## **2016 WINTER/SPRING**

# UOF DENTISTRY

# **INSIDE THE PAIN RELIEF ISSUE**

DR. BARRY SESSLE'S TOP Neural discoveries

ACCESS TO ANAESTHESIA: New Survey Surprises

DO MEN AND WOMEN NEED DIFFERENT PAIN MEDS2

DECONSTRUCTING UofT DENTISTRY'S ONE-OF-A-KIND MURAL

# **PAIN REMOVERS:**

How UofT Dentistry researchers are solving an age-old problem > PAGE 8

# $\equiv$ 2016 WINTER/SPRING **UOF DENTISTRY**





### EDITORIAL TEAM

## Editor-in-Chief: ERIN VOLLICK Contributing Editor/Writer: JANET ROWE Contributing Writer: MARK WITTEN Editorial Consultant: SUSAN ALKSNIS Photography: JEFF COMBER Art Direction & Production: FRESH ART & DESIGN INC. Cover Illustration: LINO

### ADVANCEMENT OFFICE CONTACTS

SABRINA MARTINEZ Alumni Relations Manager sabrina martinez@ dentistry.utoronto.ca (416) 979-4940 MIRIAM STEPHAN Advancement Coordinator miriam stenhan@ dentistry.utoronto.ca (416) 979-4775

### 3 MESSAGE FROM THE DEAN

4 NEWS

## COVER STORY

# 8 PAIN REMOVERS

UofT Dentistry researchers are changing the way we think about – and treat – an age-old problem

- 14 THE PIONEER How Barry Sessle broke new ground in neural pain research
- **18** AN X/Y PRESCRIPTION FOR PAIN Sex differences could lead to personalized treatments
- 20THE MYSTERIES OF PAIN The stories behind Dentistry's remarkable lobby mural
- 22THE GREAT ANAESTHESIA DIVIDE New insights into use and access
- 24AWARDS OF DISTINCTION Three extraordinary dentists
- 26ACCESS TO CARE
- 272016 GALA
- 28BOUNDLESS GRATITUDE A salute to our generous donors
- 31 OBITUARIES
- 32 UPCOMING EVENTS

### EDITORIAL ENQUIRIES AND SUBMISSIONS

Erin Vollick, Editor-in-Chief University of Toronto Faculty of Dentistry 124 Edward Street, Room 303 Toronto, ON M5G 1G6 (416) 979-4900 x4381 erin.vollick@ dentistry.utoronto.ca

UofT Dentistry is published by the University of Toronto Faculty of Dentistry. Material published does not necessarily represent the official position of the Faculty of Dentistry The editor reserves the right to edit or refuse, as necessary, all materials submitted.

## VISIT US ONLINE AT: WWW.DENTISTRY.UTORONTO.CA



# MESSAGE FROMTHE DEAN

# A TIME OF RENEWAL

e have reached a critical era of renewal and rejuvenation here at the Faculty of Dentistry. In November 2014 we published our Faculty's Strategic Plan 2014-19, in which we outlined key initiatives aimed at strengthening

our educational programs and research foci, improving the student experience at the school, broadening our public relations reach, and achieving our mission in new and unprecedented ways. This past June we deliberated on our progress to date. The various implementation working group chairs and com-

mittee members compiled reports on each of the 21 priority action items tasked for Year 1. The results have been published in our Year I Progress Report, which can be accessed here: bit. ly/YearOneProgress.

One of the main areas of development we are collectively working on through the Strategic Plan is the improvement of student experience. We have addressed this challenge on numerous fronts: from the hiring of Dr. Rick Rayman as

Director of Student Life, to the expansion of our student outreach placements, to the completion of a comprehensive DDS curriculum review.

As a Faculty we are continually renewing our commitment to modelling and passing down the highest standards of ethics possible to our dentists-in-training, and our Strategic Plan has been bearing out this priority. In a carry-over from our first year's priorities, a working group led by Dr. Howard Tenenbaum will look at ways in which we can further ingrain professionalism throughout our Faculty, and in the process, set even higher standards for our students to exemplify. Our students continually demonstrate that this is a priority they proactively pursue on their own. For instance, DDS student

Alina Karpova, with the faculty guidance of Dr. Rayman, is leading a Student Professionalism and Ethics Association (SPEA) chapter at the Faculty. SPEA was an idea originally seeded with our students by alumnus Dr. Rollin Matsui 7T9 DDS, who, while visiting our school as a representative of the American College of Dentists, urged our students to embrace an active examination of professionalism and ethics. Sadly, Dr. Matsui passed away this past November, yet I know he would be very proud of this legacy he leaves behind, as one of his many contributions to our profession.

# As a leading institution in the field, it is our responsibility to proactively evolve

DEAN DANIEL HAAS

As part of our Strategic Plan consultations, we also received from our faculty and staff a mandate to move ahead with a plan to refresh the Faculty's organizational structure. With this new, more streamlined Faculty structure, we can create greater opportunities for collaborations and cross-disciplinary learning across the specialties, as well as between basic science and clinical research and education - vital components to our future success as an institution. With this new, more collaborative model we can more quickly and effectively translate our research strengths into

identifying and solving clinical problems - with a direct and positive impact on the future of dentistry.

Each of these interdependent goals has been crafted in response to the vast changes our profession faces and as we look to where dentistry needs to shift in the future. More than just semantic exercises, our strategic priorities are aimed at taking us to the next level as a Faculty. As a leading institution of teaching and research in our field, it is our responsibility to proactively evolve and respond to these challenges, and we need to do so deliberately, with thoughtfulness and precision.

# UP FRONT



# **\$2.8 MILLION FOR RESEARCH PROJECTS**

ix projects involving investigators from the Faculty of Dentistry, worth just under \$2.8 million, have been funded by the Canadian Institutes of Health Research. The topics to be studied range from bone loss and bone growth to salivary biomarkers, middle ear infection, tissue engineering and collagen mineralization at the periodontal ligament-cementum junction.

Professor Amir Azarpazhooh oT7 MSc DPH, rT1 PhD and research partners at St. Michael's Hospital will investigate the safety of xylitol, a naturally occurring sugar found in birch, and widely used in products from chewing gum to toothpaste. With its antibacterial properties, xylitol may reduce levels of Streptococcus pneumoniae and Haemophilus influenzae, the two bacteria most commonly associated with middle ear infection in children under 12.

Professors Dilani Senadheera oT<sub>7</sub> PhD and David Lam

oTr, oT8 PhD, with co-researchers from Western University and the University of Waterloo, plan to investigate the role of oral microbial and salivary biomarkers in predicting infection after radiotherapy.

"Staying competitive with funded research is one of the Faculty's key strategic priorities," says Dean Daniel Haas 7T9, 8T4 BScD, 8T8 PhD. "These most recent grant competition results demonstrate to me that our research is collaborative, cross-disciplinary, and translatable – qualities necessary for success in Canada's decreasing research grant market."

"I am particularly thrilled and impressed with the success of our junior faculty members," says Professor Ben Ganss, Associate Dean, Research. "This may just be the beginning of a sustained wave of new discoveries with all our disciplines working together toward tangible health benefits."

# UNIQUE SALIVARY IMMUNE RESPONSE DRIVES ORAL CANCER



he survival rate of oral cancer – approximately 50 to 60 per cent over five years – has remained stagnant for decades while other cancer survival rates

have dramatically improved. That could change now that Dentistry collaborators have unearthed a significant connection between the inflammatory response of neutrophils, immune cells common in

Oral squamous cell invading the extracellular matrix

saliva and the oral cavity, and the spread of this deadly disease. "There's a unique inflammatory response with oral cancers," says

Assistant Professor Marco Magalhaes oT9 PhD, 1T5 MSc OP/OM.

Like other immune cells, neutrophils secrete a group of molecules, including tumor necrosis factor alpha, that regulates how the body responds to inflammation. The study noted that oral cancer cells secreted interleukin-8, another inflammatory mediator, which activates neutrophils, effectively establishing a massive immune-response build up or "feedback loop."

Ultimately, the researchers found, the immune-response loop resulted in increased invasive structures known as "invadapodia," used by the cancer cells to invade and metastasize.

"If we understand how the immune system interacts with the cancer we can modulate the immune response to acquire an anti-cancer response instead of a pro-tumour response," Magalhaes says.

While the research points to the possibility of one day creating targeted, personalized immunotherapies for patients with oral cancer that could effectively shut down the abnormal immune response, the team is currently expanding upon their study of inflammation and oral cancer. The study was published in the journal *Cancer Immunology Research*.

# CLINICAL Photography Pioneer

he was part of the vanguard that brought clinical photography to prominence in the dental profession. Now Rita Bauer, a medical photographer at the Faculty of Dentistry for the past 37 years, has been honoured for her work with Ad Eundem membership in the Royal College of Surgeons Ireland (RCSI). It is the first time a non-dentist has received this honour.

"Rita's attention to detail, high standards and the unique talent that she possesses to educate make her stand apart," said Dr. John Walsh, Dean of the RCSI, in a statement.



MAKE IT MEMORABLE Calling all reunion Organizers

Organizing your class reunion? Get in touch with the Advancement Office so that we can help you make it a memorable event. Contact miriam.stephan@ dentistry.utoronto.ca

# UP FRONT $\equiv$

# **GROWING BONE BETTER AND FIGHTING S. MUTANS**

wo award-winning student projects could help clinicians create more controlled bone growth, or reduce the virulence of Streptococcus mutans by as much as 60 per cent. Gazelle Crasto 1T2 MSc, 1T6 PhD and Gursonika Binepal 1T6 PhD took second and third place, respectively, in the basic science category of the recent Canadian Association of Dental Research Student Research Awards.

Bone morphogenetic protein (BMP) can regenerate bone in the oral cavity, but comes with hazardous side-effects that



include cancer. Crasto developed a liposome "fat bubble" delivery system that sharply reduces the amount of BMP needed. In preclinical trials, she also demonstrated that by "detonating" BMP-containing bubbles with ultrasound, dosages can be released at intervals, giving researchers control over the timing of the healing.

Binepal's research showed a link between potassium uptake by Streptococcus mutans, the bacterium thought to be a significant factor in tooth decay, and its virulence. "We could place blockers in a mouthwash or toothpaste," she says, "which could prevent free potassium from being available to the cells" – and significantly impair the bacteria's ability to flourish in the oral cavity.

Crasto will also represent Canada at the International Association of Dental Research's Hatton Competition next June in Seoul.

# CONTINUING DENTAL EDUCATION FACULTY OF DENTISTRY Our standards. Your results. www.cde-utoronto.ca



April 8, 2016: Dr. Howard Glazer, What's Hot and What's Getting Hotter? April 16, 2016: Dr. Ron Jackson, Posterior Composites

UNIVERSITY OF TORONTO

# MOLECULE COULD PREVENT HEART VALVE DISEASE



ore than a million Canadians living with heart valve disease – a condition that is not treatable medically – may soon have new hope, thanks to research led by Canada Research Chair and Professor Craig Simmons. In October, Simmons was awarded the 2015 CP Has Heart Cardiovascular Award from the Heart and Stroke Foundation and Canadian Pacific, valued at \$288,867, which he will use to investigate whether a molecule known as CNP can help slow the progression of calcific aortic valve disease, with a long-term goal to improve patients' quality of life.

"Our work has shown that the CNP molecule is important to maintain healthy heart valves," says Simmons, who is cross-appointed with the Institute of Biomaterials & Biomedical Engineering and the Faculty of Dentistry. "This award will support collaborative efforts with researchers in engineering and medicine to test CNP as a treatment for valve disease." In 2015, Simmons was appointed scientific

director of the Translational Biology & Engineering Program, a new multidisciplinary research initiative within the recently established Ted Rogers Centre for Heart Research.

# MESSAGE UNDELIVERABLE?

Don't miss out! Keep up with the latest alumni news and invites by ensuring that we have your current address on file. Please update your address with sabrina. martinez@dentistry.utoronto.ca

# **UNUSED EQUIPMENT?** It can make a difference in ethiopia



ofT Dentistry is helping Addis Ababa University in Ethiopia establish its first dental school. A partner in the Toronto-Addis Ababa Academic Collaboration, the Faculty sent instructors to facilitate academic programming for the new school in December 2015, and will be continuing month-long teaching rotations in 2016. The Addis Ababa dental school's new fiveyear DDM program will help the African nation overcome a desperate shortage of dental professionals in the country, in which an estimated 90

million people are being served by 200 dentists and only 11 specialists. While the school has received donated chairs, more help is needed. Here's where you can help: UofT Dentistry is collecting for the school equipment and supplies that would be useful in a contemporary office, including:

- · Equipment compatible with 220-volt electricity
- $\cdot$  Autoclavable dental instruments
- Materials sealed in manufacturer's original packaging and at least one year from expiry (no liquids)
- · Textbooks and journals published in the last five years

• Metal cabinets and office equipment. (Wood cannot be accepted) Inquiries can be directed to: Aaron Fenton, Professor Emeritus Email: a.fenton@dentistry.utoronto.ca Phone: (416) 979-4930 x4426

# TRAIN THE FUTURE OF DENTISTRY

## Interested in teaching in the Faculty's Clinics?

If you have an interest in clinical or pre-clinical teaching at the Faculty of Dentistry, University of Toronto, we'd love to hear from you. For more information, please email Human Resources at: human.resources@dentistry.utoronto.ca or call Dorcas Johnson at: (416) 979-4900 x4386.

# MENTORING YOUNG ALUMNI



ore young alumni are enjoying the benefits of belonging to the Faculty of Dentistry Alumni Association, thanks in part to Dr. Amit Puri 0T0 DDS, who was president of the Association from 2010 to 2015.

Puri's efforts to mentor recent graduates and reach out to volunteers have made him a stellar Faculty ambassador to young dentists – and haven't gone unnoticed. Puri recently received an Arbor Award from the University in gratitude for his outstanding volunteer service.

All alumni are members! Connect with your Alumni Association at: www.dentistry.utoronto.ca/alumni

# **REFERRALS WELCOME**

n order to provide our third- and fourth-year DDS students with an enriched clinical experience, the Faculty clinic is now accepting "procedurespecific" endodontic and prosthodontic referrals from private practice.

Do you have a patient you think would be a good fit? Simply download a referral form from the website address (dentistry. utoronto.ca/patient-clinics/patient-referrals), fill it in, and fax it back to the Clinic Office (any associated radiographs are best given to the patient).

Upon completion of the specified procedure, the patient will be referred back to your care.

Thank you for your contributions to dental education.

# FOREFRONT ofPAIN RESEARCH

The

Dentistry scientists are changing the way we think about and treat an age-old problem

BY MARK WITTEN ILLUSTRATION BY LINO

8 • UNIVERSITY OF TORONTO FACULTY OF DENTISTRY

2016 WINTER/SPRING • 9

# Pain.

It's an urgent – and complicated – issue, and Faculty of Dentistry researchers are on the front lines. From psychological approaches to genetic studies and advanced surgical techniques, our scientists bridge the spectrum of pain research. Their discoveries will help clinicians in all areas of health care.

# PAIN IN YOUR MIND

Assistant Professor Iacopo Cioffi wanted to know whether a new type of orthodontic archwire could reduce the initial pain experienced by most patients with braces. But his clinical trial (which ended up finding a significant benefit for thermoelastic over conventional wires) had an unexpected finding. Psychological stress was among the variables considered in the study, says Cioffi. That data set suggested a correlation between the intensity of the pain that patients reported and their scores for anxiety traits, no matter which type of hardware was being used.

This accidental finding, tapping into the well-known link between anxiety and pain, was the catalyst for studies Cioffi has since conducted to directly assess how psychological traits affect patients' pain perception following orthodontic procedures. In an upcoming publication, he compares the pain perceptions of patients who report generally feeling nervous with those of patients who generally feel secure and calm, after orthodontic elastic separators were placed between their teeth for five days. The patients with high anxiety traits reported significantly greater discomfort and almost twice as much pain as patients with low levels of anxiety.

As a researcher and practicing orthodontist, Cioffi is convinced that psychological traits are an important factor that clinicians should take into account when planning and performing dental treatments for individual patients. Treatment success depends not only on the clinician's skill but on patient compliance, which is compromised when pain is experienced. Cioffi recommends that an anxiety questionnaire such as the State-Trait Anxiety Inventory be used in the first consultation before a procedure to "yellow flag" anxious patients. The clinician can then use this information to help guide the approach to treatment – for example, choosing a less complex procedure, to minimize pain risks and make compliance easier. "You need to tailor treatment to psychological traits to do the best for your patient," says Cioffi.

# PAIN IN YOUR BRAIN

From the psyche, it's only a short step to the neuronal circuitry that encodes subjective experience. Enter Assistant Professor Limor Avivi-Arber 9T3 Dip Prostho, 9T4 MSc, oT9 PhD, a prosthodontist and neuroscientist, whose research reveals that dental procedures change the brain. Her studies show that tooth pain or changes to the bite resulting from extractions can reconfigure the neuronal circuitry of the brain regions devoted to processing the sensorimotor functions of the orofacial tissues. "Such neuroplastic changes are key brain mechanisms that determine how patients adapt to dental treatments – or why, in some cases, they may not adapt and may remain with chronic pain or difficulties in chewing and



speaking," says Avivi-Arber.

In a 2015 study, Avivi-Arber and colleagues showed how treatment with dental implants can reverse the changes induced by tooth extraction. "By better understanding the brain's neuroplastic mechanisms underlying patients' adaptations to dental procedures, we will be able to develop even better oral rehabilitative strategies," she says.

While Cioffi advises clinicians to be mindful of the psychological traits of patients, Avivi-Arber

says they also shouldn't forget that patients can vary in their neural adaptability. While some adapt rapidly to dental treatments, others may adapt only slowly or not all. Moreover, older patients' brains are less neuroplastic than those of younger patients. This should influence the clinician's treat-

ment plan and decisions, she says. "To make treatments beneficial, I schedule more and longer appointments for some patients, and provide them with transitional care to facilitate their adaptation."

# PAIN IN YOUR GENES

But what makes some people better neurological adaptors than others? Individual differences point to genetics – and genetics is proving a fruitful field of study for UofT pain researchers. Professor Ze'ev Seltzer is one of them. In 2002, he came to the Faculty of Dentistry from the Hebrew University in Jerusalem armed with DNA samples from 250 Israeli veterans who had lost a limb in combat and 650 Israeli women who had had breast surgery to remove a malignant growth.

Analyzing the samples, Seltzer and his colleagues found variants of three candidate genes strongly linked to higher

The more excited neurons are, the more pain will be produced in higher brain pain networks

> pain networks," explains Seltzer. His larger goal is to help map all the genes involved in heritable susceptibility to developing chronic pain conditions after a nerve injury, understand the mechanisms by which they contribute to increasing or reducing pain, and eventually personalize pain medicine by applying this knowledge to

levels of phantom limb pain in leg amputees and post-surgical pain in mastectomy patients. These genes, called *P2RX7*, *KCNS1* and *CACNG2*, encode proteins involved in synaptic ion channels, meaning they regulate how substances such as sodium, potassium and calcium pass into and out of nerve cells during synaptic transmission

in the central nervous system. "These ion channel genes contribute to the excitability of pain pathways. The more excited neurons are, the more pain will be produced in higher brain pain networks," explains Seltzer.



Identifying the risk factors could help anaesthesiologists and surgeons determine how best to treat patients with analgesic drugs before surgery to prevent chronic pain and even which surgical choices a patient should consider given their inborn risk

guide diagnosis, prevention and treatment. Through collaborations with pain researchers in Canada and internationally, he now has access to DNA samples from more than 10,000 people with chronic pain conditions, along with matching control samples from people who underwent the same procedure but never developed chronic pain. "These numbers give us the statistical power to use a genome-wide approach to identify many new variants, which could allow us to discover novel pain mechanisms and targets for drug treatment," he says.

A good example of the potential payoff from Seltzer's research is in preventing post-surgical pain, since about 60 per cent of patients undergoing surgery report moderate to severe pain long after their wounds have healed. "Identifying the risk factors could help anesthesiologists and surgeons determine how best to treat patients with analgesic drugs before surgery to prevent chronic pain and even which surgical choices a patient should consider given their inborn risk," says Seltzer.

## PAIN IN YOUR PROTEINS

Another area where genetic research may help is in drug discovery, particularly for cancer. More than half of all cancer patients experience significant pain, and, as dentists are aware, head and neck cancers are the most painful. Assistant Professor David Lam oTI, oT8 PhD began looking into the genetics of head and neck cancer after he noticed, while conducting clinical research at the University of California San Francisco, that the majority of head and neck cancer patients were men and they suffered more intense pain than women with the same cancers. "This was surprising because women generally experience more orofacial pain than men. I wondered if the pain was related to the cancer itself," he says.

Lam, who is also Head of Oral and Maxillofacial Surgery, investigated a gene, TMPRSS2, which was associated with more aggressive forms of prostate cancer. He found that the gene was expressed in much greater quantities in patients with head and neck cancers than in those with prostate cancer. Lam discovered that when the protein expressed by TMPRSS2, found on the surface of cancer cells, comes into contact with nerve pain receptors, pain is triggered. The more the protein interacts with pain receptors, the greater the pain. He and his colleagues looked at cell lines of cancers ranging from highest to lowest in pain severity - head and neck, prostate, melanoma - and saw that the levels of the protein corresponded to the level of pain each cancer causes.

Lam's discovery opens up new possibilities for innovative therapies that target TMPRSS2. "We're working with pharmaceutical companies to identify target inhibitors of the gene, which could potentially provide a new treatment for cancer  $\frac{2}{4}$ pain," he says.

# PAIN IN YOUR NERVES

While gene therapies may be the pain treatment of the future, we still have options in the here and how. Lam is also an oral-maxillofacial surgeon who uses innovative nerve repair techniques to relieve chronic pain that can result from a traumatic facial injury such as a tumour, broken jaw or serious tooth extraction. Lam vividly recalls a patient referred to him at the Wasser Pain Management Centre, who had developed numbress in her lower lip and chin after three implants were placed in her lower left jaw, and then severe chronic pain after the implants were taken out and replaced with three new ones. "She had electric shock-like pain that brought her to her knees in tears. The pain was aggravated when she wanted to kiss her grandchildren because putting her lips together caused the same pain," he says. Lam performed a nerve graft in which he removed the damaged portion of the inferior alveolar nerve and replaced it with a five-centimetre portion of nerve provided by a donor. He used a processed allogenic graft to provide support for the growing axons without generating an immune response. The results exceeded both his and the patient's expectations. "She has 90 per cent of her sensation back

and is completely pain-free," says Lam.

Lam has performed 16 facial nerve grafts and is teaching the technique to other surgeons. His dual role in helping people fight pain is satisfying in different ways. "As a surgeon, the difference you can make in an individual patient's life is a game-changer for that person. As a scientist, the impact of the research is you can help populations," says Lam.

# WHY YOUR CULTURE PREDICTS YOUR PAIN

"Your cultural environment might affect the expression levels of pain genes - and thus their impact on chronic pain pathways in your nervous system." says Prof. Ze'ev Seltzer. For example, he has collected data suggesting that Buddhist beliefs and the typical diet in Southeast Asia may protect Asians against pain - factors that help to explain why Cambodian limb amputees experience less chronic pain than comparable Israeli and German patients.

# THE PIONEER

In a career spanning nearly five decades, Dr. Barry Sessle has charted the frontier of orofacial pain research – a field that simply didn't exist when he graduated from dental school in 1963.

BY: MARK WITTEN PHOTO: JEFF COMBER

Dr. Sessle has led teams to map in great detail – and explain – the brain mechanisms that underlie the transmission of pain signals from the face, mouth and jaw, in combination with the neurochemical and non-neural processes that modulate the transmission of those pain signals. Sessle's many contributions to craniofacial pain research, covering a full range of orofacial sensory and motor functions, have been achieved through wide-ranging collaborations with researchers internationally and in Canada, in combination with the creativity and dedication of his many colleagues, students and post-doctoral fellows at UofT Dentistry.

Dean of the Faculty of Dentistry from 1990 to 2001, Sessle played a key role in the establishment of the internationally renowned University of Toronto Centre for the Study of Pain. He is the recipient of numerous awards and honorary degrees, and his research has been continuously supported for the past 40 years by both the Canadian Institutes of Health Research and the U.S. National Institutes of Health. While Sessle has helped secure UofT Dentistry's reputation for research excellence, his greatest impact has been the acceleration of vital health research. Sessle's research milestones have expanded our understanding and knowledge in the pain field and helped innumerable patients who suffer from motor dysfunctions and chronic pain – which has estimated economic costs of about \$30 billion annually in Canada and \$300 billion in the United States.

# MAKING CONNECTIONS BARRY SESSLE'S GROUNDBREAKING DISCOVERIES

Sessle's research provided new insights into the neuroplasticity of pain processing in the brain and how this can lead to chronic pain. He has made key discoveries about the hyperexcitability of neurons in the brain in chronic pain conditions. The changes to neurons after a peripheral nerve injury or inflammation reflect their hyperexcitability, which is part of the central sensitization process that contributes to the development of chronic pain.

> Central sensitization involves neuroplastic changes in the central nervous system that lead to increased pain sensitivity. Sessle and colleagues were the first to document central sensitization in trigeminal pain-sensing neurons in the brain by using a dental inflammatory model that they developed. The studies also demonstrated how central sensitization is a fundamental process critical in the development and management of chronic orofacial pain conditions.

Sessle's recent studies with UofT Dentistry colleagues such as Assistant Professor Limor Avivi-Arber 9T3 Dip Prostho, 9T4 MSc, OT9 PhD are providing new knowledge about the role of the sensorimotor cortex and sensory and motor functions in allowing people to adapt to a new dental prosthesis or rehabilitative procedure - findings that promise to help improve rehabilitative strategies used to restore sensory and motor function in the mouth, and prevent or treat pain or motor dysfunctions resulting from maladaptive responses to oral changes.

Most drugs developed to relieve acute or chronic pain have targeted neuronal processes underlying pain. Sessle's research raises the possibility of developing new pain control drugs through his discovery that non-neural (glial) cells play a critical role in pain processing and chronic pain conditions. Sessle's studies in collaboration with Professor Jonathan Dostrovsky (UofT Dentistry) and Dr. Koichi Iwata and colleagues (Japan) have shown the crucial involvement of glial cells in inflammatory pain and trigeminal neuropathic pain resulting from orofacial damage of nerves supplying the face and mouth.



 $\bigcap$ 

Sessle's collaborations with Dr. Art Storey and Dr. Jimmy Hu (both UofT Dentistry), Dr. Jim Lund (Montreal) and Dr. Koichi Iwata (Japan) led to discoveries on brainstem mechanisms and circuits involved in pain and sensorimotor functions in the face, mouth and jaw. His brainstem research helped to explain how orofacial pain arises and is transmitted in the brain, and also how analgesic techniques such as acupuncture and narcotic analgesic drugs such as morphine act. This pre-clinical information has contributed to the development of new approaches to treat acute or chronic pain, such as deep brain stimulation, and new analgesic drugs.

> As an Australian PhD student in the 1960s, Sessle collaborated with Dr. Ian Darian-Smith on studies of the underlying brain mechanisms in orofacial sensation, providing new and fundamental knowledge of orofacial sensory and touch mechanisms and pathways in the trigeminal system (supplying nerves to the face and mouth.)

Sessle developed a unique pain model for the temporomandibular joint (TMJ) jaw muscle reflex and collaborated with Hu and Dr. Brian Cairns (Vancouver) on studies providing new insights into TMJ and muscle biomarkers that may contribute to the development of novel drug treatments for temporomandibular-related pain.

> Sessle's long-time focus on orofacial sensory and motor functions in the cerebral cortex - involving collaborations with researchers from UofT, Japan, Montreal, Australia, Denmark and the U.S. - provided new knowledge and insights about the effects of orofacial pain on jaw muscle activity and movements, and on the role of the cortex in the learning and control of orofacial movements.

Photo: istock.com



and have greater activity in pain fibres. They

# AN X/Y PRESCRIPTION For Pain

Could a mysterious sexually dimorphic mechanism be key to personalized pain treatments?

BY: ERINVOLLICK

cientists are well aware that men and women have different experiences of pain. Now a new study by Faculty of Dentistry researcher Professor Michael Salter may have uncovered a reason why – sex hormone-mediated differences in the immune system. It's a discovery that could have important consequences both for pain research and pain treatment.

"It is [well] known that the pain phenomenon is different in males and females," says Dr. Pavel Cherkas, an assistant professor in Oral Physiology and Endodontics at the Faculty of Dentistry and a member of the University of Toronto Centre for the Study of Pain (UTCSP). For Cherkas 1T4 MSc Endo, who studies pain experiences across different research models, "It's not a single gene [that causes pain]. Hundreds of genes will be responsible for those differences."

Tracking down that complicated web of genetic information is a daunting task – and one that will take researchers a long time yet to untangle before they can begin to create personalized pain treatment plans based on a person's genetics.

Yet, a new discovery surrounding a sexually dimorphic pain mechanism may provide relief a lot sooner. Professor

Michael Salter, new Chief of Research at the Hospital for Sick Children's Research Institute and former Director of UTCSP, along with McGill University's Professor Jeffrey Mogil, has uncovered a male-female difference in the development of nerve pain, a difference related to the role of immune cells. The study found that two separate mechanisms drive neuropathic pain – one in males, and a different one in females. It's a finding significant for the advancement of pain research, but one that could change the way that drugs are tested.

Through their investigations into neuropathic pain sensitivity (mechanical allodynia) stemming from peripheral nerve injuries, the duo concluded that after nerve trauma, males and females will experience the same degree of hypersensitivity, a condition caused when neurons in the spinal cord become hyperexcited.

Because hypersensitivity is caused by nerve damage, sexual differences weren't thought to play a part in the mechanisms underlying this condition – a hypothesis borne out by their initial research findings: males and females seem to experience the same degree of neuropathic pain.

"If you were to test male and female research models behaviourally you wouldn't know there is a mechanistic difference [causing the same degree of hypersensitivity]" says Salter, who is appointed to the Department of Physiology in the



Faculty of Medicine and cross-appointed to the Institute of Medical Sciences and the Faculty of Dentistry.

But as they dug a little deeper, Salter and Mogil observed that microglial cells, immune cells of the spinal cord and brain that carry a specific pain receptor, *toll-like receptor 4* (TLR4), thought to play a key role in causing mechanical allodynia, were the root mechanism causing hypersensitivity – but only in *males*.

"It's one of those things that are almost black and white," Salter says. "The microglial mechanism is on in males and off in females. We can even flip the mechanism back and forth with testosterone." And although it is not known yet exactly what mechanism underlies female hypersensitivity, the researchers think it might derive from another immune cell, such as *T lymphocytes*.

Published in *Nature Neuroscience* this past August, Salter's findings have taken many pain researchers by surprise. He explains, "In almost all neurobiology, in all pain research, we'd always used male [physiology] for research. This is almost universally the way it is in the pain world. Does that then mean one of the reasons drugs might fail when they get out to clinical testing is because the mechanisms are sexually dimorphic?" After all, if hypersensitivity is triggered through two separate mechanisms, then pain research and treatment models may need to be recalibrated – perhaps specifically personalized along sex lines. In

# THE UNIVERSITY OF TORONTO CENTRE FOR THE STUDY OF PAIN (UTCSP)

The Centre was founded in 1999 through a UofT grant as a "virtual" and multi-disciplinary research centre, with support from Professors David Mock and Barry Sessle. UofT Dentistry remains the lead Faculty of the Centre
Founding Director was Professor Michael Salter (1999 to 2009)

The original UTCSP was a tri-Faculty entity (Medicine, Dentistry, Nursing) to improve research and education on pain; the Centre later brought in Pharmacy
Members of the Centre developed the groundbreaking Interprofessional Pain Curriculum, currently taught to more than 1,000 students from seven different programs
Current UofT Dentistry members include: Limor Avivi-Arber 9T3 Dip Prostho, 9T4 MSc, 0T9 PhD; Pavel Cherkas 1T4 MSc Endo; Deepika Chugh 0T9 MSc 0P/ OM; lacopo Cioffi; Thuan Dao 9T1 Dip Prostho; Michael Goldberg 9T1, 9T4 Dip Perio; Daniel Haas 7T9, 8T4 BScD, 8T8 PhD; David Lam 0T1, 0T8 PhD; Jose Lança; David Mock 6T8, 7T8 PhD; Michael Salter; Barry Sessle; Ze'ev Seltzer

# THE MYSTERIES **OF PAIN**

UofT Dentistry's mural makes a provocative statement on a universal experience

**BY: ERINVOLLICK** 



fter nearly 40 years as a centrepiece of conversation, sometimes of heated debate, and the admiration of busloads of art tourists, the wall-length mural gracing the lobby of 124 Edward Street now requires its own restorative work: as an artwork occupying public space, the mural has experienced its fair share of wear and tear. The Faculty of Dentistry is cur-

rently raising funds to protect the legacy of this masterpiece created by world-renowned muralist Carmen Cereceda. Along with repairing the chips and cracks, funds will support installation of a protective barrier and interpretive signage.

At once a statement on the universal experience of pain, its origin as well as its cessation, the lobby mural has become priceless – not only to the Dentistry community for its remarkable commentary on the role of dentistry in relieving pain, but to the wider art world. What follows are just a few reasons why.

To donate to the Dentistry Mural Restoration Project, please contact Miriam Stephan, Advancement Coordinator, at: (416) 979-4775 or miriam.stephan@dentistry.utoronto.ca

# FACTS

- Artist Carmen Cereceda invokes her native Chile through indigenous imagery of the womb and shamanism. Cereceda fled dictator Augusto Pinochet's reign of terror in the 1970s, and after arriving in Canada as a young refugee, began teaching at the Ontario College of Art, where she was commissioned for the piece
- The mural was commissioned by colleagues at UofT Dentistry to commemorate the life of Alan Black 6T2, who passed away at a tragically young age
- Now in her 80s. Cereceda has become famous for her murals, which she is still producing around the world
- · Lost for decades, the original sketches of the mural have been recently unearthed and may one day be displayed alongside the mural
- Cereceda's work invokes the bright colours and brush strokes characteristic of her teacher, internationally renowned painter and muralist Diego Rivera, and the Magical Realism school of Latin American art

The scrolling script at the top of the mural, currently partially hidden by a drop ceiling, reads: Penetrating mysteries of pain since first we emerged from darkness. They restore us to that balance born within the world's boundless womb. The words were written by OCAD student Darlene Madott.

An Amazonian "Mother Nature" is attached to her child by an umbilical cord, signalling the integral connection between birth, life and pain.

## With its odd juxtaposition, the beaver is a nod to UofT's crest as well as the mural's Canadian roots.



Surrounded by ceremonial masks, an indigenous shaman heals a sick child.

As with the beaver, the spaniel spotted in the centre of the mural is a nod to Canadiana.

An apprentice shaman prepares herbal medicines to alleviate pain. A microscope sits beside a cross-section of a cell, depicting the importance of research in resolving pain and dental diseases. Cereceda became inspired for this section when she struck up a friendship with former Associate Dean Richard Ellen, who was also a new arrival to Canada. Ellen shared his research and knowledge with the artist.

Watch a short video on the mural at: http://bit.ly/dentistrymural.

Cellular organisms grace the top corner of the mural, depicting our most primitive origins and our interdependence with all living organisms.

## A health-care worker waits in the wings to offer succour.

Like his shamanistic counterpart, the "modern" dentist on the right side of the mural attends to a child in pain.

> The signature acknowledges the two years the artist and her apprentices spent labouring on the piece.

# THE GREAT **ANAESTHESIA DIVIDE**

Geography can be a barrier to accessing anaesthesia services – but they may also be limited by something harder to counter: dentists'attitudes

**BY: ERINVOLLICK** 



## **0 YOU HAVE ADEQUATE** ACCESS TO DEEP SEDATION?

Dr. Andrew Adams 1T5 MSc Anaes, a dental anaesthesia specialist who now runs a private dental anaesthesia practice, has spent more than his fair share

of time contemplating this question. As part of his master's thesis last year, Adams designed a survey asking dentists across Ontario to respond to questions about their access to, and utilization of, anaesthesia and deep sedation services. And while some barriers to access are geographic in nature, the survey also suggests that dentists may be underutilizing the services available to them.

Where you live will have a huge impact on dentists' ability to access anaesthesia and deep sedation, the survey finds. Dentists in the North reported having the least access. In fact, a mere 34.2 per cent of Northern Ontario dentists reported having access to anaesthesia services, whereas 89.4 per cent of dentists in the Greater Toronto Area reported having adequate access to this service for their patients - the highest anaesthesia availability rates in the province.

It isn't a surprise that the North is underserviced. Conversely, the results regarding utilization rate, meaning that the dentists surveyed either provided or referred one or more

patients for dentistry under anaesthesia, are more complex.

For instance, despite having the highest rate of access, only 69 per cent of GTA dentists used anaesthesia services, the lowest rate of take-up in the province. Their northern counterparts, on the other hand, at 82.3 per cent, reported the highest utilization rate of the limited services available.

The results of the survey initially "stumped" Adams, who is also a Clinical Associate of Anaesthesia at the Faculty. "We found an inverse relationship. In areas where availability is high, utilization is low. In areas where availability is low, utilization is high."



Patient receives treatment under anaesthesia at the Faculty



## SO WHAT IS BEHIND THIS UP AND DOWN LOGIC?

Dentists' attitudes might be one reason, says Adams. While cost was seen as a significant factor, still, more than two-thirds of respondents that did not utilize anaesthesia or deep sedation for their patients indicated no need – a finding at odds with previous research suggesting that 54 per cent of Canadian dental patients are interested in these services.

"General anaesthesia is not in every dentist's toolkit," he says, "and because it's not something you provide, it's not ≦ something you're going to offer every patient."

So how can dentists in southern Ontario overcome this strange divide between availability and utilization, supply and demand? Adams argues for more comprehensive training for DDS students on anaesthesia, since exposure to the service would orient dentists to its essential value to patients as well as its mechanics. A more multi-layered approach could include measures such as a simple screening platform, for instance,

so dentists can screen patients for high dental anxiety. The cost of not providing anaesthesia services is ultimately a price that all of society pays, Adams suggests. "One of the issues we previously identified," he says, "is that patients with high dental fear who avoid dental treatment are more likely to turn to hospital emergency rooms, which are not always equipped to deal with dental cases." Similarly, "an estimated 20,000 children in Canada are on wait-lists to get their teeth fixed under general anaesthesia. They will have to wait an average of nine to 12 months, which makes a significant impact on their lives."

of patients.

# **UTILIZATION OF DEEP SEDATION & GENERAL ANAESTHESIA IN ONTARIO**

Ultimately though, the data point to one simple conclusion: "Dentists need to get the patient's perspective," says Adams. "They need to hear what patients are saying and why."

A follow-up study is currently underway at UofT Dentistry to examine the question of access from the perspective



# PROUDLY HONOURING:

# Dr. Tom Harle

In Canada and around the world, dental care is still too expensive for the people with the lowest incomes. So Dr. Tom Harle 8To DDS. 8To Dip Prostho, oTo MSc, has dedicated his career to providing accessible care to the most disadvantaged.

At UofT in the 1980s, Harle graduated first in his class, winning the Alpha Omega Prize. He launched a full-time private practice as a prosthodontist, and soon realized he could use its resources to help underwrite three nonprofit social enterprises that would reduce barriers to dental care for vulnerable patients.

He began by founding Health Teams International (Canada) in 2001. The group sends volunteer Christian health-care professionals around the world to offer free, short-term healthcare clinics in developing countries, such as Myanmar, Nepal,



Cambodia and even North Korea. In 2007, Harle launched a dental clinic at the Ottawa Mission homeless shelter where more than 100 volunteer dentists, hygienists and support workers provide 1,000 no-cost patient visits every year. And in 2012, he founded the Portable Outreach Dental Service. The mobile clinic offers free care to teen moms and their children in partnership with the Young Parent Support Network of Ottawa.

Harle's social responsibility efforts have earned recognition from various organizations including the Canadian Dental Association in

2011 with an Oral Health Promotion Award and from the Ontario Dental Association in 2012 with a Community Service Award. Harle was named a member of the Order of Canada in December 2014.

# Dr. Michael Pharoah

A generous teacher and a globally influential radiologist who nurtured a world-renowned program: that's Dr. Michael Pharoah 7T5, 8T4 MSc, 8T5 Dip Rad.

After joining the Faculty in 1977, Pharoah became head of radiology and its graduate program director in 1987. He held both positions for 22 years, and was named Professor Emeritus when he retired in June 2015.

Pharoah furthered the art and science of diagnostic radiology, both at UofT as well as internationally, by focusing on the potential of radiology images to aid in understanding

disease mechanisms. He published widely, describing the imaging characteristics based on disease mechanisms of abnormalities of the maxillofacial bones - and included this philosophy in his version of the classic textbook White and Pharoah's Oral Radiology (Editions 4 through 7, 2000-2014), which has been translated into numerous languages. Pharoah

NOMINATIONS WELCOME: 2017 AWARDS OF DISTINCTION. Recognize colleagues who are making a difference for the Faculty, research, the dental profession or society as a whole. Nominations are due June 1, 2016. For more information, visit www.uoft.me/aod or contact sabrina.martinez@dentistry.utoronto.ca

# Dr. Carolyn Poon Woo

Dr. Carolyn Poon Woo 8T5 DDS is one of the Faculty's most committed volunteers, a true example of giving back to the dental profession and an inspiring mentor to UofT students.

Poon Woo's successful practice in Toronto's Bloor West Village represents just one portion of her commitment to dentistry. She has been a volunteer with the Faculty of Dentistry Alumni Association since 1990, joining the board in 2000 and serving as President from 2006 to 2009. She has helped with fundraising, served on the Gala executive committee, and chased sponsorships and

donations for the silent auction. In addition, she has devoted hours to UofT students: inviting them to job shadow and hosting mentorship nights. She also taught in the Department of Oral Radiology from 1986 to 1991.

As president of the Toronto Crown and Bridge Study Club, Poon Woo coordinated a gift of radiology equipment upgrades



UofT honoured Poon Woo with an Arbor Award in 2008 for her leadership in Faculty volunteering. She is an honorary fellow of the Pierre Fauchard Academy, and has been inducted into the American College of Dentists and the International College of Dentists.

also advanced radiology education through the development of a unique, case-based seminar series that helped his graduate students achieve high-level diagnostic abilities, and founded an innovative Special Procedures Clinic that accepted patients with various diseases for advanced diagnostic imaging. The Faculty honoured him for exemplary teaching with the A. Bruce Hord Master Teacher Award in 2004.

Pharoah additionally served on both provincial and federal standards boards. He was on the editorial board of several academic journals, principally Dentomaxillofacial Radiology, and served as President of both the Ontario Academy of Oral Radiology and the Canadian Academy of Oral and Maxillofacial Radiology. He was elected a fellow of the Royal College of Dentists of Canada in 1986 and named Cline Fixott Lecturer for the American Academy of Oral Radiology in 2004.

> from the Club to the Faculty. She has just completed a term as president of the West Toronto Dental Society and currently sits as Secretary of the Canadian Dental Protective Association. In addition, Poon Woo is a Contributing Consultant for Oral Health Magazine.

In all these positions, she has worked to forge stronger links between dental associations and the Faculty. Poon Woo has provided restorative dental care to the children of Kitchenuhmaykoosib Inninuwug First Nation, to physically disabled patients in Northern Ontario and to low-income populations in Guatemala and Colombia.



t's the scores of practice hours on patient simulators, 3D anatomy simulators and case conferences. It's the hundreds of treatment hours logged in the Emergency Clinic, Oral Diagnosis Clinic, laboratories and all the undergraduate and specialty clinics. It's the staff who hand out the instrument trays as the clinics open, and the men and women who sweep the clinic floors once they've closed. It's a DDS student who stays up half the night putting together the best possible case she can for the Access to Care Fund panel, so that 81-year-old Mrs. Meyers can get the new set of dentures she's needed for a dozen years or so.

patients sitting in

chairs

Most of all, it's the collective passion, dedication and skills we draw upon every single day to provide an essential health service to an entire community in need of care.

# **SAVE THE DATE:** SATURDAY, APRIL 2, 2016

2016

AWARDS OF

DISTINCTION

# SHERATON CENTRE TORONTO HOTEL

Tickets available at: my.alumni.utoronto.ca/gala2016

To make a donation to Access to Care or the Teaching Clinics Fund, or to inquire about sponsorship:

(416) 979-4940 or sabrina.martinez@ dentistry.utoronto.ca

dentistry.utoronto.ca

More information on the Gala can be found at: dentistry.utoronto.ca/alumni/ awards-distinction-gala

# BOUNDLESSGRATITUDE

**"IT'S GOOD TO KNOW THAT I CAN CONTINUE STRIVING FOR MY DREAMS AND NOT BE LIMITED BY A LACK OF FUNDS."** 

TREVOR THANG, DDS 4

# **BOUNDLESS:** THE CAMPAIGN FOR THE UNIVERSITY OF TORONTO

THE BOUNDLESS CAMPAIGN has engaged almost 2,000 alumni and friends with the Faculty of Dentistry's top priorities and has helped to drive new levels of support for students, patients, the teaching clinics, research and innovation. To date, the Campaign has raised more than \$14.2 million, advancing our work as a leading dental school creating, translating and disseminating knowledge and treatments that improve lives.

# BOUNDLESSLEGACY

HANSAmed Ltd.

Nicholas Mancini

John and Melinda Mayhall

David Hunt

L. Jakubovic

Alan Joe

We wish to express our thanks to the following benefactors who have made gifts to the Boundless campaign at a level of \$25,000 or more. We are grateful to all our donors for joining us to make a transformative difference in the well-being of Canadians and others around the world for generations to come.

\$1,000,000 OR MORE	SciCan Ltd.
\$500,000 T0 \$999,999	1 Anonymous Donor
\$250,000-\$499,000	1 Anonymous Donor
\$100,000-\$249,000	
Susan Beal-Malloch	Nobel Biocare Canada Inc.
Gerald P. Copeland	Mark and Edith Nusbaum
Keith W. Davey	and Family
Christopher McCulloch	Toronto Crown and Bridge
Walter and Mary Lou	Study Club
Montanera	1 Anonymous Donor
\$25,000-\$99,999	
Greg Anderson	Lionel Metrick
<b>Biomet Microfixation</b>	Ontario Dental Association
Aldo Domenic Boccia	Ontario Society for
Donald Buschlen	Preventive Dentistry
Tony M. and Vanda Delitala	Ontario Study Club for
Dental Emergency Service	Osseointegration
Astra Tech Inc.	Joe Stanziani
Daniel A. Haas	Straumann Canada Limited

Vera and Lawrence Tomkins

George and Nancy Vasiga

3 Anonymous Donors

Katherine Zettle

practice for 40 years.

The Robert B. Dunlop Award has provided support to almost 50 students, including Trevor Thang (pictured page 29) Gift planning allows alumni and friends to honour their connection to UofT Dentistry, support programs of special importance and advance positive change through UofT's teaching, research and clinical care mission. There are many convenient, affordable and tax-smart ways to make a strategic donation tailored to individual goals, needs and timelines. For more information, contact Kimberley Wright in UofT Gift Planning kimberley.wright@utoronto.ca or (416) 978-5930. Or see boundless.utoronto.ca/how-to-give/bequests/

# LASTING LEGACIES

The Faculty of Dentistry recognizes donors whose gifts were made through realized bequests, trusts or insurance of \$25,000 or more, received during the Boundless Campaign through April 30, 2015.

# \$1 MILLION OR

# \$25,000 TO \$9

We strive to make our lists as accurate as possible. For more info, or if you have questions about the donor listing, contact Miriam Stephan at (416) 979-4775 or miriam.stephan@dentistry.utoronto.ca.

# LOOKING FORWARD, GIVING BACK

Dr. Robert (Bob) Dunlop was a popular long-time clinical instructor at the school and pillar in the Bayview-Eglinton area of Toronto where he operated a

The late Dr. Dunlop's dedication and commitment to dental students at UofT is living on through his generous bene-



faction to the Faculty through his will. Dr. Robert (Bob) Dunlop

\$1 MILLION OR MORE	Miet and Wanda Kamienski
\$100,000 T0 \$999,999	
David Locker	Robert Dunlop
Guy and Eunice Poyton	John and Doris J. Richmond
\$25,000 T0 \$99,000	1 Anonymous Donor

## LEADING GIFTS MAY 1. 2014 - APRIL 30. 2015

Our annual donor listing recognizes the generosity of donors who have made new gifts or pledges to the University of Toronto, Faculty of Dentistry of \$1,000 or more.

# \$25.000 OR MORE

**Biomet Microfixation** Alan Joe John and Melinda Mayhall Katherine Zettle 2 Anonymous Donors

Mark and Edith Nusbaum

## \$5,000 T0 \$24,999

\$1.827\* TO \$4.999

Andrew P. Abela

Robert Barsky

Mindy Cash

Marie Dagenais

\$1.000 TO \$1.826

Iames Blackmore

David Chvartszaid

Rudy Darius Chiarandini

F. Bruce Burns

Louis Cogan

Anna Csillag

Jose da Costa

Anne C. Dale

of Toronto

DDS Class of 5T8

Dino A. Di Santo

Victor Direnfeld

Dental Services Group

David Ramsay Farkouh

Donna Crossan

Alexopoulos

Ross Barlow

George and Christine

Michael Dove

gies Inc.

Donald Buschlen Paul Chapnick Wing Chiu Edward Bronfman Memorial Legacy Fund at the Jewish Foundation of Greater Toronto Frank Kalamut Christopher McCulloch Lionel Metrick

and Family Shaw Group of Dental Laboratories Lynn Tomkins Toronto Crown and Bridge Study Club UofT Orthodontic Alumni Association 1 Anonymous Donor

### Federation of Chinese Canadian Professionals Douglas and Grace Bradley (Ontario) Education Foundation Abdul Jamshaid Arnold Fleming Crescent Oral Surgery Edward Z. Grodecki Ralph Grose Michael E. Hamilton Graeme Hibberd E/T Endodontic Technolo-Ka-Biu Ip

James Fiege George Hare Endodontic Study Club Helen Grad Brian Hurd International College of Dentists (Canadian Section) Anca Jivan Maniinder S. Lalh Kenneth Lawless Lisa's Legacy: The Lisa Montanera Fund Vincent Lo Dennis Lyon Wayne Maillet Nicholas A. Mancini Stanley Markin Rollin M. Matsui



# **PRESIDENTS' CIRCLE**

\*The Presidents' Circle is the Leadership Annual Giving Society for the University of Toronto. To commemorate the University's Royal Charter of 1827, all individuals who make annual gifts of \$1,827 or more are acknowledged as members of the Presidents' Circle and enjoy unique opportunities to attend lectures and discuss ideas with other members, including UofT's current President.

Fatima Jadu Joseph T. Jakubek Ernest W. N. Lam V. Lobodowsky Robert McFarlane Maynard Nordine Kimberley Parlett

Rob M. Pasch

Shaw Group of Dental Laboratories Gervasio J. Molon Babak Nurbakhsh Natanya Padachey Amit Puri Bruce R. Pynn Royal College of Dental Surgeons of Ontario Valerie F. Stavro

Doreen Strain Peter T. Tonisson Academy of Dentistry Alfred J. Vaughan Fred Weizenberg William Wing-Bill Wong Norman K. Wood Miriam and Roel Wyman Joseph Yu **5** Anonymous Donors

Susanne Elizabeth

Raminsh-Tannis

1 Anonymous Donor

Egils Tannis and Ingrid

Perschbacher

## CONNECTING ALUMNI AND STUDENTS

Who better to provide insights and guidance to dental students than alumni? We gratefully acknowledge alumni gifts to the Dentistry Annual Fund, which supports many initiatives, including opportunities for our students to interact with recent graduates, hear talks by newer alumni with unusual clinical experience, visit alumni practices and meet alumni who may be seeking associates.

# OBITUARIES $\equiv$

# WE REMEMBER...

## DR. JOHN FASKEN 7TO DDS. **7T7 DIP ORTHO**

Well-loved for his gift of storytelling, Dr. John Fasken passed away unexpectedly in August 2015 at the age of 68. As a UofT student. Fasken won an Albert E. Webster Memorial Scholarship for having the best clinical skills in his class. He put those to good use, first in a stint in First Nations communities in the Northwest Territories, then in his Oakville, Ontario practice. He taught at the Faculty for nearly 40 years as a clinical instructor in Orthodontics, and was a loyal donor to the Faculty. In both 2002 and 2009, his Orthodontics students voted to honour him with the Manley G. Badner Memorial



Award for exceptional dedication to orthodontics education. He was a member of the Ontario Dental Association and of the Halton-Peel Dental Association.

# DR. ERNEST LEWIS 5T7 DDS

- Dr. Ernest Lewis passed away peacefully in September at the age
- of 81. A practising dentist for 44
- years who focused on endodon-
- tics in the later part of his career, he was active in many facets of
- the profession, including serving as
- President (and a charter member) of the Halton-Peel Dental Association
- and as a charter member of the

Peel Health Council He was also an outstanding teacher who taught at the Faculty for many years as a clinical instructor in Endodontics. His colleagues held him in high respect, and remember him as both caring and friendly. He also served as a clinical board examiner for the Royal College of Dental Surgeons. Lewis loved hockey and was thrilled to be able to serve as the



official dentist for the Toronto Maple Leafs – and for Team Canada during the Canada Cup and World Championships tournaments. He was a fellow of the American College of Dentists.

# DR. M. ROLLIN M. MATSUI **7T9 DDS**

Dr. Rollin Matsui passed away in November 2015. As both a practising dentist and a practising lawyer, he was a founder and president of the Health Law Association of Osgoode Hall Law School and a founder and executive director of the Canadian Dental Protective Association. providing legal assistance to the dentists of Canada. Following his graduation from UofT, Matsui went into private dental practice in Toronto and became involved in organized dentistry. He was a representative on the Council of the Royal College

College of Legal Medicine, the International College of Dentists, and the American College of Dentists. He received the Award of Merit from the Ontario Dental Association for his many contributions to that organization. He served on the executives of the North Toronto Dental Society and the Alpha Omega Dental Fraternity and was a member of the Ontario Dental Association,

of Dental Surgeons of Ontario and a member of many committees, including Complaints, Discipline and Registration. This involvement led to an interest in the legal aspects of dentistry so he chose to pursue a law degree. receiving his LLB in 1991 from Osgoode Hall Law School. In 1993, he launched a full-time law practice, primarily acting for dentists in matters related to complaints and professional misconduct while continuing to practice dentistry part-time. He lectured extensively on law and dentistry in Ontario and in the United States. He was also the editorial board member for Ethics and Jurisprudence for Oral Health Journal and became well known throughout Canada for his articles on risk management and legal issues pertaining to dentistry. Matsui was a fellow of the Pierre Fauchard Academy, the American



the Canadian Dental Association. the Anderson Study Group, the South Asian Dental Association and the Phi Delta Phi International Legal Fraternity. Matsui was committed to family and community. He cherished his Japanese-Canadian heritage and

was a member of the Japanese Canadian Cultural Centre and the National Association of Japanese Canadians. His son. Robert Matsui 1T3 DDS, is a graduate of the Faculty.

### WE MOURN THE LOSS

Emery Branscombe 5T3 Arthur J. Breglia 4T6 Dorothy A. Butcherd 4T5 Dent Nursina Norman Duff 5T7 John Fasken 7T0, 7T7 Dip Ortho Arthur Fisch 8T7 Peter Foreht 6T8 Michael Kapusta 4T3, 4T8 Dip DPH Ernest Lewis 5T7 Louis London 5T2 Rollin M. Matsui 7T9 J. Hunter McCracken 5T1 Robert McKegney 5T5 Paul H. Newman 7T1 Betty Rinaldo 5T8 Hygiene James Shaw 6T4 Lola M. Sheridan 4T3 Dent Nursina Willard "Trev" Treleaven 5T1 Neil Webster 5T3 Helen C. Whaling 7T4 Hygiene Peter Willson 4T9 Ruth M. Wright 4T4 Dent Nursing Egle Yarascavitch 0T8 Listings are as accurate as possible as of press time.

# **UPCOMING EVENTS**

### THURSDAY, MARCH 17 Alumni Reception At Pacific Dental

CONFERENCE 6 p.m. – 8 p.m. Pan Pacific Vancouver Hotel 300-399 Canada Place Vancouver

Dean Daniel Haas cordially invites alumni for a cocktail reception. RSVP by March 11 to sabrina.martinez@ dentistry.utoronto.ca

# MARCH 17-18

DENTANTICS 2016 6:30 p.m. Doors Open 7:00 p.m. Curtain Isabel Bader Theatre 93 Charles St. W., Toronto

Enjoy the 96th annual Dentantics with classmates or your entire practice. Proceeds proudly support the Faculty's *Access to Care Fund.* Tickets \$20 at alumni.utoronto.ca/ dentantics2016

### SUNDAY, MARCH 20 SHARING SMILES DAY 2016 10 a.m. – 2 p.m. Oakville, ON

Alumni are welcome to join students, staff, and



faculty for this outreach event with persons with special needs, including games, a luncheon with musical entertainment, and interactive oral hygiene demonstrations.

More info? Contact the student Co-Chairs of Toronto Oral Health Total Health: ohthtoronto@gmail.com. Website: www.ohth.ca

## SATURDAY, APRIL 2 2016 AWARDS OF

DISTINCTION GALA 6 p.m. Cocktails 7 p.m. Dinner Sheraton Centre Toronto Hotel Grand Ballroom 123 Queen Street West Toronto

Proudly honouring the 2016 award recipients, Dr. Tom Harle, Dr. Michael Pharoah, Dr. Carolyn Poon Woo. Raising funds in support of the *Access to Care Fund* and the *Teaching Clinics Fund*. Order tickets online at my.alumni.utoronto.ca/ gala2016

### SATURDAY, APRIL 9 ODA PRESIDENT'S

CUP HOCKEY GAME Thompson Recreation & Athletic Centre University of Western Ontario Western Rd. & Lambton Dr., London, ON

Students invite alumni to cheer on the U of T Dents versus Western Mighty Dents. For information contact jacob.fitzgerald@mail. utoronto.ca

## MAY 5-6 ODA ANNUAL SPRING MEETING Booth #919

Metro Toronto Convention Centre South Building 222 Bremner Blvd Toronto

Stop by to visit with Dean Daniel Haas or catch up with clinic staff.

OUESTIONS OR SPONSORSHIP INOUIRES? Contact Sabrina Martinez, Manager of Alumni Relations, at sabrina.martinez@dentistry.utoronto.ca or (416) 979-4940.

MAY 5-7

reunion!

**CLASS REUNIONS** 

If you graduated in a year

For information, or if you

organizing your reunion,

please contact miriam.

stephan@dentistry.

utoronto.ca or (416)

979-4775

ending with a 1 or a 6,

don't miss your class

are interested in

University of Toronto Faculty of Dentistry 124 Edward Street Toronto, Ontario Canada M5G 166 (416) 979-4900 x4381 Fax: (416) 979-4941 www.dentistry.utoronto.ca Canada Post Publications Mail Agreement #40636048