successful knowledge exchange initiative and is part of the wonderful legacy you leave behind at the Faculty after an illustrious decade of your deanship. We promise we will do our best to nurture this value-adding and high-quality mentoring programme, so that it flourishes well

into the future, following the wise and inspirational example you have set.

Mentorship is reciprocal, and it takes effort from both sides to commit to meeting face-to-face and interacting by phone, e-mail, or text. This year, I have been acting as a mentor for a group of students doing a Faculty Knowledge Exchange Project. So, I can vouch for the personal satisfaction gained from guiding students and watching them grow and find creative solutions to problems. Mentorship is really rewarding and meaningful for both mentor and mentee, and we are lucky to have a well-organised annual programme.

Our dentist-student mentorship scheme is based on the HKU scheme, so we recommend about five face-to-face meetings in the year, in addition to this inauguration ceremony and the mid-year mass reunion. As Dean Samaranayake said, some of this year's mentors for 2013-14 have immediately finished being mentors for the previous cohort. The feedback forms from them and their mentees show they have had a fruitful and memorable mentoring experience, so those mentors truly deserve our thanks, and their mentor certificates.

I wish everyone a great mentorship year! ■



current dental education. It's a great programme!
—Dr Hoi-to Chan (Mentor, 2012-13 and 2013-14).

After joining this mentorship programme, I found that not only the mentees benefited from the programme, but I did too. I can keep a close connection with my *alma mater* and also know more about

The mentorship programme has provided an excellent platform for me to share my passion for dentistry.

I have some very fond memories of the mentorships with my enthusiastic mentees, and I am most happy to continue being a mentor.

—Dr Chi-hong Ng (Mentor, 2012-13 and 2013-14).



THANK YOU!

The Dean, staff, and students of the HKU Faculty of Dentistry would like to thank all those listed below who made a donation to the Faculty in 2013. This continued generosity enables the Faculty to fulfil its mission in the areas of education, research, patient care, and knowledge exchange. Please continue to support the Faculty through the secure online HKU donation site at <http://www.giving.hku.hk>.



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- HKU Dental Alumni Association Prize
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- Hong Kong Society for Sedation and Anaesthesia in Dentistry Prize
- Dental 85 [BDS Class of 1985] Prize in Elective Studies
- Ho Ping Kwan Prize in Oral Rehabilitation
- GlaxoSmithKline Prize in Periodontology
- GlaxoSmithKline—HKU Faculty of Dentistry Internships
- Chan Kai Ming Prize
- Ho Fook Prize
- Fearnhead Prize

- The Colgate Prize for Community Oral Health
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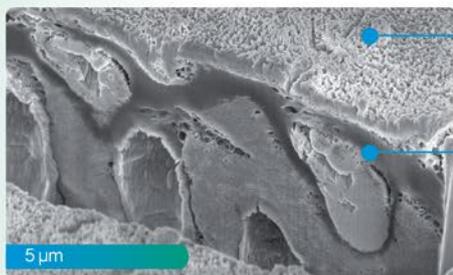
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In vitro studies show that a hydroxyapatite-like layer forms over exposed dentine and within the dentine tubules:^{7,9,10,12,13}



Hydroxyapatite-like layer **over** exposed dentine

Hydroxyapatite-like layer **within** the tubules at the surface

5 µm

Adapted from Earl *et al.*, 2011 (A).¹³ *In vitro* cross-section SEM image of hydroxyapatite-like layer formed by supersaturated NovaMin® solution in artificial saliva after 5 days (no brushing)¹³



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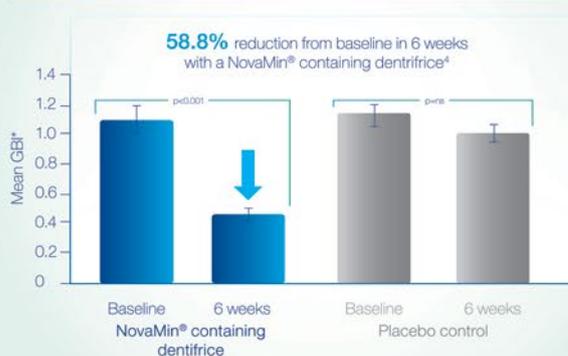
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