

# IMPRESSIONS

2 Dean's  
Message

3 News

20 'Magical' Properties  
of Gingival Fibroblasts

25 Dental Hygiene Grads—Career  
Outcomes Survey

26 Dental Hygiene Education at UBC—  
Commemorating 50 Years

30 Revival—The Patterson Dental  
Learning Centre at UBC

34 Alumni Profile:  
Taking Care of the Profession

36 Donor Honour Roll

38 Recent Graduates Profiles  
From the Class of 2018

40 Alumni Class Notes  
and Events

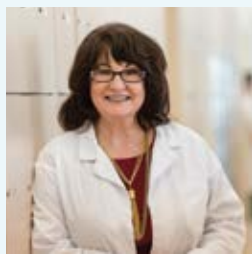
45 Part-Time Faculty  
Appreciation

47 CDE Calendar



*Advancing Oral Health Through Outstanding Education, Research and Community Service*





The UBC Faculty of Dentistry remains an innovative leader, delivering exemplary dental education through innovative curriculum, providing committed service to our patients and community, and producing high-quality oral health research. Our team, as “makers of smiles,” is responsible for a limitless number of smiles from those receiving, providing and facilitating care. Our commitment to our students and the community is reflected in the 2018 QS World University Ranking in the field of Dentistry: UBC Dentistry remains #1 in Canada but has risen to #7 in North America and #20 worldwide. We are thankful for the efforts of our outstanding faculty and staff and the support of our alumni and community partners in obtaining this distinction through our mission of excellence. The breadth and depth of our innovation is rooted in their dedication and provides the foundation for our excellence and global reputation.

*Impressions* magazine focuses on examples of our continuous efforts that contribute to strengthening our academic, community and research programs. In this issue, for example, you can find out that the Faculty of Dentistry is now hosting several study clubs in a newly renovated clinic. The Patterson Dental Learning Centre was made possible through a generous donation from Patterson Dental, as well as A-dec Inc., and with gracious support from the British Columbia Dental Association, including all past donors to its former dental learning centre. The new facility opened at UBC at the beginning of September and is already a great success. You can read all about the Patterson Dental donation and learn more about the centre, the history of study clubs—and how UBC students will participate with master clinicians in these clubs. Having this clinic facility here on campus means students may once again benefit from involvement with study clubs. The motto of the new centre, “Lifelong Learning Through Mentorship,” resonates strongly with me, and I am proud that UBC Dentistry is once again part of the ongoing rich tradition of study clubs.

In 1968, 20 students began classes to study for a diploma in dental hygiene. That was 50 years ago, and over the decades, dental hygiene education has progressed into a four-year baccalaureate program—the first of its kind in Canada. There are many important milestones to note as you take a trip along this issue’s timeline of dental hygiene education here at UBC.

Research generated from UBC Dentistry continues to impact not only dentistry, but broader fields of science. Dr. Lari Häkkinen, in the Department of Oral Biological & Medical Sciences, is a leading researcher in the cell and molecular biology of wound healing. We spotlight his work investigating the “magical” properties of gingival fibroblasts and his hope for healing skin wounds and reducing scars. Dr. Häkkinen’s important discoveries started with observing gum tissues, the speed at which they heal, and the fact that they do not form scars. Wound healing and tissue regeneration are exciting areas of research at the Faculty and will be showcased, under the thematic title “Regenerate,” at our next annual Research Day on January 22, 2019. Please join us, if your schedule permits, to learn more about critical aspects of our faculty research.

Once again, I am amazed by the accolades our students and faculty here at UBC Dentistry have garnished through national and international awards. In the “News” section, you can read about all of these awards, as well as about other accomplishments in education and research. In particular, I would like to highlight two of the award recipients: one a student and the other a distinguished faculty member. Dr. Jiarui Bi, a PhD student, won the prestigious Volpe Prize. This is the second time a student from a Canadian university—and from UBC—has won this prize. And, faculty member Dr. Chris Overall has been inducted into the Royal Society of Canada as a fellow. This is the first time a faculty member from UBC Dentistry has been honoured with this highest award bestowed by Canada. As of 2017, just over 2,000 Canadians have been elected as fellows, with 221 having an academic home here at UBC.

Within these pages we present, with great gratitude, the annual “Donor Honour Roll.” Each of the individuals and corporations listed has supported UBC Dentistry in the past fiscal year. Their financial contributions are essential to helping the Faculty fulfill its mission to advance

oral health through outstanding education, research and community service. Also, you will find a new feature that pays tribute to our part-time faculty members. We are extremely thankful to these talented dental professionals for their dedication to teaching our students in clinical and simulation settings during the 2017–2018 academic year. They are directly impacting the future of dentistry through mentorship of the next generation of clinicians.

This issue profiles some of our recent graduates, including profiles about two recent DMD and BDSc graduates who now have exciting careers ahead in general practice and research. We also profile another recent DMD graduate who found a perfect fit as an associate in a local practice run by two alumni.

As in every issue, this *Impressions* magazine reflects the innumerable accomplishments of the UBC Faculty of Dentistry team—our faculty, staff, students and alumni. We are very fortunate to have the support of the broader dental community, including dental organizations, foundations and industrial corporations who share our drive to impact the future of dental education. Throughout Vancouver, British Columbia, Canada and the world, we are working to create an interactive forum of innovative dental education and research, allowing UBC Dentistry to excel globally as a progressive leader.

The Faculty of Dentistry will embark on an important strategic planning phase over the next few months. We hope all of the *Impressions* readership will participate in this process, through phone interviews and/or online surveys.

I also hope you enjoy connecting with the Faculty of Dentistry through reading the many stories of our “TEAMSMILE” members. As always, I welcome your comments and suggestions by email at [macdougall@dentistry.ubc.ca](mailto:macdougall@dentistry.ubc.ca), or you can schedule a meeting during my open office hours at [exec.assistant@dentistry.ubc.ca](mailto:exec.assistant@dentistry.ubc.ca).

And again, please enjoy this issue of *Impressions*.

Dr. Mary MacDougall  
Dean and Professor, Faculty of Dentistry

# NEWS



Dr. Christopher Overall

## Degradomics Pioneer Named a Fellow of the Royal Society of Canada

Dr. Christopher Overall has been named a fellow of the Royal Society of Canada (RSC), which is the highest honour a scholar can achieve in this country. Recipients are peer-elected as the best in their field, and the RSC announcement, made on September 11, 2018, welcomed Dr. Overall into the Division of Life Sciences. The investiture ceremony will take place during the annual general meeting of the RCS on Friday, November 16, 2018, in Halifax, Nova Scotia.

An international leader in proteomics, Overall is a professor and Canada Research Chair in Protease Proteomics and Systems Biology. He holds UBC appointments in the Faculty of Dentistry Department of Oral Biological & Medical Sciences, and in the Department of Biochemistry and Molecular Biology and the Centre for Blood Research, both in the Faculty of Medicine.

Overall is best known for developing a series of groundbreaking techniques to isolate and identify protease substrates in vivo, thus

establishing the field of degradomics. He has leveraged these techniques to reveal new information about the biological roles of proteases and their aberrations in disease. Through degradomics, he has generated clinically relevant knowledge about how proteases dampen defence systems in inflammatory and immunodeficiency diseases to restore homeostasis. This has revolutionized the understanding of protease function and drug targeting.

The fellowship of the RSC comprises distinguished men and women from all branches of learning who have made remarkable contributions in the arts and humanities, social sciences and sciences, as well as in Canadian public life. Dr. Overall is one of nine UBC faculty named as fellows; another five were admitted as members, which acknowledges top mid-career achievement.

➔ To read more about Christopher Overall and the other RSC fellows and members, visit [bit.ly/2puAoP2](http://bit.ly/2puAoP2)

# #1

QS:  
#1 Canada  
#7 North America  
#20 Worldwide

For the fourth year in a row, UBC Dentistry is Canada's top dental school according to QS World University Rankings for 2018. Of the top 25 dental schools in North America, UBC Dentistry ranked 7th this year, and of the top 50 dental schools worldwide, it ranked 20th. The QS ranking is assessed in four key areas—research, teaching, employability and internationalization—using six indicators: academic reputation, employer reputation, student-to-faculty ratio, citations per faculty, international faculty ratio and international student ratio.

➔ For more information about the QS ranking methodology and to compare ranking indicators for UBC Dentistry and other dental schools, visit [topuniversities.com](http://topuniversities.com)

ARWU:  
#16 World's Top 25

In the Academic Ranking of World Universities (ARWU), released on August 15, 2018, by ShanghaiRanking Consultancy, UBC Dentistry climbed to 16th among the world's top 25 dental schools, up from 23rd in 2017. Since 2003, ARWU has been presenting the world Top 500 universities annually based on transparent methodology and objective third-party data. It has been recognized as the precursor of global university rankings.

➔ For information about the ARWU methodology and to compare dental and oral sciences rankings, visit [shanghairanking.com](http://shanghairanking.com)



## Dentists and Students Learn Together at UBC Clinic Thanks to \$1.8M Donation

*A \$1.8-million donation to the University of British Columbia's Faculty of Dentistry has created a state-of-the-art clinic on the Vancouver campus. The new facility will allow dentists and students to study and practise advanced techniques together.*

The Patterson Dental Learning Centre takes its name from donor Patterson Dental, one of Canada's leading distributors of professional dental equipment and supplies.

"The vision to create a modern, dynamic and interactive learning centre for the dental community and students at UBC was a natural fit," said Joe Ludwig, general manager of Patterson Dental. "We are very proud to partner with UBC Dentistry in the opening of the Patterson Dental Learning Centre."

BC's dental study clubs will be the primary users of the new 203 sq. m facility in the John B. Macdonald Building. These clubs facilitate continuing education and professional development for licensed dentists by bringing them together to study new techniques, as required by their profession. Beginning in spring 2019, clubs will also welcome UBC dentistry students so they can learn alongside master clinicians.

"Through this generous donation, Patterson Dental has provided our students with a platform that hasn't been available to students in any other dental school," said Mary MacDougall, dean of the Faculty of Dentistry. "As our students become embedded in the study clubs, the clubs will infuse in them a commitment to lifelong learning through active mentorship. The quality of education that our students receive through this exposure

will help them become more confident, capable entry-level clinicians as they graduate from the UBC Faculty of Dentistry."

The clinic offers an additional community benefit that goes beyond nurturing high-quality graduates: patients who have limited access to dental care can visit the clinic for treatment through the study clubs.

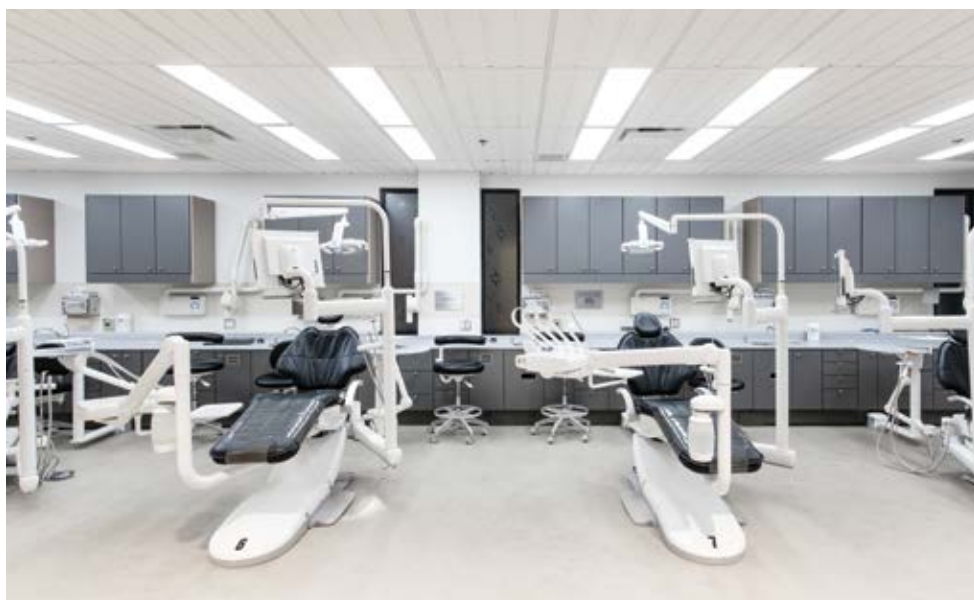
The clinic's infrastructure includes 11 newly obtained dental chairs and a lecture room pavilion that sits adjacent to the open clinic area. One chair is equipped with a webcam and microphone for transmitting live video of procedures to the lecture room pavilion.

The facility was completed in early September, and study club use began immediately. Three clubs per week, on average, are expected during the academic year.

The UBC Faculty of Dentistry's commitment to dental education and service to the community have helped make it the top-ranked dental school in Canada and 20th in the world in the 2018 QS World University Rankings. It is the only dental school in BC and one of only 10 across Canada.

Patterson Dental partners with oral health professionals and dental practices of all sizes across Canada.

Read more about the new Patterson Dental Learning Centre in the article "Revival—The Patterson Dental Learning Centre at UBC" on page 30 in this issue of *Impressions*.



Dental study clubs will be the primary users of this new facility in the John B. Macdonald Building.



Dr. HsingChi von Bergmann

## CDA Funds Joint Study to Help Inform Selection of Applicants to Canadian Dental Schools

To help Canadian dental schools decide on the tools and processes that should and should not be used in the student selection process, the Canadian Dental Association's Committee on the Identification of Future Dentists (CIFD) has awarded Dr. HsingChi von Bergmann funding for a two-year cross-institutional project. Von Bergmann, an associate professor and educational expert at UBC Dentistry, will develop and evaluate tools and processes with the potential to be used nationally.

The dentistry faculties at the University of British Columbia and the University of Toronto will collaborate on the project, which is designed to respond to the identified issue of unknown reliability and validity in currently used non-academic admission tools.

Von Bergmann and co-applicants\* recognize there are challenges with the concept of screening applicants' social skills, as there is currently a lack of consensus regarding which social skills (humanistic characteristics) are most important. Their winning proposal is titled "Investigation of Essential Humanistic Characteristics of Dentists to Inform Selection of Applicants to Canadian Dental Faculties." The investigators will delve into understanding how to prioritize desired humanistic characteristics based on a set of characteristics compiled from stakeholder input. They aim to generate a credible

non-academic outcome measure that can be used by all dental educators to investigate their own existing or future developed admission tools.

This cross-institutional project will lay the groundwork for more informed and deliberate decision-making regarding where the gaps are in the Canadian dental school admissions process, and what admission tools might be adopted from other disciplines or developed from scratch to improve upon the current state.

Von Bergmann is also a co-investigator for another CDA-funded multi-institutional study led by Saad Chahine at Western University. This study aims to understand the relationship among social skills, quality of care and admissions across dental schools at the University of British Columbia, University of Toronto and Western University.

Garnering funding for these studies from the CDA was highly competitive. Out of 10 applications, three were funded, with von Bergmann as an investigator on two of them.

\*Co-investigators: Kevin Eva, PhD, Centre for Health Education Scholarship, Faculty of Medicine, University of British Columbia; Kavita Mathu-Muju, DMD, MPH, FRCD(C), Faculty of Dentistry, University of British Columbia; Charles Shuler, DMD, PhD, Faculty of Dentistry, University of British Columbia; Jim Yuan Lai, DMD, MSc (Perio), EdD, FRCD(C), Faculty of Dentistry, University of Toronto.



## About the Cover

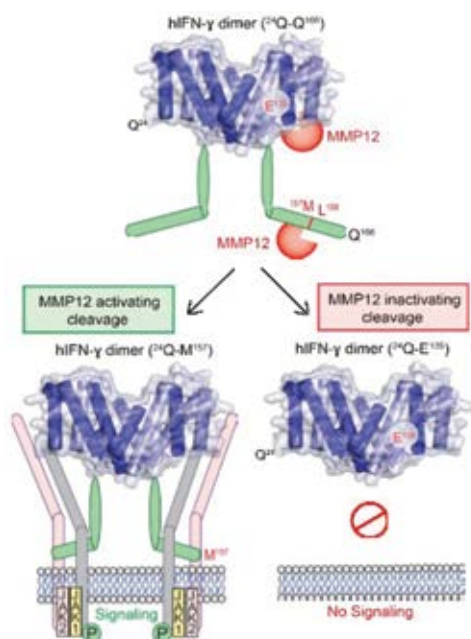
The cover image for this issue of *Impressions* depicts a Steller's jay, *Cyanocitta stelleri*. The Steller's jay is the provincial bird of British Columbia and is the only crested jay west of the Rocky Mountains. The photo was taken by alumnus Dr. Brett Coyle from the DMD Class of 1986.

## Calling Alumni Photographers: Do You Have a Cover Image?

Since 2008, *Impressions* magazine has featured magnificent images on its covers. Beautiful scenic shots of British Columbia, as well as photos of mammals, birds (a particular favourite among readers) and even fish, all native to this province, have illustrated the magazine cover to support a theme of "BC nature."

If you are a UBC Dentistry alumnus and a photographer and would like to submit a nature photo to be considered for the cover of *Impressions* magazine, email or Dropbox it to [communications@dentistry.ubc.ca](mailto:communications@dentistry.ubc.ca). All photos should be 300 DPI at the size of 11 by 17 inches. Photos for consideration should support the BC nature theme. If the subject matter is scenic, it must be in British Columbia, or if flora and/or fauna, it must be indigenous to the province.

## Heal or Harm: Switching Macrophages On and Off



A multidisciplinary team led by Dr. Chris Overall is a step closer to shining a light on the mechanisms of inflammation, as well as understanding more about autoimmune diseases such as rheumatoid arthritis—and in oral health, think periodontal disease. Overall is a professor in the Department of Oral Biological & Medical Sciences and holds a Canada Research Chair in Protease Proteomics and Systems Biology.

In a significant paper<sup>†</sup> published recently in *Nature Communications*, investigators from UBC and several other institutions<sup>††</sup> discovered how to switch macrophages from the kind that can cause damage to body tissue to the type that restores tissue.

Macrophages are white blood cells that control processes like wound healing, infection and tissue damage. These processes have two phases: an inflammatory phase, where the damage or infection is tackled, and a healing phase, where the tissue is repaired. A different kind of macrophage controls each of these phases. In the inflammatory phase, a pro-inflammatory macrophage is switched on by a signalling protein, or cytokine, called interferon-gamma (IFN- $\gamma$ ); in the healing phase, the macrophage is turned on by the cytokine interleukin-4 (IL-4).

If the pro-inflammatory macrophages are not turned off, they cannot be replaced by the healing kind, and chronic inflammatory and autoimmune diseases like arthritis and systemic lupus erythematosus (SLE) can develop.

More than 15 years ago, the Overall Lab discovered that other cell signalling proteins can be switched on or off by cleaving the protein chain near the start or the end of the chain. This action is carried out by cutting enzymes called proteases; in particular, by proteases called macrophage-associated matrix

metalloproteinases (MMPs). Macrophages make a protease called MMP12. The Overall Lab showed that mice without any MMP12 have worse arthritis and SLE disease, suggesting that MMP12 is important for the healing phase that follows inflammation.

Now the team has discovered a new cytokine target for MMP12. Dr. Tony Dufour, in the Overall Lab, showed that at the start of healing MMP12 normally makes two cuts at the end of the IFN- $\gamma$  cytokine. The cut IFN- $\gamma$  is no longer able to stick to receptors on cell surfaces, effectively turning the “on” switch to “off.” As a result, the pro-inflammatory macrophages are no longer active, which allows the healing IL-4-activated macrophages to take over. In the absence of MMP12, or if MMP12 is blocked by a drug, however, IFN- $\gamma$  signalling is prolonged, pro-inflammatory macrophages accumulate, and in mice, arthritis and SLE disease is worse.

The research group then ascertained that the protease MMP12 is decreased in SLE patients compared with healthy people. Thus, it appears that removing the end of IFN- $\gamma$  by MMP12 is important for turning off pro-inflammatory macrophages and allowing tissues to return to normal. Without this off switch, chronic inflammatory and autoimmune diseases like periodontitis, arthritis and SLE can occur.

“The next step is to develop drugs to increase protective levels of MMP12 in patients with non-healing SLE and chronic inflammation,” says Dr. Overall. “In the meantime, we can use low levels of MMP12 as a new biomarker to indicate patients who are at risk of ongoing disease and who may benefit from stronger anti-inflammatory treatments.”

<sup>†</sup>Dufour A, Bellac CL, Eckhard U, Solis N, Klein T, Kappelhoff R, Fortelny N, Jobin P, Rozmus J, Mark J, Pavlidis P, Dive V, Barbour SJ, Overall CM. (2018). C-terminal truncation of IFN- $\gamma$  dampens proinflammatory macrophage responses and is deficient in autoimmune disease. *Nature Communications*, 9(1): 2416. doi: 10.1038/s41467-018-04717-4.

<sup>††</sup>Service d'ingénierie moléculaire des protéines, Commissariat à l'énergie atomique (CEA), Université Paris-Saclay, and Labex LERMIT, Faculté de Pharmacie, Université Paris-Sud (France); Swissmedic, Swiss Agency for Therapeutics Products (Switzerland); Department of Physiology and Pharmacology, Cumming School of Medicine, and the McCaig Institute for Bone and Joint Health, University of Calgary (Canada); the Department of Oral Biological & Medical Sciences, Faculty of Dentistry, and the departments of Biochemistry and Molecular Biology, Medicine, Pediatrics (with BC Children's Hospital Research Institute) and Psychiatry, Faculty of Medicine, as well as the Centre for Blood Research and the Centre for High-Throughput Biology, University of British Columbia (Canada).



## Dentistry Researcher Part of CIHR and NSERC Cross-Disciplinary Collaboration

Five UBC teams have met success with their innovative ideas at the intersection of health and natural sciences, in the form of Collaborative Health Research Projects (CHRP) funding from the Canadian Institutes of Health Research (CIHR) in partnership with the Natural Sciences and Engineering Research Council (NSERC). CHRP supports focused, interdisciplinary, collaborative research projects involving any field of the natural sciences or engineering and any field of the health sciences. Dr. Dieter Brömme, professor in the Department of Oral Biological & Medical Sciences and Canada Research Chair in Proteases and Diseases, is among the principal investigators across the teams whose project garnered funding. Dr. Brömme's lab, in the Life Sciences Centre, is part of the Centre for Blood Research.

Brömme and colleagues\* from his team, as well as from UBC Department of Chemistry and Inception Sciences Canada, will investigate promising derivatives of compounds found in a Chinese herb, to develop side effect-reduced drugs for skeletal diseases. In particular, they will focus on

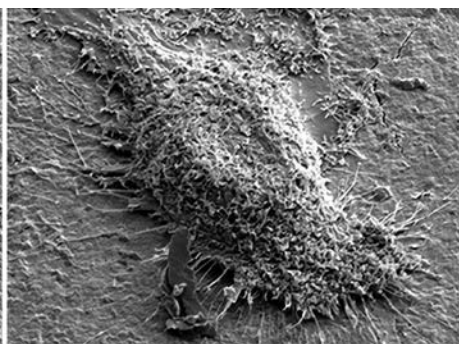
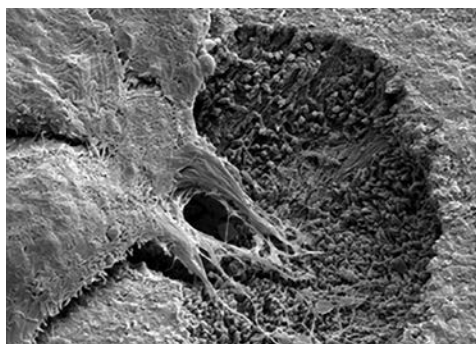
arthritic diseases, which affect 15 percent of the population, and bone cancer, which is a frequent metastatic side effect of the most common breast and prostate cancers. Aside from the human suffering, treatment of these diseases adds an enormous financial burden to health care costs. Current treatments have various shortcomings and side effects, including increased cancer risk, atypical fractures, bone necrosis, infections and vascular problems. As stated in the investigators' funding proposal: "There is clearly a need for more effective and safer treatments. Unfortunately, little progress has been made in recent years. Most treatments attack rather non-specifically entire cells or block complex pathways, which is likely causing the side effects."

The protease cathepsin K is solely responsible for the bone degradation and significantly contributes to joint erosion. While treatment inhibiting cathepsin K has been shown to effectively reduce fracture rates in post-menopausal women, it also had various side effects, which terminated further work on developing these inhibitors.

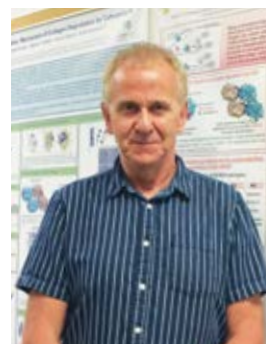
However, the Brömme laboratory's previous research identified and verified a novel type of cathepsin K inhibitors that did not cause any of the side effects seen in those earlier clinical trials. These findings, which were primarily gathered thanks to the relentless efforts of Dr. Preety Panwar, a research associate on the Brömme team, were the foundation of the successful grant application. Interestingly, this type of inhibitor can be found in certain Chinese/Indian herbs that have been traditionally used for skeletal diseases. "Recently, we have shown the efficacy of one of these compounds in an osteoporosis animal model without any observable side effects," Brömme says. (See "New Osteoporosis Treatment Uses Traditional Chinese Herb to Prevent Bone Loss," *UBC News*, August 29, 2017, at [bit.ly/2Gwv2c0](http://bit.ly/2Gwv2c0).)

This project, funded for close to \$730,000 over three years, will expand the investigation of traditional herbs-derived drugs. The compounds will be analyzed in arthritis and bone cancer mouse models. Investigators anticipate that these compounds will have a superior efficacy with no or fewer side effects than current treatment regimes. "This project requires a strong interdisciplinary collaboration between chemists, pharmaceutical scientists, biochemists and animal model researchers and will provide an excellent opportunity for training students," Brömme says.

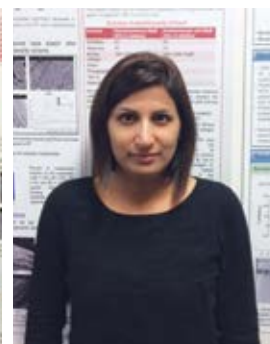
\*Principal investigators: Dieter Brömme, professor (Department of Oral Biological & Medical Sciences, Faculty of Dentistry; Centre for Blood Research, Life Sciences Institute; Department of Biochemistry and Molecular Biology, Faculty of Medicine); David Percival, vice-president, Biology (Inception Sciences Canada); and Marco Ciufolini, professor (Department of Chemistry, Faculty of Science). Co-investigator: Preety Panwar, research associate, Brömme Lab (Department of Oral Biological & Medical Sciences, Faculty of Dentistry).



Microscope images of bone showing bone cells and osteoporosis cavities: without treatment using cathepsin K inhibitor (L) and with treatment using cathepsin K inhibitor (R).



Dr. Dieter Brömme



Dr. Preety Panwar

## Dental Public Health Prof Part of \$1.4-Million Grant on Workplace Mental Health



Dr. Mario Brondani

Dr. Mario Brondani, associate professor and director of Dental Public Health, is a co-applicant and one of two dental academic researchers on a 21-member team from Canada and the United Kingdom that has been awarded a \$1,425,000 Partnership Grant. The grant, for their project on workplace mental health, is part of the Healthy and Productive Work funding awarded jointly by the Canadian Institutes of Health Research (CIHR) and the Social Sciences and Humanities Research Council of Canada (SSHRC). The project is led by Dr. Ivy Bourgeault, professor in the Telfer School of Management at the University of Ottawa and a CIHR Research Chair in Gender, Work and Health Human Resources.

The team will study how male and female health workers experience mental health issues at work, what motivates them to stay at work or negotiate a mental health leave, and how they return to work after such a leave. The researchers will work in collaboration with at least 30 non-academic organizations representing a range of professional

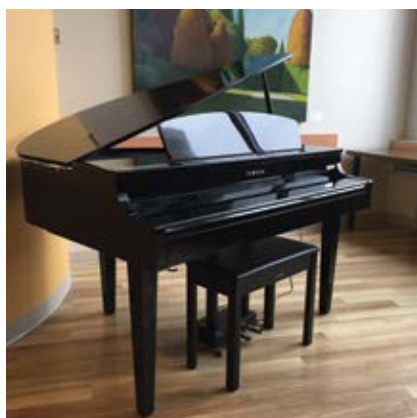
associations, unions, regulators, employers and government agencies in Canada.

According to the literature, Brondani says, dental professionals (dentists and dental hygienists) may experience mental health issues stemming from work-related factors such as long hours and difficult patients, but most are reluctant to seek help. The practice of dentistry is inherently demanding, but students also seem to experience burnout while still in school, particularly emotional exhaustion and psychological distress. Brondani hopes to keep the demands of the field of dentistry alive within the discussion of mental health and to decrease the stigma around mental illness.

Ultimately, the team hopes to inform and influence policy-makers and organizations such as licensing bodies toward developing more effective, evidence-based, equitable and gender-responsive policies, practices and programs, particularly regarding return to work after a personal or familial mental health issue.

For more information, visit [bit.ly/2wkOuVZ](http://bit.ly/2wkOuVZ)

## Gift of a Baby Grand!



A baby grand digital piano now graces the reception area of the Nobel Biocare Oral Health Centre, acoustically enhancing this beautiful visual space. The Faculty of Dentistry received one of five digital pianos provided by Tom Lee Music to UBC for various locations on campus. Tom Lee Music hopes the pianos will promote the health and well-being of the campus community.

Students, faculty and staff passing through the area, and patients waiting for appointments, will enjoy relaxing music from the Yamaha CLP-565GP—a fully loaded digital marvel that delivers the sound of a concert grand piano.

For an inaugural period, the instrument will fill the reception area with programmed music via its self-playing feature. For faculty, students and staff who play piano, plans include allowing access to the instrument with the use of headphones, for a personal-playing experience. Moreover, pianists from the UBC community may be brought in to play at faculty functions held in the reception area.

UBC Dentistry is grateful for Tom Lee Music's support for the health and well-being of patients as well as faculty, students and staff.

## Calling Alumni Piano Players: Book a Recording Session

Piano-playing Dentistry alumni are invited to play and record their favourite pieces on the Yamaha CLP-565GP now situated in the Nobel Biocare Oral Health Centre. Recordings by alumni may be used for music in the reception area and for faculty functions. Future plans may also include featuring alumni piano recordings on SoundCloud, an online audio streaming platform, or other social media sharing channels. To arrange a recording session, contact Rosemary Casson, manager of Alumni Engagement, at [alumni@dentistry.ubc.ca](mailto:alumni@dentistry.ubc.ca)





Iris Lin

## CIHR Graduate Scholarship for Research on Predicting Cancer Risk in Oral Lesions

Iris Lin, a Craniofacial Science master's program student, won a Frederick Banting and Charles Best Canada Graduate Scholarship from the Canadian Institutes of Health Research. The scholarship, valued at \$17,500 over one year, is awarded to students who demonstrate a high standard of achievement in undergraduate and early graduate studies.

Lin is undertaking research to investigate the immune microenvironment of potentially malignant lesions in the mouth, to predict cancer risk in these lesions. Her graduate supervisor is Dr. Denise Laronde, associate professor in the Department of Oral Biological & Medical Sciences.

This project not only has the potential to inform clinical management of potentially malignant lesions, including lichen planus, but it will also provide more information about the link between inflammation and cancer.

Lin graduated from the Dental Hygiene Degree Program in 2017, and during her final year she participated in a volunteer elective to Vietnam. Some of her most resonating moments there were from her time on the Ho Chi Minh City Oncology Hospital patient wards.

## Dentistry Imaging Scientist Awarded Grant to Collaborate With German Engineer

Dr. Gethin Owen, technical director of electron microscopy at UBC Dentistry's Centre for High-Throughput Phenogenomics, was awarded a Collaborative Research Travel Grant from the Burroughs Wellcome Fund. This award is to initiate or continue a biomedical science collaborative project between biological scientists and engineers.

Owen will collaborate on a project with Dr. Nicholas E. Bishop, professor for biomechanics and technical mechanics at Hamburg University of Applied Sciences in Germany. Bishop is an expert in computational modelling and finite elements in engineering mechanics, specifically for biological tissues. Owen is an expert in 3D electron microscopy in basic research investigations for both biological and material samples. In an existing study, funded by the S. Wah Leung Endowment Fund, he has been investigating the native structure of dentoenamel junction (DEJ) using high-resolution 3D imaging. (DEJ is the boundary between enamel and the underlying dentin of a tooth.)

Owen will use the travel grant to co-develop, with Bishop, a finite element model from the high-resolution image data generated using a dual beam microscope (focused ion beam/scanning electron microscope combined). This entails modelling systems in a virtual environment to understand the performance of materials under controlled conditions, to better understand the structure/function toughening mechanism of the DEJ. This would be the first comprehensive model of the DEJ, in its native state, using state-of-the-art 3D imaging technology.

"This model will ultimately further enhance our knowledge as to how the DEJ structure is capable of successfully uniting dissimilar materials, and it can be applied as a model for the development of functionally graded, wear-resistant and impact-resistant materials," Owen says. "Overall, such models will be critical to the advancement of materials engineering and tissue engineering applications, especially at interfaces where successful integration of dissimilar materials is

the goal." More specifically, this model could serve as a basis to improve the bonding between artificial dental restorations and dentin, and to understand the effect of inherited disorders, such as dentinogenesis imperfecta, on the toughening mechanism of the DEJ.

➔ Read more about Dr. Gethin Owen's work in the article "Rings of Success: Imaging Scientists at the Core of the CHTP" in *Impressions* magazine online at [bit.ly/2QtjVWF](http://bit.ly/2QtjVWF)



Dr. Gethin Owen

## Two DMD Students Honoured for Leadership; One Wins Top UBC Award



From left to right: Dr. Leandra Best, Kerri-Lyn Chong, Dustin Trudeau, and the dean, Dr. Mary MacDougall.

Kerri-Lyn Chong and Dustin Trudeau, fourth-year and third-year DMD students respectively, were honoured at the UBC President's 14th Annual Student Leaders Recognition Event held on April 5, 2018. The annual reception recognizes graduate and undergraduate students from across the university whose outstanding achievements have positively contributed to UBC and the greater community.

Kerri-Lyn Chong also received the prestigious Edward J.C. Hossie Leadership Award, UBC's top award for students who have demonstrated exceptional leadership through volunteerism, community service and/or participation in campus activities.

In the words of Dr. Leandra Best, senior associate dean: "Kerri-Lyn has exemplified excellence in all areas of the DMD program:

academically, professionally and in community service." Committed to academic and professional excellence, Chong shone in her extracurricular learning experiences in the Summer Student Practitioner Program, the Japan Dental Exchange Program and the student R.V. Tucker Cast Gold Study Club. Best adds that Chong's consistent demonstration of excellence in community leadership has earned her a number of well-deserved awards:

- Carlos Carrillo Community Service Award (2017) for demonstrating leadership, interest and passion in community oral health care outreach, both locally and internationally
- TD Canada Trust Service Award in Dentistry (2017) for excellence in community service, student leadership and volunteerism
- Rashida Ali Award in Dentistry (2016) for demonstrating leadership skills and excellence in the Professionalism and Community Service Program in the Faculty of Dentistry
- Western Canada Dental Society Leadership Scholarship (2015) for demonstrating leadership

"She has been fully engaged in enhancing students' learning experiences, inclusiveness and well-being," Best continues, outlining more of Chong's leadership roles: she served as president, vice-president and

administrative director of the UBC Dental Undergraduate Society (DUS) and as DMD class president. As a dental student representative, she sat on the BC Dental Association board and helped develop the student-dentistry mentorship program. She co-founded UBC Dentistry's OHTH (Oral Health, Total Health) chapter, joining a national network to offer an annual Sharing Smiles Day, a fun-filled, informative event where the attitudinal barriers between dental students and people with disabilities can be removed and positive relationships fostered. She has also mentored junior dental students in clinical simulation. And, as an ambassador for connecting dental students across Canada to promote dental education and access to care, Chong served as the Western Canada representative on the Federation of Canadian Dentistry Student Associations.

Best is thrilled for Chong: "She is a very pleasant, articulate, conscientious and professional role model and is most deserving of this prestigious award."

Dustin Trudeau has been involved with the Dental Undergraduate Society throughout his years as a dental student: he was Year 1 DMD Class 2019 president (2015–2016), Year 2 DMD Class 2019 president (2016–2017) and Year 3 DUS executive-VP (DMD) (2017–2018). For the 2018–2019 academic year, he will be DUS president.

Trudeau has also been active in Dentistry intramurals, playing soccer, futsal and basketball. In his first year, he also found time to work in Dr. Dieter Brömme's lab for a project studying inhibitors specific to the protease cathepsin K, which degrades bone collagen.

His volunteer record is equally impressive: he volunteered at Dentistry's Admissions Open House for the incoming 2020 class, helping with both the problem-based learning and multiple interview sessions, as well as giving presentations about UBC Dentistry from his student perspective. Trudeau is also a strong advocate for, and participant in, Sharing Smiles Day.

Dr. Best describes Trudeau as "a role model of professional advocacy for students."

## UBC Dentistry Salutes the Presidents\* of the CCDSBC

Several past presidents and the current president-elect gathered onstage at the Chinese Canadian Dental Society of BC (CCDSBC) 30th Anniversary Gala on September 15, 2018.

\*From 1988 through to 2020, the CCDSBC presidents are: Dr. S. Wah Leung (1988–1989), Dr. George Ng (1989–1991), Dr. John Hung (1991–1992), Dr. Susan Chow (1992–1993), Dr. Stephen Yuen (1993–1994), Dr. Lily Lee (1994–1995), Dr. Timothy Tam (1995–1996), Dr. William Sui (1996–1997), Dr. Kin Kong Wan (1997–1998), Dr. Gregory Yu (1998–1999), Dr. Anthony Lee (1999–2000), Dr. Hwee Lim (2000–2001), Dr. Moses Lo (2001–2002), Dr. Theresa Wong (2002–2003), Dr. Christopher Chung (2003–2004), Dr. Allen Yu (2004–2005), Dr. Alec Cheng (2005–2006), Dr. Carter Ng (2006–2007), Drs. Carter Ng and Peter Chan (2007–2008), Dr. Peter Chan (2009–2010), Dr. Jonathan Wu (2010–2012), Drs. Jonathan Wu and Peter Chan (2012–2014), Dr. Cindy Cho (2014–2016), Dr. Jason Choi (2016–2018) and Dr. Ben Kang (2018–2020).



## Highly Regarded Volpe Prize Once Again Goes to a UBC Dentistry Doctoral Student

Larjava, professor in the Department of Oral Biological & Medical Sciences.

The title of Bi's research is "Suppression of  $\alpha\text{v}\beta 6$  Integrin Expression by Bacterial Biofilms Through Epidermal Growth Factor Receptor Signaling in Periodontal Disease."<sup>†</sup> He explains that, in periodontal diseases, bacteria biofilm interrupts the healthy junctional epithelium of the gingiva—the barrier that maintains periodontal health—and transforms it to pocket epithelium, leading to inflammation. Bi notes, "We found one key molecule,  $\alpha\text{v}\beta 6$  integrin, that regulates inflammation and is significantly reduced in epithelial cells of the pockets compared to the junctional epithelium."

Bi aims to understand the mechanism of this process and asks: Could a new approach to treating periodontal diseases be found by interrupting this process? His research found that epidermal growth factor receptor (EGFR) signalling, one of the major regulators of epithelial cell behaviour, is highly involved in suppressing  $\alpha\text{v}\beta 6$  integrin by biofilm. After blocking the EGFR signalling, he succeeded in rescuing  $\alpha\text{v}\beta 6$  integrin from down-regulation by biofilm. Most surprising, he says, is that EGFR inhibitors reduced bone loss and inflammation in the mouse periodontitis model.

Dr. Hannu Larjava explains further: Dr. Bi's research on epithelial  $\alpha\text{v}\beta 6$  integrin in the junctional epithelium of the gingiva has demonstrated that periodontal disease presents as an acquired  $\alpha\text{v}\beta 6$  integrin deficiency.

Mutations in this integrin in humans and mice are linked to advanced periodontal disease. Remarkably, Dr. Bi has found that the EGFR pathway regulates  $\alpha\text{v}\beta 6$  integrin down-regulation by biofilm, and that by blocking that pathway, the integrin levels can be normalized. Translational studies in mice have now demonstrated that blocking the EGFR pathway during experimental periodontitis can reduce inflammation and bone loss.

"These results are exciting and could potentially lead to novel therapies aimed at reducing inflammation and bone loss in patients with periodontal disease," Larjava says. "I would like to congratulate Dr. Bi for winning this prestigious prize that attracts students from all over the Americas—an outstanding achievement for Dr. Bi and the Faculty of Dentistry at UBC."

The Volpe Prize is awarded based on a combination of factors, chief among them the importance and quality of research, how it is presented by the student in an oral presentation, and the student's knowledge of the research topic as judged by a questioning period after the presentation. Bi says it is an honour to have won first place and to receive the Volpe Prize.

<sup>†</sup>Pending publication. For more information about Dr. Jiarui Bi's research, see Bi J, Koivisto L, Pang A, Li M, Jiang G, Aurora S, Wang Z, Owen GR, Dai J, Shen Y, Grenier D, Haapasalo M, Häkkinen L, Larjava H. (2017). Suppression of  $\alpha\text{v}\beta 6$  integrin expression by polymicrobial oral biofilms in gingival epithelial cells. *Scientific Reports*, 7(4411). doi: 10.1038/s41598-017-03619-7.



Dr. Jiarui Bi (R) with Dr. Anthony Volpe.

Graduate student Dr. Jiarui Bi won the prestigious Volpe Prize for the best clinical research in periodontology by students in dentistry. The competition, which is sponsored by Ohio State University and Colgate Oral Pharmaceuticals, is open to periodontics students from dental academic institutions in North and South America. In the history of the award, this is the second time a student from a Canadian university—and from UBC—has won the award.

Dr. Bi's winning presentation was made on April 20, 2018, at the Ohio State University campus in Columbus. Bi, who earned his dental degree at Wuhan University in China, is a PhD candidate in Craniofacial Science at UBC Dentistry. His graduate supervisor is Dr. Hannu



## Congratulations to the Class of 2018!



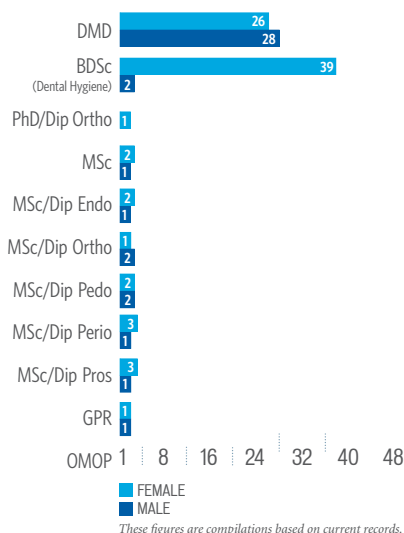
The Bachelor of Dental Science (Dental Hygiene) graduation class of 2018.



The Doctor of Dental Medicine graduation class of 2018.

### Graduates and Residents of 2018

May 31, 2018, marked the 50th class of graduates from UBC Dentistry. This year, 119 people graduated from undergraduate and graduate programs, as well as from postgraduate residency training.



Congratulations to everyone. To find out who the grads and residents are, visit [dentistry.ubc.ca/grads](http://dentistry.ubc.ca/grads)

## Dental Clinician-Scientist Is Newest MSFHR Scholar



Dr. Hugh Kim

Dr. Hugh Kim, assistant professor in the Department of Oral Biological & Medical Sciences, received a Michael Smith Foundation for Health Research (MSFHR) 2018 Scholar award. Kim is one of 17 Scholars selected from a highly competitive pool of applications. He is a principal investigator at the UBC Centre for Blood Research, where he undertakes studies related to the immune system, which is responsible for protection against infectious disease and maintaining human health.

The MSFHR Scholar Program supports early-career health researchers in British Columbia to form their own research teams, train the next generation of scientists and develop leading-edge research programs, thus expanding their potential to make significant contributions to their fields. Other Scholars chosen this year work in areas of youth mental health, optimal vaccine use and cancer metastasis.

Specific to the MSFHR Scholar award, Kim's research, titled "Platelet Signaling in Chronic Inflammation," will examine the role of platelets and their signalling molecules known as cytokines and uncover the mechanisms responsible for maintaining tissue health. An improved understanding of platelet function could have important implications for rational treatment of many inflammatory diseases, including periodontitis (gum disease).

Kim explains that, during the onset of infection, white blood cells and platelets release cytokines, which orchestrate a protective inflammatory response. When cytokine release is deregulated, excessive inflammation causes cell and tissue death and loss of function. This is seen in periodontitis, which is characterized by gum inflammation and the destruction of tooth-supporting connective tissues and bone.

In addition to regulating blood clotting, platelets are emerging as pivotal components of the inflammatory response, Kim adds. He and his team will study how human platelets respond to periodontal infection and determine how platelet function correlates with clinical gum disease status. They will also investigate, at the cellular level, how the platelet's structural framework (known as the cytoskeleton) mediates the release of cytokines.

"I am truly honoured to receive the MSFHR Scholar award, which will allow my team and me to further develop our scientific program and contribute to the advancement of health research in British Columbia," Kim says, adding: "From a more general perspective, our universities' laboratories are essential for generating new knowledge, training future scientists and creating jobs. Accordingly, the MSFHR provides invaluable support for the long-term sustainability of the research enterprise."

# UBC Orthodontics Grad Student Wins Resident Scholar Award at AAO Annual Session

Graduate orthodontics student Dr. Kathleen Martin garnered a second-place win for her poster in the Charley Schultz Resident Scholar Award program. The program is sponsored by Dentsply GAC and was established by the American Association of Orthodontists (AAO). The competition was held during the 2018 AAO Annual Session in Washington, DC, on May 5, 2018.

Martin presented her poster, "Tracing the Cellular Origins of Mesenchymal Derivatives in Craniofacial Development," in the Basic Science Research category. Her research supervisor, Dr. T. Michael Underhill, is a professor in the Department of Cellular & Physiological Sciences in the Faculty of Medicine at UBC.

Many genes have been shown to impact craniofacial development. In her study, Martin and co-authors\* aimed to understand a particular gene by using a new genetic reagent the Underhill Lab developed.

This gene, named Expressed in mesenchymal cells, or *Emc*, is broadly expressed within embryonic mesenchymal tissues during embryonic craniofacial development. The researchers found that cells with the *Emc* gene expression and/or their progeny contribute to various mesenchymal tissues during craniofacial development.

These tissues include facial and masticatory

muscles, tendon, tongue, meninges, nasal cartilage and connective tissue, eyes, salivary gland stroma and teeth, as well as populations of cells located around nerves and vessels. When the gene is knocked out, many craniofacial abnormalities result, including facial clefting and problems in the development of the skull, palate, eyes and ears.

The research improves understanding of the contribution of the gene *Emc* in craniofacial development. Martin and her fellow researchers are hopeful that a multipotent population of cells expressing *Emc* could be applied to the field of regenerative medicine and contribute to therapies such as tissue regeneration.

\*Co-authors: Martin Aróstegui, PhD candidate (Cell and Developmental Biology); R. Wilder Scott, PhD candidate (Cell and Developmental Biology); and T. Michael Underhill, Professor (Department of Cellular & Physiological Sciences and the Biomedical Research Centre, Faculty of Medicine).



Dr. Kathleen Martin (2nd L) on stage at the 2018 AAO Annual Session in Washington, DC, on May 5, 2018.

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Dr. Donald Brunette (R) with IADR immediate past president Prof. Angus William G. Walls.

## Professor Emeritus Wins IADR Distinguished Scientist Award

The International Association for Dental Research (IADR) announced Donald M. Brunette as the 2018 recipient of the IADR Distinguished Scientist Award in Research in Prosthodontics and Implants. Brunette was recognized at the Opening Ceremonies of the 96th General Session of the IADR, held in conjunction with the IADR Pan European Regional (PER) Congress in London, England, on July 25, 2018.

Brunette is a professor emeritus in the Department of Oral Biological & Medical Sciences. He has conducted exceptional research over a broad spectrum of important topics in cell biology, biomaterials, implantology, periodontology and oral malodor. Brunette has published over 100 journal articles, 16 chapters in books and has authored three books.

His early research focused on the effects of physical stimuli, such as substratum surface topography and mechanical stretching, on cell behaviour. This included publishing a paper in the *Journal of Dental Research* that was the first to report on a microfabrication technique to study biological questions. In subsequent in vitro and in vivo experiments, Brunette demonstrated that contact guidance could be exploited to extend the lifetime of implanted devices. He also showed that implants could be designed to differentially affect fibroblasts and the epithelium.

The impact of Brunette's studies on the use of surface topography to impede epithelial downgrowth and enhance bone production around implants is demonstrated by commercial manufacturers adopting his principles in the design of their implants. The concept of altering surface topography of an implant to improve integration is now well recognized and applied by almost all dental implant manufacturers.

Read more about Donald Brunette's research in the *Impressions* article "Building Better Implants—Cell by Cell, Nanometre by Nanometre" online at [bit.ly/2Pq5Jy2](http://bit.ly/2Pq5Jy2)

# National Conference Builds on Past UBC Dentistry Research Day



The Honourable Mary Jane McCallum (bottom row, 5th L) is surrounded by presenters, many of whom are UBC Dentistry-affiliated. Top row, from 4th L to R: Drs. Abbas Jessani, Kavita Mathu-Muju, Chris Hacker, Mario Brondani and James Taylor. Middle row, 2nd L: Abiola Adeniyi. Bottom row, 3rd L: Heather Biggar.

The annual general meeting of the Canadian Association of Public Health Dentistry (CAPHD) took place from September 21 to 22 in Vancouver, hosted at UBC Robson Square and supported by UBC Dentistry. The conference theme, “Universalism and Oral Health Care: Local Solutions to a Global Problem,” grew out of UBC Dentistry’s 2018 Research Day focus, “Oral Health Disparities: A 360° Review.”

CAPHD president and conference committee chair Dr. Mario Brondani, an associate professor in the Department of Oral Health Sciences and director of the Dental Public Health Graduate Program, elaborates: “The annual meeting placed the discussion about universal access at front and centre, as we brought in renowned speakers on Indigenous health and health equity. It was also an opportunity for me to reflect on my 2016–2017 sabbatical year during which I visited academic institutions in countries with different oral health care systems, and to expand on what we learned about oral health disparities from Research Day 2018—what was essentially a local and provincial context for our many community dental clinics, was now applied to national and international settings.”

Several UBC Dentistry-affiliated people were among the many presenters for scientific sessions, posters and workshops: doctoral student Abiola Adeniyi, Heather Biggar (BDS 2006, MSc 2009), associate professor Mario Brondani (PhD 2008, MPH 2012), Chris Hacker (DMD 1981), doctoral student Abbas

Jessani, associate professor Kavita Mathu-Muju, Canada’s Chief Dental Officer James Taylor (DMD 1984) and Bruce Wallace (PhD 2012).

The Honourable Mary Jane McCallum, senator from Manitoba, was one of the speakers at the conference. Dr. McCallum is a First Nations woman of Cree heritage, with a long and distinguished career in dentistry. By sharing her personal experience as a residential school survivor, she helped raise awareness and understanding of the history that has contributed to the oral health inequities experienced by Canada’s Indigenous people.

The other conference committee members included Dr. Kavita Mathu-Muju, also an associate professor in the Department of Oral Health Sciences; Dr. Leeann Donnelly, assistant professor in the Department of Oral Biological & Medical Sciences; Dr. Carlos Quiñonez from the University of Toronto; and Dr. Rafael Figueiredo, the provincial dental public health officer with Alberta Health Services.

## Faculty of Dentistry External Awards and Recognition in 2017 - 2018

RECIPIENT	AWARD/RECOGNITION
Dr. Donald M. Brunette, Professor Emeritus	Distinguished Scientist Award in Research in Prosthodontics and Implants, International Association for Dental Research
Dr. Hugh Kim, Assistant Professor	MSFHR Scholar, Michael Smith Foundation for Health Research
Dr. Christopher Overall, Professor; Canada Research Chair in Protease Proteomics and Systems Biology	Inducted into the Royal Society of Canada as a Fellow
Dr. Kirstin Brink, Postdoctoral Research Fellow	Banting Postdoctoral Fellowship, Canadian Institutes of Health Research
Dr. Yoan Javier Machado Hernandez, Postdoctoral Research Fellow	Postdoctoral Fellow, Michael Smith Foundation for Health Research
Dr. Jiarui Bi, PhD candidate	Volpe Prize, Ohio State University and Colgate Oral Pharmaceuticals, Inc.
Iris Lin, MSc candidate	Frederick Banting and Charles Best Canada Graduate Scholarship, Canadian Institutes of Health Research
Dr. Kathleen Martin, MSc/Dip Ortho 2018	Second Place, Charley Schultz Resident Scholar Award, American Association of Orthodontists
Dr. Kerri-Lyn Chong, DMD 2018	Edward J.C. Hossie Leadership Award, University of British Columbia
Alexander Man, DMD 2020 candidate	Undergraduate Summer Studentship Award, Canadian Institutes of Health Research

Keep up-to-date on all awards and achievements—including the annual Dean’s Night, graduation and teaching awards—at [dentistry.ubc.ca/awards](http://dentistry.ubc.ca/awards)





Dr. Kirstin Brink

## Postdoc in Richman Lab Wins Banting Postdoctoral Fellowship

Dr. Kirstin Brink, a postdoctoral research fellow in Dr. Joy Richman's lab, is one of nine postdoctoral fellows from UBC who received a Banting Postdoctoral Fellowship this past July out of 70 awarded nationally for 2017–2018. The prestigious fellowships provide each researcher with two years of funding for research that will positively contribute to Canada's economic, social and research-based growth.

Brink, who also holds a UBC Killam Postdoctoral Research Fellowship and a fellowship from the Michael Smith Foundation for Health Research, is a paleontologist from Alberta. She is researching the evolution and development of dentitions in modern and extinct animals; more specifically, the development of complex tooth shapes in reptiles as a model for the evolution of heterodonty (different kinds of teeth) in mammals.

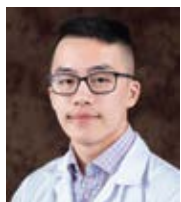
She is pursuing a postdoctoral fellowship at UBC because of the unique learning environment provided by her supervisor, Dr. Joy Richman, in the Faculty of Dentistry. Richman's lab is one of the only labs in the world to study tooth development in reptiles, and Brink wanted to learn new molecular and

developmental biology techniques.

"Dentitions have been evolving for over 400 million years and fossilize very well," Brink explains. "They are often the only glimpses we have into the diversity and ecology of extinct organisms, since tooth shape is highly correlated with diet and ecological niche." She points out that animals occupying different roles in food webs show differences in tooth shape, tooth number, tooth attachment style and tooth replacement patterning, the mechanisms of which are still not fully understood.



Dr. Kirstin Brink photographs the teeth of a *Tyrannosaurus rex* at the Field Museum in Chicago.



Alexander Man

## DMD Student Wins CIHR Award for Scar Formation Research

Alexander Man, a third-year dental student, won an Undergraduate Summer Studentship Award from the Canadian Institutes of Health Research for his project titled "Regulatory Role of CD26 in Profibrotic TGF-beta Signaling in Human Skin Fibroblasts."

Man undertook his project in the summer of 2018 under the supervision of Dr. Lari Häkkinen, professor in the Department of Oral Biological & Medical Sciences.

The study is a subproject of a larger research theme in the laboratory to understand the mechanisms that regulate scar formation in skin. The project aims to uncover how CD26, a cell surface molecule highly expressed in skin fibroblasts, may drive scar formation in skin.



## Dentistry Dean Lauds Significant Bequest to UBC

The UBC Faculty Women's Club just celebrated its 100th anniversary. The club's long legacy includes the oldest scholarship endowment on campus created for women; namely, the Faculty Women's Club Anne Wesbrook Scholarship.

Recently, UBC received a significant bequest to this endowed scholarship, which means more students will benefit—including dental students.

The scholarship was established in 1919 to honour Anne Wesbrook, wife of the first president of UBC, and a founding member and honorary president of the Faculty Women's Club until her death in 1957. It is awarded to:

- a woman student who has obtained a baccalaureate degree from UBC and is continuing her studies at a graduate level or in the faculties of Medicine, Dentistry or Law at UBC or any other approved university
- a woman who, after her third year of university studies, is proceeding directly to a degree in Medicine, Dentistry or Law at UBC or any other approved university

The adjudication process is managed by the UBC Enrolment Services team.

Dr. Mary MacDougall, dean of the Faculty of Dentistry, extends her gratitude to the members of the UBC Faculty Women's Club for their generosity in support of education while celebrating women choosing the profession of dentistry. "Our female students continue to explore opportunities within the oral health care profession, including community-based practice and dental academics as educators, clinicians and researchers," she says. In the 120 years since Dr. Emma Gaudreau Casgrain became the first woman licensed as a dentist in Canada, women continue to be a growing force in dentistry and the dental industry, she adds. "The Anne Wesbrook Scholarship provides an important legacy for female dental students who choose to embark upon an incredible educational experience related to dentistry."

Nine dental students have been awarded scholarships from the Faculty Women's Club over the years: Carol L. Thorpe DMD 1981, Cecilia Ng DMD 1982, Sophia Lyla Ali DMD 1998, Yasamin Karimian Shirazi DMD 2002, Angela Chai DMD 2009, Viktoria Inge Kirsten DMD 2014, Ekaterina Sapchuk DMD 2017 and Leigh Ly Tan DMD 2017.

## Promotions: Clinical Faculty



Jodi Ekk, RDH, PID,  
BHS (candidate)

Jodi Ekk has been promoted to the rank of clinical assistant professor in the Department of Oral Biological & Medical Sciences.



Ingrid Emanuels, BSc, DMD,  
SoTLHE (Fac Cert), FACD

Dr. Ingrid Emanuels has been promoted to the rank of clinical professor in the Department of Oral Health Sciences.



Karuna Karunakaran, PhD

Dr. Karuna Karunakaran, a part-time faculty member, has been promoted to the rank of clinical assistant professor.

## Appointment: New Full-Time Faculty



Flavia S. Lakschevitz,  
DDS, PhD, MSc (Perio)

### New director of graduate periodontics program

Dr. Flavia Lakschevitz has joined the Department of Oral Biological & Medical Sciences as an assistant professor and director of the graduate program in Periodontics.

She earned her Doctor of Dental Surgery degree in 1995 from Fluminense Federal University, Rio de Janeiro, Brazil, where she also earned a Master of Science (Oral and Maxillofacial Pathology) degree in 2002. She then relocated to Canada and completed a

Doctor of Philosophy degree at the University of Toronto (U of T) in 2013, with the project "Gene Expression Profile Changes in Neutrophils—From Sterile Compartments into Sites of Inflammation." In 2016 she completed specialty training at U of T, earning a Master of Science and Certificate in Periodontics; in the same year, Lakschevitz joined the University of Texas Dental Branch in Houston as a full-time faculty member in the Department of Periodontics and Dental Hygiene.

Her research focuses on the role of neutrophil subtypes associated with neutrophil-mediated autoimmune and inflammatory diseases. Neutrophils are more sophisticated cells than originally was thought, and Lakschevitz believes that understanding neutrophil changes during chronic diseases, such as periodontal disease, will provide new insight into how neutrophils contribute to disease development. This will allow for development of diagnostic tools to identify patients at risk for neutrophil-mediated tissue destruction.

Lakschevitz has published several peer-reviewed articles, as well as book chapters, in the field of periodontics and neutrophil biology. She has been awarded multiple research grants, including a Canadian Institutes of Health Research (CIHR) Training Program in Health Applications of Cell Signalling in Mucosal Inflammation & Pain, and a U of T Harroon Scholarship.

Her main clinical interests are the links between periodontal disease and systemic conditions, as well as soft and hard tissue regeneration. Other clinical interests include periodontal therapy (surgical and non-surgical), implants and site development procedures.

Lakschevitz is an active member of the American Academy of Periodontology, American Dental Education Association and both the International and American Associations for Dental Research (IADR/AADR), recently serving as secretary for the AADR Houston Section.

## Assignments: Full-Time Faculty



Catherine Poh, DDS, PhD,  
FRCD(C)

Dr. Catherine Poh has been appointed acting program director for the Oral Medicine and Oral Pathology (OMOP) residency program. She is a professor in the Department of Oral Biological & Medical Sciences, and a clinician scientist at the BC Cancer Agency Research Centre.



Eli Whitney, DDS, FRCD(C)

Dr. Eli Whitney has been appointed acting DMD curriculum director. He is a senior instructor in the Department of Oral Biological & Medical Sciences.



Clive Roberts, BA, MA, PhD

Dr. Clive Roberts has been appointed acting director of Graduate Studies. He is an associate professor in the Department of Oral Biological & Medical Sciences. A graduate advisor at UBC Dentistry since 2010, Roberts has supervised more than 20 graduate students (MSc, PhD) or postdoctoral fellows in Experimental Medicine/Dentistry.

## Retirement: Full-time Faculty



Ravindra Shah, BDS, MS, PhD;  
Associate Professor, Department of  
Oral Biological & Medical Sciences;  
International Relations Director

Dr. Ravindra Shah was born and raised in India. After earning a Bachelor of Dental Surgery degree from the University of Bombay, he immigrated to North America and continued his studies at the State University of New York at Buffalo, where he earned a Master of Science, and then at Queen's University in Kingston, Ontario, where he earned a Doctor of Philosophy.

Dr. Shah joined the UBC Faculty of Dentistry in 1974. He has been a member of the Faculty of Dentistry for 44 years, one of the longest appointments at UBC in any faculty, and has worked under every Dentistry dean to date. During this period, he has been active in research, teaching and service at faculty, university, national and international levels. Many UBC Dentistry alumni have fond memories of Dr. Shah as teacher, mentor, advisor, and perhaps more importantly, friend and colleague.

Dr. Shah has 162 publications (including abstracts), has held memberships in several national and international societies, has served on national and international scientific committees (Medical Research Council of Canada, Canadian Council of Animal Care, Canadian Association for Dental Research, International Association for Dental Research, National Institutes of Health, to name few), and has delivered numerous invited presentations across the globe. For several years, he was editor of the Association for Canadian Faculties of Dentistry publication, *FORUM*.

At UBC, Dr. Shah's teaching areas included oral histology, oral embryology, pathology (general, systemic and oral), teratology, cell and developmental molecular biology, signal transduction, and gene expression. He has chaired over 100 doctoral, as well as numerous MSc, examinations. In the Faculty of Dentistry, he was the architect of the UBC Summer Program, the summer student research program and the research poster competition.

Dr. Shaw has done outstanding work developing international exchanges between students and faculty of UBC and other universities. In the last seven years, the program has evolved to include nearly 200 people who participate in the exchanges each

year, and over the years, nearly 72 countries have been involved. These international exchanges have become a significant focus for the University of British Columbia, and Dr. Shah has strived to ensure that the Faculty of Dentistry is at the forefront of this university-wide initiative. He has been instrumental in defining internationalism at UBC and has made a significant contribution toward increasing the global visibility and recognition of both UBC and the Faculty of Dentistry.

Dr. Shah received an honorary doctorate from Chung Shan Medical University, Taichung, Taiwan, in 2011 (view a video of his confirmation at [bit.ly/2Eb0KzK](http://bit.ly/2Eb0KzK)); the Hind Rattan (Jewel of India) award, one of India's most prestigious national honours, for outstanding services, achievements and contributions in his field (2013); and the Mahatma Gandhi Pravasi Samman award for recognition of his achievements in international work during his long career (2013).

For a historical look at Dr. Ravi Shah and International Relations at UBC Dentistry, read the article "Global Education: A Qualitative Rather Than Quantitative Approach," from the spring 2012 issue of *Impressions* magazine, online at [bit.ly/2O4DbwV](http://bit.ly/2O4DbwV)

## Promotion: Full-Time Faculty



Kavita Mathu-Muju, DMD, MPH, FRCD(C)

Dr. Kavita Mathu-Muju has been promoted to the rank of associate professor with tenure in the Department of Oral Health Sciences.

## Assignments: Part-Time Faculty and Alumni



Raymon Grewal, DDS, FRCD(C)

Dr. Raymon Grewal has been elected president of the British Columbia Dental Association. He is a clinical assistant professor in the Department of Oral Biological & Medical Sciences.



Chris Hacker, DMD 1981

Dr. Chris Hacker has been appointed acting registrar of the College of Dental Surgeons of British Columbia. Over the years, he has helped UBC Dentistry run the Dr. Richard V. Tucker Third-Year Cast Gold Course.



## BOLD Training for NATO and ABCA

Earlier this summer, for the ninth year, 16 trainees from the North Atlantic Treaty Organization (NATO) and the American, British, Canadian, Australian and New Zealand Armies' Program (ABCA) spent five days at the UBC Faculty of Dentistry. They were learning the latest techniques in forensic odontology and disaster victim identification through the Bureau of Legal Dentistry (BOLD).

Training in disaster victim identification through the BOLD lab is a touchstone standard for the Canadian Forces (CF) and also meets the standardization agreements for both the NATO and ABCA response teams.

Participants this year included military personnel from Canada, Australia, Belgium, Netherlands, New Zealand, United Kingdom and United States. Visiting faculty teaching on the course included military officers from Canada, Germany, New Zealand and Netherlands.

Eight members of the Canadian Forces attended this year. Capt. Kathryn Best, a UBC Dentistry graduate from the DMD class of 2013, was a CF participant. See her in the photo in "Class Notes and Events" in this issue of *Impressions* on page 40.

➤ Read more about disaster victim identification training through the BOLD lab in *Impressions* articles "A BOLD Effort to Bring Closure to Disaster" and "Canadian Forces Partners With BOLD" online at [bit.ly/2L0oVzD](http://bit.ly/2L0oVzD)



## Retirement: Full-Time Faculty



Virginia Medwid Diewert, DDS,  
MSc, Cert Orthodont; Professor,  
Department of Oral Health Sciences

Dr. Virginia Medwid Diewert is retiring from teaching and administrative duties after many years of commendable performance and service.

### Connecting the Dots: Tracing the Remarkable Career of Dr. Virginia M. Diewert, Clinician Scientist

What makes a great academic? Someone who is a trailblazer and influencer beyond their immediate community. Dr. Virginia Medwid Diewert is just such a person. When there were almost no role models around, Dr. Diewert navigated the tough, male-dominated environments of dental school at the University of Alberta, orthodontics at Northwestern University in Chicago, and in her field of craniofacial research at UBC in the Faculty of Dentistry.

When Dr. Diewert was first hired at UBC in 1971, she encountered her first big challenge: there was no such thing as protected time for research. She was brimming with ideas for research projects and wrote her first successful application for a salary award from the Medical Research Council of Canada (a forerunner to the Canadian Institutes of Health Research). This prestigious scholarship—probably the first given to an orthodontist—gave her five years to develop her groundbreaking research on cleft lip and palate.

Simultaneously with establishing her lab, Diewert encountered her second big obstacle: the concept of maternity leave did not exist at the university. She was undeterred and raised two talented children with her supportive husband, Erwin Diewert (professor in Economics). The context is important here.

While teaching and practising orthodontics might be enough for some people, Dr. Diewert was also able to fund her research lab continuously for 30 years. This achievement is even more impressive when you consider that grants had to be renewed every year in the 1970s and 1980s.

What set Diewert apart was her ability to think in 4D (3D development over time). She was a pioneer in computer-based 3D reconstruction and morphometric analysis, developed with her trainee Scott Lozanoff, back in the 1980s when computing power was miniscule. She elucidated the differences in key evolutionarily conserved features between mice and humans. Diewert and Lozanoff published the very first 3D morphometrics paper on embryonic facial growth in human embryos and in cleft and non-cleft mouse embryos. They also created user-friendly software for 3D reconstructions, for use on desktop computers.

Dr. Diewert's legacy has inspired many subsequent investigators to make craniofacial morphometrics part of their analyses, including her UBC colleagues Drs. Joy Richman and Sid Vora. Diewert has garnered respect from scientists around the world, and her images have been reproduced internationally.

At UBC, she taught more than 40 classes of dentistry students who can credit their knowledge of growth and development to Diewert. She has directly influenced medical and dental teaching around the world. Throughout her career, Dr. Diewert has been an avid recruiter and supporter of new faculty and students, especially during her 13 years as department head of Oral Health Sciences.

This retirement is not the end, by any means. Diewert is very inspired by new developments in micro-CT imaging, something that was barely possible a decade ago. As she moves into an emeritus position at UBC, she will continue to publish her unique insights into human embryonic and fetal growth, with her colleagues at UBC and beyond.

## Online Stories Worth Clicking

### Antibiotic and Opioid Analgesic Prescribing Decisions of BC Dentists

A study,\* authored by UBC Dentistry faculty and published in the *Journal of the Canadian Dental Association*, aimed to assess the prescribing decisions of general dentists in Vancouver and endodontists in British Columbia regarding analgesics and antibiotics for patients with endodontic disease. Additionally, the study aimed to determine whether gender, clinical experience or practice location have an impact on such decisions.



Read study results in *CDA Essentials* at [bit.ly/2GsygNC](http://bit.ly/2GsygNC), while the full study may be read at [jcda.ca/h8](http://jcda.ca/h8)

\*Buttar R, Aleksejūnienė J, Shen Y, Coil J. (2017). Antibiotic and opioid analgesic prescribing patterns of dentists in Vancouver and endodontic specialists in British Columbia. *Journal of the Canadian Dental Association*, 83:h8.

### Competency-Based Learning: ACFD Educational Framework for the Development of Competencies in Dental Programs

The Canadian Dental Association's Oasis Discussions interviewed Dr. Anne Charbonneau, from the Université de Montréal, and Dr. Leandra Best, senior associate dean at UBC Dentistry, about the Association of Canadian Faculties of Dentistry's revised document "ACFD Educational Framework for the Development of Competencies in Dental Programs." Charbonneau greatly contributed to the development of the competencies, and Best actively participated in implementing this new educational framework in the Faculty of Dentistry at UBC.



Watch the video at [bit.ly/2GszZm4](http://bit.ly/2GszZm4) (where there is also a link to the revised ACFD competencies document) to learn about Drs. Charbonneau and Best's experiences.

### Expensive Dental Problems Are Holding Back People in Addiction Recovery

In an interview with *The Star Vancouver* about untreated dental problems among drug users, Dr. Leeann Donnelly, assistant professor in the Department of Oral Biological & Medical Sciences, discusses her research findings. The article includes an in-depth personal narrative from Amber-Anne Christie, a former addict who has been incarcerated, as well findings from other UBC researchers.



Read *The Star Vancouver* article at [bit.ly/2KlvgoO](http://bit.ly/2KlvgoO)

### MEDtalks—Emergency: Drug Use and Addiction in the 21st Century

In April 2016, BC declared a public health emergency in response to the rapid rise of fatal and non-fatal drug overdoses in the province. Since then, the problem has only worsened, with the number of overdose deaths in 2017 exceeding 2016's totals by a significant margin. What are the factors contributing to this crisis, and what are the consequences of this increase in drug use and addiction? How can we support individuals at higher risk, and can changes to policy mitigate overdose risk?

On April 19, 2018, at Robson Square in Vancouver, four top UBC researchers and clinicians from the UBC faculties of Medicine, Dentistry, Arts and Pharmaceutical Sciences presented their research in a series of short MEDtalks. Dr. Leeann Donnelly, assistant professor in the Faculty of Dentistry, presented on "Mental Health, Addiction and Oral Health."



Listen to the MEDtalks podcast at [bit.ly/2lvfQOE](http://bit.ly/2lvfQOE). View photos from the event at [bit.ly/2IPFvj6](http://bit.ly/2IPFvj6)



Dr. Yoan Javier Machado Hernandez

## Postdoc in Overall Lab Among New MSFHR Research Trainee Recipients

The Michael Smith Foundation for Health Research (MSFHR) announced 33 new postdoctoral fellows funded as a result of its 2018 Research Trainee competition. Yoan Javier Machado Hernandez, a postdoctoral research fellow in the Overall Lab, Department of Oral Biological & Medical Sciences, was among the recipients province-wide who will receive salary support as they establish their careers and train alongside more senior members of BC's health research community.

Machado Hernandez was awarded his fellowship under the biomedical research pillar (the others being clinical, health services and population health). His project is titled "Identification of Proteolytic Signatures Elicited by Allergen-Derived Proteases and Their Role in Allergic Sensitization." This research will use degradomics to identify key biochemical pathways responsible for protease-induced allergic responses. Understanding the molecular basis of allergic sensitization will lead to new avenues for treating allergies, which affect nearly 40 percent of the world's population.

For more information about the MSFHR Research Trainee Program, visit [bit.ly/2LidgMf](http://bit.ly/2LidgMf)





Dr. Lari Häkkinen



# *‘Magical’ Properties of Gingival Fibroblasts:* HOPE FOR HEALING SKIN WOUNDS AND REDUCING SCARS

BY MARK WITTEN

Dr. Lari Häkkinen first became interested in fibroblasts as a dental student doing research at the University of Turku in Finland in the mid-1980s. Fibroblasts are the most common connective tissue cells in the body and important for wound healing. Häkkinen was curious about how these connective cells behaved and noticed that fibroblast cells from a given tissue or from various body sites—such as the gums and skin—look different from each other in tissue culture.

“Researchers weren’t paying attention to that in those days. We had no clue about why some fibroblasts looked different, or if there were differences in how they behaved. But I’ve been fascinated by these differences ever since,” says Häkkinen, a professor in the Department of Oral Biological & Medical Sciences, and a leading researcher in the cell and molecular biology of wound healing.

He made another intriguing observation after graduating from dental school and working one day a week treating patients, while doing his PhD in Finland. “My colleagues and I noticed that when we did surgery on patients’ gums, the wounds seemed to heal very fast and without scarring. I wondered, is this really happening and why?”

Only a dentist would be sufficiently curious

to delve deeply into these questions and make the eureka connection between the two seemingly unrelated observations. The answers he found are pivotal to his current groundbreaking experiments to harness the magical healing properties of gingival fibroblasts to repair severe wounds for burn victims and surgical patients without scarring.

Häkkinen discovered, through years of painstaking research, that fibroblast cells in gum tissue not only look different than skin fibroblasts, but they also act differently. Gingival fibroblasts have some distinctive properties that may promote fast and scarless healing in the oral cavity. These special protective properties help to explain why the gums of dental patients heal so well after surgery.

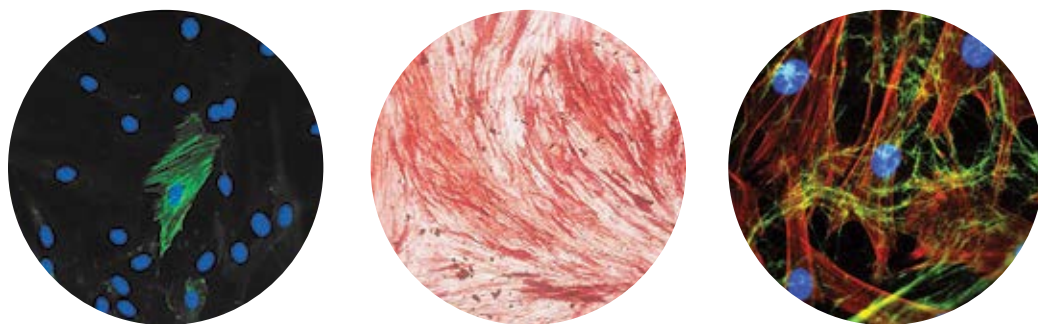
More than 100-million people in the developed world alone acquire scars from burns or injuries annually. While advances in acute care have increased survival for burn victims, this has resulted in more patients with severe scarring and about 70 percent of burn patients develop raised, thick red scars on their skin, known as hypertrophic scars. Many surgical procedures can also lead to scarring. In North America, treatment of scarring costs up to \$20 billion a year. Despite

advances in wound care and progress in research to understand factors that may reduce scar formation, no effective therapy to prevent scar formation exists today.

Häkkinen has devised an oral-based cell therapy that exploits the unique, potentially regenerative properties of gingival fibroblasts to improve skin wound healing. With approximately \$850,000 in funding over five years from the Canadian Institutes of Health Research (CIHR), Häkkinen has developed and is testing bioengineered skin substitutes. These skin substitutes, which contain millions of gingival fibroblast cells, are being used to treat deep skin wounds in preclinical models relevant to humans. As principal investigator for the project, he is collaborating with co-investigator Dr. Hannu Larjava, also a professor in the Department of Oral Biology & Medical Sciences, to determine whether this novel therapy effectively promotes more rapid and scarless wound healing.

“Do the gingival fibroblasts prevent scar formation in skin wounds? If we can show that they do, this could potentially benefit many adults and children all over the world who develop scars from burns, injuries and surgery each year,” Häkkinen says.

PHOTO BY PAUL JOSEPH



His road to developing and designing a promising new therapy for a global health problem that's been so resistant to effective treatment is long, winding and multidisciplinary. As a PhD student in Hannu Larjava's lab at the University of Turku, Häkkinen investigated cells involved in inflammation and wound healing, and then did a year of specialized training in molecular biology. In 1996, he chose to do a postdoctoral fellowship in Canada with his mentor, who had been appointed chair of the Division of Periodontics and director of Graduate Periodontics at UBC Dentistry in 1993. "I visited Vancouver and really liked it. There was exciting work going on, and I had a chance to apply molecular biology techniques to do research at a more advanced level at UBC."

As a postdoctoral researcher, he used these specialized techniques to investigate the role of a specific integrin (molecule involved in cell adhesion), called alpha v beta 6 ( $\alpha v \beta 6$ ), in inflammation and aberrant wound healing. "We developed a preclinical model that overexpressed this particular molecule in epithelial skin cells, which produced severe scarring," explains Häkkinen, who joined the Faculty of Dentistry in 1999. He has collaborated with Larjava on a wide range of projects for over two decades, including ongoing research on integrins. "It's been a great collaboration for both of us. We complement each other in a good way. We have different skill sets, but the same knowledge and way of thinking."

Häkkinen learned a great deal about why deep skin wounds heal slowly and often lead

to severe scarring. To find a novel and better way to heal them, he has pieced together, over the past decade, the puzzle of why wounds in the oral cavity—especially gingival tissues—heal faster and with less scarring than skin wounds.

His first step was to systematically compare clinical, histological and molecular healing of oral and skin wounds in preclinical models and human subjects. "The key finding in whole tissues was that wounds heal faster and with reduced scarring in the oral mucosa than in skin," he explains. "Another striking difference was a rapid but short-lived inflammatory response in oral wounds compared with a longer-lasting inflammatory reaction in skin wounds. In the oral cavity, inflammation is more controlled and there's much less expression of molecules associated with scarring."

The next step was to home in on potential differences at the cellular level. "Fibroblasts are a key cell type, so we compared the different properties of gingival and skin fibroblasts," he says.

Häkkinen's experiments showed gingival fibroblasts have many distinctive properties that contribute to better healing and less scarring. They suppress immune responses more potently than skin fibroblasts do, and they display higher levels of molecules that are involved in controlling inflammation. Gingival fibroblasts express a greater abundance of cytokines (immune signalling proteins) that promote restoration of epithelial layers over the wound. They

stimulate angiogenesis, which is new-blood-vessel formation essential for wound repair. Gingival fibroblasts also produce less collagen, a hallmark of scarring.

"Many of the same kinds of features we saw in preclinical models of oral wound healing were replicated in gingival fibroblasts. This suggested to us that the wound healing outcomes in skin and the oral cavity may be determined in part by the distinct phenotypes [observable properties] of fibroblasts in gum and skin tissues."

Why are there such profound differences between oral and skin wound healing, and oral and skin fibroblasts?

Häkkinen believes these differences likely have an evolutionary purpose. "Our teeth have developed for grinding food of varying consistencies rather than for just swallowing large pieces of prey. Scarring in the oral cavity would have been detrimental to food intake by ancient humans. Scarring of the skin, on the other hand, may be the price we pay for powerful inflammatory reactions against bacterial insults," he and Larjava wrote in the article "Exploring Scarless Healing of Oral Soft Tissues," published in the *Journal of the Canadian Dental Association* in 2011.

Another intriguing clue on the path to solving the puzzle of scarless healing arose from observations about the major differences in fetal and adult skin healing. In humans and other mammals, fetal skin heals without scars until the late third trimester of gestation. Healing in embryonic skin also promotes the expression of specific molecules, such as

*“Another striking difference was a rapid but short-lived inflammatory response in oral wounds compared with a longer-lasting inflammatory reaction in skin wounds. In the oral cavity, inflammation is more controlled and there’s much less expression of molecules associated with scarring.”*

tenascin-C, that are associated with scarless healing, and as in oral wound healing, there’s less inflammation associated with healing embryonic wounds. “Gingival cells seem to have the same kinds of properties as fetal skin cells, which are prone to non-scarring. This is another promising sign that maybe we can harness those properties to heal skin wounds better,” says Häkkinen.

One more key difference between gingival and skin fibroblasts lies in their different embryonic origins—a feature that could prove vital to the success of gingival cell transplants. Häkkinen collaborated with a research group from Paris, led by Dr. Benjamin Fournier of Paris Diderot University, to show that most gingival fibroblast cells in adults are derived from the neural crest (early embryonic cells that give rise to the face, neck and oral cavity), whereas skin fibroblasts originate from the mesoderm (the middle of three germ layers of the embryo).

“Studies from various labs have shown that, in adult tissues, cells originating from the neural crest during embryonic development may have different properties than cells that originated from other parts of the embryo. These properties include a wider regeneration potential in the neural crest-derived cells, which implies they may promote wound healing better than other cells,” he explains.

For Häkkinen, all these converging lines of evidence pointed to a single, inescapable conclusion and question: “Since the properties of gingival fibroblasts have this promising regenerative potential, can we help skin

wounds heal better by transplanting gingival fibroblasts into skin wounds?”

To explore this potential, he and his team created a bioengineered skin substitute containing millions of gingival fibroblast cells, which can be grafted onto a preclinical skin wound healing model. The skin substitute is composed of a resorbable Vicryl mesh (a suture material used by surgeons to stitch open wounds), which supports the growth of millions of fibroblast cells in culture and is used to transport and maintain the cells at the wound site. “The cells are transplanted into the wound site, and the suture material is completely dissolved within 60 days,” he says.

Experiments are now underway to test whether transplanted gingival fibroblasts promote scarless wound regeneration in deep partial- and full-thickness skin wounds in preclinical models. It’s the first study in the world to test the use of gingival fibroblasts to promote skin wound healing. “Our preliminary data suggest that skin substitutes containing gingival fibroblasts are well tolerated and may promote skin wound repair and connective tissue regeneration better than skin fibroblasts,” he says. “It looks promising that these fibroblast cells could have a positive effect on wound healing.”

Other researchers have done a few small studies of gingival fibroblasts for different applications, with encouraging results as well. “When compared to skin fibroblasts and nasal fibroblasts in a tracheal (windpipe) regeneration model, only gingival fibroblasts induced normal regeneration of tracheal epithelium. Gingival fibroblasts were also

tested in experimental therapy for a carotid artery aneurysm, and their grafting into the artery walls caused a reduction in lesions, while lesions treated with skin fibroblasts continued to grow,” explains Häkkinen.

If his current experiments prove to be successful in promoting faster skin wound healing with less scarring in preclinical and then in clinical trials, gingival fibroblasts offer some important practical advantages for treating the tens of millions of people who acquire scars from burns, surgery, accidents or attacks each year: “Adult gum tissues provide an easily accessible source for isolating gingival fibroblasts. Gingival biopsies are simple, minimally invasive procedures that are routine in dental practice.”

Häkkinen is collaborating with Dr. Anthony Papp, medical director for the BC Professional Firefighters’ Burn Unit at Vancouver General Hospital, and a clinical professor in the UBC Faculty of Medicine, on the preclinical studies of gingival fibroblast treatment and strategies to clinically apply and tailor the therapy for different groups of skin wound patients. “Dr. Papp has been important in helping to plan and perform the preclinical experiments in a way that is relevant to patients. His expertise has been valuable for us to understand the special challenges that exist in treatment of severe wounds today and how to improve those treatments in the future,” Häkkinen says.

For patients who suffer deep wounds, including severe burns, the gold standard for treatment is an autologous skin graft (using tissue or cells from the patient’s own body) from undamaged



## The Chain of Mentorship: Cultivating Periodontal Research and Researchers

As an undergrad at dental school in Finland, Dr. Lari Häkkinen had an opportunity to get involved in research as a summer student. That early exposure and hands-on experience doing basic experiments in cell biology ignited his interest in research. It was also the springboard to a long and highly productive career as a research scientist in the fields of wound healing and chronic inflammation in the Laboratory of Periodontal Biology at UBC Dentistry.

"I had a chance to do research as an undergrad and be given excellent mentorship. That got me excited," says Häkkinen, who has supervised dozens of students doing research at the undergrad, graduate and postdoctoral levels since joining the faculty in 1999.

He draws on his own experience as an undergrad to give UBC Dentistry students meaningful exposure and early opportunities to do research. "I try to engage and motivate students at the undergraduate level and give them a feel for what research is like in the lab. That encouragement and mentoring was a driving force for me," he says.

His enthusiasm for research is contagious and helps students flourish.

Students Häkkinen has supervised, or co-supervised, have earned about 40 awards for their research. He was the graduate supervisor for Dr. Rana Tarzemyani, for example, who won several awards, including the prestigious Volpe Prize in 2015 for the best clinical research in periodontology by a dental student in North America. It was the first time a student from a Canadian school had won the award.

Tarzemyani was recognized for her journal article "Expression and Function of Connexin 43 in Human Gingival Wound Healing and Fibroblasts," published in *PLOS ONE*. By using various histological, cellular and molecular biology techniques, she discovered that connexin 43—a molecule that regulates the expression of wound healing-associated genes in gingival and skin fibroblasts—was less abundant in human gingival fibroblasts and could provide a future drug target to alleviate tissue scarring in skin wound healing.

This illustrates how Häkkinen guides and gives graduate and postdoctoral students opportunities to excel through collaboration and by making high-quality research contributions of their own. "As a researcher, you need and want graduate and postdoctoral students to help push your research forward and to develop their own research careers. An important challenge for dental schools and the dental profession is that we need to encourage, support and develop the next generation of researchers for the future."

skin. "The skin graft's disadvantages include limited availability of tissue from the donor, the wounds created, including scarring, and potential infections at the donor sites where skin is taken," says Häkkinen, noting that skin substitutes that promote scarless wound regeneration could improve healing at both the donor and graft sites.

He's testing skin substitutes containing autologous gingival cells in his current preclinical studies. Autologous cells are more likely to have a long-term healing effect because they won't be rejected by the immune system. (In general, transplanted skin cells from another person may function only for a short time due to immune rejection.) The main and most obvious clinical applications for autologous gingival cells would be in planned procedures, such as resective surgeries (to remove all or parts of diseased tissues and organs) and scar revisions (surgery to minimize scars).

A challenge with unexpected acute injuries, such as burns or wounds from accidents or attacks, is that the autologous cells would be needed within days, but it takes a few weeks to generate the autologous skin substitutes. Through discussions with Papp and Larjava, Häkkinen has developed some ideas to address this issue: "You could isolate the fibroblasts in advance to generate cell banks, or ready-to-use cryopreserved skin substitutes containing live autologous gingival fibroblasts, for those at greatest risk for severe burns, including firefighters and military personnel in combat."

Häkkinen also wants to investigate an alternative therapeutic approach for burn

patients by developing skin substitutes seeded with allogeneic gingival fibroblasts (from donors other than the recipient). This novel solution would take advantage of another special property of gingival fibroblasts: "Like stem cells, gingival fibroblasts are immunosuppressive, and they may be tolerated as allogeneic transplants. This would open wider possibilities for their off-the-shelf use in therapy for many burn or other acute injury patients, whose emergency treatment needs aren't known in advance."

Häkkinen's discovery of a promising scar prevention therapy for skin wounds has been decades in the making. It was sparked by his initial curiosity and fascination with the look and behaviour of fibroblasts in the lab. While doing research for his PhD in Finland, he earned income by treating patients and through part-time clinical teaching at the dental school, where he demonstrated surgeries to students. Those early clinical experiences awakened his interest in the little-known, and until now poorly understood "magical" healing properties of oral gingival tissues.

By bringing a dental lens to the unresolved clinical problem of severe scar formation from skin wounds, Häkkinen has demonstrated how dental researchers can leverage their specialized expertise to address and solve broader medical problems that go well beyond the oral cavity. "If we can show that the regenerative properties of fibroblast cells in gum tissues effectively promote scarless healing of deep skin wounds, millions of patients could benefit each year from therapies that reduce scar formation."

## Research Day 2019: Regenerate

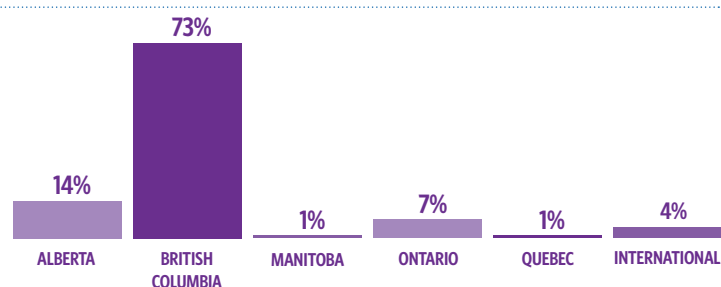
The goal of Research Day is to expose our students, faculty and staff to the wide variety of research being carried out in the UBC Faculty of Dentistry. And this year, through a fresh and more engaging format, we aim to provide more time for the audience to interact with our researchers, including a significant number of student poster presenters.

The theme of Research Day 2019, on January 22, is wound healing and tissue regeneration. In wound repair, the ultimate goal is to **regenerate** tissues to the same form and function that was present before injury. This requires reactivation of specific **genes** in particular cells that are relatively silent in resting tissues. During this activation process, the regulation of inflammation plays a key role in determining the healing **rate** and outcome. Hence the title of the day, **regenerate**, with presentations about soft tissue healing in the oral cavity and skin, regenerative therapies, regulation of inflammation and bone healing.

# Dental Hygiene Grads— CAREER OUTCOMES SURVEY

*Drs. Zul Kanji and Denise Laronde, both researchers in the Department of Oral Biological & Medical Sciences, studied† the practice behaviours and career outcomes of UBC Faculty of Dentistry graduates who earned a Bachelor of Dental Science in Dental Hygiene (BDSc (DH)) degree. Dental hygiene entry-to-practice and degree-completion graduates, from 1994 to 2016, participated in an online survey that utilized both closed- and open-ended questions. Here's a visual look at some of the data:*

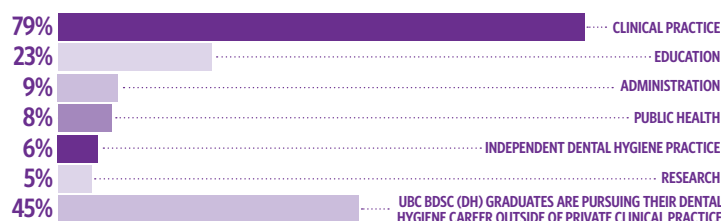
## Practice location



## Working status



## Primary and secondary practice settings\*



\*Total % is greater than 100 since graduates were asked to select two settings if applicable

## Graduate education



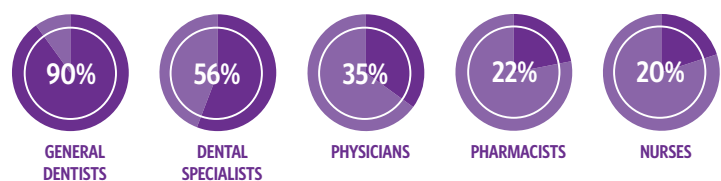
## Career satisfaction

72%

of degree-completion graduates are more satisfied with their career after earning their degree compared to when they were practising with a diploma.

UBC BDSc (DH) graduates' incomes, benefits and interprofessional collaboration behaviours scored higher when compared to the results from the Canadian Dental Hygienists Association's national job market and employment survey.

## Interprofessional collaborations



## For more information:

†Kanji Z, Laronde DM. (2018). Career outcomes of dental hygiene baccalaureate education: A study of graduates' professional opportunities, further education, and job satisfaction. *Journal of Dental Education*, 2(8): 809-18. <https://doi.org/10.21815/JDE.018.075>.

# Dental Hygiene Education at UBC— COMMEMORATING 50 YEARS

*It is hard to believe 50 years has passed since the inaugural dental hygiene class commenced at the University of British Columbia's Faculty of Dentistry. This year, 2018, marks a golden milestone. Come celebrate with us—the Faculty, the university and the province—as we honour the history and aspire for the future of dental hygiene education at UBC. Take a trip through the following timeline to discover how it has unfolded in these first 50 years.*

1968

UBC Faculty of Dentistry launches a two-year dental hygiene diploma program. It is the fifth faculty of dentistry in Canada to do so after the University of Toronto (1950), Dalhousie University (1961), University of Alberta (1961) and University of Manitoba (1963). Unlike the other universities, UBC requires all first-year UBC students to complete one year of university prerequisite courses before admission to individual programs. Twenty students are admitted to the first class of the program, which is accredited by the Commission on Dental Accreditation of Canada (CDAC). Founding faculty members include: Dr. Douglas Yeo, assistant dean and administrator of the program; Margaret Robinson, program director from 1968 to 1970; and Joan Voris, program director from 1971 to 1986. (See sidebar on page 29 for additional faculty in leadership roles.)



1970

The dental hygiene clinic is located on the first floor of the John B. Macdonald Building. This is an isolated location away from the main clinic for dental students, which is above on the main floor. Despite the separation, creative ideas to combine dental hygiene and dental students in classes and the main floor clinic help establish a solid tradition of the two groups learning and practising together.



1970

First dental hygiene diploma class graduates.

1978-  
1982

Recognizing a need for advanced education in dental hygiene to fulfill requirements for dental hygiene educators, public health supervisors and researchers, the Faculty of Dentistry starts discussions to convert UBC's diploma program into a degree program. Two proposals are presented to the Faculty Council, but neither are approved.

1986

UBC's dental hygiene diploma program is discontinued following the university's 1984 change of mission to offer only undergraduate degree programs. Subsequently, several community colleges in British Columbia (Vancouver Community College, 1986; New Caledonia in Prince George, 1989; Camosun in Victoria, 1989; and Vancouver Island University in Nanaimo, 2006) begin dental hygiene diploma programs, maintaining prerequisite transfer courses.







## 1990-1991

BC Dental Hygienists' Association lobbies the UBC Faculty of Dentistry for a degree-completion opportunity for practising dental hygienists with a dental hygiene diploma. This coincides with UBC's push for faculties to expand education program opportunities for women and to increase the number of programs that are offered. The proposed degree-completion program in dental hygiene receives approval of the Faculty Council and UBC Senate. Curriculum is developed collaboratively by Faculty of Dentistry experts in dental sciences and a broad representation of dental hygiene leaders in both Canada and the US.

## 1992

UBC's Bachelor of Dental Science Program (Degree Completion) in dental hygiene starts, with two full-time and three part-time students learning on campus. Enrolment is limited at the request of the dean, to allow time to learn what impact this new program will have on Faculty resources. The founding program director is professor Bonnie Craig (1992-2015). Entrance requirements include one year of university prerequisite courses and a two-year dental hygiene diploma from an accredited program. The curriculum focuses on enhancing academic background, including dental, dental hygiene and social sciences. Clinic sessions are not included in the curriculum because students are already registered to practise, thus deemed competent. Some classes, such as microbiology, periodontology, oral medicine and oral pathology, are taken with dental students.

## 1995

UBC administration encourages faculties with small programs to increase enrolment or risk being discontinued. The dean of Dentistry, Dr. Ed Yen, asks the dental hygiene program director to explore possibilities for increasing enrolment in the dental hygiene program. No funds are available from UBC or the Faculty for this purpose.

## 1996

First dental hygiene degree completion class graduates, earning a Bachelor of Dental Science in Dental Hygiene degree, or BDSd (DH).

## 1999

Having a goal of increasing enrolment, no funding and a revised dental curriculum that eliminated the class-based courses taken with dental students, Dental Hygiene submits a proposal to Distance Education for funds to create the first online course. Dental Hygiene, in competition with other UBC initiatives, is approved for reformatting Oral Pathology to an online format.



## 2001

Faculty of Dentistry and UBC Senate approve a strategy to increase enrolment by offering several pathway options for admission, tailored to the variety of CDAC-accredited dental hygiene diploma program graduates. An international category for non-North American degree completion students is also approved. Demand for admission in all options increases immediately. The UBC Registrar requests that the program name be changed from Bachelor of Dental Science Program to Dental Hygiene Degree Program for clarity. Additionally, the Faculty Council approves, in principle, a four-year entry-to-practice (ETP) option for students with no prior dental hygiene education. Funding applications for online course development, one course at a time, continue annually over a five-year period. Each proposal is successful, eventually resulting in all degree completion courses being online.

## 2006

All degree-completion courses are offered exclusively through Distance Education. The decision to offer online courses only, while containing costs for the Faculty, results in the most flexible and accessible dental hygiene learning opportunities available across Canada and globally. Enrolment exceeds expectations, with students from all over North America. Additionally, after much deliberation, the entry-to-practice (ETP) option is approved by Faculty Council and UBC Senate.

2007

First ETP class is admitted to undertake four years of full-time study. ETP provides a science degree and preparation for registration to practise as a dental hygienist. The first program of its kind in Canada, students could be admitted after secondary school or with previous post-secondary credits. ETP curriculum prepares dental hygienists for enhanced community health roles, and many students know, when starting, they will eventually pursue graduate studies.



2008

As of 2008, nine degree-completion graduates had graduated with a master's degree in Science (Dental Science), Education or Health Administration; two of them are now PhD candidates at UBC. Also in that year, 11 dental hygiene graduates are studying in master's programs at UBC, and at the universities of Toronto, Alberta and Idaho. Four other graduates are applying for programs in Science (UBC), Public Health (SFU), Distance Education (Athabasca) and Education (UBC).

2011

Four years of undergraduate studies in science combined with specific education to become a dental hygienist comes to fruition as the first class in the ETP option graduates, receiving the BSc (DH) degree as their first dental hygiene credential.



2015

Committed to fostering global citizenship, the Dental Hygiene Degree Program commences dental hygiene international service-learning experiences, beginning in Vietnam. Working with various local health care professionals, fourth-year students and faculty provide instruction and preventive care for oral cancer patients, conduct oral cancer screenings, present seminars to students and health care professionals at hospitals and universities, and provide oral hygiene care to children at orphanages.



2016

Continuing its leadership position in dental hygiene education in Canada, UBC's Dental Hygiene Degree Program is the first to integrate the newly published Canadian Competencies for Baccalaureate Dental Hygiene Programs. The Faculty document is augmented by adding "Scientific Investigation" as an additional competency students are expected to demonstrate. Also, in collaboration with UBC Health, the ETP option begins to develop, with 11 other health science programs on the UBC campus, interprofessional learning opportunities that are integrated in curriculum. Subjects include integrated ethics, e-Health and Indigenous cultural safety.

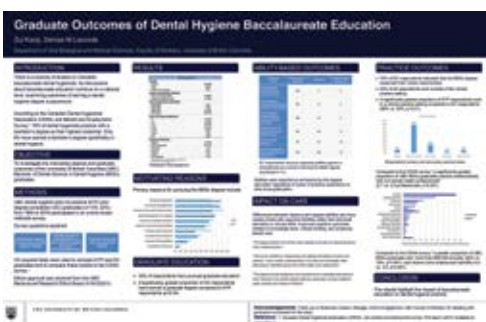
2016



2018

A UBC BDSc (DH) graduate-outcomes study is published. Thirty percent of graduates from ETP and degree-completion options have pursued graduate education (dental and craniofacial sciences, adult education, public health, business administration). Forty-five percent of graduates are working outside of the private clinical practice setting (education, public health, administration, industry, research). UBC graduates are practising in diverse settings and adopting leadership roles in society.

View the poster below from the study at [bit.ly/2xNDdjM](http://bit.ly/2xNDdjM)



2018

Thirty-nine new dental hygiene students joined the Faculty of Dentistry in the BDSc (DH) Class of 2022. The class is composed of 26 in the entry-to-practice option who study on campus (23 of whom are pictured below on the first day of class, September 4, 2018) and 13 degree-completion students who study online.



The Faculty of Dentistry is proud of all its dental hygiene graduates: 328 Diploma in Dental Hygiene alumni and 515 Bachelor of Dental Science in Dental Hygiene alumni (350 degree-completion and 165 ETP) to date.

UBC looks forward to continuing its leadership role in dental hygiene education in British Columbia, Canada and internationally.

## Dental Hygiene Program Directors

Margaret Robinson, 1968 to 1970  
Joan Voris, 1971 to 1986  
Prof. Bonnie J. Craig, 1992 to 2015  
Dr. Zul Kanji, 2015 to present

Content courtesy of Dr. Zul Kanji, director, Dental Hygiene Degree Program, and Prof. Bonnie J. Craig, professor emerita, UBC Faculty of Dentistry.

## Online: 50 Years of Dental Hygiene Education at UBC

If you are a dental hygiene graduate from UBC and have memories or photos you'd like to share, send them to [alumni@dentistry.ubc.ca](mailto:alumni@dentistry.ubc.ca), and if sharing on social media, use the hashtag #ubcdentalhygiene50



# Revival—The Patterson Dental Learning Centre at UBC

BY TERRY WINTONYK

*The Sutherland Clinic, a much loved but somewhat neglected facility on the ground floor of the John B. Macdonald Building, has been revived. Thanks to many stakeholders in the profession and one of the largest gifts to UBC Dentistry to date, the clinic has been brought back to life to once again host study clubs.*

No one quite remembers when this facility began to be known as the “old” Sutherland Clinic—perhaps in the mid-2000s when a new clinic, now the Nobel Biocare Oral Health Centre, was being planned and built. In its time, the Sutherland Clinic was modern like the rest of the facilities in the original 1968 dental building. But, by the 2010s, its dated-yet-functional dental equipment, surrounded by a faded retro interior design populated by industrial-strength furnishings, clearly signalled it was a throwback to another era. The clinic had long withstood renovation, not because of any enduring charm or innate resilience, but for lack of opportunity and finances.

One day, however, opportunity knocked and the door was answered in the form of a dynamic plan from Dr. Mary MacDougall, dean of UBC Dentistry.

The British Columbia Dental Association (BCDA) board decided in 2017 to close its dental learning centre (DLC) doors at 1765 West 8th Avenue in Vancouver due to cost restraints. The association turned to industry suppliers and the study club community for

ideas on what to do with the DLC infrastructure. The BCDA didn’t own the dental chairs—these were on a leasehold arrangement through a dealer, Patterson Dental/Dentaire, and the manufacturer, A-dec Inc., both of whom were needed to finalize any purchase agreements. The furnishings, dental equipment, audiovisual equipment and computers had been generously donated by industry partners and individuals. While selling this inventory off piece by piece seemed a possible solution, it was at odds with the original intentions of the donors to support a study club facility.

Dr. MacDougall, however, had an enticing win-win solution: relocate the DLC to UBC—specifically, to the Sutherland Clinic.

Everyone agreed, and together with UBC Dentistry, an impassioned partnership has created a new platform for lifelong learning—the Patterson Dental Learning Centre—named in honour of Patterson Dental/Dentaire, the donor behind one of the largest gifts to UBC Dentistry to date.

## The Dean’s Vision: A Transformational Model for All Users—including Students

Step one: Save the BCDA DLC by relocating it to UBC, thereby ensuring sustained access to high-quality speakers and mentors from across the province for study clubs.

Step two: Provide new options for collaboration and curriculum-based learning to enhance the efficacy of hands-on training to dentists and students. The UBC campus site reopens the long-sought possibility for dental students to have direct exposure to additional master clinicians by undertaking rotations in the dental learning centre as observers and assistants with various study clubs. An integrated approach to professional dental education resonates well with students, educators and study club leaders: all agree that it contributes to the modelling of lifelong learners.

The dean’s vision for the Patterson Dental Learning Centre fits completely within the Faculty’s mission to “advance oral health through outstanding education,” and it plays an assist in the ultimate goal: well-educated graduates who are ably prepared to meet the oral health and science needs of their communities.

## BEFORE





### From BCDA to UBC: The DLC Is Saved

“Dean McDougall’s impressive and cost-effective business plan won the day, honouring the original intent of securing a dedicated space for hands-on training with patients—and exposing new dentists directly to the benefits of our rich study club tradition in BC,” Dr. Kin-Kong Wan, then BCDA board president, wrote in his November 2017 report. The board declared their unanimous support for McDougall’s plan, the report states, including encouragement to Patterson Dental to transfer the unit ‘loan’ agreement from the BCDA to UBC in order to facilitate the [Sutherland] clinic upgrade. “With the UBC proposal and support from Patterson, we can all start 2018 with a sustainable plan for dedicated hands-on training space in BC!” Wan concluded.

The commitment and support of both Patterson Dental and A-dec was instrumental to the relocation, and their involvement was essential to renovating and outfitting the Sutherland Clinic. Working with A-dec, Patterson Dental donated the 11 existing A-dec 511 dental chairs, which it had loaned to the BCDA facility, to UBC. This donation of chairs,

along with other dental equipment it had supplied for the BCDA site, plus financial support, was the cornerstone to realizing the dental learning centre at UBC.

Mr. Joe Ludwig, general manager of Patterson Dental, explains that the company partners with dental practices of all sizes to help oral health professionals practise extraordinary dentistry and that Patterson is committed to being the partner of tomorrow. “The opportunity for Patterson to support the relocation of the BCDA Dental Learning Centre to UBC was a chance to not only be part of an incredible new initiative in support of continuing dental education, but also to uphold our commitment to align with success,” he says. “The vision to create a modern, dynamic and interactive learning centre for the dental community and students at UBC was a natural fit for Patterson Dental. We are very proud to partner with UBC Dentistry in the opening of the Patterson Dental Learning Centre.”

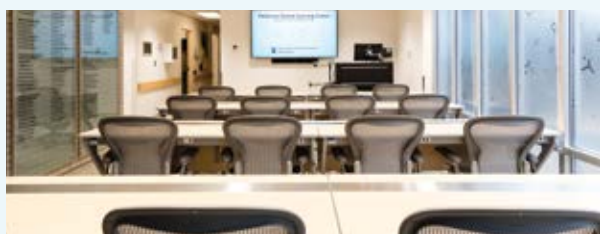
Andrew Benzel, territory manager for A-dec, alongside fellow A-dec territory manager Ryan Miller, reflects that it was a great opportunity to collaborate with UBC Dentistry in creating

this new clinical space. “From conception to completion, this has been an amazing experience, and I truly believe this is the very best use of the BCDA DLC equipment to support dental education and lifelong learning for dentists throughout the province,” he says.

Meanwhile, further support from A-dec was essential in several ways: expertise in moving and installing infrastructure from the BCDA facility, working with Art Cader Architects Inc. to maximize the design in an existing footprint, and supplying custom-built cabinetry where needed. “The A-dec team worked closely with the University of British Columbia to help ensure the vision for the space became a reality,” says Susan Ferrante, A-dec school and government sales manager. “One of our priorities is to support dental education at all levels. This project fit that priority. The close partnership between the British Columbia Dental Association and UBC provides dentists with continuing education opportunities throughout their careers.”

Renovation work commenced June 1, 2018, and the dental learning centre opened in early September in time to accommodate use by

### AFTER





Members of the Study Club Alliance of British Columbia, as well as corporate partners and dentistry associations, generously supported the former British Columbia Dental Association Dental Learning Centre. Their commitment and passion for dental education and clinical excellence now lives on at the Patterson Dental Learning Centre.

## A Brief History of the Sutherland Clinic



This clinic space opened in the UBC Faculty of Dentistry John B. Macdonald Building in 1968. It was named for 40-year dentistry veteran Dr. Douglas J. Sutherland, in recognition of his efforts to promote dental education and his role in establishing the faculty of dentistry in 1962. As many as nine Faculty of Dentistry study clubs were using the clinic for continuing dental education. In 1993, for a short while, the space was used for a clinic funded by Veteran Affairs Canada. The space was then used for a short time by faculty practice dentists, as well as to house overflow chair requirements for the DMD program while the Nobel Biocare Oral Health Centre was being built. Since its beginning, the Sutherland Clinic has been used for UBC Continuing Dental Education's various courses, perpetuating the original intention of the Sutherland Clinic to support professional dental excellence.

To honour Dr. Sutherland, a plaque will be placed in a prominent location in the Patterson Dental Learning Centre.

study clubs while maintaining their BCDA DLC schedules for fall 2018 through spring 2019.

At long last, the dated Sutherland Clinic, one of the last vestiges of old clinic operatories in the John B. Macdonald Building, has been transformed into a modern, dynamic professional dental learning centre where the rich tradition of BC's study clubs will continue to flourish.

### The New UBC Dentistry Space for Study Clubs

The new dental learning centre packs a lot of punch in 203 sq. m (2,183 sq. ft.). Eight A-dec 511 ambidextrous chair units, each with a 533 Continental delivery system, are located in the main open clinic area, while three of the same chairs and delivery system configurations are in separate enclosed operatories. The site is

equipped with A-dec handpieces (high, low and electric). A lecture room pavilion sits adjacent to the open clinic area. One chair in the open clinic area is equipped with a webcam and microphone for transmitting live procedures to the lecture room pavilion. Medical-grade suction is available for all chairs, and in the open clinic area, there are eight wall-mounted Sirona X-ray units with CCD sensors (for digital radiography) and computers that have export capability. An A-dec sterilization centre is located in an adjoining room. Additional technology includes a 3D cone beam CT unit and a CEREC Omnicam intra-oral scanner. The patient waiting area is inside the Patterson DLC, a stone's throw from Wesbrook Mall and approximately half a block south of University Boulevard.

### Full Circle: Students in Dental Learning





The Cosmos Spectrum Study Club was the first study club to use the Patterson Dental Learning Centre on September 7, 2018. Members in attendance, from left to right: Maurice Wong, Baha Azizi (DMD 1009), Ken Stones, Harry Killas, William Rosebush (DMD 1983), Chuck Cheung, Adolfo Gonzalez, Warren Ennis (DMD 1982), Al Margulius, Enid Gonzalez, Murray Bohn and Gavin Chu (DMD 1980).



### Centre History at UBC

In the early days, the Sutherland Clinic (see sidebar) was located on the third floor of the John B. Macdonald Building. Alumna Dr. Susan K. Chow, from the DMD Class of 1972, recalls participating in study club sessions as a student, helping as a dental assistant, holding suction tips and fetching supplies the dentists needed. “I had an opportunity to witness the beautiful and high-standard work the dentist participants did,” Dr. Chow says. “It was inspirational and transformative to see the beauty and artistry of excellent dental work.”

Later on, when this facility had grown out of its UBC roots, Chow explains, the College of Dental Surgeons of British Columbia (CDSBC) operated an off-campus study club clinic in Vancouver. The CDSBC, which at the time was both the regulatory body and the member organization for BC dentists, recognized the importance of proactive learning to elevate dentistry standards and aspirations.

By 2006, the basic facility was antiquated and at risk of closing. It was saved by a volunteer group of study club mentors who formed the Study Club Alliance led by Drs. Craig Naylor and Don MacFarlane. The Alliance raised \$2 million in cash and in-kind contributions and renovated the facility into a more sophisticated dental learning centre with a lecture theatre. (See photo recognizing donors to the BCDA DLC.)

By 2012, as a result of a request made by the Alliance in 2010, the operational management was transferred to the British Columbia Dental Association. The CDSBC had split its assets and

functions in 1996: the BCDA was the newly created BC dentists’ member organization; CDSBC retained the regulatory function.

For the next six years, the BCDA-operated dental learning centre continued to serve the dentists of BC—until the recent move back to UBC and relaunch as the Patterson Dental Learning Centre.

With its return to the UBC campus, the DLC has come full circle, according to Chow. She says that the study club clinic was originally intended to include students, and that now, situated in such close proximity at the dental school, this is a realization.

Chow’s experience as a student in study clubs long ago on the third floor of the John B. Macdonald Building seeded what she describes as her “lifelong passion for being involved in a study club.” Chow has been involved in the several iterations of the DLC facility as it moved and changed hands. She cites the collegiality and camaraderie among study club members and the dedication and humility of the mentors as the foundation of her sustained passion for hands-on study-club learning. “It is immeasurable how useful early exposure to these clubs was for my career,” she says.

## Opportunities to Support the Dental Learning Centre

Founding support for the new dental learning centre has been generous. Additional opportunities to support the Patterson Dental Learning Centre include naming rights: open operatories at \$30,000 and closed operatories at \$75,000. There are naming opportunities available in other areas of the centre as well. To date, five operatories have been named.

Also, study clubs, study club members or other individuals can make a one-time donation or give annually to the Friends of the Centre Fund. Gifts to this fund support operational costs, including sundries and maintenance. A charitable tax receipt will be issued for all gifts and a special reception will be held each year for ongoing supporters.

To learn more about opportunities to support the dental learning centre, contact the UBC Dentistry Development Team at 604-822-5886 or [dentistry.development@ubc.ca](mailto:dentistry.development@ubc.ca)

## A Brief History of Study Clubs

In the formative years of British Columbia, the first dentists to practise were Royal Navy medical staff. By 1882, when the BC Dental Act was passed, there were 17 registered dentists in the province. Geographically far from the nearest dental education institution, those early dentists began a tradition of self-teaching. By 1920, many local dental societies in the province brought in clinicians to teach courses that focused on particular dental topics, to advance knowledge in the profession. Study clubs emerged out of this trend and over the years have grown in number. In the Vancouver area, for example, there were four clubs registered in 1930, and by 1987, the count was up to 49. Today there are 65 study clubs listed on the College of Dental Surgeons of BC website ([www.cdsbc.org](http://www.cdsbc.org)). The rich tradition of dentist self-education continues to thrive and shows no sign of waning.

## All Study Clubs Are Invited

The Patterson Dental Learning Centre is available for use by all study clubs. Booking management is overseen by UBC Dentistry Division of Continuing Dental Education. To learn more about the space and to book sessions for your study club, contact Brenda Kiernan at 604-827-5696 or [cdeconf@dentistry.ubc.ca](mailto:cdeconf@dentistry.ubc.ca)

# *Taking Care of the Profession* ONE GENERATION AT A TIME

BY STEPHANIE CHOU

A fixture in the Fairview neighbourhood of Vancouver since 1989, the Fairview Dental Centre stayed resolute over the years as the neighbourhood grew to accommodate a shifting city. The North Shore mountains, once visible from the dental centre office, are now obscured by commercial and residential development. The dental practice, however, continues to proudly serve a close-knit patient community.

Angelique Leung (DMD 1988) and Raymond Fong (DMD 1989), principal dentists at Fairview Dental Centre, have always put patients first, so when one of their patients joined them as an associate, the transition was more akin to a homecoming. A patient there since he was five years old, Dr. Dylan Olver, who graduated with his DMD in 2017, has now been practising at Fairview Dental Centre with Drs. Fong and Leung for over a year.

It was evident from the outset that Olver was going to be a good fit. Aside from having known one another for over 25 years, all three studied microbiology in the Faculty of Science at UBC and all three graduated from UBC

Dentistry. But it's their common values and shared commitment to the profession that truly cements their professional relationship.

For Olver, the transition from dental school to practice has progressed smoothly. He says, "It was different not being in the patient seat, but I already felt at home due to Drs. Leung and Fong, who are welcoming to everyone." Their approach is simple: Treat everyone in the chair like your family member or your best friend, and you'll never go wrong.

Leung says, "You never forget that first year [of professional practice]. When I was teaching at UBC, I used to tell students that they're going to learn more the first month out than they learned in all four years at dental school. Your education gives a foundation, but it's through experience that you're really going to gain knowledge."

Olver agrees and says he learns something new every day—though he admits that it's very challenging. "In one week here you see as many patients as you'd see during three months of dental school. Having mentors is

the most important thing—so helpful when you're diagnosing on the fly. Ray and Angelique have been extremely supportive, and I feel safe bringing any case to them. They've helped me build a vocabulary and repertoire for speaking to patients."

Leung and Fong weren't actively looking for an associate, but their patient-focused approach includes thinking about how Fairview Dental Centre will continue to meet patient needs as the two of them near their last decade of work. Now, as a result of Olver joining the team, Fairview Dental Centre is open more days and hours per week, so patients are better served with more available time for appointments.

Fong says, "We've seen generations of people in here. We've seen them grow. Hopefully, we've played a positive role in their lives. It's our legacy—patients understand that and appreciate it. And building these relationships is good for the profession."

A large part of advocating for patients involves advocating for the profession. Fong, Leung and



Olver were all very involved in Faculty-related extracurricular activities during dental school, from outreach clinics in the community to organizing social events that brought Dentistry classmates closer together.

For Fong and Leung, this penchant for taking initiative and wanting to serve has remained strong for 30 years. Dr. Fong has served on the Review Committee for the College of Dental Surgeons of BC (CDSBC), and for the past 10 years has been a member of the organizing group for the Pacific Dental Conference. Dr. Leung has served on the boards of the CDSBC and the British Columbia Dental Association (BCDA). She is also chair of the BCDA Save A Smile program, which partners with UBC Dentistry and public health staff across the province to assist children who don't have access to dental coverage. Both Fong and Leung have received fellowships from the American College of Dentists, the Pierre Fauchard Academy, the Academy of Dentistry International and the International College of Dentists.

Fong says, "We believe in taking part in, and contributing to, our profession by sharing time with our colleagues and actively participating in regulatory bodies. Each professional organization has a different history, but they are all like-minded in that they care about the profession and about maintaining the ethical standards and professionalism that have been a mainstay of dentistry in the past." Leung and Fong are doing their part to guide the next generation of dental professionals, who may have different wants, needs and lifestyle priorities in these changing times.

Though Olver is in the early stages of his dentistry career, he shares this commitment to serving the profession. While in dental school, he was president of the Dental Undergraduates Society and student chief of community outreach, and he hopes to continue this kind of involvement well on into his career. "The more you're involved," he says, "the more you network and build camaraderie in the community. There's a lot

more fulfillment if you engage with the profession on a larger scale to become a voice who can advocate for patients."

When Leung addressed dental students at the 2013 UBC Dentistry White Coat Ceremony—a traditional rite of passage marking dental students' introduction to clinical learning—she said: "Keep the profession noble. Do your best. Do the right thing and you'll be fine."

And Leung's advice to anyone looking for an associate is: "If it doesn't feel right, it's not right." Olver has definitely fit the bill for Leung and Fong, though from the start their chemistry seemed to be operating on an intuitive level. "It's hard to describe fit and value," says Leung. "When you know it's right, it's right." And for these three UBC Dentistry alumni, it's definitely right.

Photos, from left to right: Drs. Raymond Fong, Angelique Leung and Dylan Olver.



## Kerri-Lyn Chong: 'Go for it. Get involved.'



Dr. Kerri-Lyn Chong

Finishing dental school is bittersweet for Kerri-Lyn Chong, DMD 2018. "I'm going to miss everyone at UBC," she says, adding: "But I'm also looking forward to getting out there and starting the next chapter." The young graduate knows there is much more to learn before starting her own private practice, and is now in Alberta doing a general practice residency (GPR) to get more experience, build her skills and, in her words, "gain confidence."

For those who know Kerri-Lyn, confidence is not something she lacks—over the four years of the Doctor of Dental Medicine program, she garnered many awards, was a dedicated volunteer in community dental clinics, undertook various extracurricular projects and was a multi-year member of the Dental Undergraduate Society executive committee. How did she do all that while also managing the staggering workload required to become a dentist? "It was easier to make dentistry my focus because my family isn't in Vancouver. I basically went to school, did my extracurricular activities and then slept. That was pretty much my life," she says, acknowledging that her classmates were her main supports.

"As a whole, my class members were always very encouraging and supportive of each other. There was very much a collegial atmosphere—we worked together, were willing to share notes, and if someone needed an assistant in clinic, people would stay behind to help out. Whenever someone was experiencing hardship or just having a bad day, you'd do whatever you could to help that person out, because we've all been there and experienced that. It makes a huge difference going through dental school when you know you can rely on your classmates."

In the final semester of her fourth year, Kerri-Lyn won the Edward J.C. Hossie Leadership Award, UBC's highest honour for exceptional leadership by a student.\* And yet, she tends not to think of herself as a leader. "In group situations, I try to make sure everyone is working well together and enjoying themselves, so I guess it happens naturally that I end up taking charge—maybe that's because I'm bossy [she laughs]. I'm always trying to better my skills or just become more professional, and I'm always willing to accept feedback—perhaps that helps me progress as a leader."

For Kerri-Lyn, the best part about being a dental student at UBC was the many opportunities to

get involved—not only with the student council, she says, but as part of an international exchange: "Having that opportunity to go to Japan for two weeks, with the school's support, was incredible—a lot of my colleagues across the country didn't have that kind of exchange opportunity." And about the Summer Student Practitioner Program, she says, "I think it's an eye-opening experience and a major highlight of UBC Dentistry that students from other Canadian dental schools can't believe we have."

Participation in student volunteer clinics gave Kerri-Lyn the experience of giving back to the community. She admits there is a slightly selfish side to this, but it is also a win-win. Students benefit, she explains, because they're getting to practise the skills they learned in clinic, and the patients receive care they often would not otherwise be able to access. "It's unfortunate," Kerri-Lyn says, "because the patients at the volunteer clinics can't afford UBC Dentistry's campus clinic even though it's discounted, so you feel you're doing something meaningful and important when you're providing that service." She also notes that it instills a value for volunteerism in students when they're able to participate in these clinics and witness, alongside their friends, the change they're making right from the beginning of their careers in dentistry.

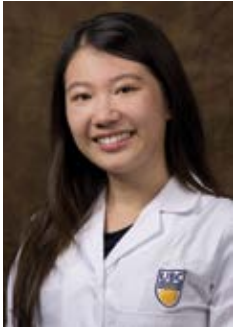
After she has completed her GPR and established a practice—hopefully in Vancouver, but maybe in Ontario nearer to her family—Kerri-Lyn would love to continue giving back to the community. "I'm not sure how, logistically," she says, "but increasing affordable access to care is something I would really like to accomplish in my career."

\*See news item "Two DMD Students Honoured for Leadership; One Wins Top UBC Award" on page 10 in this issue of *Impressions*.



Dr. Kerri-Lyn Chong (left) with her fellow class members. From second left to right: Drs. Thomas Hoos, Navraj Dhanowa, Junghoo Kim, Christine Hao and Kiarash Shabehpour.

PHOTOS COURTESY OF ASA QUAN



Yolanda Lan

## On to Grad School: A Deeper Dive for Yolanda Lan BSc 2018

### What inspired you to do research?

My starting point was attending the Faculty's annual Research Day. Whether it was learning about new technologies or policies for underserved populations, I was inspired to ask questions, which I believe is pivotal to providing oral health primary care.

My research journey began when I took the fourth-year undergraduate elective course, Guided Study in Dental Hygiene (DHYG 406), with clinical associate professor Penny Hatzimanolakis as my supervisor. I had the opportunity to participate in research, learning elements such as ethics approval, retrospective study design and how to present research, which I was fortunate to do at Research Day 2018. To my delight, I was awarded first place in the undergraduate poster award competition. Needless to say, I was hooked and wanted to do more. I now have the honour to represent UBC Faculty of Dentistry and present my poster at the Hinman Student Research Symposium in Memphis, Tennessee, this November.

### What are your areas of research interest?

It's challenging to focus on just one point of interest, because oral health and overall health are connected. The periodontium (special tissues that surround and support the teeth), tissue healing, oral lesions and implants are all intriguing to me. During my master's degree program, I'll be continuing my research journey with Prof. Hatzimanolakis in the Department of Oral Biological & Medical Sciences. Her enthusiasm for topics like periodontal disease, photodynamic and photodisinfection therapy, dental implants and oral self-care are contagious.

### Tell me more about your interest in pathology...

In December 2017, I was fortunate to participate in the UBC Dental Hygiene International Service Learning Initiative in Vietnam. Before that trip, my exposure to cancer was minimal. But at the Ho Chi Minh City Oncology Hospital, I was permitted to view and palpate late-stage malignant lesions in the oral cavity—cancer cases that were unimaginable and unforgettable—and I gained a thorough appreciation for the cancer screening process we as dental hygienists perform on a daily basis. In addition, I recognized that, to achieve a long-term healthy outcome, more research is needed in pathology to improve the quality of life for patients affected by chronic painful oral lesions and oral cancer.

### How do you see your research fitting with the practice of dental hygiene?

My research will help me gain foundational knowledge in dental materials, oral pathology and microbiology. As an oral health provider and promoter, understanding and, more importantly, incorporating knowledge into the practice setting is central to providing comprehensive dental hygiene care.



Yolanda Lan (centre) treats a young patient at the Ho Chi Minh City Oncology Hospital in Vietnam.

### Beyond graduate school, what would you like to accomplish?

Becoming an educator with the UBC dentistry faculty is definitely one of my goals. I have come to cherish the entire UBC campus community. In 2017, a colleague and I initiated Brush Up Your Health, a campus-wide oral health promotion campaign; then in spring of this year, I organized the second annual Brush Up Your Health. We encouraged participants to ask questions related to dental hygiene and oral health, and the majority of people asked for personal self-care advice. I found this experience extremely rewarding. Not only did it allow me to disseminate knowledge, but it was also an opportunity to give back to my UBC community. If I'm still hooked on research by the time I finish my master's degree, I'll pursue a PhD. This university ranks among the top 20 universities in the world, so who wouldn't want to be involved here!



THE UNIVERSITY  
OF BRITISH COLUMBIA

Faculty of Dentistry  
Alumni

## CLASS NOTES AND EVENTS

Share your news with classmates, faculty and friends. Look for reunion announcements and events for all alumni. Submit alumni stories and keep in touch at [dentistry.ubc.ca/alumni](http://dentistry.ubc.ca/alumni)

### 1960s



DMD Class of 1968

The Class of 1968 came together to celebrate their milestone 50th anniversary at the Pacific Dental Conference this past spring. Don Lewis, Imre Rokus and Don Suen (from left to right in the photo) and their wives had a special table reserved in their honour at the annual alumni reception.

### 1970s

#### DMD Class of 1973

Organized by reunion leader Wayne Peace, several members of the Class of 1973 and their spouses enjoyed a Whistler getaway this past July.



Rosa Guy (wife of classmate Garry Guy), Hiroko Mori and Hugh Mori. Tom Fell, Joy Kjekstad and Eric Kjekstad.



Jan Peace, Wayne Peace, Chris Letham and Tina Letham.

#### SHARE

Send an alumni story or update for "Class Notes" to [alumni@dentistry.ubc.ca](mailto:alumni@dentistry.ubc.ca)



Christiana Cheng and Daniel Cheng. Barry Yip and Tom Fell.



Back row: Chris Letham, Gary Baker, Jack Foulkes and Garry Guy. Front row: Russell Nakamura and Hugh Mori.



DMD Class of 1978

Several members of the Class of 1978 stopped by for a photo and to present a group donation to their class fund in recognition of their 40-year milestone reunion. Pictured from left to right, top row: Graham Lee, David Sweet and Ed O'Brien; seated, left to right: Loretta Huang, Amanda Maplethorp and Carol Tsuyuki.



David Sweet  
DMD 1978

NATO troops attended a course led by David (third from right) in May 2018. Kathryn Best DMD 2013 (second from right) was among the troops.



John Thiessen  
DMD 1978

John (right) visited the UBC dental school with his brother Jake on June 10, 2018.

### 1980s



Dip DH  
Class of 1983

The Diploma in Dental Hygiene Class of 1983 celebrated their 35-year reunion at JOEY restaurant in Vancouver. In attendance, from left to right in the photo: Lisa Supeene, Maureen Nelson, Jeannine Delisle, Maria Taylor, Lisa Enns and Susan Blattman.



Greg Chang  
DMD 1986

Greg and wife Nicole visited the Australian Outback in July. Greg got Diesel the camel (left photo) to "open wide!" Greg and the team at SuperChefs also celebrated the 10th anniversary of the program on August 13 at Surrey City Hall. And, fellow classmates (right photo) Francis LaCouvee (left) and Stephen Crowley (third from left) joined Greg (second from left) and chef Benedict Haines in Lantzville, BC, at Stephen's seaside home on June 8 for the Fête de Plage Blanche Long Table Dinner. This event, for the Pursuit of



Dental Excellence Study Club, included a presentation by Greg called “Global Initiatives to Promote a Healthier Generation.” There were interactive cooking stations during the reception and a seven-course dinner with local wine pairings. Aiming to inspire dentists from Vancouver Island to promote healthy eating, the SuperChefs team, with Greg and executive chefs Victor Bongo and Benedict Haines, prepared fine dining offerings using local products and cooking techniques from around the world. Many alumni attended. The study club is thankful to alumni partners Sinclair Dental and Dentsply Canada, and to SuperChefs, for their sponsorship. Check out the video of the event at [bit.ly/2QLZ9lq](http://bit.ly/2QLZ9lq)



Ray Fong  
DMD 1989

Angelique Leung  
DMD 1988

Ray (left), Angelique (right) and friends attended UBC Farm's Long Table dinner in August.



Wilson Kwong  
DMD 1989

Wilson visited the UBC campus and fired up the alumni wall in the Robert H. Lee Alumni Centre.

## 1990s



Ernest Lam  
DMD 1989, MSc 1991

After earning a PhD in radiation biology in 1998 from the University of Iowa, Ernest joined the University of Alberta before being recruited to the University of Toronto in 2005. “Currently, I am a tenured full professor, the director of the Oral and Maxillofacial Radiology graduate program, and the associate

dean for Graduate Education. About three years ago, I was asked to be a co-editor of *Oral Radiology, Principles and Interpretation*. It was a privilege to be considered, because this book has a considerable legacy. The newest edition, the eighth, will be released on December 5, 2018, and I am very excited about it!”



Gloria Tyler  
DMD 1990

Bill Tyler  
DMD 1991

In March, alumni Gloria and Bill led their sixth trip to Ndola, Zambia, for a two-week clinic serving Grace Academy. Other alumni on the 21-person team included Diana Germain DMD 1993, Ian Smillie DMD 2009, Mike Nicholls DMD 1985 and Mehr Poulad DMD 2010. Grace Academy is a boarding school/orphanage and is home to 170 orphaned children. The children have typically come from situations of extreme poverty, malnutrition and significant disease (primarily HIV). The children, caregivers, school staff, people in the community, and the elderly in the Grandmas Program were all treated. The International College of Dentists Global Visionary Fund–Henry Schein Cares grant program provided funds to purchase the supplies.



Liz Johnson-Lee  
DMD 1992

Liz submitted a photo of herself (right) with Lange Soo DMD 1987 (left) and Joan Eaton DMD 1987, with the caption: “This was taken outside of the dental clinic at the Lamdon School, where we were doing dental outreach for two weeks in Leh, India, with the Himalayan Health Project.” The Trans-Himalaya mountain range can be seen in the background.

## 2000s



Alex Rosenczweig  
DMD 2002

Alex enjoyed Alumni at the Nat, a UBC Dentistry alumni event held on July 30 at Nat Bailey Stadium in Vancouver.



Melissa Gardinetti  
BDSc 2007

Melissa writes: “Our little guy is here!” Peter Lawrence Carlsen arrived August 27, 2018, weighing eight pounds and measuring 20.5 inches.



Sheena Emmanuel  
DMD 2008

John Park  
DMD 2008

Classmates Sheena and John were just two of the alumni now based in the United States who attended the New York alumni dinner this past April.

## 2010s



Heather Jones  
DMD 2013

Whitney Weisshaar  
DMD 2013

Jocelyn Yang  
DMD 2013

Heather, Whitney and Jocelyn reunited on vacation in April. They are seen here in Morocco, with the Sahara Desert in the background. Later in the year, Heather travelled to visit another classmate, Caitlin Meredith DMD 2013, who is the principal dentist at the Skidegate Health Centre in Haida Gwaii. She still found time to organize six members of her class for a mini reunion at the Canadian Dental Association Convention held in Charlottetown, PE, in August! It seems to be true in Heather's case that “if you want something done, give it to a busy person.”



Jay Chan  
DMD 2014

Sharon Shao  
DMD 2014

Jay and Sharon welcomed their second daughter, Amelia, into the world on May 5, 2018. She joined big sister Olivia, whose birth we announced in the fall 2016

*Impressions* magazine.



Isaac Tam  
MSc/Dip Ortho 2014

Isaac married Diana Yu on Aug 26, 2018.



Jean Zhai  
BDS 2015

Jean is off to Harvard University this fall. Of the photo, she says: "Most of the buildings on campus look like these ones, with red bricks. The building on the right side of the photo is Longfellow Hall, which belongs to the Harvard Graduate School of Education; it's the faculty building that I will be in most of the time. I will be studying for one year, to obtain a master's degree in Technology, Innovation and Education."



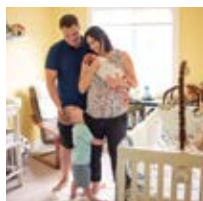
Alison Ashworth  
BDS 2018

Alison is the recipient of the Canadian Journal of Dental Hygiene Student Essay Award competition for her essay "Understanding the Factors Influencing the Aboriginal Health Care Experience."



Jon Chan  
DMD 2018

Jon graduated on May 31 and by June 2 was a married man. Congratulations to Jon and Elise as they start their new life together!



Michelle Wilczek-Piekarska  
DMD 2018

New grad Michelle, her husband Jan and doting brother Eryk welcomed baby Oskar into the world. Michelle writes: "Last week we had a big surprise when our new little guy decided to make his entrance into the world three weeks early! Oskar Antoni Piekarska joined our family on August 8—already a big boy at eight pounds 13 ounces—and he is perfect in every way. We are all doing well, and I think Grandpa Richard (DMD 1981) is especially happy to have another little grandson to play with and take fishing."

## In Memoriam



David Donaldson

Dr. David Donaldson, an internationally recognized authority on pain and anxiety control in dentistry, died June 16, 2018, at 76. Dr. Donaldson completed his dental degree in 1965 at St. Andrews University in Scotland, received his Fellowship in Dental Surgery through the Royal College of Surgeons of Edinburgh in 1969, and in 1971 he was granted his master's degree in Restorative Dentistry from Dundee University.

In 1970 Dr. Donaldson accepted an appointment in the Faculty of Dentistry at the University of British Columbia. Dentistry

was his passion, and he excelled at academia. During his 45 years of service at UBC, he held appointments as head of the departments of Oral Biological & Medical Sciences and of Oral Surgery, and as professor and head of the Division of Pain and Anxiety Control. He co-authored several textbooks, was widely published in the dental literature and was a sought-after lecturer, both nationally and internationally. Dr. Donaldson also chaired the Canadian Dental Association council on education and was a former president of the Association of Canadian Faculties of Dentistry and of the International Federation of Dental Education Associations.

Colleagues and friends remember Dr. Donaldson for his devotion to patient comfort and for his teaching, which gave countless dentists a sound foundation in pain management and oral and inhalational sedation. He also worked in private practice, where he specialized in treating and managing chronic head, neck and jaw pain, and he loved his practice in Bowser on Vancouver Island. After retiring as a distinguished professor emeritus, he continued to provide consultation services to dental boards and colleges and to teach continuing education courses for university-based programs.

Dr. Donaldson is survived by his wife Kim, children Mark, Scott and Shona, and six grandchildren.



Doug Waterfield

John Douglas Waterfield, emeritus associate professor in the Department of Oral Biological & Medical Sciences, passed away on August 20, 2018. Doug Waterfield earned a BSc and an MSc from the Department of Microbiology in UBC's Faculty of Science. He obtained his doctorate at the Karolinska Institute in Stockholm, followed by postdoctoral work at the Salk Institute for Biological Studies in La Jolla, California, and faculty appointments in the UK at the University of London and the Kennedy Institute of Rheumatology, all world class research units.



Doug joined UBC's Department of Oral Biology in 1983. He was a very productive, well-cited investigator, with 70 articles published in leading journals of immunology, as well as in *Nature*. His most recent research involved studies on macrophage polarization on implant surfaces.

Doug was recognized in 2011 with an award for his excellence in teaching. He was also the Faculty of Dentistry's graduate advisor and highly dedicated to student welfare, giving freely of his time to mentor, coach and advocate for students working on their degrees. His expertise in supervising graduate students was widely appreciated in the university: he was on the supervisory committees for 26 students from Dentistry and for 30 students from nine other university departments, including 14 from Microbiology, where he was an associate member.

Doug had diverse interests and skills, which included gourmet cuisine and wine making, carpentry, genealogy and family history, travel, and fishing and hiking near his cabin on Vancouver Island. And he was very proud of his family. He is survived by his wife Liz, a retired executive, formerly at Quadra Logic Technologies; son David, a constable at the Vancouver Police Department; and daughter Nikki, who is with Global Affairs Canada and currently involved in the NAFTA negotiations.



Douglas Yeo

Dr. Doug Yeo, one of the original Faculty of Dentistry builders and an advocate for community dentistry outreach, died on May 7, 2018, at 94. Dr. Yeo was a Renaissance man—professional, scholar, war hero, athlete and humanitarian—who had a lifelong pride in his Saskatchewan roots.

During WWII, he did combat duty in the Canadian Air Force, flying over 96 missions and crash-landing twice. On D-Day, he provided cover for paratroopers, and in 2016, the French government bestowed knighthood upon him in gratitude.

After the war, he attended the University of Toronto (U of T) dental school, then the University of Michigan, where he received a masters' degree in Public Health. He then moved to British Columbia and spent several years with the provincial public health services, travelling throughout BC providing dental care to underprivileged and First Nations children.

In 1964, Dr. Yeo began as one of the founding faculty of the University of British Columbia dental school, serving for almost 25 years as professor, associate dean and dean. He also served as registrar of the BC College of Dentists, and was granted numerous prestigious national and international awards and fellowships. In honour of his contributions, an entrance scholarship established in his name is given yearly to deserving students.

After retiring in 1987, Dr. Yeo rediscovered long-forgotten pastimes such as playing hockey competitively and biking. He volunteered weekly at a local soup kitchen and with Boomer's Legacy, a charity that raises funds for humanitarian aid in Afghanistan.

But his greatest joy and pride were his family. He and his wife Lenore were married for over 65 years until her death in 2010; he remembered her with fresh flowers weekly until his own passing. He was a beloved father to his daughter and son, and a "grandfather extraordinaire" to his six grandchildren and three great-grandchildren.

## Almost Alumni



Danelle Chan  
DMD 2019

Michael Wong  
DMD 2019

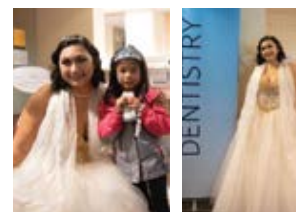
Caroline Chu  
DMD 2019

Matthew Yeung  
DMD 2019

Anika Lee  
DMD 2019

Austin Chen  
DMD 2020

Danelle, Caroline, Anika, Michael, Matthew and Austin participated in the UBC-NDU (Nippon Dental University) summer exchange program in Japan. The program included both academic and cultural activities. In the photo, they are with their hosts at the Nagata train station.



Sophie Felea-Motot  
DMD 2021

Sophie volunteered to represent the Faculty as the Tooth Fairy at UBC Homecoming 2018 on September 22.

## Recent Events



### Clinical Specialty Graduations

In addition to the May 31 graduation lunch for DMD and BDSc (DH) grads (see photos on page 12), graduation events for clinical specialty programs in prosthodontics, endodontics and orthodontics also took place over the spring and summer.

Left photo: Samuel Chiang DMD 1974 with his wife Susanna at the Orthodontics graduation event.



Right photo: Ian Thornton MSc/Dip Pros 2014 was the alumnus speaker at the Prosthodontics grad event. He is seen here (left) with Dr. Chris Wyatt.



### Alumni at the Nat

This midsummer event saw a fun bunch of alumni and friends enjoying barbecue and baseball with Dr. Mary MacDougall, dean of Dentistry, on July 30. In the photo, a Vancouver Canadians player wears a UBC Dentistry baseball cap.





### DUS Welcome Back BBQ & Yearbook Pick-Up

The annual event, held in the Student Lounge of the John B. Macdonald Building, welcomed several alumni back to the fold on September 14, 2018. Pictured are Ed O'Brien DMD 1978 and Kenji Shimizu DMD 1979 (left photo), and James Lin MSc/Dip Endo 2012 and Cindy Cho DMD 2009 (right photo).



### Prince George and District Dental Society Annual General Meeting

The dean, Dr. Mary MacDougall, spoke at the society's annual general meeting on September 19. In the photo, she is with Jasdip Minhas DMD 2005.

## Events for Alumni

### VDDS MIDWINTER CLINIC

Friday, November 30, 2018 · Time TBD

Visit UBC Dentistry's booth at the Vancouver & District Dental Society Midwinter Clinic annual conference and tradeshow and enter to win the latest UBC Dentistry swag!

### YOUNG ALUMNI & STUDENT RECEPTION AT THE PACIFIC DENTAL CONFERENCE 2019

Thursday, March 7, 2019 · Time TBD

Rogue Kitchen & Wetbar, 200 Burrard Street, Vancouver, BC

Alumni from 2014-2018 are invited to join students at this annual networking event.



### ANNUAL ALUMNI RECEPTION AT THE PACIFIC DENTAL CONFERENCE 2019

Friday, March 8, 2019 · 5:30 – 7:30 pm

West Ballroom Foyer, Vancouver Convention and Exhibition Centre

Commemorative anniversary class photos to be taken of 1969, 1974, 1979, 1984, 1989, 1994, 1999, 2004, 2009, 2014 and 2018.

No RSVP is necessary, but if you would like to organize a class reunion to follow the reception, contact [alumni@dentistry.ubc.ca](mailto:alumni@dentistry.ubc.ca)

### REUNIONS IN 2019

DMD 1969 50-Year Reunion

DMD and Dip DH 1974 45-Year Reunions

DMD and Dip DH 1979 40-Year Reunions

DMD and Dip DH 1984 35-Year Reunions

DMD and Dip DH 1989 30-Year Reunions

DMD 1994 25-Year Reunion

DMD and BDSc 1999 20-Year Reunions

DMD and BDSc 2004 15-Year Reunions

DMD and BDSc 2009 10-Year Reunions

DMD and BDSc 2014 5-Year Reunions

DMD and BDSc 2018 1-Year Reunions

To find out about reunion leaders and to get updates for all reunion plans, visit [www.dentistry.ubc.ca/reunion](http://www.dentistry.ubc.ca/reunion)

### PLANNING A REUNION?

We are looking forward to helping these reunion classes organize class dinners and/or other activities in 2019. Rosemary Casson, manager of Alumni Relations, will assist with venue selection, booking, class communications, and registration for a fully pain-free experience. Contact Rosemary at 604-822-6751 or [alumni@dentistry.ubc.ca](mailto:alumni@dentistry.ubc.ca)

## Stay in Touch

The alumni office at UBC Dentistry can help you stay connected with your fellow graduates, plan and promote reunions, and keep you informed of upcoming educational opportunities. To learn more, contact Rosemary Casson, manager, Alumni Engagement, at 604-822-6751 or [alumni@dentistry.ubc.ca](mailto:alumni@dentistry.ubc.ca)

Stay connected to more than 3,000 alumni. Share your news, thoughts or comments. Visit [dentistry.ubc.ca/alumni](http://dentistry.ubc.ca/alumni)

### FOLLOW ALUMNI ENGAGEMENT ON TWITTER

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[www.twitter.com/ubcdentalumni](http://www.twitter.com/ubcdentalumni)

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[www.dentistry.ubc.ca/alumni](http://www.dentistry.ubc.ca/alumni)

### COMMUNITY PARTNERS



### ALUMNI PARTNERS



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# PART-TIME FACULTY APPRECIATION

UBC Dentistry is dedicated to progressive dental education with the goal of preparing today's students for the changing oral health needs of the community. The Faculty embraces a hybrid problem-based learning curriculum that emphasizes professionalism, student-centred learning and self-directed study. Students are encouraged to apply what they learn in behavioural sciences to the clinical environment. The clinical aspects of the curriculum emphasize mentorship, demonstration of clinical procedures, and incremental achievement of competency in patient-centred clinics. To accomplish these educational goals, the Faculty counts on the contributions of dental professionals in the community who are generous enough to serve as part-time faculty members.

Part-time faculty members are general practitioners, specialists and dental hygienists who are committed to education, the profession and the community. They come from across the Lower Mainland—often giving up practice or personal time—to fill roles as clinical instructors, clinical educators, small-group learning tutors and community service tutors. Collectively, they contribute thousands of hours to UBC. They are important mentors to dental and dental hygiene students. They answer questions, demonstrate procedures, provide feedback, offer tips, share their experience and commiserate—they too were once students. UBC Dentistry relies heavily on the contributions of its part-time faculty members to deliver first-class dental training.

## 2017 — 2018 ACADEMIC YEAR:

- Jennifer Aarestad
- Hooman Abtin\*
- Mina Afsharnejad
- Amy Agis
- Syed Ahmad\*
- Salwa Al-Dahlawi\*
- Cyrus Aliakbari
- Zina Alkafaji\*
- Iain Allan
- Nariman Amiri\*
- Merissa Anaka
- Catherine Anderson
- Heather Anderson
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- Richard Chau\*
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- Samuel Chiang\*
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- Louis Chow
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- Inderjit Dadiala
- Tarun Dass
- Jeffery Davis\*
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- Payam Deljoui\*
- Denise Della Mattia
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- Jessica Dube\*
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- Harkeerat Gala\*
- Sima Gandha
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- Melissa Gardinetti\*
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- Winnie Zhao\*
- Ron Zokol\*
- Jack Zolty
- Bingshuang Zou

\* UBC Dentistry alumni

Thank you to these generous dental professionals for their dedication to teaching students in clinical and simulation settings during the 2017–2018 academic year.

*Thank you to all our volunteers.* **DENTAL UNDERGRADUATE SOCIETY EXECUTIVE** · Ariga Avanesian DMD 2020 · Rosalynn Chang BDSd 2019 · Austin Chen DMD 2020 · Daphne Chen DMD 2019 · Marcus Hackman DMD 2019 · Maxine Harjani BDSd 2019 · Brianne Henderson DMD 2019 · Sadaf Kashani DMD 2019 · Shivalika Katyal BDSd 2019 · Anika Lee DMD 2019 · Natalie Leung BDSd 2019 · Kevin Liu DMD 2020 · Doris Pham DMD 2020 · Emily Phillips DMD 2020 · Alyssa Podrebarac DMD 2020 · Kelsie Sallis DMD 2019 · Raphael Samaniego DMD 2020 · Leona Sun BDSd 2019 · Dustin Trudeau DMD 2019 · Ashley Vicente BDSd 2019 · Michael Wong DMD 2019 · Matthew Yeung DMD 2019 **SPAGHETTI FOR SIX** · Branko Cervienka DMD 1991 · Isaac Tam MSc/Dip Ortho 2014 **SUMMER STUDENT PRACTITIONER PROGRAM** · Roger Armstrong · Murielle Arsenault · Andre Audet · Kenny Basit · Anthony Berdan · Robert Bortolussi DMD 1981 · Brian Bostrom DMD 2012 · Erin Burley DMD 2005 · Felian Cabel · Suzanne Carlisle DMD 1997 · Alan Chan DMD 2003 · Alice Chen · Yen-Hung Chen · Andrew Cheng · Jessica Church DMD 2014 · David Ciriani DMD 1987 · Ersilia Cocco DMD 2012 · James Cornell DMD 1990 · Blair Day · Malwinder Dhami · Vince Drouin · Janis Dylke Schwab DMD 2008 · Kris Falk · Henry Ferber · Dustin George DMD 2011 · Sheldon Goldberg · Shawn Gosnell · Gurkamal Grewal DMD 1996 · Kevin Head · Justin Holder · Crispin Horng DMD 1993 · Allan Hovan DMD 1980 · Yao-Sheng Hsu DMD 2014 · Brian Hu DMD

# THANK YOU

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*Those listed with MSc, DMD or BDSd years from 2019 through 2022 following their names are candidates for graduation in the specified year. UBC Dentistry appreciates all who volunteered their time. We apologize if your name or organization was missed.*



## CONTINUING DENTAL EDUCATION 2018 - 2019

### OCTOBER 2018

26 - 28 (FRIDAY - SUNDAY)  
Mastering Adult Minimal Sedation: Inhalation and Oral Sedation in Dentistry  
Dr. Scott Dickinson, Dr. Mark Donaldson, Dr. Jason Goodchild

### NOVEMBER 2018

- 3 (SATURDAY)  
Mini-Implants: Good Things Come in Small Packages  
Dr. Dan Kinkela
- 17 (SATURDAY)  
Application of Autologous Growth Factors (PRF and CGF) in Implant Dentistry  
Dr. Paul Jang
- 17 (SATURDAY)  
Contemporary Dental Materials: How to Incorporate New Dental Materials Into Your Practice  
Dr. Nathaniel Lawson
- 24 (SATURDAY)  
Contemporary Oral Surgery for the General Dentist: A Simple and Predictable Approach to Minimally Invasive Oral Surgery  
Dr. Alan Jeroff
- 28 (WEDNESDAY) or  
29 (THURSDAY)  
NDEB Clinical Examination Candidate Orientation

### NOVEMBER 2018 - JANUARY 2019

Certificate in Dental Practice Management  
November 16 - 18 (FRIDAY - SUNDAY)  
December 7 - 9 (FRIDAY - SUNDAY)  
January 4 - 6 (FRIDAY - SUNDAY)  
Dr. Jim Armstrong, Dr. Anthony Boardman, Dr. Mahesh Nagarajan, Dr. Tim Silk, Mr. Scott Sinclair, Dr. Daniel Skarlicki

### DECEMBER 2018

- 1 (SATURDAY)  
Less Is More: Trends in Minimally Invasive Dentistry  
Dr. Jeanette MacLean
- 7 - 8 (SATURDAY)  
Soft Tissue Grafting for the General Practitioner  
Dr. Farzan Ghannad, Dr. Tassos Irinakis

### FEBRUARY 2019

- 4 - 8 (MONDAY - FRIDAY)  
Adventure & Learn: Hawaii 2019  
Medical Emergencies in Dentistry  
Dr. Daniel Haas  
Genetics in Dental Practice: Are You Ready?  
Dr. Mary MacDougall  
Conservative Esthetic, Restorative and Preventive Dentistry: Proven Solutions for Clinical Success  
Dr. Harald O. Heymann  
Location: Fairmont Kea Lani, Maui, Hawaii
- 22 - 24 (FRIDAY - SUNDAY)  
Al Heaps & Associates Dental Practice Transition Seminar and Golf Weekend  
Topics and speakers TBA  
Location: Omni Rancho Las Palmas Resort & Spa, Rancho Mirage, California

### FEBRUARY - MARCH 2019

- 28 - 2 (THURSDAY - SATURDAY)  
Annual Ski Seminar at Whistler 2019  
Oh the Pus! Oh the Pain! Appropriate Analgesic and Antibiotic Prescribing  
Dr. Mark Donaldson  
Treating Older Adults in Your Dental Office  
Dr. Chris Wyatt  
Location: Four Seasons Resort, Whistler, BC

### MARCH 2019

- 25 - 29 (MONDAY - FRIDAY)  
UBC Annual Spring Break Symposium: An Interdisciplinary Program  
Temporomandibular Disorders Beyond the Teeth and Occlusion  
Dr. Eli Whitney  
A Refresher on Oral Mucosal and Facial Dermatology  
Dr. Eli Whitney  
Interdisciplinary Collaboration: An Approach to Optimize Treatment Outcomes for the Complex Orthodontic Patient  
Dr. Vincent O. Kokich Jr.  
Treatment Planning to Optimize Outcomes for the Interdisciplinary Patient: An Orthodontic Perspective  
Dr. Vincent O. Kokich Jr.  
Location: Fairmont Orchid, Kohala Coast on the "Big Island," Hawaii

This calendar is subject to change.  
For updates to course offerings, visit [www.dentistry.ubc.ca/cde](http://www.dentistry.ubc.ca/cde)

### APRIL 2019

- 6 (SATURDAY)  
Porcelain Veneers: A Step-by-Step Approach  
Dr. Nariman Amiri
- 13 (SATURDAY)  
Clinical Hypnosis in Dental Hygiene: Practical Rapid Induction Techniques for Registered Dental Hygienists  
Dr. Lance Rucker and selected faculty of the Canadian Society of Clinical Hypnosis (BC)

### STUDY CLUBS 2018 - 2019

September 2018 - July 2019  
Basic Orthodontics for the General Practitioner  
Dr. Paul Witt

September 2018 - August 2019  
Advanced Orthodontics for the General Practitioner  
Dr. Benjamin Pliska, Dr. Siddharth Vora

September 2018 - July 2019  
UBC-Radiant Advanced Orthodontics for the General Practitioner  
Dr. Paul Witt

For dates, times and locations of study clubs, visit [www.dentistry.ubc.ca/cde](http://www.dentistry.ubc.ca/cde)

### CDE PARTNERSHIP

September 2018 - June 2019  
Vancouver AAID MaxiCourse  
The AAID (American Academy of Implant Dentistry) MaxiCourse is a structured program consisting of 30 days of education over 10 months. For more information, visit [vancouvermaxicourse.com](http://vancouvermaxicourse.com)

### PATTERSON DENTAL LEARNING CENTRE



The Patterson Dental Learning Centre is available for all study clubs, and booking management is overseen by the Division of Continuing Dental Education. To learn more about the space and to book sessions for your study club meeting, contact Brenda Kiernan at 604-827-5696 or [cdeconf@dentistry.ubc.ca](mailto:cdeconf@dentistry.ubc.ca)

FOR FULL DETAILS OF CDE COURSES AND TO REGISTER VISIT [DENTISTRY.UBC.CA/CDE](http://DENTISTRY.UBC.CA/CDE)

ADA C-E-R-P | Continuing Education Recognition Program

# MARK YOUR CALENDARS!

## CONTINUING DENTAL EDUCATION 2018-2019

### Certificate in Dental Practice Management

Building a Business Worth Smiling About

As in all successful organizations, the efficient management of systems, costs and revenues is critical to success. For dental professionals, understanding how to manage these factors and improve customer retention through quality of care are key to developing a sustainable, patient-centric practice.

Designed and delivered by UBC Sauder professors and successful dental practitioners, and based on industry best practices and key measurements, the concepts and skills presented in this certificate program will help you work more effectively with your staff, streamline your systems and make smart decisions for the future.

**November 16 - 18 (Friday - Sunday)**

**December 7 - 9 (Friday - Sunday)**

**January 4 - 6 (Friday - Sunday)**

Dr. Jim Armstrong, Dr. Anthony Boardman,  
Dr. Mahesh Nagarajan, Dr. Tim Silk, Mr. Scott Sinclair,  
Dr. Daniel Skarllicki

## TRAVEL AND LEARN 2019

### Adventure & Learn: Hawaii 2019

February 4 - 8 (Monday - Friday)

### Al Heaps & Associates Dental Practice Transition Seminar and Golf Weekend

February 22 - 24 (Friday - Sunday)

### Annual Ski Seminar at Whistler 2019

February 28 - March 2 (Thursday - Saturday)

For more details, visit  
[dentistry.ubc.ca/cde/travel-and-learn](http://dentistry.ubc.ca/cde/travel-and-learn)

## EVENTS FOR ALUMNI

### Annual Dental Hygiene Alumni CE & Reception

November 2, 2018 (Friday)

### VDDS Midwinter Clinic

November 30, 2018 (Friday)

### Young Alumni & Student Reception

at the Pacific Dental Conference

March 7, 2019 (Thursday)

### Annual Alumni Reception

at the Pacific Dental Conference

March 8, 2019 (Friday)

For more information about these events,  
visit [dentistry.ubc.ca/alumni](http://dentistry.ubc.ca/alumni) or email  
[alumni@dentistry.ubc.ca](mailto:alumni@dentistry.ubc.ca)

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