

UBC DENTISTRY 50  
YEARS

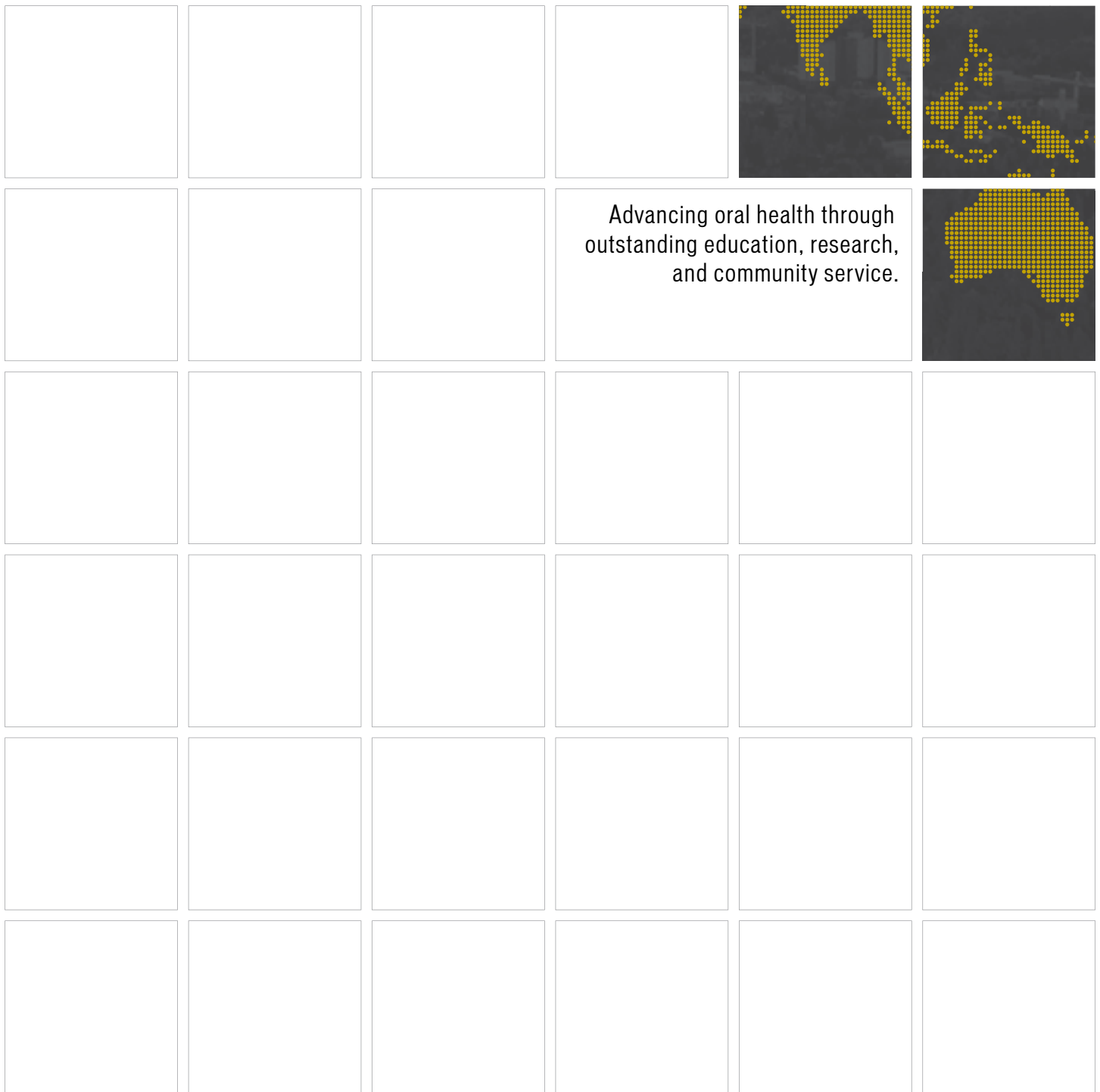


THE UNIVERSITY OF  
BRITISH  
COLUMBIA

RESEARCH DAY 2014

UBC ALUMNI: ADVANCING CRANIOFACIAL HEALTH

January 28, 2014



Advancing oral health through  
outstanding education, research,  
and community service.

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## MESSAGE FROM THE DEAN

*I am really excited about the Seventh Annual UBC Faculty of Dentistry Research Day.*



This year's Research Day is the kickoff event for all of the planned activities in 2014 that will celebrate the 50<sup>th</sup> anniversary of the UBC Faculty of Dentistry. We have a slightly different format from previous years because our goal is to highlight the international impact of UBC Dentistry alumni who started their research careers here. Oral health research is essential to keep the profession moving forward towards better approaches to improving patients' oral health. We are proud of the research currently conducted by UBC Dentistry faculty members and extremely proud of the impact that our graduates have had worldwide on the generation of new knowledge driving the profession forward. We hope this day highlights the significance of our alumni.

We are very fortunate to be able to have seven internationally recognized scholars in oral health research participate in Research Day. Their accomplishments and positions reflect the influence that a UBC Dentistry education is having on dental research. These accomplished academics model the types of life-long learning and critical thinking that are integrated into all of the educational programs at the UBC Faculty of Dentistry. The seven alumni are exemplars of a much greater number of scientists who have come to Vancouver to advance their careers by studying with our researchers. The world map inside this booklet illustrates where people came from before choosing UBC Dentistry for their continued career development. It is an impressive

depiction of the worldwide attraction of UBC and the effect we are having internationally.

We are delighted to have these accomplished alumni return to share their research accomplishments and discuss the role that the Faculty has played in their careers. We hope you reflect on your own career goals and realize all of the potential opportunities that exist for a student who is studying at the University of British Columbia. The next generation of UBC alumni who will continue to push oral health research forward are in the audience today. I hope that you are inspired by the achievements of our alumni presenters.

Enjoy the day, learn about the current advances in oral health research, and discover the importance of our alumni in the profession. This is the start to a fantastic year of activities to recognize the achievements that have occurred in the first 50 years of our dental school, which reflect the foundation that has been established to continue to excel in the future.

Thank you for your participation.

A handwritten signature in black ink, reading "Charles Shuler".

Charles F. Shuler, DMD, PhD  
Professor and Dean, UBC Faculty of Dentistry

## MESSAGE FROM THE ASSOCIATE DEAN OF RESEARCH



*Thank you for attending the Seventh Annual UBC Dentistry Research Day.*

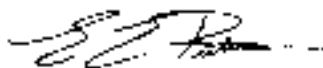
This year the Faculty of Dentistry is celebrating its 50<sup>th</sup> year and Research Day 2014 is the first celebratory event marking this important milestone. We are recognizing students graduating from our graduate and postgraduate programs, postdoctoral research fellows, and visiting scientists/professors who have all come to UBC over the years. To date over 200 graduate students have completed their training and collectively graduate students, postgraduates, postdoctoral fellows, and visitors have come from over 200 cities representing 50 countries (see world map). The strength of UBC's programs and researchers continues to attract students, young trainees, and faculty from around the world.

To celebrate, Research Day 2014 will have presentations by seven undergraduate and graduate alumni. Each has gone on to an academic position around the world and all continue to work tirelessly in their respective research areas. These presenters will cover a broad range of topics including pain, oral cancer, periodontal microbiology, platelet activation, craniofacial development, and salivary diagnostics. Collectively, this will showcase the diversity of research that continues to be done by our alumni working at UBC and around the world. In addition,

for the first time we will be recognizing all of our graduate student alumni on panels that will be placed next to the newly constructed graduate clinic.

Please do read through this Research Day booklet to see the other exciting research currently being done by our faculty and students at the University of British Columbia. In closing, this book and day are made possible by the efforts of many people on the Research Day Organizing Committee. I would like to personally thank Ingrid Ellis, Vicki Koulouris, Alison Kovacs, Jane Merling, Jennifer Parsons, Nik Williams-Walsh, and Terry Wintonyk, who have worked very hard to make this day a success.

Do enjoy our 50<sup>th</sup> anniversary.



Edward E. Putnins, DMD, PhD, DipPerio  
*Professor and Associate Dean of Research,  
Graduate & Postgraduate Studies*

# UBC Dentistry Research Day 2014

## UBC Alumni: Advancing Craniofacial Health

Tuesday, January 28, 2014 • 8:00 am – 3:00 pm  
 UBC Student Union Building Ballroom

8:00 – 8:30	<b>REGISTRATION &amp; CONTINENTAL BREAKFAST</b>
8:30 – 8:40	<b>WELCOME</b> Dr. Charles Shuler, Professor and Dean
8:40 – 8:50	<b>INTRODUCTION &amp; OVERVIEW OF THE DAY</b> Dr. Edward Putnins, Professor and Associate Dean of Research, Graduate & Postgraduate Studies
8:50 – 9:25	<b>50<sup>TH</sup> ANNIVERSARY CELEBRATION: OVERVIEW OF THE YEAR</b> Dr. Ashok Varma and Ms. Brenda Currie, Co-Chairs, 50th Anniversary Committee
9:25 – 10:00	<b>FACIAL PAIN: IT'S ALL IN YOUR BRAIN</b> Dr. Christopher Peck, Professor and Dean, Faculty of Dentistry, University of Sydney, Surry Hills, NSW, Australia "You've outlined some of the factors related to facial pain; what role does a dentist have in managing this pain?"
10:00 – 10:35	<b>IN PURSUIT OF SPECIFIC INHIBITORS FOR ORAL CANCER</b> Dr. Bjorn Steffensen, Professor and Chair, Department of Periodontology, Tufts University School of Dental Medicine, Boston, MA, USA "How can we translate research on basic enzyme functions to screening for novel collagenase inhibitors?"
10:35 – 11:05	<b>HOW TO INTEGRATE ORAL CANCER SCREENING INTO CLINICAL PRACTICE</b> Dr. Denise Laronde, Assistant Professor, Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, BC, Canada "How do I decide which oral mucosal lesions require further follow-up?"
11:05 – 11:40	<b>COFFEE BREAK</b>
11:40 – 12:15	<b>PERIODONTAL MICROBIOLOGY AND THE BIOINFORMATICS ERA</b> Dr. W. Keung Leung, Professor and Area Manager, Oral Diagnosis & Polyclinics, Faculty of Dentistry, The University of Hong Kong, Hong Kong SAR, PR China "How relevant is the concept of periodontopathogens now?"
12:15 – 12:30	<b>PLATELET SIGNALLING AND ORAL INFLAMMATION</b> Dr. Hugh Kim, Assistant Professor, Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, BC, Canada "What role does platelet secretion play in the pathogenesis of oral diseases?"
12:30 – 1:40	<b>RESEARCH POSTER AWARDS PRESENTATION</b> Dr. Ravindra Shah, Associate Professor and Director, International Relations, UBC Faculty of Dentistry Undergraduate & Graduate Students
1:40 – 2:15	<b>LUNCH (BOX LUNCH PROVIDED) &amp; RESEARCH POSTER VIEWING</b> Posters by undergraduate students, graduate students, postdoctoral fellows, research associates, visiting scientists, and faculty members
2:15 – 2:50	<b>ORCHESTRATING CRANIOFACIAL DEVELOPMENT: WHO IS THE CONDUCTOR?</b> Dr. Heather Szabo-Rogers, Assistant Professor, Center for Craniofacial Regeneration, Department of Oral Biology, School of Dental Medicine, University of Pittsburgh, Pittsburgh, PA, USA "How do signaling networks work together to produce a normal face?"
2:50 – 3:00	<b>THE EMERGING NEW BIOLOGY OF SALIVA</b> Dr. David Wong, Felix & Mildred Yip Professor and Associate Dean of Research, Director of UCLA Center of Oral/Head & Neck Oncology Research, School of Dentistry, University of California at Los Angeles, Los Angeles, CA, USA "What is the emerging basic, translational, and clinical landscape of salivary biology?"
	<b>WRAP-UP &amp; DISCUSSION</b>

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**PRESENTERS**  
BIOGRAPHIES AND  
SYNOPSISSES

- CHRISTOPHER PECK
- BJORN STEFFENSEN
- DENISE LARONDE
- W. KEUNG LEUNG
- HUGH KIM
- HEATHER SZABO-ROGERS
- DAVID WONG

**CHRISTOPHER PECK, DMD,  
MSc, PhD**

*Dr. Chris Peck is Dean of the Faculty of Dentistry at the University of Sydney. He completed his undergraduate dental training and postgraduate education in occlusion and pain management in Sydney and his PhD on the structure–function relationships of the human masticatory system with Professor Alan Hannam at UBC. He is currently President of the Australian and New Zealand Academy of Orofacial Pain. Professor Peck’s research focus is the assessment and management of orofacial pain. He has published widely in the field and has helped develop a model to explain pain–movement interactions in humans.*

**FACIAL PAIN:  
IT’S ALL IN YOUR BRAIN**

Non-dental orofacial pain can be a debilitating health problem with over 10% of the community seeking care for persistent (lasting more than six months) pain. The most common orofacial pain arises in the jaw muscles/ joints and in the nerves. These can be difficult to diagnose and it is only recently that we have obtained a better understanding of the underlying mechanisms. While patient self-reported pain is important in diagnosis, there is frequently an overlap in these symptoms. Recent research on brain changes in these pain states provides opportunities for improved diagnosis and treatments that target the affected brain sites. Importantly, the biological, psychological, and social components of pain need to be considered in the management of patients with persistent orofacial pain.



**BJORN STEFFENSEN, DDS, MS, PhD**  
*Dr. Bjorn Steffensen, Professor and Chair of the Department of Periodontology at Tufts University School of Dental Medicine, received his dental degree in Denmark in 1978. He initially taught and practiced dentistry in Denmark and Switzerland. Subsequently, he completed his MS and periodontics specialty education at the University of Michigan in 1986, board certification in 1991, and PhD in Oral Biology at the University of British Columbia in 1997. Dr. Steffensen has headed a research program on matrix and protease biology, directed a research training program, and served as Associate Dean for Research at the University of Texas Health Science Center at San Antonio. Among several honours, he was the first recipient of the Irwin Mandel Distinguished Mentoring Award from the American Association for Dental Research.*

**IN PURSUIT OF SPECIFIC INHIBITORS FOR ORAL CANCER**  
 Matrix metalloproteinases (MMPs) are essential for tumour growth and metastasis, and serve as critical regulators of tissue processes such as inflammation. To overcome adverse clinical effects of early MMP inhibitors, our research has aimed to understand the fundamental structural and functional properties of MMPs as a basis for developing highly selective MMP inhibitors. At UBC, we recognized that collagen binding to a unique domain in MMP-2 is required for the cleavage of collagens, which are the major components of most tissues. Subsequently, we mapped the specific sites on MMP-2 that guide the interactions between MMP-2 and collagen. This information has enabled us to recently screen large libraries of natural products, isolate them, and identify one single new inhibitor for MMP-2.



**DENISE LARONDE, DipDH, BA, MSc, PhD**  
*Dr. Denise Laronde received her Diploma in Dental Hygiene from Vancouver Community College, her BA and MSc (Dental Science) from UBC, and her PhD (Biomedical Physiology and Kinesiology) from Simon Fraser University. Since 2010, she has been an Assistant Professor in the Department of Oral Biological & Medical Sciences at the University of British Columbia. Dr. Laronde is a member of the BC Oral Cancer Prevention Program and her areas of interest include community oral cancer screening, adjunctive devices, oral premalignant progression, second oral malignancies, and survivorship.*

**HOW TO INTEGRATE ORAL CANCER SCREENING INTO CLINICAL PRACTICE**  
 Deciding when to refer an oral lesion for further follow-up can be a challenging decision for a clinician. Until recently there was a lack of guidelines on who and when to screen, and where to refer patients with suspicious lesions. The influx of new adjunctive screening devices in the last few years has raised interest, and some confusion, in oral cancer screening. This presentation reviews common misconceptions about oral cancer screening, as well as oral cancer screening guidelines, triage and referral pathways, and the use of adjunctive devices.



**W. KEUNG LEUNG, BDS, MDS, PhD**

*Dr. Keung Leung, a periodontist and microbiologist by training, is interested in human periodontal microbial ecology and virulence; effects of altered human oral physiology on the corresponding microbial ecology; and clinical trials of periodontal care strategies including anxiety modulation. He has authored 4 book chapters, 8 reviews, and 69 international peer-reviewed publications; h-index = 22. Dr. Leung is President of the Hong Kong Society of Periodontology & Implant Dentistry and Immediate Past President of the South-East Asian Association for Dental Education.*

**PERIODONTAL MICROBIOLOGY AND THE BIOINFORMATICS ERA**

Subgingival oral biofilm is the etiological agent for gingivitis and periodontitis. The human race has had a long history of life and has co-evolved with this complex microbial community. However, it has only been in the last two to three decades that we are starting to appreciate the impact of this highly organized microbial structure on oral health, general health, and diseases. The exact nature of the microbial consortium is yet to be elucidated. This presentation summarizes a reflection of the presenter's appreciation of the periodontitis biofilm consequential to his research experiences with the periodontopathogen *Treponema denticola*.



**HUGH KIM, DMD, DipPerio, MSc, PhD**

*Dr. Hugh Kim is an Assistant Professor in the Department of Oral Biological & Medical Sciences at the UBC Faculty of Dentistry. He obtained his DMD from the Université de Montréal, specialty training in periodontics from the University of British Columbia, and PhD from the University of Toronto. Dr. Kim then completed postdoctoral training at Harvard University and is presently supported by a CIHR Clinician-Scientist Award. His laboratory is part of the UBC Centre for Blood Research, where his research is focused on the biochemistry of blood platelets.*

**PLATELET SIGNALLING AND ORAL INFLAMMATION**

Platelets are essential for blood coagulation (clotting) but are also gaining recognition as competent immune cells with key roles in the host inflammatory response. For example, during infection or following injury, platelets are an abundant source of signalling molecules known as cytokines that are essential for normal immunity and wound healing. However, cytokine secretion is not precisely defined at the molecular level. One approach to this problem involves studying the cell's structural framework, or cytoskeleton, which mediates critical signals between cells and their environment (extracellular matrix). Identifying the exact role of the cytoskeleton and associated proteins with respect to platelet function will improve our understanding of how platelets modulate human diseases, including those with direct relevance to oral health.





**HEATHER L. SZABO-ROGERS, BSc, PhD**

*Dr. Heather Szabo-Rogers developed her passion for developmental biology during an undergraduate lab experience. After completing her BSc at the University of Alberta, she joined the Richman lab at the University of British Columbia, where she earned her PhD in 2007. Dr. Szabo-Rogers completed her postdoctoral training in the Department of Craniofacial Development at King's College London. In 2012 she started her own laboratory in the Department of Oral Biology at the University of Pittsburgh, where her goal is to elucidate the molecular and embryological etiology of craniofacial anomalies.*

**ORCHESTRATING CRANIOFACIAL DEVELOPMENT: WHO IS THE CONDUCTOR?**

Craniofacial development relies on the co-ordination and maturation of several individual buds called facial prominences. The prominences are sculpted and shaped through the action of signalling pathways that control growth, cell proliferation, and cell death. We are looking at the development of the skull in mouse embryos, and the ethmoid plate in zebrafish larvae to understand the impact of signalling pathways in development. We have identified pathway, dose, and time-dependent requirements for the FGF, TGF-β, hedgehog, and Wnt signalling pathways in facial development. Geometric morphometric analysis confirmed that each of these pathways results in unique and statistically significant morphological change within the ethmoid plate. We are currently investigating the role of the interactions between these pathways to shape the morphology of the ethmoid plate and skull.

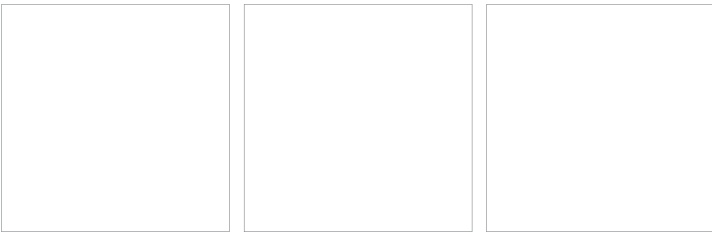


**DAVID T.W. WONG, DMD, DMSc**

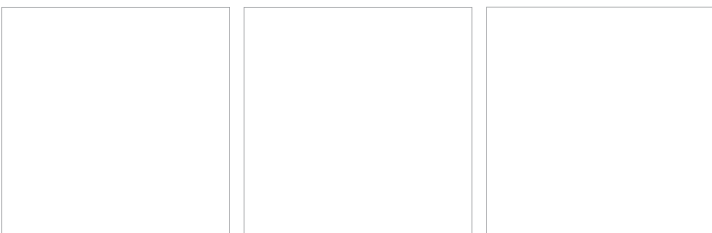
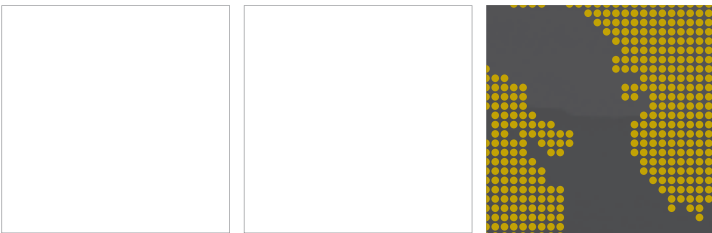
*Dr. David Wong is Felix & Mildred Yip Endowed Professor and Associate Dean of Research and Director of the Oral/Head & Neck Oncology Research Center at UCLA. He is an active scientist in oral cancer and saliva diagnostics research who has authored over 230 peer-reviewed scientific publications. Dr. Wong is a fellow of the American Association for the Advancement of Sciences, past member of the ADA Council of Scientific Affairs, and past president of the American Association for Dental Research. In the past ten years, his research has advanced the basic and translational science of salivary biomarkers to clinical reality for the non-invasive early detection of oral and systemic diseases.*

**THE EMERGING NEW BIOLOGY OF SALIVA**

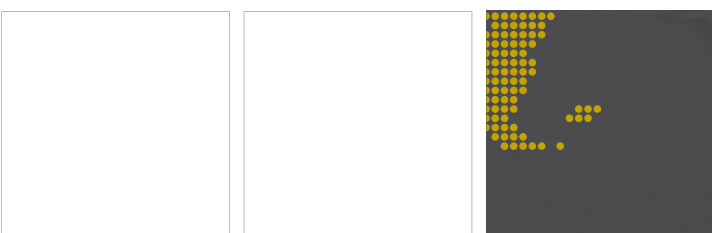
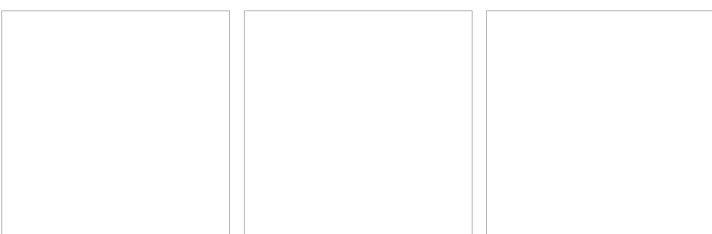
Saliva has long been considered a “mirror of the body” that reflects the state of overall health. A wide range of systemic diseases, such as diabetes and Sjögren’s syndrome, have oral manifestations that clinicians (physicians and dentists) can encounter in patients at various stages of disease development. The advantages of using saliva for disease diagnostics include ease of access, non-invasive sample collection, increased acceptance by patients, and reduced risks of infectious disease transmission. Salivary biomarker panels have been developed for oral, lung, pancreatic, breast, and ovarian cancers. Coupled with the development of point-of-care technologies and the emerging trend of chairside screening for medical conditions, the clinical impact of scientifically credentialed salivary biomarkers for molecular oncology application will include the improvement of access to care, reducing health disparities, and impacting global health.



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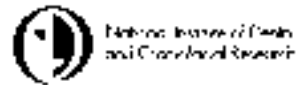
**POSTER ABSTRACTS**  
Poster Competition Judges



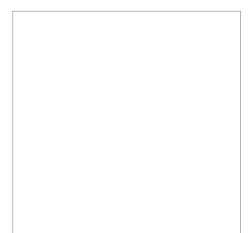
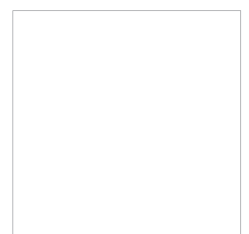
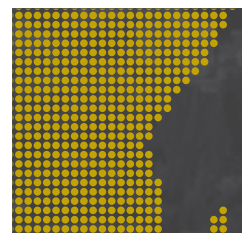
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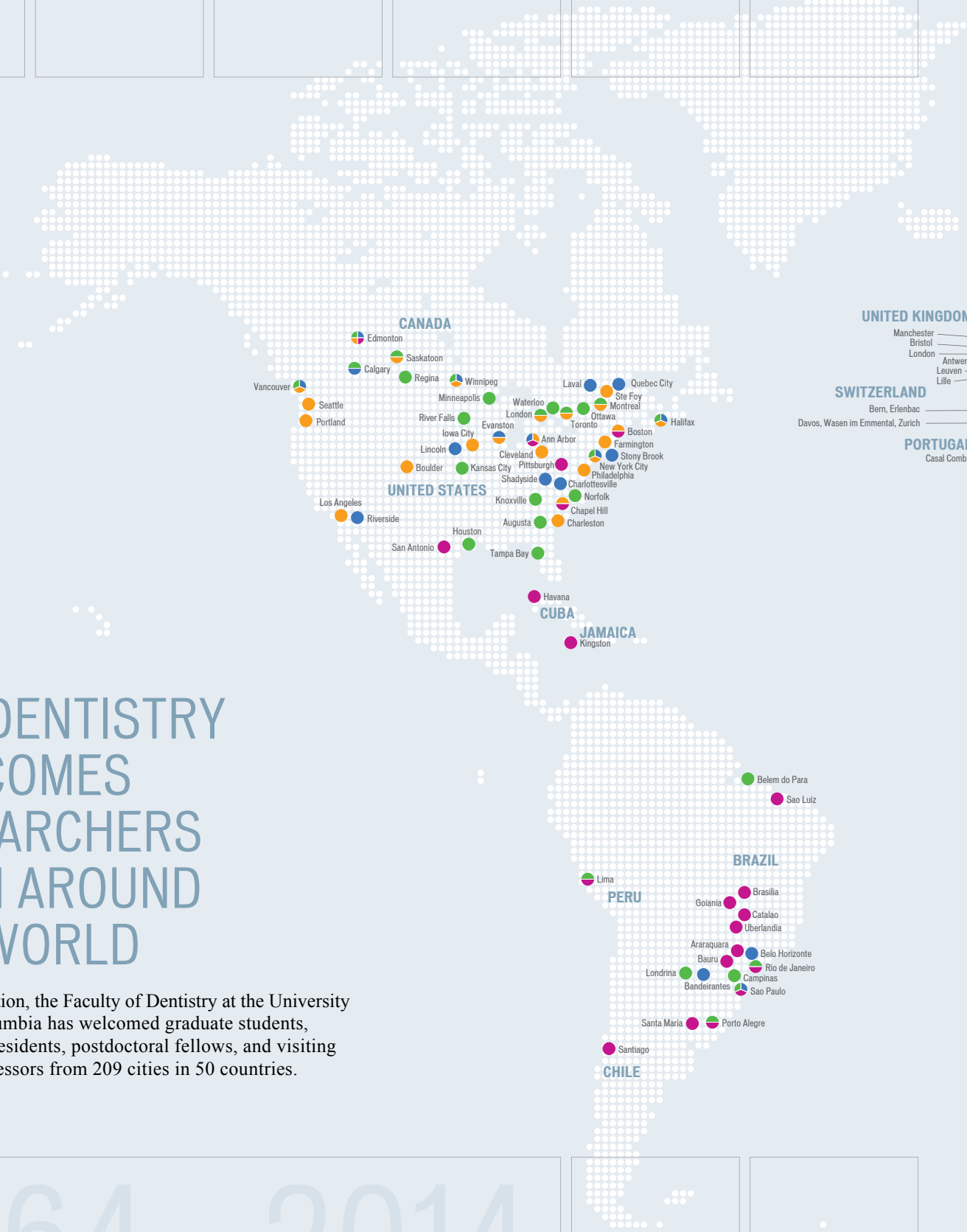
- 1 Comparative Analysis of Palate Development in Turtles and Birds**  
Abramyan J\*, Leung KJ, Richman JM  
*Department of Oral Health Sciences, Faculty of Dentistry, Life Sciences Institute, The University of British Columbia, Vancouver, Canada*
- 2 Stigmatization of Addiction and Mental Health by Dental Professionals**  
Alan R\*<sup>1</sup>, Brondani M<sup>1</sup>, Bedos C<sup>2</sup>, Donnelly L<sup>3</sup>, Krausz M<sup>4</sup>  
*<sup>1</sup>Department of Oral Health Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada (UBC); <sup>2</sup>Faculty of Dentistry, McGill University, Montreal, Canada; <sup>3</sup>Department of Oral Biological & Medical Sciences, Faculty of Dentistry, UBC; <sup>4</sup>Department of Psychiatry, Faculty of Medicine, UBC*
- 3 Previous Angular Deformation Effect on Nickel–Titanium Endodontic Instrument Fatigue Resistance**  
Aljazaeri B\*, Haapasalo M, Shen Y  
*Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 4 Effect of Etching Approaches on Bond Strength of Multimode Adhesives**  
Al-Mosuli TA\*<sup>1</sup>, Lanza MDS<sup>2</sup>, Bauer J<sup>3</sup>, Carvalho RM<sup>1</sup>, Manso AP<sup>1</sup>  
*<sup>1</sup>Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada; <sup>2</sup>Belo Horizonte, Brazil; <sup>3</sup>School of Dentistry, Federal University of Maranhão, Brazil*
- 5 UBC Dental Geriatrics Program Impact on Elderly Family Members' Life**  
Ardenghi DM\*, Wyatt C  
*Department of Oral Health Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 6 Evaluating DNA/RNA Products from Saliva Collected with Oragene® Kits**  
Cheng DT\*<sup>1</sup>, Liu KYP<sup>1,2</sup>, Zhu Y<sup>1,2</sup>, Poh CF<sup>1,2</sup>  
*<sup>1</sup>Integrative Oncology and Cancer Control Research, BC Cancer Research Centre, Vancouver, Canada; <sup>2</sup>Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 7 In Vivo Hand-Held Confocal Microscope Imaging of Oral Lesions**  
Cheung G\*<sup>1</sup>, Liu KYP<sup>1,2</sup>, Ng S<sup>1</sup>, Lane P<sup>2</sup>, Poh CF<sup>1,2</sup>  
*<sup>1</sup>Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada; <sup>2</sup>Department of Integrative Oncology, BC Cancer Research Centre, Vancouver, Canada*
- 8 Radiation Dose in Pediatric Patients Receiving Dental CBCT Imaging**  
Choi E\*, Ford NL  
*Department of Oral Biological & Medical Sciences, Centre for High-Throughput Phenogenomics, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 9 Characterization of Cathepsin K's Collagenase Activity and Exosite Inhibitors**  
Cui H\*, Brömme D  
*Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 10 Complications During Bone Grafting in Sinuses Associated with Interfering Septa**  
Irinakis A<sup>1</sup>, Aleksejūnienė J<sup>2</sup>, Larjava H<sup>1</sup>, Wiebe C<sup>1</sup>, Dabuleanu V\*<sup>1</sup>  
*<sup>1</sup>Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada (UBC); <sup>2</sup>Department of Oral Health Sciences, Faculty of Dentistry, UBC*
- 11 Investigation of Dishevelled (DVL) Function in Craniofacial Development**  
Danescu A\*, Richman JM  
*Department of Oral Health Sciences, Faculty of Dentistry, Life Sciences Institute, The University of British Columbia, Vancouver, Canada*

- 12 **Identification of Proteins that Interact with PI15, a Putative Morphogen**  
Drain S\*, Nimmagadda S, Richman JM  
*Department of Oral Health Sciences, Faculty of Dentistry, Life Sciences Institute, The University of British Columbia, Vancouver, Canada*
- 13 **Shedding Light on Placental Infection and Inflammation in Preterm Birth**  
Eckhard U\*, Huesgen PF, Lange PF, Nguyen K, Prudova A, Marino G, Klein T, Kappelhoff R, Overall CM  
*Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 14 **Occlusal Changes in Serial Extractions Versus Late Extractions and Controls**  
Feldman E\*, Kennedy DB, Aleksejūnienė J, Hannam AG, Yen EHK  
*Department of Oral Health Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 15 **Novel Fluorescent Tracking Method for Yeast Strain Interactions in Wine**  
Gustafsson FS\*<sup>1</sup>, Whiteside MD<sup>1</sup>, Jiranek V<sup>2</sup>, Durall DM<sup>1</sup>  
*<sup>1</sup>Department of Biology, The University of British Columbia, Kelowna, Canada; <sup>2</sup>School of Agriculture, Food & Wine, The University of Adelaide, Adelaide, Australia*
- 16 **Oral Health Status of Low-Income Communities in Vancouver's Downtown Eastside**  
Hau KPH\*<sup>1,2</sup>, Ng SP<sup>2</sup>, Sikorski S<sup>2</sup>, Chan B<sup>2</sup>, Poh CF<sup>1,2</sup>  
*<sup>1</sup>Cancer Control Research, BC Cancer Agency/Research Centre, Vancouver, Canada; <sup>2</sup>Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada; <sup>3</sup>Vancouver Hospital & Health Science Centre, Vancouver Coastal Health, Vancouver, Canada*
- 17 **Care Conference Participation and Oral Health Awareness in Long-Term Care**  
Donnelly LR, Huynh J\*  
*Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 18 **Gene Expression and Angiogenic Capacity of Gingival and Skin Fibroblasts**  
Kim B\*, Mah W, Jiang G, Larjava H, Häkkinen L  
*Laboratory of Periodontal Biology, Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 19 **WASp Controls the Delivery of Platelet TGF-β1**  
Kim H\*<sup>1,2</sup>, Falet H<sup>2</sup>, Hoffmeister KM<sup>2</sup>, Hartwig JH<sup>2</sup>  
*<sup>1</sup>Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada; <sup>2</sup>Division of Translational Medicine, Brigham & Women's Hospital and Harvard Medical School, Boston, Massachusetts, USA*
- 20 **Microsensor Technology to Monitor Adherence with Removable Oral Appliances**  
Kirshenblatt SJ\*, Chen H, Lowe AA, Pliska B, Almeida F  
*Department of Oral Health Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 21 **Discovery and Development of Exosite Inhibitors for Cathepsin K**  
Law S\*<sup>1</sup>, Axerio P<sup>2</sup>, Cherkassov A<sup>2</sup>, Brömme D<sup>1,3</sup>  
*<sup>1</sup>Department of Biochemistry & Molecular Biology, Faculty of Medicine, Centre for Blood Research, The University of British Columbia, Vancouver, Canada (UBC); <sup>2</sup>Vancouver Prostate Centre, Vancouver General Hospital, Vancouver, Canada; <sup>3</sup>Department of Oral Biological & Medical Sciences, Faculty of Dentistry, UBC*

- 22 A Review of Medication History of Patients at the OHC**  
Lee CJ\*, Shuler CF  
*Dean's Office, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 23 Quantification of Inflammation in the Rat Brain Using [<sup>11</sup>C]PBR28 PET**  
Walker M<sup>1</sup>, Dinelle K<sup>1</sup>, Lee N<sup>\*1,2</sup>, Adam M<sup>3</sup>, Takhar C<sup>3</sup>, Xu J<sup>4</sup>, Mach R<sup>4</sup>, Stoessl A<sup>1</sup>, Farrer M<sup>1</sup>, Sossi V<sup>1</sup>  
*<sup>1</sup>Department of Physics & Astronomy, Faculty of Science, The University of British Columbia, Vancouver, Canada (UBC); <sup>2</sup>Faculty of Dentistry, UBC; <sup>3</sup>TRIUMF, Vancouver, Canada; <sup>4</sup>Washington University, St. Louis, Missouri, USA*
- 24 Reproducibility of Image Quality Measured in Dental CBCT**  
Lee SR\*<sup>1</sup>, Abouei E<sup>2</sup>, Ford NL<sup>1</sup>  
*<sup>1</sup>Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada (UBC); <sup>2</sup>Department of Physics, Faculty of Science, UBC*
- 25 Survival of Dental Implants in Head and Neck Cancer Patients**  
Nguyen CT<sup>1</sup>, Liaghat S\*<sup>1</sup>, Le N<sup>2</sup>, Kiani R<sup>3</sup>  
*<sup>1</sup>Department of Oral Health Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada (UBC); <sup>2</sup>Department of Statistics, Faculty of Science, UBC; <sup>3</sup>School of Kinesiology, Faculty of Education, UBC*
- 26 Adverse Events of Intent-to-Cure Surgery for Early-Stage Oral Cancer Patients**  
Liu KYP\*<sup>1,2</sup>, Duan S<sup>1</sup>, Kami A<sup>3</sup>, Poh CF<sup>1,2,3</sup>  
*<sup>1</sup>Integrative Oncology, BC Cancer Agency, Vancouver, Canada; <sup>2</sup>Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada; <sup>3</sup>Cancer Control Research, BC Cancer Agency, Vancouver, Canada*
- 27 p16 Status Helps Predict Clinical Outcome of Oral Premalignant Lesions**  
Lubpairee T\*<sup>1,2</sup>, Rosin MP<sup>1</sup>, Zhang L<sup>1,2</sup>  
*<sup>1</sup>Oral Cancer Prevention Program, BC Cancer Agency, Vancouver, Canada; <sup>2</sup>Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 28 N-Terminome Analysis of Periodontal Disease Samples by TAILS Quantitative Proteomics**  
McLeod JC\*<sup>1</sup>, Eckhard U<sup>1</sup>, Klein T<sup>1</sup>, Kleifeld O<sup>2</sup>, Glogauer M<sup>3</sup>, Overall CM<sup>1</sup>  
*<sup>1</sup>Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada; <sup>2</sup>Department of Biochemistry & Molecular Biology, Faculty of Medicine, Monash University, Clayton, Australia; <sup>3</sup>Matrix Dynamics Group, Faculty of Dentistry, University of Toronto, Toronto, Canada*
- 29 Interfacial Fracture Toughness of Adhesive Resin Cement – Lithium-Disilicate/Resin-Composite Blocks**  
Mesmar S\*, Ruse ND  
*Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 30 Effects of Substratum Topography on RAW 264.7 Macrophage Behaviour**  
Moon H\*, Wong ATT, Brunette DM  
*Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 31 Analyses of Growth of Kyoto and Carnegie Embryonic Facial Prominences**  
Moore AJ\*, Diewert VM  
*Department of Oral Health Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*

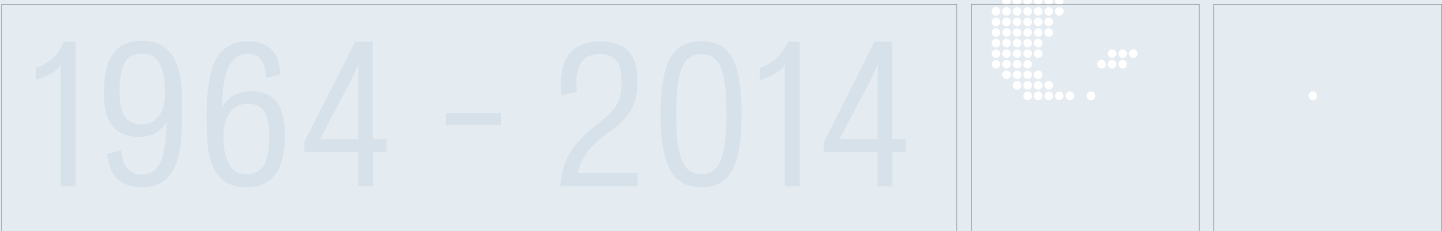
- 32 Survival and Success Rates with the Indirect Sinus Elevation Technique**  
 French D, Nadji N\*, Shariati B, Hatzimanolakis P, Larjava H  
*Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 33 Community-Service Based Oral Self-Care Education in Inner-City Vancouver Schools**  
 Noh R\*, Aleksejūnienė J, Pattanaporn K  
*Department of Oral Health Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 34 Skin Fibroblasts Display Increased Contractility Compared to Gingival Fibroblasts**  
 Olver D\*, Mah W, Jiang G, Larjava H, Häkkinen L  
*Laboratory of Periodontal Biology, Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 35 Consequences of Calcification, Ageing, Deglycosylation on Collagen-Fiber Degradation by Cathepsins**  
 Panwar P\*<sup>1</sup>, Mackenzie N<sup>1</sup>, Lamour G<sup>2</sup>, Li H<sup>2</sup>, Choi L<sup>3</sup>, Ko F<sup>4</sup>, Brömme D<sup>1,4</sup>  
<sup>1</sup>*Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada (UBC);* <sup>2</sup>*Department of Chemistry, Faculty of Science, UBC;* <sup>3</sup>*Department of Mechanical Engineering, Faculty of Applied Science, UBC;* <sup>4</sup>*Department of Biochemistry & Molecular Biology, Faculty of Medicine, Centre for Blood Research, UBC*
- 36 Clinical and Molecular Risk Factors for Second Primary Tumours**  
 Prelec J\*<sup>1</sup>, Laronde DM<sup>1,2</sup>, Williams PM<sup>1,2</sup>, Poh CF<sup>1,2</sup>, Rosin MP<sup>2,3</sup>  
<sup>1</sup>*Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada;* <sup>2</sup>*Cancer Control Research, BC Cancer Agency, Vancouver, Canada;* <sup>3</sup>*Department of Kinesiology, Simon Fraser University, Burnaby, Canada*
- 37 Influence of Angular Deformation on Cyclic Fatigue Resistance of K3XF**  
 Riyahi A\*, Haapasalo M, Shen Y  
*Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 38 Cleft Lip and Palate Patient Treatment in BC Children's Hospital**  
 Salimi N\*<sup>1</sup>, Aleksejūnienė J<sup>1</sup>, Yen EHK<sup>1</sup>, Loo A<sup>2</sup>, Hadianfar S<sup>1</sup>  
<sup>1</sup>*Department of Oral Health Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada;* <sup>2</sup>*Cleft Palate & Craniofacial Program, BC Children's Hospital, Vancouver, Canada*
- 39 "They stole her teeth." Developmentally Disabled Adults Seek Dental Care**  
 Salmasi A\*, Harrison R, Brondani M, Rush J  
*Department of Oral Health Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 40 Exosites Regulate the Substrate Specificity and Represent Novel Inhibitor Sites**  
 Sharma V\*<sup>1</sup>, Du X<sup>2</sup>, O'Donoghue A<sup>3</sup>, Craik CS<sup>3</sup>, Brömme D<sup>1,2</sup>  
<sup>1</sup>*Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada (UBC);* <sup>2</sup>*Department of Biochemistry & Molecular Biology, Faculty of Medicine, Centre for Blood Research, UBC;* <sup>3</sup>*Department of Pharmaceutical Chemistry, Program in Chemistry & Chemical Biology and Graduate Group in Biophysics, University of California San Francisco, San Francisco, California, USA*
- 41 Analysis of Dental Emergency Cases Managed at BC Children's Hospital**  
 Shih J\*, Park J, Campbell K  
*Department of Oral Health Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*

- 42 Smad2 Overexpression Reduces the Proliferation Rate of Murine Gingival Junctional Epithelium**  
Alotaibi M<sup>1,2</sup>, Kitase Y<sup>1</sup>, Shuler CF\*<sup>1</sup>  
*<sup>1</sup>Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada; <sup>2</sup>Dental Department, Riyadh Military Hospital, Riyadh, Saudi Arabia*
- 43 Accuracy of Blood Pressure Data Abstraction from Graphs**  
Soufi S\*<sup>1</sup>, Zhang X<sup>2</sup>, Musini V<sup>3</sup>  
*<sup>1</sup>Faculty of Dentistry, The University of British Columbia, Vancouver, Canada (UBC); <sup>2</sup>Medical School, University of Oxford, UK; <sup>3</sup>Department of Anesthesiology, Pharmacology & Therapeutics, Faculty of Medicine, UBC*
- 44 Effect of Orthodontic Treatment on the Upper Airway Volume**  
Tam I\*, Pliska B, Almeida F, Lowe AA, Diewert VM  
*Department of Oral Health Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 45 Differential Regulation of Keratinocyte Function by Skin and Gingival Fibroblasts**  
Vatandoost K\*, Mah W, Jiang G, Larjava H, Häkkinen L  
*Laboratory of Periodontal Biology, Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 46 Dental Hygiene Clinical Instructors' Conceptions Toward Teaching and Learning**  
Waldron S\*, Kanji Z, Walker J, Craig B, von Bergmann H  
*Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*
- 47 What Supports Students' Integration into UBC's Dental Hygiene Degree Program?**  
Walker J\*<sup>1</sup>, Kanji Z<sup>2</sup>, Mok E<sup>2</sup>, Hemming A<sup>3</sup>, von Bergmann H<sup>1</sup>  
*<sup>1</sup>Department of Oral Health Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada (UBC); <sup>2</sup>Department of Oral Biological & Medical Sciences, Faculty of Dentistry, UBC; <sup>3</sup>Dean's Office, Faculty of Dentistry, UBC*
- 48 Activation of WNT Signalling Changes Tooth Replacement in the Gecko**  
Wong A\*, Richman JM  
*Department of Oral Health Sciences, Faculty of Dentistry, Life Sciences Institute, The University of British Columbia, Vancouver, Canada*
- 49 Quantifying Facial Morphogenesis in 3D Using Optical Projection Tomography**  
Woo JM\*<sup>1</sup>, Ford NL<sup>2</sup>, Richman JM<sup>1</sup>  
*<sup>1</sup>Department of Oral Health Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada (UBC); <sup>2</sup>Department of Oral Biological & Medical Sciences, Faculty of Dentistry, UBC*
- 50 Developing an Oral Mucosal Screening Educational Module for Allied-Health Professionals**  
Wu KY\*, Laronde DM  
*Department of Oral Biological & Medical Sciences, Faculty of Dentistry, The University of British Columbia, Vancouver, Canada*

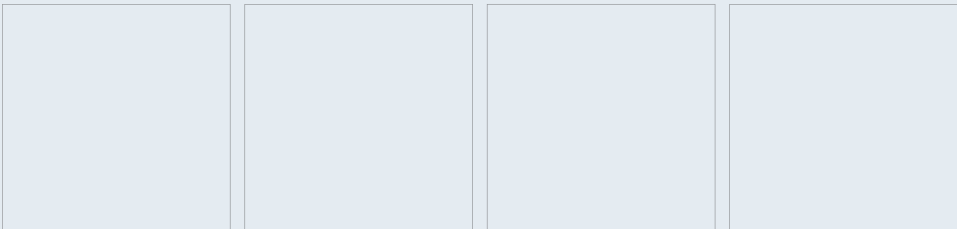
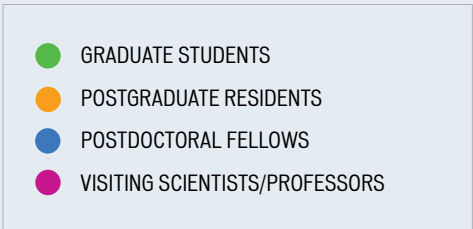
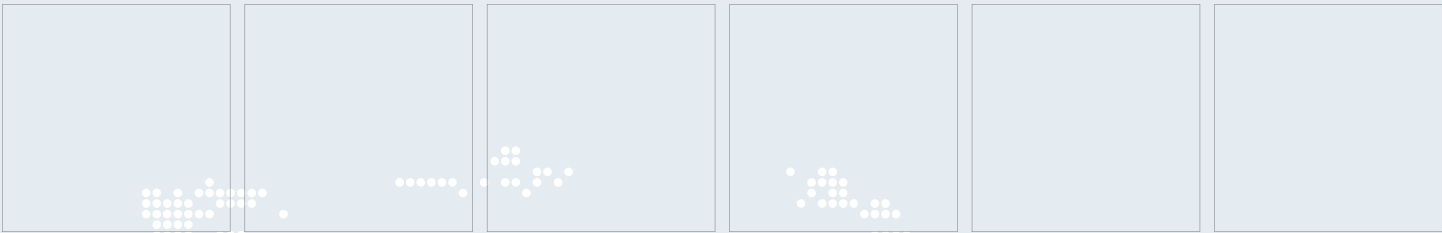


# UBC DENTISTRY WELCOMES RESEARCHERS FROM AROUND THE WORLD

Since its inception, the Faculty of Dentistry at the University of British Columbia has welcomed graduate students, postgraduate residents, postdoctoral fellows, and visiting scientists/professors from 209 cities in 50 countries.







# ALUMNI GRADUATE AND POSTGRADUATE PROGRAMS

*The UBC Faculty of Dentistry is proud of the many graduates from its research, clinical specialty, and postgraduate training programs.*

## DENTAL SCIENCE / CRANIOFACIAL SCIENCE

### Doctor of Philosophy (PhD)

1990	Anne McMillan	1991	Ernest Wing Ngai Lam
1991	Babak Chehroudi	1991	Ying Ouyang
1992	Jeffrey Coil	1992	Gheith Benkhaial
	Tom Korioth		Denis Nagy
	Kang-Yee Wang	1993	Amin Fatehali Damji
1993	Eung-Kwon Pae		Dong-Ming Zhang
	Yu-Min Pan	1994	Ross Bryant
1994	Leslie Ratkay		Andrea Esteves
	Monica Tonndorf		David Tobias
1995	Carol Oakley	1995	Lynn Guest
	Edward Putnins		Julia Ratkay
1996	Anak Iamaroon		Monica Zieper
1997	Laisheng Chou	1996	Shafik Dharamsi
	Bjorn Steffensen	1997	Sara Hamidi
1998	Wai Leung		Brent Hehn
2000	Christopher Peck		Mehrnaz Izadnegahdar
2001	Mohammed Ashique		Kirsi Larjava
	Fang-Yeu Catherine Poh		Elizabeth Matovinovic
	Futang Zhang	1998	Carol Oakley
2002	Mary MacDonald	1999	Elham Radan
2003	Liangxuan Zhang	2000	Keyhan Alavian
2005	Fernanda Almeida		Xing Cheng
2007	Maryam Sharifzadeh-Amin		Jeannette Glass-Brudzinski
	Heather Szabo-Rogers		Alireza Khakbaznejad
2008	Mario Brondani		David Perizzolo
	Dariush Honardoust		Iain Pretty
	Min Li		Ali-Reza Sanaie
	Matana Pruksapong	2001	Jenny Hui
2009	Salem Ghrebi		Mandana Karkan
	Juliana Kim		Todd Moore
	Saloumeh Pourmalek	2002	Ding An
	Ali Khalid Refai		Antigone Delantoni
2010	Ameneh Eslami		Cyrus Far
	Shiva Khatami		Roshale Gaytmenn
	Sean Maurice		Heidi Kai
	Yi Yang	2003	Maryam Sharifzadeh-Amin
2011	Yanshuang Xie		Ann McNamee
2012	Ajit Auluck		Liyang Xie
	Leeann Donnelly	2004	Bahador Baharloo
	Bruce Wallace		Deborah McCloy
2013	Sonja Stojicic		Samson Ng
			Mohammad-Reza Nouri
			Ann Szeto
		2005	Leeann Donnelly
			Denise Laronde
			Elaine Orpe
		2006	Ebony Bilawka
		2007	Brenda-Lee Currie
			Eduardo Ghaname
			Pauline Imai
			Mandana Nematollahi
			Daniela Nica
		2008	Diana Lin
		2009	Heather Biggar

### Master of Science (MSc)

1983	James MacDonald
1985	Deborah Batttrum-Mounts
	Hee Ling Hong
1987	Gregory Nelson
	William Ng
1988	Helen Scott
1989	Eung-Kwon Pae

	Jessica Dube		Peter Wooding
	Penny Hatzimanolakis	1984	Robert Leung
	Nelson Hui		James MacDonald
	Sherry Priebe	1985	Mark McNamara
2010	Nita Chowdhry	1986	Ron Fulton
2011	Mariana Gorovenko		Robert Stefanison
	Zulfikar Kanji		Douglas Vandahl
	Kelvin Leung	1987	Helen Scott
	Vincent Senini	1988	Jennifer Cote
2012	Caroline Jiang		James Grisdale
	Jaesung Seo		Julie Yip
2013	Firoozeh Samim	1989	John Miller
	Azadeh Shojaei	1990	Randolph Brilz
			Morley Hunter
			Carol Oakley
		1991	Daniel Indech
			Timothy Pielak
		1992	Jean-Francois Baylard
		1993	Sonia Leziy
		1994	John French
			Cameron Jones
			Henry Louie
			Avi Schetritt
		1995	Teresa Debevc
			Preety Desai
			David Jones

## ENDODONTICS

### Master of Science (MSc) / Diploma in Endodontics

2011	Houman Abtin		
	Wei Qian		
	Neda Tabatabaei		
2012	James Lin		
	Mark Parhar		
	Ellen Park		
2013	Marina Braniste		
	Les Campbell		
	Shannon Davis		

## ORTHODONTICS

### Master of Science (MSc) / Diploma in Orthodontics

2013	Reza Aran
	Asef Karim
	Melanie Mattson

## PEDIATRIC DENTISTRY

### Master of Science (MSc) / Diploma in Pediatric Dentistry

2013	Carter Ng
	Nancy Vertel
	Winnie Zhao

## PERIODONTICS

### Diploma in Periodontics

1981	John Tillman		
	Lawrence Westbury		
1983	Paul Johnson		
	Paul Kavanagh		
	Scott Pashley		
	Howard Wasserman		

### Master of Science (MSc) / Diploma in Periodontics

1993	Andrea Lynch		
1997	Nathalie Pauletto		
	Colin Wiebe		
1998	Laura Noce		
2000	Ellen Colfer		
	Christopher Hildebrand		
	Priscilla Walsh		
2001	Nazanin Narani		
2003	Anastasios Irinakis		
	Stacey Matheson		
2004	Salwa Al Dahlawi		
	Christopher Long		
2005	Maria Isabel Garcia Fulle		
	Tara Habijanac		
	Hugh Kim		
	Masoumeh Nouri		
	Giorgio Petricca		
2006	Andrea Csiszar		
	Sarah Johnston		
2007	Farzin Ghannad		
2008	Tarek Ali		
2009	Saljae Aurora		
	Robert Straga		
2010	Angela Demeter		
	Bridget Lamberts		

2011 Georgios Giannelis  
Dimitrios Karastathis  
2012 Tanya Tuckey  
2013 Farzan Ghannad  
Breanne Joslin

## PROSTHODONTICS

### Master of Science (MSc) / Diploma in Prosthodontics

2013 David Alfaro  
Jonathan Ng  
Angela Wong

## ORAL MEDICINE AND ORAL PATHOLOGY

### Diploma in Oral Medicine

1998 Carol Oakley

### Certificate in Oral Medicine and Oral Pathology

2004 Eli Whitney  
2007 Samson Ng  
2008 Bertran Chan  
2009 Wafaa Al-Shamali  
2012 Yoko Tsukada  
2013 Yang Gu

### Certificate in Oral Pathology

1995 Monica Zieper  
2004 Fang-Yeu Catherine Poh

## GENERAL PRACTICE RESIDENCY

### Certificate of Completion in GPR Training

1981 Roger Bailey  
Marty Braverman  
Pamela Glassby  
Richard Rycraft  
1982 Dale Barker  
Helen Kuo  
Robert Leung  
Bob Murphy  
Rich Whipple  
1983 Gerald Chow  
Jim Gillespie  
Pratihba Goyal  
Randy Richardson  
Kevin Spence  
1984 Bruno Daniele  
Laura Iwasaki  
John Rogers  
William Rosebush  
Tracy Wong  
1985 Brenlee Kemp  
Lorraine Miles  
Michael Sretavan

1986 Fred Wickmick  
Ronda Alton  
Roy Andrassy  
Janis Elkerton  
Stephen Gangbar  
Shawne Higashi  
Guiseppe Rea  
1987 Danny Fedder  
Kathryn Hornby  
Robert Loh  
Suzanne Philip  
Cindy Sidhu  
Susan Wacker  
1988 Alan Beaumont  
Stephen Crowley  
Peter Dueckman  
David Larsen  
Barrie Osborne  
Kevin Phillips  
Neeta Rathee  
1989 David Buckles  
Barbara Hori  
Robert Loh  
Gerald Philippson  
Greg Stearns  
Keith Stewart  
Kelly Wright  
1990 Allan Dickens  
Kevin Guze  
Dwayne Ogasawara  
Michael Shimizu  
Derek Townsend  
Zenon Trylowsky  
Edmond Woo  
1991 Cecil Ash  
Bahaeddin Azizi  
Clive Bethel  
Alexa Herbertson  
Cameron Jones  
Alan Margulius  
1992 David Engelberg  
Marshall Freilich  
Letty Huang  
Randy Koniuk  
Donna Patterson  
Mark Raper  
Grant Woo  
1993 Jeffrey Bales  
John Caldwell  
Trudy Corbett  
Kevin Gee  
Burchell Jim  
Joel Marcoe  
1994 Mahnaz Fatahzadeh  
Anita Gartner  
Ryan Kaltio  
Lisa Reino  
Bob Rishiraj  
Michelle Waisglass  
1995 Lexie Bellows  
Sam Ioannidis

Peter Murphy  
Bob Rishiraj  
Stewart Wilson  
Chris Zed  
1996 Mark Forgie  
Bernard Jin  
Ann Roy  
Ravinder Siddoo  
Jonnathan Suzuki  
Sherri Wise  
1997 Susan Birmingham  
Gordon Black  
Mylene Boridy  
Omar Chahal  
Roy Chan  
Cory Hooper  
Deiderik Millenaar  
Carol Oakley  
1998 Peter Chan  
Pamela Foo  
Alison Hill  
Lina Jung  
Alice Mackie  
Asif Tejani  
Andrew Tsang  
1999 John Caldwell  
Sandra Chong  
Hans Graber  
Natasha May  
Gerry Pochynok  
Farshid Shahbazi  
Andrew Yang  
2000 Rita Anand  
Krista Baier  
Shawn Brunt  
Pamela Hancock  
Sherwin Nabi  
Nancy Peters  
Sarah Wasty  
2001 Yola Boulos  
Tanya Cook  
Ashkan Hafezi  
Farideh Iranpour  
Louisa Leung  
Hilary Pada  
2002 Ali Behmard  
Kelly Blundell  
Maryam Kazemi  
Loredana Musacchio  
Laura Wan  
2003 Jaspal Girm  
Michael Jaskolka  
TaiKyu Kang  
Shana Lum  
Michael Moore  
Samson Ng  
Jaspal Seehra  
Phoebe Tsang  
2004 Heather Dowling  
Renee Duprat  
Jim Guild  
Alexander Hird

Denzil Nair  
Mansurali Sabuwalla  
Chantal Theriault  
2005 Christine Choi  
Lee Darichuk  
Kristen Itagawa  
Iqbal Kathrada  
Chris Lee  
Peter Luu  
Moe Tabesh  
Philippe Wang  
2006 Sara Bishara  
Janice Cho  
Lee Darichuk  
Craig Humber  
Keith Josephson  
Christopher Kelly  
Patricia Liu  
Marianne Morand  
Vandna Sharma  
Brett Stringer  
2007 Marc Aucoin  
Abenaa Ayeh  
Rajiv Butany  
Rahim Jamal  
Krista Lee  
Derek Leung  
Bruce Moss  
Elena Pavliouk  
Adam Pite  
Elizabeth Ruge  
Sandra Shostak  
Karen Stallaert  
2008 Marc Aucoin  
Peter Halford  
Yoshiki Ishihara  
Emma Jakmakjian  
Ihab Kods  
Diana Mhanna  
Matana Pruksapong  
Carman Rabuka  
Bradley Ray  
Robert Toews  
Jammie Tosevski  
Winnie Zhao  
2009 Adeyemi Adeola  
Matthieu Belisle  
Winnie Chan  
Maryam Fathimani  
Tara Kean  
Katherine Lee  
Nathan Ma  
Darcy MacLellan  
Sam Malkinson  
Adam Muggli  
Bradley Ray  
Egle Sakalauskaite  
Nureen Somani  
2010 Heba Alani  
Sean Chung  
Debbie Fonseca  
David Ho

Andrew Leoni  
Michael Major  
Alex McPherson  
Fardad Moeinvazini  
Bora Moon  
Christopher Ong  
Joseph Schafermeyer  
Angela Wong  
Elise Wong  
2011 Fahad Cadili  
Aimee Castro  
Gabor Ciocarlan  
Valentin Dabuleanu  
Jan Kantoch  
Austin Lee  
Norina Leung  
Indevir Mann  
Bahram Rashti  
Shahryar Rashti  
Amin Salmasi  
Mais Sweidan  
Marie Turcotte  
Arden Young  
2012 Seema Basati  
Steven Chang  
Olivia Lo  
Quoc Nguyen  
Sarah Park  
Pawandeep Sekhon  
Victoria Seto  
Shun Sun  
Nirvani Umadat  
Any Vanaki  
Jayde Wiedemann  
2013 Hardeep Asi  
Matthew Gustafson  
Nghia Huynh  
Ahmed Ismail  
Greg Magee  
Philip McKenzie  
Sarah Park  
Jessica Tam  
Sam Tam  
Michelle Wilczek

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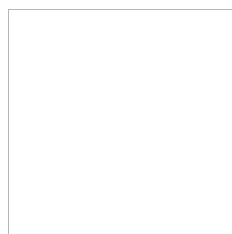
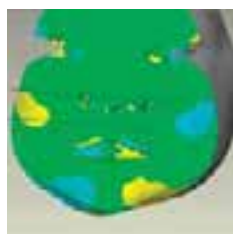
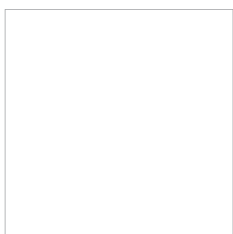
# GRADUATE RESEARCH OPPORTUNITIES

## PhD or MSc in Craniofacial Science

The UBC Faculty of Dentistry offers advanced study leading to a PhD or MSc in Craniofacial Science. The PhD program requires the successful completion of a research-specific curriculum, a comprehensive exam, and defense of a research-based thesis. A minimum of four years of full-time study is typically required. The MSc program requires successful completion of a research-specific didactic curriculum in conjunction with a research-based thesis. This program typically requires two years of full-time study; however, an extended part-time option for an MSc degree is available. Research options in one of the following three broad areas of study are available:

- Population health research explores the complex interactions (social, cultural, environmental) that affect the oral health of individuals, communities, and populations.
- Oral health-related clinical research includes both interventional and observational studies focusing on the following: disease prevention, diagnosis, risk, treatment, prognosis, and health care.
- Basic science research in the areas of biomaterials, cell biology, developmental biology, microbiology, and molecular biology.

These graduate programs are available as stand-alone degrees or may be completed as a combined diploma in a clinical specialty with a PhD or MSc degree (see criteria below). Clinical specialty training options are available in the following areas.



## Endodontics

PhD or MSc combined with a Diploma in Endodontics

- PhD degree (minimum 6 years) or MSc degree (minimum 3 years)
- Diploma in Endodontics

Graduates will be eligible to take the examinations for specialty certification in endodontics offered by the Royal College of Dentists of Canada and the American Board of Endodontics.

### Research Focus

- eradication of microorganisms from the root canal system
- development of unique *in vitro* and *ex vivo* models for biofilms which simulate oral *in vivo* biofilms
- industry collaborations on new devices to improve antimicrobial solutions
- safety and effectiveness of instrument systems to deliver disinfecting agents into the root canal
- impact of file design on the eradication of root canal microbes

### Clinical Training

- treatment management (including surgery) of diseases and trauma of the tooth root and pulp

### Criteria

- Applicants must hold a DMD or its equivalent
- Application deadline: August 1

## Orthodontics

PhD or MSc combined with a Diploma in Orthodontics

- PhD degree (minimum 6 years) or MSc degree (minimum 3 years)
- Diploma in Orthodontics

Graduates will be eligible to take the examinations for specialty certification in orthodontics offered by the Royal College of Dentists of Canada and the American Board of Orthodontics.

### Research Focus

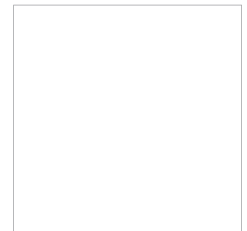
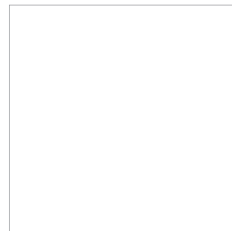
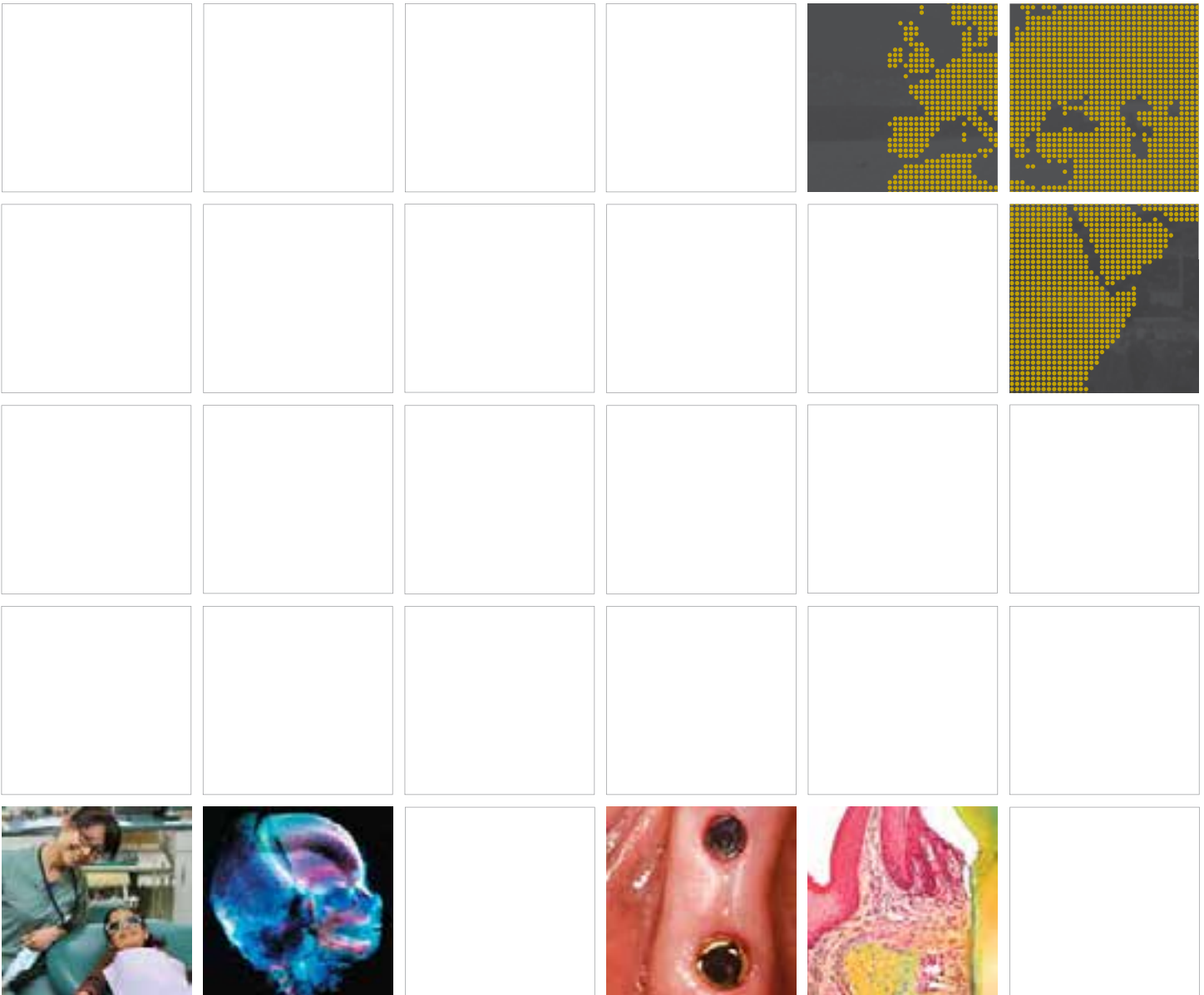
- craniofacial morphology and function in different populations
- efficiency and efficacy of treatment modalities
- societal and economic strategies that govern access to care
- craniofacial molecular and cellular control mechanisms
- impact of biomaterials on delivering orthodontic mechanics

### Clinical Training

- diagnosis, prevention and treatment management of abnormal congenital or developmental relationships of the dentofacial anatomy from infancy to adulthood in diverse populations

### Criteria

- Applicants must hold a DMD or its equivalent
- Postgraduate clinical and/or academic experience preferred
- Application deadline: September 1



### Pediatric Dentistry

- PhD or MSc combined with a Diploma in Pediatric Dentistry
- PhD degree (minimum 6 years) or MSc degree (minimum 3 years)
  - Diploma in Pediatric Dentistry

Graduates will be eligible to take the examination for specialty certification in pediatric dentistry offered by the Royal College of Dentists of Canada and the diplomate examination of the American Board of Pediatric Dentistry.

#### Research Focus

- biomedical research (craniofacial development)
- clinical research (facial symmetry of cleft lip and palate)
- population health and health services research (oral health promotion and access to care for disadvantaged children)

#### Clinical Training

- diagnostic, preventive, therapeutic and consultative expertise for children and adolescents including those with special healthcare needs at BC Children's Hospital Dental Department, Oral Health Centre at UBC Vancouver, and community settings throughout the province

#### Criteria

- Applicants must hold a DMD or its equivalent
- Application deadline: October 1

### Periodontics

- PhD or MSc combined with a Diploma in Periodontics
- PhD degree (minimum 6 years) or MSc degree (minimum 3 years)
  - Diploma in Periodontics

This program is recognized by the American Dental Association and the Academy of Periodontology. Graduates will be eligible to take the examination for fellowship in the Royal College of Dentists of Canada and the board examination of the American Academy of Periodontology.

#### Research Focus

- molecular pathology of periodontal disease
- periodontal and skin wound healing
- clinical aspects of tissue healing around implants
- stem cell-mediated regeneration of lost tissues

#### Clinical Training

- management of tooth-supporting structures using non-surgical and surgical procedures
- tooth replacement with implants when needed

#### Criteria

- Applicants must hold a DMD or its equivalent
- Application deadline: September 1



### Prosthodontics

- PhD or MSc combined with a Diploma in Prosthodontics
- PhD degree (minimum 6 years) or MSc degree (minimum 3 years)
  - Diploma in Prosthodontics

Graduates will be eligible to take the examinations for specialty certification in prosthodontics offered by the Royal College of Dentists of Canada and the American Board of Prosthodontics.

#### Research Focus

- biomaterials
- caries management
- community healthcare needs
- geriatric dentistry
- oral cancer rehabilitation
- oral implants and related prostheses
- psychosocial aspects of aging
- xerostomia

#### Clinical Training

- diagnosis, restoration and maintenance of oral function, comfort, appearance and health of patients by the restoration of natural teeth and/or the replacement of missing teeth and contiguous oral and maxillofacial tissues with artificial substitutes
- aesthetics/cosmetic dentistry
- crowns, bridges, veneers, inlays
- complete and removable partial dentures
- dental implants
- TMD-jaw joint problems
- traumatic injuries to the structures of the mouth

#### Criteria

- Applicants must hold a DMD or its equivalent
- Application deadline: October 1

### Dental Public Health

- MPH combined with a Diploma in Dental Public Health
- Master of Public Health degree from the UBC School of Population & Public Health
  - Diploma in Dental Public Health from the UBC Faculty of Dentistry

This 2.5 year non-clinical combined Dental Public Health degree is a non-thesis, course-based program that connects the academic, service, and international research excellence of the Faculty of Dentistry with the interdisciplinary academic environment offered by the School of Population & Public Health.

#### Research Focus

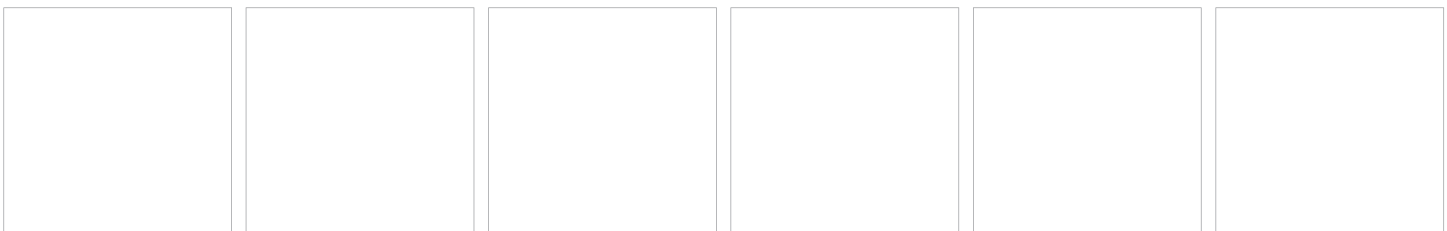
- community-based health programs and interventions
- health disparities and determinants of oral health
- health policy and critical issues in dental public health
- program evaluation and oral health services utilization
- access to care by marginalized communities, including First Nations and Inuit populations
- data analysis on health expenditures and on provincial, national, and international data sets

#### Field Experience

- practicum placement at local, national, or international organizations
- development of a major project via a learning contract
- production of a peer-reviewed publication
- hands-on activities

#### Criteria

- Applicants must hold either a DMD or its equivalent, or a BDS (Dental Hygiene) or equivalent dental hygiene education with a 4-year bachelor's degree
- Application deadline: March 1



For more information on postgraduate programs visit [www.dentistry.ubc.ca/postgrad](http://www.dentistry.ubc.ca/postgrad) or contact: Dorothy Stanfield [dstanf@dentistry.ubc.ca](mailto:dstanf@dentistry.ubc.ca) T 604 822 0345

# POSTGRADUATE OPPORTUNITIES



## General Practice Residency Program

- Advanced postgraduate training in dental specialties in a hospital setting
- Approximately 11 salaried, residency positions per year (one- or two-year)

Applicants choose to apply to the Pediatric Residency, Geriatric Dentistry Residency, or the General Practice Residency. All programs are approved by the Commission on Dental Accreditation of Canada.

A variety of local, provincial, and international learning opportunities are available to expand the comprehensive training each resident receives. Community clinics provide oral healthcare to individuals on income assistance, job training, and other pre-employment programs. Care to the people of Haida Gwaii supports a community dental health strategy. International experience broadens the scope of learning to understand regional disease processes, treatment modalities, and cultural competencies.

### Local-Based Residencies

- BC Cancer Agency, BC Children's Hospital, Vancouver Hospital & Health Sciences Centre, St. Paul's Hospital, Portland Community Clinic, First United Oral Health Program, Vancouver Native Health Society (and other community clinics)

### Provincial-Based Residencies

- Haida Gwaii (Skidegate and Massett dental clinics), Kelowna Gospel Mission, Prince George Native Friendship Centre, Victoria (Cool Aid Community Health Centre)

### International-Based Residencies

- Vietnam (University of Ho Chi Minh, National Hospital of Odonto-Stomatology and Ho Chi Minh City Cancer Centre)
- Cambodia (Angkor Hospital for Children, Siem Reap)
- United Kingdom (Solihull, Queen Elizabeth and Birmingham Children's Hospitals)

Application deadline: October 15

## Oral Medicine and Oral Pathology Residency Program

- Hospital-based postgraduate specialist residency
- Three pathways: Oral Medicine (OM, three years), Oral Pathology (OP, three years), or Combined (OMOP, four years)

Completion of any of the three pathways leads to a certificate and eligibility for the Royal College of Dentists of Canada fellowship examinations.

### Local hospital-based training sites

- UBC-affiliated teaching hospitals: BC Cancer Agency, Vancouver Hospital & Health Sciences Centre, St. Paul's Hospital

### Clinical practice component (training diagnosis, assessment, and management)

- oral mucosal disease
- orofacial disorders associated with aging, systemic disease, and medical therapies
- non-surgical salivary gland disorders
- rotations in anesthesia, internal medicine, rheumatology, neurosciences, dermatology, diagnostic pathology, oncology, otolaryngology, surgical pathology (including autopsy), head and neck pathology, and dermatopathology
- OM pathway: additional training in dental management of medically complex patients and diagnosis and treatment of orofacial pain and neurosensory disorders
- OP pathway: additional training in surgical and anatomical histopathology and laboratory procedures, techniques, and diagnosis

### Didactic component

- postgraduate-level seminars, case presentations, and literature reviews
- teaching rounds
- ongoing basic and/or clinical research studies

Application deadline: November 1

## RESEARCH CLUSTERS

- CLINICAL RESEARCH, TECHNOLOGY TRANSFER & DENTAL MATERIALS SCIENCES RESEARCH CLUSTER
- COMMUNITY & EDUCATIONAL RESEARCH CLUSTER
- iMATRIX RESEARCH CLUSTER

## CLINICAL RESEARCH, TECHNOLOGY TRANSFER & DENTAL MATERIALS SCIENCES RESEARCH CLUSTER

*This cluster encompasses groups engaged in research on cancer diagnosis and prevention, dental biofilms, dental hygiene, dental instruments and materials, dental sleep medicine, forensic dentistry, and interactive dental anatomy. Our areas of expertise include biomaterials, dental morphology, obstructive sleep apnea, oral cancer, and root canal irrigation. We study matters such as bacterial eradication, cellular interactions, cephalometrics, community outreach programs, computational fluid dynamics, diagnostic tools, DNA analysis, fracture mechanisms, molecular markers, novel disinfection strategies, oral care products, surface characterization, and treatment strategies.*

**MARKUS P. HAAPASALO**, Coordinator, Clinical Research, Technology Transfer & Dental Materials Sciences Research Cluster, [markush@dentistry.ubc.ca](mailto:markush@dentistry.ubc.ca)

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### **HUI CHEN**

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### **JEFFREY COIL**

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### **MARKUS HAAPASALO**

Endodontic disinfection: novel types of irrigation solutions, strategies for eradication of dental biofilm, hydrodynamic analysis of root canal irrigation  
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### **DENISE LARONDE**

Oral cancer screening and risk prediction, including the use of clinical adjunctive devices, within the community  
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### **ALAN LOWE**

Orthodontics, obstructive sleep apnea, cephalometrics  
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### **ADRIANA MANSO**

Adhesion of biomaterials to dental hard tissues, clinical applications of dental biomaterials  
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### **CAROLINE NGUYEN**

Biomaterials, oral cancer treatments, oral cancer rehabilitation outcomes  
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### **BENJAMIN PLISKA**

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### **CATHERINE POH**

Oral cancer translational research: developing and applying molecular tests and imaging tools for screening, early detection, risk assessment, management; translating these findings in medically underserved communities  
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### **N. DORIN RUSE**

Biomaterials, surface characterization, fracture mechanics, fatigue, finite element modelling/analysis, structure-properties relationship  
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### **YA SHEN**

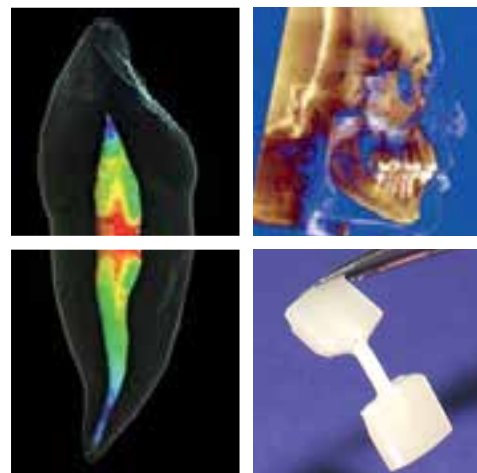
Predisposing factors in instrument failure, predictions of NiTi instrument life cycle, oral biofilms  
[yashen@dentistry.ubc.ca](mailto:yashen@dentistry.ubc.ca)

### **DAVID SWEET O.C.**

Recovery and analysis of trace amounts of forensic DNA evidence from biomaterials and human tissues in historical homicide investigations  
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### **LEWEI ZHANG**

Cancer risk prediction: molecular markers, histological phenotypes as measured by computer-driven image system, clinical visual tools  
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# COMMUNITY & EDUCATIONAL RESEARCH CLUSTER

*The research in this cluster relates to three of the four Canadian Institutes of Health Research themes: health services research; social, cultural, environmental, and population health; and clinical research—and to a range of educational studies. These domains are loosely interconnected and employ various quantitative and qualitative research methods and knowledge transfer. Our members conduct studies on diverse topics such as healthcare promotion, oral implants, dental caries, systematic literature reviews, and community service learning.*

**MICHAEL I. MACENTEE**, Coordinator, Community & Educational Research Cluster, [macentee@dentistry.ubc.ca](mailto:macentee@dentistry.ubc.ca)

**JOLANTA ALEKSEJŪNIENĖ**  
Community-service learning, theory-based behavioural interventions, salivary caries risk assessment, program evaluation, evidence-based educational research  
[jolanta@dentistry.ubc.ca](mailto:jolanta@dentistry.ubc.ca)

**W. LEANDRA BEST**  
Education-related scholarly activities: enhancing student learning experiences through curriculum innovation, assessment, case writing, and faculty development  
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**MARIO BRONDANI**  
Dental public health, community service learning and reflective journaling, dental geriatrics and psychometrics, health values and beliefs, HIV/AIDS and aging  
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**LAMIA EL-ADWAR**  
Effect of medical grade monitors on radiographic interpretation and clinical management of oral pathology  
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**INGRID EMANUELS**  
Acquisition of reflective vision skills in students: Does mirror skills pre-training improve learning, performance, and stress levels during clinical simulation exercises?  
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**ZUL KANJI**  
Dental hygiene education: student development, transition, retention; predictors of success  
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Health promotion, pregnant and immigrant oral health, program evaluation  
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Factors affecting children’s access to oral healthcare  
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**JAMES RICHARDSON**  
Investigating the benefit of “clickers”: pilot project using a collaborative wiki platform for topics of interest to third year dental classes  
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Economic evaluations in dentistry, survival analysis  
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**HSINGCHI VON BERGMANN**  
Large-scale comparative studies (e.g. TIMSS), PBL, quantitative research methods, content analysis, program evaluation, science education (K-16), dental education  
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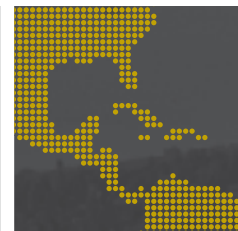
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**ELI WHITNEY**  
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**TRACY WONG**  
Engagement in scholarly approaches to teaching and learning in clinical dental education  
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**CHRISTOPHER WYATT**  
Prosthodontics, geriatrics, dental disease prevention, oral health promotion  
[cwyatt@dentistry.ubc.ca](mailto:cwyatt@dentistry.ubc.ca)

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## iMATRIX RESEARCH CLUSTER

*iMatrix is an interactive research cluster combining the research interests of 12 highly active laboratories in oral and biomedical sciences. We conduct basic science research in areas such as cancer, cell behaviour, craniofacial development, integrins, molecular biology, periodontal disease, proteases, proteomics, and wound healing. Highly motivated undergraduate and graduate students, postdoctoral fellows and other trainees, as well as interested collaborators, are welcome to contact our member laboratories.*

**DIETER BRÖMME**, Coordinator, iMatrix Research Cluster, [dbromme@dentistry.ubc.ca](mailto:dbromme@dentistry.ubc.ca)

### DIETER BRÖMME

Lysosomal proteases and their role in health and disease

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### DONALD BRUNETTE

Regulation of cell behaviour on implant surfaces by substratum topography

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### VIRGINIA M. DIEWERT

Prenatal craniofacial development in humans and mice: 3D morphometric analyses identify abnormalities that contribute to facial malformations such as cleft lip and/or palate

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### NANCY FORD

Micro-computed tomography, small animal imaging, cone beam CT

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### LARI HÄKKINEN

Cell to extracellular matrix interactions in wound healing

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### HUGH KIM

Biochemical signalling mechanisms that regulate platelet function

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### HANNU LARJAVA

Cell adhesion, integrins and signalling in wound healing and periodontal disease

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### CHRISTOPHER OVERALL

Proteomic investigation of inflamed periodontal and synovial tissues and cancer to elucidate proteolytic mechanisms of cell signalling and in regulating inflammation

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### EDWARD PUTNINS

Regulation and protection of mucosal and skin epithelial cell barrier integrity during inflammation

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### JOY RICHMAN

Evolution and development of the face and teeth using bird and reptilian models

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### CLIVE ROBERTS

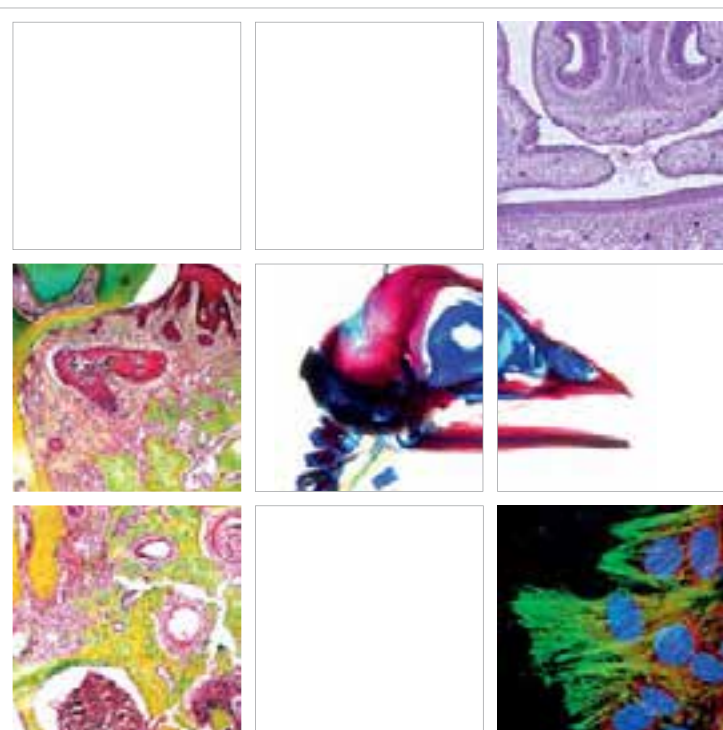
Extracellular matrix remodelling and cell biology in inflammation, fibrosis, and wound healing

[clive.roberts@ubc.ca](mailto:clive.roberts@ubc.ca)

### CHARLES SHULER

Studies focused on characterizing the molecular mechanisms regulating secondary palatal fusion with specific emphasis on the TGF $\beta$  signalling pathway

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# Congratulations

Scotiabank congratulates the **Faculty of Dentistry at University of British Columbia** on their 50th anniversary.

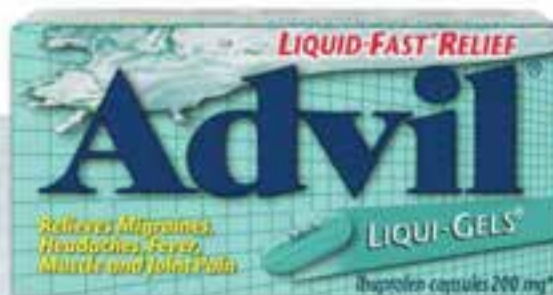
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# PLANMECA

The year 2014 marks 50 years since eight students registered for the first class in the newly founded Faculty of Dentistry at the University of British Columbia.

## THANK YOU TO OUR FIVE EXCLUSIVE SPONSORS OF UBC DENTISTRY'S 50<sup>TH</sup> ANNIVERSARY



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# NOTES



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UBC DENTISTRY 50 YEARS



# GRADUATE and POSTGRADUATE STUDIES



## GRADUATE PROGRAMS

Craniofacial Science

## SPECIALTY GRADUATE PROGRAMS

Endodontics

Orthodontics

Pediatric Dentistry

Periodontics

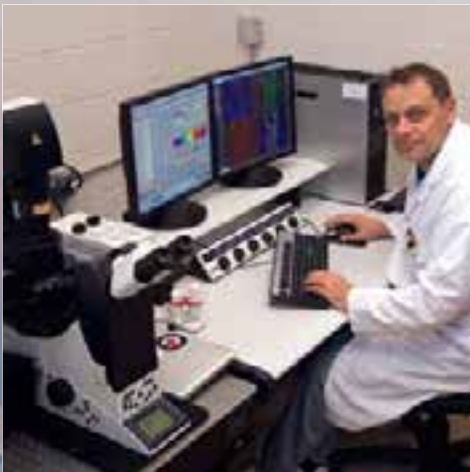
Prosthodontics

Dental Public Health (planned start September 2014)

## POSTGRADUATE PROGRAMS

General Practice Residency Program

Oral Medicine and Oral Pathology Residency Program





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