

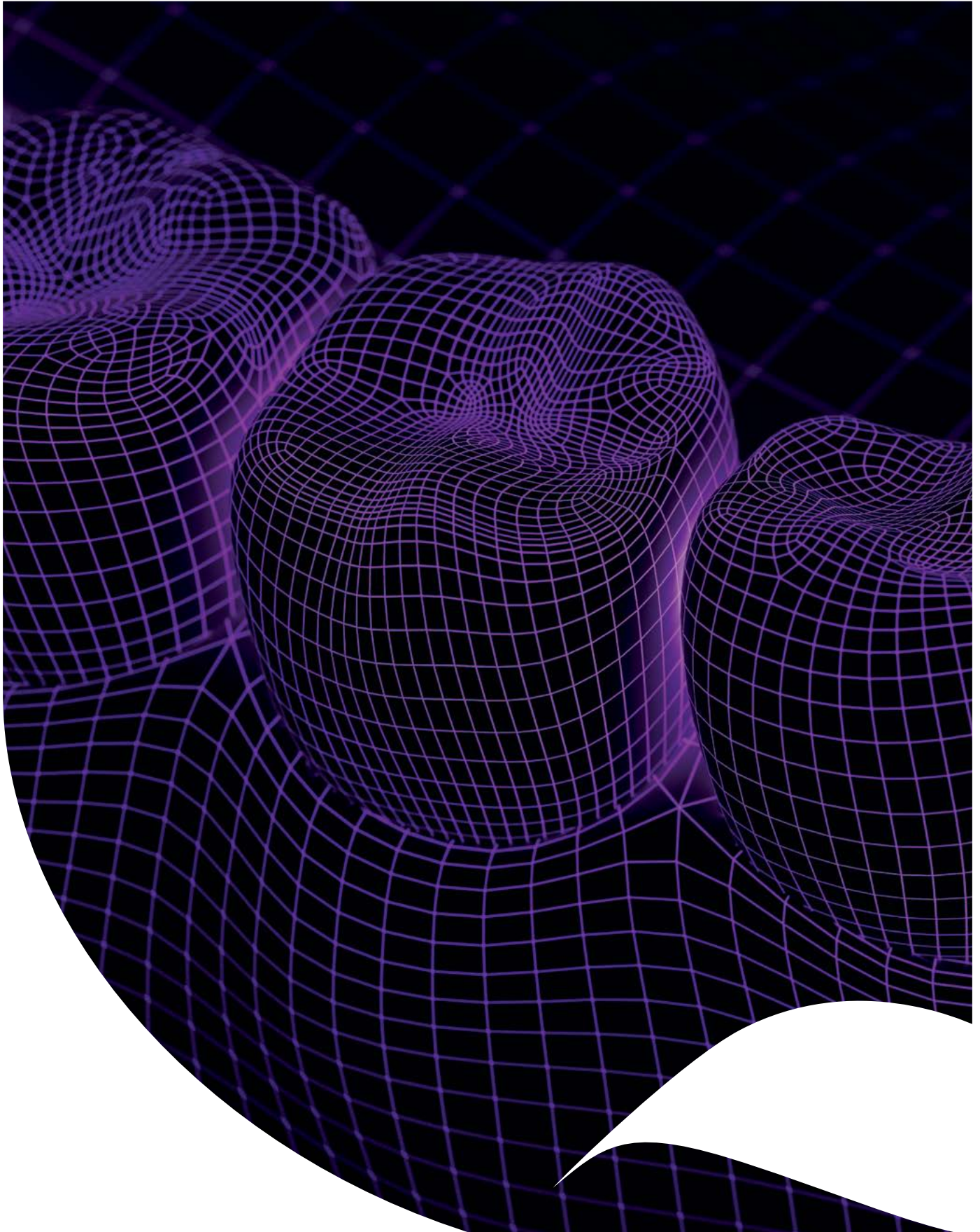


THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA

CREATE CHANGE

School of Dentistry

Research Report 2020





Foreword



Head of School

As a proud alumnus of The University of Queensland (UQ) School of Dentistry, I am honoured to have been appointed as the new Head of School in 2021.

I would like to express my appreciation and thanks to Professor Pauline Ford for her leadership as Head of School in 2020 and am pleased to note that Pauline continues to play an active research role within the School, along with her duties as Associate Dean Academic in the Faculty of Health and Behavioural Sciences. As Research Director in 2020, I can reflect on a successful year of research output and engagement across a wide range of fields from our traditional strengths in dental public health, education and clinical practice, to exciting emerging capabilities in materials science, nanotechnology and biomanufacturing. Our achievements in 2020 have resulted in the recent launch of our new Centre for Orofacial Regeneration, Reconstruction and Rehabilitation (COR3). The Centre will act as a vehicle to facilitate interaction between researchers, clinicians, patients and industry partners. I am also very pleased to welcome Professor Loc Do who has joined us from the University of Adelaide as Research Director. Professor Do is one of Australia's leading dental public health researchers and his presence will allow us to rapidly expand our capability in this field. Another major development has been the participation of the School in a successful bid for establishing a Craniofacial program in the Herston Biofabrication Institute, Metro North Hospital and Health Services.

We have a strong focus on translational research, emphasizing the importance of research impact on patient outcomes, as well as healthcare policy and practice. This would not have been made possible without the generosity of our supporters who have laid the foundation and supported the School of Dentistry throughout the years. It is thanks to the generosity of these individuals, our local, national and international collaborators, as well as our industry and health services partners, that we are able to deliver life-changing programs that benefit the most vulnerable members of our community, support our students through their learning, and teach future dental professionals compassion and empathy.

Professor Sašo Ivanovski



Director of Research

I am very pleased to be joining the UQ School of Dentistry at such a pivotal moment in its research growth journey. The School has well established strengths across a variety of fields, and I am pleased to lead the next phase as we build on past success. In addition to my field of dental public health, the School of Dentistry is at the forefront of innovation in regenerative dentistry, craniofacial reconstruction and orofacial rehabilitation, as well as clinical translation. Located within the Oral Health Centre at Herston, as part of the Oral Health Alliance with Metro North Hospital and Health Service, our research is intrinsically linked to both the education and training of our current and future health professionals, and the treatment of patients. Through the complementary strengths of our expertise, knowledge and resources, we hope to create a truly world class centre of excellence, leading the way in oral health. I look forward to building on the successes of 2020 to merge scientific and clinical knowledge to improve quality of life.

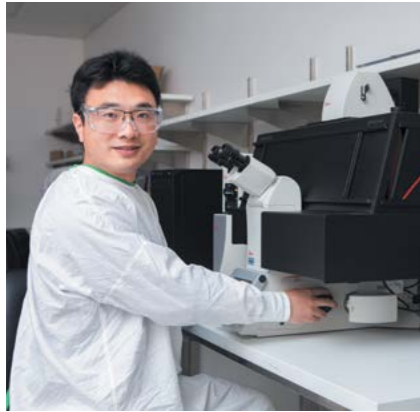
Professor Loc Do



Research Streams

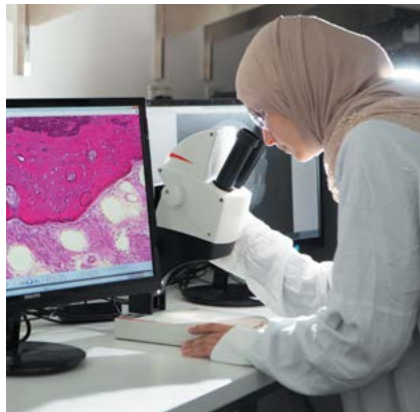
University of Queensland School of Dentistry's research is grouped under three main streams: the **Centre for Orofacial Regeneration, Reconstruction and Rehabilitation; Dental Public Health**; and the **Clinical Research Units**. Covering a wide range of areas from stem cell and tissue engineering and biological sciences through to technologies applied in clinical practice, dental public health and dental education, we produce quality dental and oral health research that contributes to the advancement of scientific knowledge both locally and internationally.

The School has a demonstrated long-standing history of quality research, rated 'above world standard' in 2010 and 2012 and 'well-above world standard' in 2015 and 2018 by the Excellence in Research for Australia (ERA) rankings. We encourage translational research, emphasizing the importance of research impact on patient outcomes, as well as healthcare policy and practice.



Centre for Orofacial Regeneration, Reconstruction and Rehabilitation (COR3)

The Centre's purpose is to be a centre of excellence that advances orofacial regeneration, reconstruction and rehabilitation to improve patient outcomes through the highest quality research and education. We engage with society, industry and the profession to drive learning, innovation and discovery.



Dental Public Health

The Dental Public Health research stream broadly conducts research to understand the epidemiology of health and oral ill-health, and improve and enhance the oral health of communities. The stream provides scientific evidence to inform public policies and practices aiming to improve oral health of the population.



Clinical Research Units

The purpose of these Units is to promote and facilitate clinical research activities in the School of Dentistry, The University of Queensland, and Oral Health Centre, Queensland Health Metro-North Hospital and Health Service. This is achieved through:

- › Interdisciplinary cooperation and collaboration to promote evidence based dental clinical research
- › Translation of 'cutting edge' pre-clinical research for clinical application (e.g. diagnostic methodology, dental devices/materials)



2020 research in numbers



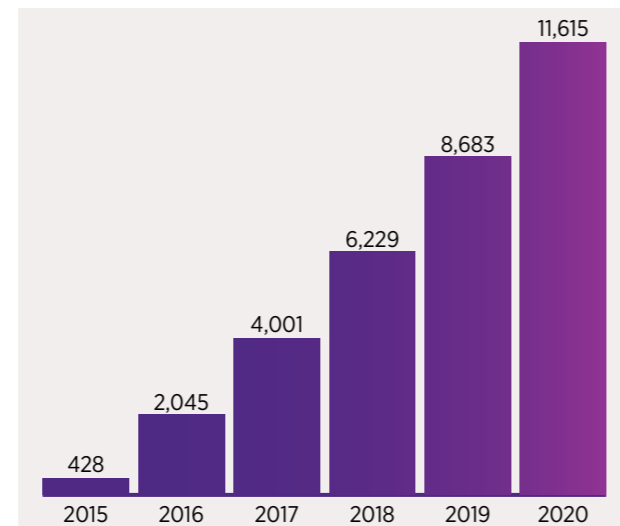
Funding trend

58%
increase in total funding since 2016

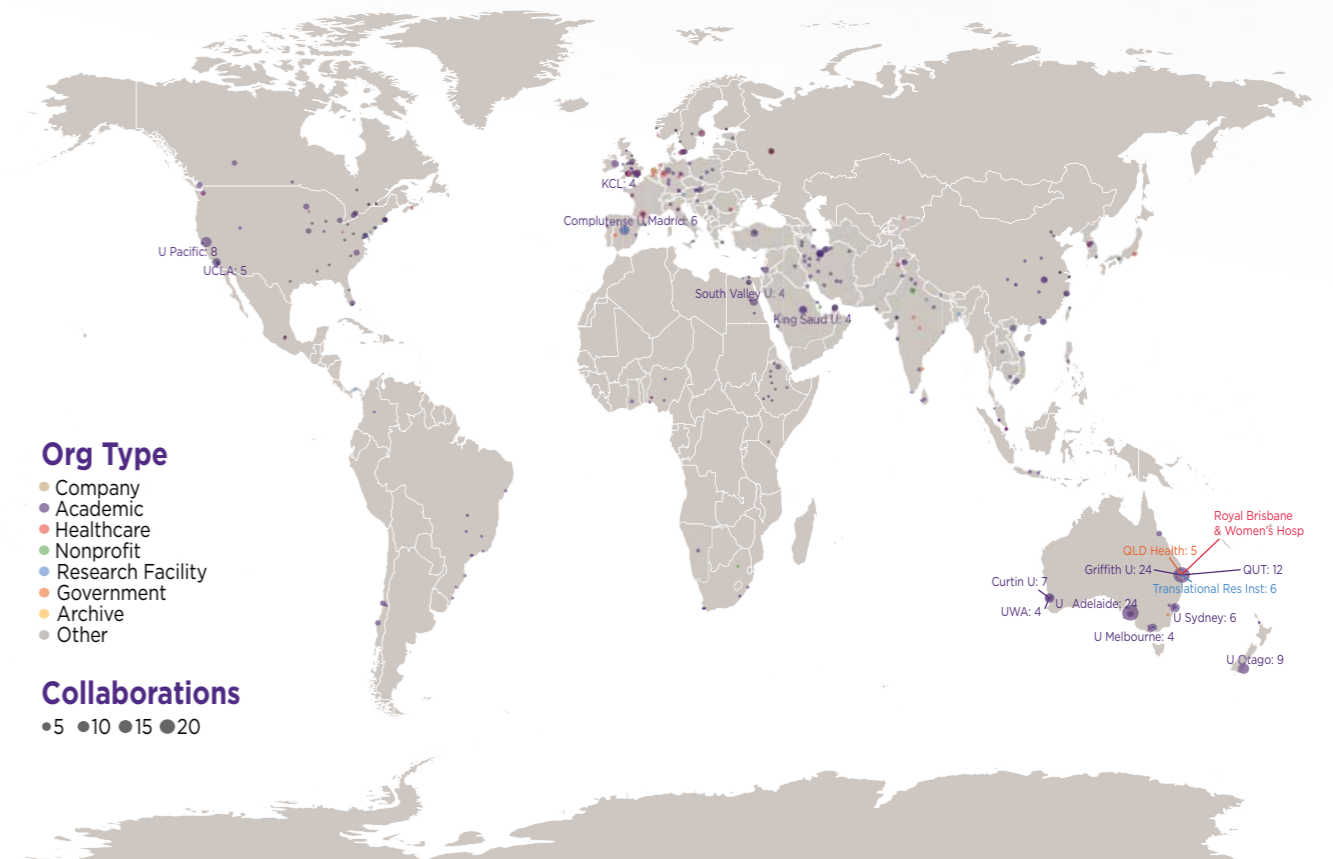
267%
increase in Category 1 Australian competitive grant R&D income since 2016

477%
increase in Category 3 Industry and other R&D income since 2016

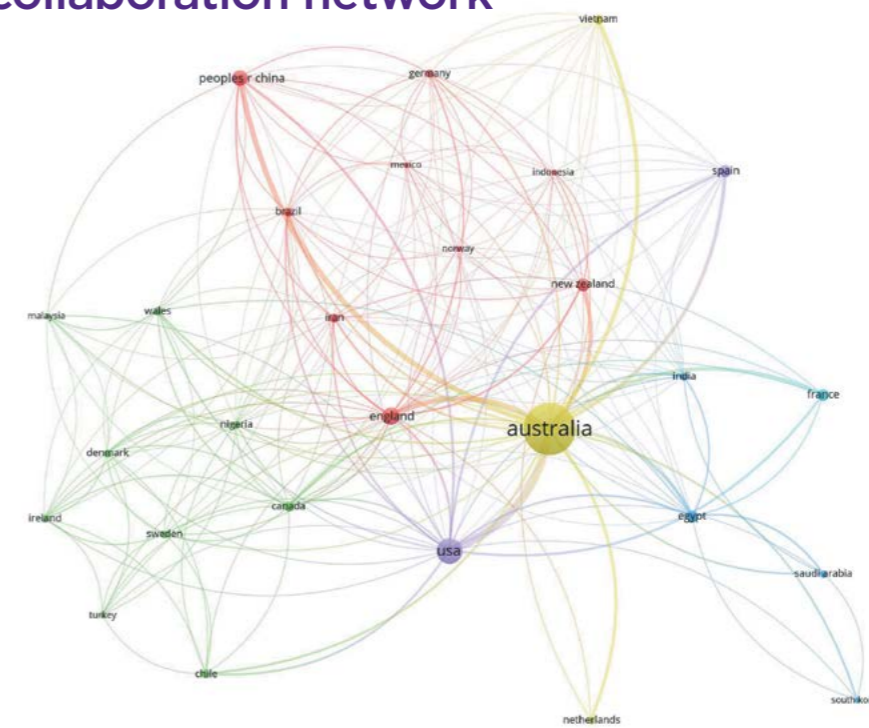
Publication citations trend



International collaborations



Country collaboration network



School of Dentistry Media Highlights

National Recognition for Director of Research

Professor Saso Ivanovski has been named leading researcher in the field of dentistry in *The Australian* newspaper's 2020 research supplement.



Bite Magazine



Leading oral epidemiologist joins UQ

An internationally recognised leader in oral epidemiology is joining The University of Queensland.

HABS News

UQ tech to restore damaged bones

A technological advancement that has the potential to stimulate bone formation inside the human body has been developed by University of Queensland researchers.



Courier Mail



Keep your nose out of it: why saliva tests could offer a better alternative to nasal COVID-19 swabs

Saliva is one of our biggest foes in the COVID-19 pandemic, because of its role in spreading the virus. But it could be our friend too, because it potentially offers a way to diagnose the disease without using invasive nasal swabs.

The Conversation

Where the rubber meets the road

New research by Dr Karan Gulati may lead to a solution to the problem of dental implant failure.



Bite Magazine



Do I need to floss my teeth?

As a dentist, my patients often ask whether they still need to floss even though they brush their teeth. The answer is – that depends.

The Conversation

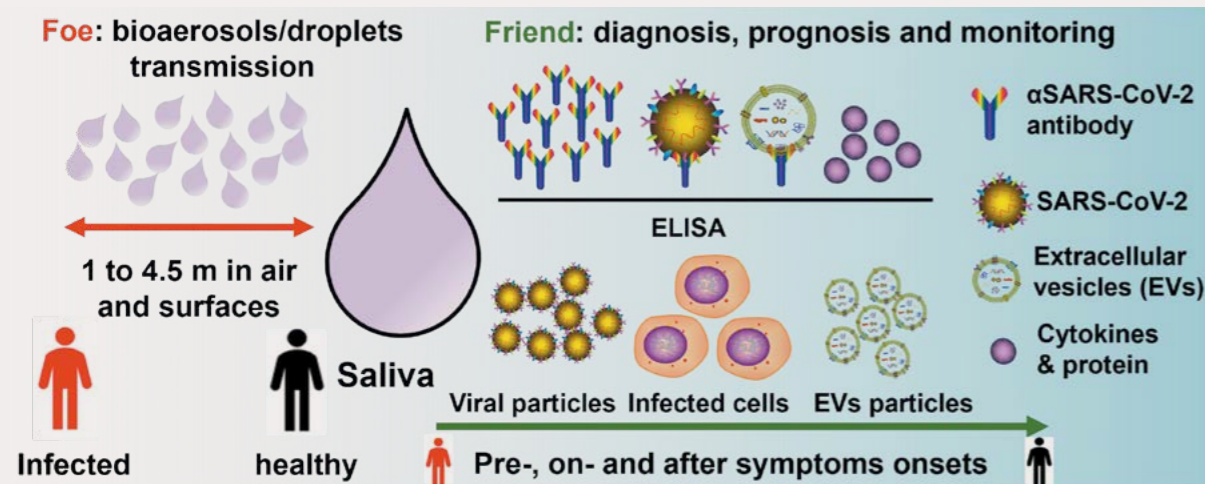
Coronavirus puts damper on saliva cleaning method in art galleries and museums

Like a parent wiping away dirt on a child's face or a soldier polishing their boots, museum and art gallery conservators often turn to a cleaning solution that's readily available: human saliva.

ABC News

Saliva in the COVID pandemic

Dr Pingping Han, Prof. Saso Ivanovski



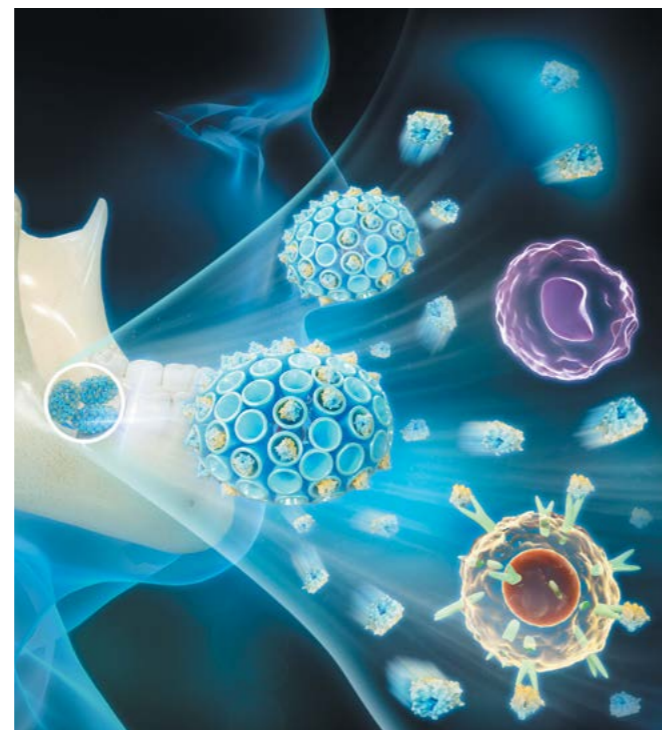
When we get sick, much of the evidence is present in our saliva – from the germs themselves, to the antibodies and immune system proteins we use to fight them off. Saliva also contains genetic material and other cellular components of pathogens after we have broken them down. This means it would be relatively straightforward to track the progression of COVID-19 in individual patients, including immune response, by collecting saliva at various times during the disease and

recovery. Our world first research showed that saliva is a promising candidate for COVID-19 testing and could lead to a home-based, cheaper, less invasive and potentially even more accurate way to detect the virus, which would also reduce the risk posed by routine COVID-19 checks to both patients and front-line medical professionals. Our research received significant media attention including the Conversation, Colgate website and an American Dental Association white paper.

Functional bioceramic nanomaterial for minimally invasive bone repair

Dr Chun Xu

Bone defects caused by infections, injuries or congenital deformity cause functional and aesthetic complications. The ideal material for regenerative bone scaffolds should promote the body's self-repair mechanism and modulate the immune response to prevent undesirable bone destruction. Nano-engineered bioceramics based scaffold is one of the most promising candidates for bone repair and regeneration. Through advanced nanotechnology and engineering methods, we have developed injectable, multifunctional, bioceramic nanomaterials that reduced unwanted inflammatory reactions and promoted bone regeneration. Our platform techniques not only include efficient deliver bone-healing cues such as growth factor BMP-2, but simultaneously modulate the local osteoimmune response, without needing any external stimuli. This technique is highly potent yet very simple, and a promising translational potential is well-anticipated in the near future. Our team included Prof. Ali Khademhosseini from UCLA, United States (now at Terasaki institute, United States) as well as researchers from UQ AIBN and QUT. Our research was highlighted as the cover of the prestigious journal Nano Research and has been recognised by top international experts in the field, such as Prof Yu Shrike Zhang from Harvard Medical School and Prof Zhiyuan Zhang from Shanghai Jiao Tong University.



Preventing dental disease and improving quality of life in an Indigenous community

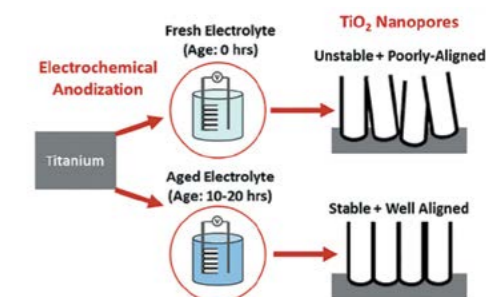
Ratilal Lalloo

Dental health is a serious problem for some Indigenous communities, with Indigenous children in rural Australia recording up to three times the rate of tooth decay compared with other Australian children. This long term project which has been running since 2015 seeks to answer the question: "In this community without regular access to professional dental care, and which has a high level of tooth decay amongst children [carrying on to adults], can we prevent dental disease and improve the quality of life of families?" We have shown that flying in professional oral health personnel once a year to apply known decay prevention methods to children, is more cost effective and efficacious than the [unlikely] stationing of dentists/dental therapists in the community for much of the year. We found we had prevented decay in deciduous (baby) teeth by 14.3% and in adult (permanent) teeth by 7.1% and that this is a highly cost-effective strategy to prevent dental caries and improve the quality of life of children. Unfortunately, a lot of tooth decay is still present so efforts to improve the diet and a return to water fluoridation are needed. Modern genetic methods identified, for the first time in Indigenous populations, specific microbes significantly more abundant in children with a lot of tooth decay, increasing knowledge of disease mechanisms. Our project has attracted significant media attention and it is hoped that the results will have a positive impact on government health policy.

Optimizing electrochemical anodization to nano-engineer titanium implants.

Tianqi Guo, Necla Asli Kocak Oztug, Pingping Han, Saso Ivanovski, and Karan Gulati

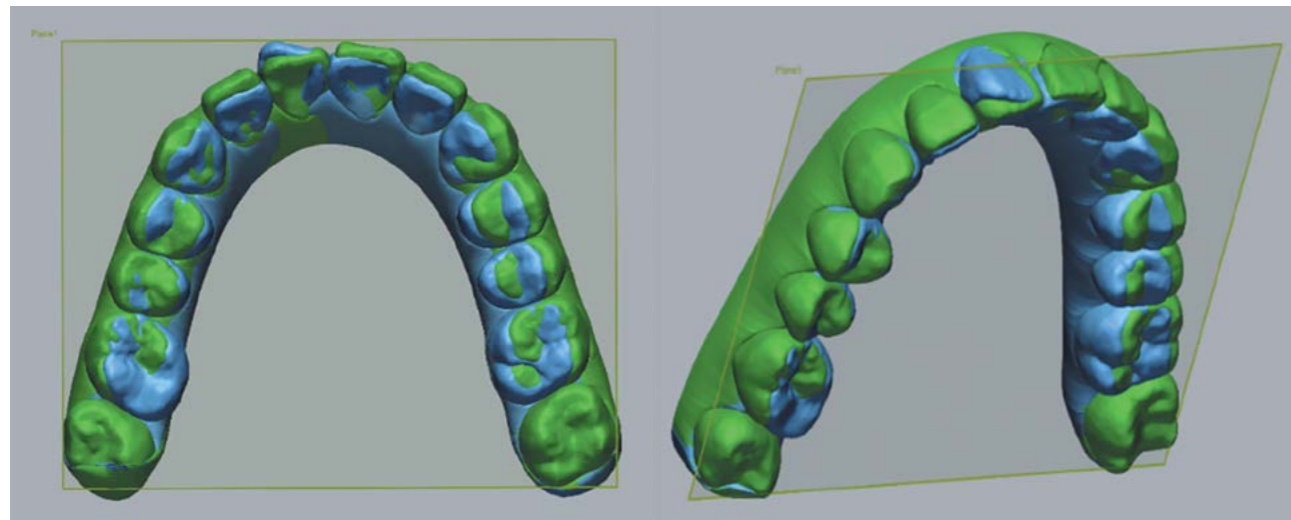
Modifying and improving materials that can be used for implants in the human body is a major challenge in biomaterials science. This project, led by PhD student Tianqi Guo, reported on the optimization of nano-engineering on Titanium, using electrochemical anodization. Briefly, we investigated the influence of electrolyte ageing (repeated anodization using non-target Ti before anodizing target Ti, pioneered by Dr Gulati) on the characteristics (topography, chemistry, stability and bioactivity) of nano-engineered Ti implants. The study enables controlled and reproducible fabrication of nano-engineered Ti implants, with appropriate characteristics suitable for implantable applications. This pioneering study enabled simplification of electrolyte ageing towards standardizing anodization for fabrication of nano-engineered Ti with superior bioactivity performance, bridging the gap between research and clinical translation/scalability. The article has been published in *ACS Applied Materials & Interfaces*, one of the field's highest ranked and highest impact journals (**Impact Factor: 9.229**).



Fabrication of Biocompatible and Bioabsorbable 3D Printed Scaffolds

Abdalla Abdal-hay, Nimal Thattaruparambil Raveendran, Benjamin Fournier, Saso Ivanovski

Biodegradable 3D implants are of considerable interest for biomedical applications as they do not require implant-removal surgery and circumvent the possible long-term negative side-effects of non-resorbable implants. Our research showed that by blending bioresorbable magnesium hydroxide (MH) nanoparticles (NPs) (<50 nm) with the degradable polymer poly(ϵ -caprolactone) (PCL), and shaping the composite into a porous scaffold with 3D printing technology, improved characteristics were obtained. In summary, the 3D PCL/MH composite scaffolds could enhance osteoblastic activity and demonstrated a moderately accelerated degradation profile, which are characteristics that can be considered favourable for bone regeneration applications. Our research has been published in high impact journal *Composites Part B: Engineering*, and received coverage in mainstream (Courier Mail) and dentistry (Bite Magazine) media.



Orthodontics: aligner treatments

Drs Elissa Freer, Tony Weir, Brett Kerr, Arun Shailendran; Postgraduate students: Drs Haylea Blundell, Amesha Maree, Raj Gaddam.

Orthodontic treatment with aligners is the fastest growing market in orthodontics despite limited research on its efficacy. Our research investigated the predictability of specific tooth movements with aligners. This impacts clinical practice by providing information to the prescribing doctor on which types of malocclusions are suitable for successful treatment. The concept of over-correction being built into the planning to allow for under expression of tooth movements by aligners is being adopted in clinical practice. Our study on accuracy and reliability of tooth widths and Bolton ratios

estimated by ClinCheck®, which detected errors, resulted in an aligner company changing the measurement protocols used in their software. Several of our aligner research papers have been accepted for publication in the prestigious *American Journal of Orthodontics and Dentofacial Orthopaedics*, the *Australasian Journal of Orthodontics* and our researchers have contributed to an aligner textbook. In addition, we have commenced clinical research on aligners within the Oral Health Centre orthodontic clinic.

Vital pulp therapy

Prof Ove Peters

Most patients and quite a few dentists equate endodontics, as the treatment of a diseased dental pulp, with root canal treatment. While this is an efficient treatment with a good clinical success rate, it is also complex and costly. There is, however, a different approach in the purview of endodontics, the so-called vital pulp therapy (VPT). This approach uses specific diagnostics and biomaterials

to preserve a functional dental pulp, which in turn is believed to enhance tooth longevity and improve overall health. What is more, this could be done for less cost. Our research (public health, oral biology/immunology, material science and clinical practice parallel to advocacy) is laying the groundwork to show, clinically, that VPT is feasible, cost-effective and improves patient well-being.

Promoting bone healing in Type II diabetes through modification of Titanium implant surfaces

Ryan Lee, Saso Ivanovski, Stephen Hamlet, Ho-Jin Moon

Modifying the surfaces of dental implants can affect inflammation and osseous healing in diabetes. Our research showed that hydrophilic nanostructured SLA (modSLA) titanium successfully compensated for compromised M2 macrophage function in Type 2 diabetes by attenuating the pro-inflammatory response and promoting M2 macrophage activity, thus restoring macrophage homeostasis and resulting in a cellular environment favourable for enhanced osseous healing. The project has attracted funding from the International Team for Implantology, the Australian Dental Research Foundation, as well as from UQ and Griffith University. Following publication in high ranked journal *Biomaterials* (IF 12.478 - 2021), lead investigator Ryan Lee was invited to the Korean research community forum Biological Research Information Centre (BRIC), and was recently invited to be a scientific committee member for the TERMIS-AP 2022 meeting in Korea.

Research Grants

(current and awarded in 2020)

New grants

* indicates School of Dentistry staff

Regenerative treatment of peri-implantitis using bone constructs with osteogenic, immunomodulatory and antimicrobial properties.

International Team for Implantology Foundation *IVANOVSKI, Saso; *VAQUETTE, Cedryck; Heitz-Mayfield, L.; Bartold, M. & Berglundh, T. **\$164,358.44**

Dual-action titanium abutments: Micro-nano scale topography and local protein release towards augmented soft-tissue integration.

Australian Dental Research Fund Inc *GULATI, Karan & *IVANOVSKI, Saso **\$9,563.40**

Chairside isolation and application of buccal fat pad derived mesenchymal stem cells for dental tissue regeneration: Thinking beyond drills

Australian Dental Research Fund Inc *IVANOVSKI, Saso; *JAIN, Kanika & *VAQUETTE, Cedryck **\$11,218.90**

Evaluation of a novel nanocomposite bioprinted scaffolds for bone tissue engineering

Australian Dental Research Fund Inc *IVANOVSKI, Saso; *THATTARUPARAMBIL RAVEENDRAN, Nimal; *SELVAPRITHIVIRAJ, Vignesh & *VAQUETTE, Cedryck **\$10,619.40**

Injectable swelling hydrogels for soft tissue expansion

Australian Dental Research Fund Inc *IVANOVSKI, Saso; *SELVAPRITHIVIRAJ, Vignesh; *VAQUETTE, Cedryck & *BARTNIKOWSKI, Michal **\$14,503.50**

Addressing the oral health needs of people with multiple sclerosis

Multiple Sclerosis Research Australia *NANGLE, Matthew R; BLUM, Stefan; HENRY, Julie D & MANCHERY GOPINATHAN, Nithin **\$16,261.30**

Determining the accuracy of interproximal enamel reduction performed in aligner treatment using a three-dimensional model system

Align Technology Research Grants *FREER, Elissa M; *KERR, Brett; *WEIR, Anthony P & *SHAIENDRAN, Arun V **\$35,079.30**

Immunomodulatory properties of three different chairside autologous blood preparations for the functionalization of PCL-3D printed constructs

Australian Dental Research Fund Inc *IVANOVSKI, Saso; *FERNANDEZ MEDINA, Tulio E & *VAQUETTE, Cedryck **\$14,960.00**

A comparison of various melt electrospinning fibre arrangements for the promotion of functional periodontal ligament attachment

Australian Dental Research Fund Inc *VAQUETTE, Cedryck; *STAPLES, Reuben & *IVANOVSKI, Saso **\$13,163.70**

A multiplex bead platform to identify small extracellular vesicle surfaces signatures in periodontitis

Australian Dental Research Fund Inc *HAN, Pingping; SALOMON GALLO, Carlos F & *IVANOVSKI, Saso **\$10,030.90**

Sequential release of azithroycin from stimuli-responsive mesoporous bioactive glasses for application in periodontal regeneration

Australian Dental Research Fund Inc *VAQUETTE, Cedryck; *GOMEZ CERESO, Maria N & *IVANOVSKI, Saso **\$11,828.30**

Improving oral health outcomes for people with multiple sclerosis

Metro South Hospital and Health Service *NANGLE, Matthew R; Blum, S.; Boocock, H.; HENRY, Julie D & Swayne, A.

Novel bioactive nanoparticles induced fast growth of nano-hydroxyapatite for dentin hypersensitivity treatment

Australian Dental Research Fund Inc *LEI, Chang; XU, Chun & *YU, Chengzhong

Child Dental Benefit Policies and the Health of Australian Children

ARC Discovery Projects *CONNELLY, Luke B; *BIRCH, Stephen; Nguyen, H.; FORD, Pauline; Le, H. & Paolucci, F.

Growth factor eluting scaffolds for alveolar ridge preservation

Australian Dental Research Fund Inc *GRONDAHL, Lisbeth; *MUTCH, Alexandra L & VAQUETTE, Cedryck

Contemporary evidence for water fluoridation program - a before-and-after population-based study (NHMRC Ideas Grant led by University of Adelaide)

University of Adelaide *FORD, Pauline; Do, L.; Spencer, J.; FOLEY, Michael A; Whelton, H.; Broadbent, J.; Roberts-Thomson, K. & *LALLOO, Ratilal

Ongoing grants

3D-printed customised Bio-Oss/ Polydioxanone scaffold for vertical bone regeneration

Osteology Foundation Young/Advanced Researcher Grant *IVANOVSKI, Saso & *VAQUETTE, Cedryck

Nano-engineered titanium abutments for enhanced gingival fibroblast functions in vitro

International Team for Implantology Foundation *GULATI, Karan; *LEE, Sang B; *HAN, Pingping & *IVANOVSKI, Saso

Patient-specific degradable tissue-engineered scaffolds for jaw bone regeneration

UQ Early Career Researcher *BARTNIKOWSKI, Michal

Properties of an isolate of Candida albicans that are associated with oropharyngeal colonisation

Australian Dental Research Fund Inc *ASHMAN, Robert B & *KAZOULLIS, Andrea

Application of a commercially available xenograft impregnated with Azithromycin for peri-implantitis treatment

Australian Dental Research Fund Inc *VAQUETTE, Cedryck; LEE, Miriam & *IVANOVSKI, Saso

Promoting periodontal regeneration through lithium-regulated immunomodulation and osteogenesis

Australian Dental Research Fund Inc *IVANOVSKI, Saso; *VAQUETTE, Cedryck & *BARTNIKOWSKI, Michal

A multiphasic hierarchical hydrogel bioprinted scaffold for periodontal regeneration

Australian Dental Research Fund Inc *IVANOVSKI, Saso; *THATTARUPARAMBIL RAVEENDRAN, Nimal; *VAQUETTE, Cedryck & GRONDAHL, Lisbeth

Immunogenicity and soft tissue repair potential of moderately rough hydrophilic zirconia surface

International Team for Implantology Foundation *IVANOVSKI, Saso; Rausch-Fan, X. & Andrukhov, O.

Tissue integration and biodegradation of different biomaterial matrices with or without compression

University of Zurich *IVANOVSKI, Saso & *VAQUETTE, Cedryck

Functional nano-cement scaffolds for the treatment of osteoporotic bone defects

NHMRC Early Career Fellowships *XU, Chun

Titanium implants with dual micro- and nano-scale topography for electrically stimulated osteogenic and antibacterial functions

NHMRC Early Career Fellowships *GULATI, Karan

MCP-1 induced by rough titanium surface topography recruits mesenchymal stem cells for early bone healing

Australian Dental Research Fund Inc *FARAG, Amro A & *IVANOVSKI, Saso

Development of a 3D printed graft for surgical repair of the Scapholunate Interosseous wrist ligament (SLIL)

(MRF Connect Horizons funding administered by Griffith University) Griffith University *VAQUETTE, Cedryck

Combining lyophilized decellularized cell sheets and customized 3D bioprinted CaP coated constructs for periodontal tissue regeneration

Australian Dental Research Fund Inc *FARAG, Amro A

Discovering novel targets for treating bone loss associated with ageing-related osteoporosis through long non-coding RNA landscapes

UQ Development Fellowships *HAN, Pingping & *IVANOVSKI, Saso

A novel disinfectant delivery system involving controlled release of Octenidine from silica based nanoparticles

Australian Society of Endodontology Inc Federal Branch *MOULE, Alexander J & *KUNJUKRISHNA PILLAI, Unnikrishnan

ACRF Molecular Oncology Translational Imaging Facility (MOTIF)

Australian Cancer Research Foundation *MITCHELL, Murray D; ROSE, Stephen E; CROZIER, Stuart; WHITTAKER, Andrew K; Langton, C.; SALVADO, Olivier; OBERMAIR, Andreas; FARAH, Camile S & others

Research Groups

Below is a selection of the diverse research groups operating at the School of Dentistry.

Group for Anodized Therapies for Osseointegration, Regeneration and Stimulation (GATORs)

Leader: Dr Karan Gulati

Members: Tianqi Guo, Anjana Jayasree, Divya Chopra

Projects:

- › Optimizing electrochemical nanoengineering of various metals
- › Enhanced soft-tissue integration from nano-engineered titanium dental implants
- › Nano-engineered titanium implants towards tailored triggered therapy
- › Nano-engineered zirconium implants: optimized fabrication and enhanced bioactivity

Peters' Regenerative Opportunities in COR3 (PROCOR3)

Leader: Prof. Ove Peters

Members: Dr. Sepanta Hosseinpour, Dr. Trish Wright, Dr. Christine Peters, Dr. George Bogen, Dr. Unni Krishnan, Dr. Yu-Yao Teoh, Dr. Philip Chien, Dr. CeCe Chan, Dr. Jasmine Holgate, Dr. Kush Ohri, Elise Diamond

Projects:

- › Vital pulp therapy
- › Root canal instrumentation
- › Immunomodulation -effects of biomaterials in contact with inflamed tissues
- › Teledentistry and continuous education in endodontics

Epigenetic nanodiagnosics and therapeutics

Leader: Dr Pingping Han

Members: A/Prof Carlos Solomon (CCR), Prof. Mark Bartold (UQ and Adelaide uni), Prof. Saso Ivanovski Dr Baoxin Huang, PhD, Ms Kexin Jiao, Ms Chun Liu, Ms Cindy Xinyuan Liu, Mr David Liu, Mr Yun Hwan Lim

Projects:

- › Salivary diagnostics for periodontal disease
- › Saliva in COVID pandemic

Orthodontics

Leader: Dr Elissa Freer

Members: Tony Weir, Brett Kerr, Des Ong, Elissa Freer, Rick Olive, Arun Shailendran, Peter Miles, Phillip Goh

Projects:

- › Accuracy and reliability of tooth widths and Bolton ratios estimated by ClinCheck
- › Predictability of overbite control with the Invisalign appliance Reliability of torque expression by the Invisalign appliance: a retrospective study
- › Clinical expression of programmed rotation and uprighting of bilateral winged maxillary central incisors with the Invisalign® appliance – A retrospective study
- › Predictability of overbite control with the Invisalign appliance.

Oral and Maxillofacial Surgery

Leader: Nigel Johnson

Members: Martin Batstone, Nicholas Beech, Dr Elizabeth Goh (MPhil Candidate), Dr Cheryl Chen (MPhil Candidate)

Projects:

- › Evolving Trends in Maxillofacial Trauma

Applied Clinical Microbiology

Leader: Laurence Walsh

Members: Nicole Gilpin, Cheryl Chen, Prof Pauline Ford, Dr Samanatha Hollingworth, Dr Treasure McGuire, Dr Mieke Van Driel, Dr Glenda Hawley, Dr Nebu Philip, Leigh Harrison-Barry, Dr Shaneen Leishman, Jan Palmer, E/Prof Kim Seow, Margaret Pukallus, A/Prof Chamindie Pundayeera, Dr Kai Tang, E/Prof Ian Frazer, Dr Liz Kenny, Xing Xu, Fangyuan Chen, Dr Zyta Ziora, E/Prof Ross Barnard, Dr Helen He, Dr Mohammed Labib.

Projects:

- › Antimicrobial prescribing patterns
- › Dental caries microbiology and prevention
- › Human papilloma virus in saliva
- › Antimicrobial agents and water treatment

Advanced dental materials and technologies

Leader: Laurence Walsh

Members: Baboucarr Lowe, Dr Sepanta Hosseinpour, Dr Chun Xu, Prof Yin Xiao, Prof Adam Ye, Ashwin Nanda, Kavita Rana, Sala Mortaja, Dr Carol Tran, Dr Ambereen Khan, Dr Bilal El masoud, A/prof David Thomson, Dr Remy Head, Rahul Rana, Sari Simawi, Tam-Minh Nguyen, Kent Nakanishi, Cheryl Chin, Jason Ting, Prof Paul Monsour, Dr Alyssa Zhang, Dr Sobia Zafar, Dr Bilal El Masoud, Dr Patricia Wright, Dr Andy Tsai, Dr Kiran Kumar, Dr Yu-Yao Teoh, Dr Philip Chien, Darryl Lockm Shija Sun, Natalynn Ong, Dinuki Perera, Sean Yu, Henry Zeng, Dr Crystal Cooper, Jonathon Sin, Dr Jimmy Gim, Dr Kush Ohri, A/Prof Bill Kahler, Dr Sowmya Shetty, Dr George Bogen, Prof Ove Peters, Dr Basil Athanasiadis, Prof Paul Abbott, A/Prof Roy George, Dr Maryam Kuzekanani, Dr William Ha, Prof Ian Meyers

Projects:

- › Tissue engineering
- › Dental Implants
- › Dental scanning and imaging
- › Endodontic and restorative materials and techniques

Clinical research

Leader: Laurence Walsh

Members: Dr David Fu, Dr Janice Chuang, Dr Shenna Ho, Dr Mark Westaway, Dr Yvonne Lai, Dr Sobia Zafar, Dr Claudia Lopez, Dr Archana Pradhan, Dr Margeurite Reith, A/Prof Donna Geddes, A/Prof Jenny Downs, Prof Helen Leonard

Projects:

- › Special needs dentistry patient care and service delivery

Dental public health

Leader: Ratilal Lalloo

Members: Professor Pauline Ford, Dr Matthew Nangle, Nicole Stormon, Claire Mangoyana, Christopher Sexton, Dr Jessica Zachar, Dr Kelly McGowan, Dr Nicolie Jenkins, Nithin Manchery

Projects:

- › Effectiveness, cost-effectiveness and cost-benefit of a single annual professional intervention for the prevention of childhood dental caries in a remote rural Indigenous community
- › Global Burden of Disease (GBD)
- › Australia's Oral Health Workforce
- › People living with Multiple Sclerosis and their oral health
- › Predictors of oral health in Australian children
- › Facilitating access to dental care for disadvantaged adults

Ivanovski Tissue Engineering and Additive Manufacturing (iTEAM)

Leader: Sašo Ivanovski

Members: Dr Maria Gomez Serezo, Dr Nimal Raveendran, Dr Ryan Lee, Dr Tulio Fernandez, Dr Jamil Alayan, Dr Faustino Mercado, Dr Himanshu Arora, Dr Srinivas Ramachandra, Dr Miriam Lee, Dr Corey Moran.

Projects:

- › Oral Mucosa Model for Disease Modelling and Therapeutic Testing
- › Extraskelatal Bone Regeneration
- › Periodontal Tissue Engineering
- › Clinical Periodontics
- › Surgical Aspects of Dental Implantology

Publications

209 publications

161 peer reviewed publications (indexed in Scopus and SciVal 2020)

Book

Khan, A. (2020) When the world came together. Melbourne, VIC, Australia: Tale Publishing.

Prabhu, S.R. (2020) MCQs, SAQs, EMQs and OSCEs in Oral Pathology and Oral Medicine- An Exam Focused Approach. New York: Nova Medicine and Health.

Book Chapter

Bogen, G., Damaschke, T. and Chandler, N. (2020) Vital pulp therapy. In (Eds.), Cohen's Pathways of the Pulp 12th ed. (pp. 902-938). St. Louis, United States: Elsevier.

Khojasteh, A. and Hosseinpour, S.* (2020) Challenges in the rehabilitation handling of large and localized oral and maxillofacial defects. In (Eds.), Applications of biomedical engineering in dentistry (pp. 239-262). Cham, Switzerland: Springer.

Journal Article

Abbasi, N., Ivanovski, S.*, Gulati, K.*, Love, R. and Hamlet, S. (2020) Role of offset and gradient architectures of 3-D melt electrowritten scaffold on differentiation and mineralization of osteoblasts. *Biomaterials Research*, 24(1)

Abbasi, N., Lee, R.*, Ivanovski, S.*, Love, R. and Hamlet, S. (2020) In vivo bone regeneration assessment of offset and gradient melt electrowritten (MEW) PCL scaffolds. *Biomaterials Research*, 24(1)

Abdal-hay, A.*, Foad, H., A. ALshammari, B. and Khalil, K. (2020) Biosynthesis of bonelike apatite 2D nanoplate structures using fenugreek seed extract. *Nanomaterials*, 10(5): 1-11.

Abdal-hay, A.*, Gulati, K.*, Fernandez-Medina, T.*, Qian, M. and Ivanovski, S.* (2020) In situ hydrothermal transformation of titanium surface into lithium-doped continuous nanowire network towards augmented bioactivity. *Applied Surface Science*, 505

Abdal-hay, A.*, Raveendran, N.*, Fournier, B.* and Ivanovski, S.* (2020) Fabrication of biocompatible and bioabsorbable polycaprolactone/magnesium hydroxide 3D printed scaffolds: degradation and in vitro osteoblasts interactions. *Composites Part B: Engineering*, 197

Abdalla, Y., Brown, L.* and Sonnesen, L. (2020) Effects of a fixed functional appliance on upper airway volume: a 3-dimensional cone-beam computed tomography study. *American Journal of Orthodontics and Dentofacial Orthopedics*, 158(1): 40-49.

Adeoye, J. and Thomson, P. (2020) 'The Double-Edged Sword' – An hypothesis for Covid-19-induced salivary biomarkers. *Medical Hypotheses*, 143

Adeoye, J., Brennan, P. and Thomson, P. (2020) "Search less, verify more"—reviewing salivary biomarkers in oral cancer detection. *Journal of Oral Pathology and Medicine*, 49(8): 711-719.

Adeoye, J., Choi, S. and Thomson, P. (2020) Bayesian disease mapping and the 'high-risk' oral cancer population in Hong Kong. *Journal of Oral Pathology and Medicine*, 49(9): 907-913.

Adeoye, J., Chu, C., Choi, S. and Thomson, P. (2020) Oral cancer awareness and individuals' inclination to its screening and risk prediction in Hong Kong. *Journal of Cancer Education*.

Adeoye, J., Thomson, P. and Choi, S. (2020) Prognostic significance of multi-positive invasive histopathology in oral cancer. *Journal of Oral Pathology and Medicine*, 49(10): 1004-1010.

Aguilar, L., Alvarez-Lorenzo, C., Ambu, R., Amza, C., Bains, F., Banas, J., et al. (2020) Acknowledgement to reviewers of journal of functional biomaterials in 2019. *Journal of Functional Biomaterials*, 11(1).

Albashari, A., He, Y.*, Zhang, Y., Ali, J., Lin, F., Zheng, Z., et al. (2020) Thermosensitive bFGF-modified hydrogel with dental pulp stem cells on neuroinflammation of spinal cord injury. *ACS Omega*, 5(26): 16064-16075.

Ali, M., Mousa, H., Blaudez, F., Abd El-sadek, M., Mohamed, M., Abdel-Jaber, G., et al. (2020) Dual nanofiber scaffolds composed of polyurethane-gelatin /nylon 6- gelatin for bone tissue engineering. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 597

Arias, A., Macorra, J., Govindjee, S. and Peters, O.* (2020) Effect of gamma-ray sterilization on phase transformation behavior and fatigue resistance of contemporary nickel-titanium instruments. *Clinical Oral Investigations*, 24(9): 3113-3120.

Arora, A., Manohar, N., Hector, D., Bhole, S.*, Hayen, A., Eastwood, J., et al. (2020) Determinants for early introduction of complementary foods in Australian infants: findings from the HSHK birth cohort study. *Nutrition Journal*, 19(1)

Ashraf, R., Sofi, H., Akram, T., Rather, H., Abdal-hay, A.*, Shabir, N., et al. (2020) Fabrication of multifunctional cellulose/TiO₂/Ag composite nanofibers scaffold with antibacterial and bioactivity properties for future tissue engineering applications. *Journal of Biomedical Materials Research Part A*, 108(4): 947-962.

Baghaie, H., Forrest, B., Shukla, K. and Liu, T. (2020) Dental extraction in a patient with undiagnosed Von Willebrand's Disease: a case report. *Australian Dental Journal*, 66(1): 105-111.

Barba-Nieto, I., Caudillo-Flores, U., Gómez-Cerezo, M., Kubacka, A. and Fernández-García, M. (2020) Boosting Pt/TiO₂ hydrogen photoproduction through Zr doping of the anatase structure: a spectroscopic and mechanistic study. *Chemical Engineering Journal*, 398

Bartle, E.* and McGowan, K.* (2020) Clinical supervisors' reflections on their role, training needs, and overall experience as dental educators. *European Journal of Dental Education*, 25(2): 1-9.

Bartle, E.*, Crivello, B., Bullock, J. and Ogbureke, E. (2020) Mentorship needs and availability for junior faculty members at United States and Australian dental schools. *European Journal of Dental Education*, 24(4): 790-798.

Bartnikowski, M.*, Vaquette, C.* and Ivanovski, S.* (2020) Workflow for highly porous resorbable custom 3D printed scaffolds using medical grade polymer for large volume alveolar bone regeneration. *Clinical Oral Implants Research*, 31(5): 431-441.

Bendotti, H.*, McGowan, K.* and Lawler, S.* (2020) Utilisation of a brief tobacco smoking cessation intervention tool in public dental services. *Health Promotion Journal of Australia*.

Bhat, M., Bhat, S., Brondani, M., Mejia, G., Pradhan, A.*, Roberts-Thomson, K., et al. (2020) Prevalence, extent, and severity of oral health impacts among adults in rural Karnataka, India. *JDR Clinical and Translational Research*, 6(2): 2380084420932163-250.

Blaudez, F., Ivanovski, S.*, Ipe, D. and Vaquette, C.* (2020) A comprehensive comparison of cell seeding methods using highly porous melt electrowriting scaffolds. *Materials Science and Engineering C*, 117

Bogen, G.* and Ricucci, D. (2020) Mineral trioxide aggregate apexification: a 20-year case review. *Australian Endodontic Journal*.

Bornstein, M., Wai Kan Yeung, A., Tanaka, R. and Thomson, P. (2020) Intraossäres Hämangiom im Unterkiefer wenn die Wunde nach der Weisheitszahnentfernung nicht heilt. *Swiss Dental Journal*, 130(1): 42-43.

Bornstein, M., Yeung, A., Tanaka, R. and Thomson, P. (2020) Ausgedehnte odontogene Keratozyste im posterioren Unterkiefer links Differenzialdiagnose osteolytischer Prozesse. *Swiss Dental Journal*, 130(10): 802-803.

Brigg, N., Patterson, S.* and Pradhan, A.* (2020) Enabling people with severe mental illness to overcome barriers to access dental treatment: a qualitative study applying COM-B framework analysis. *Journal of Mental Health*: 1-9.

Carluccio, D.*, Xu, C.*, Venezuela, J.*, Cao, Y.*, Kent, D.*, Birmingham, M.*, et al. (2020) Additively manufactured iron-manganese for biodegradable porous load-bearing bone scaffold applications. *Acta Biomaterialia*, 103: 346-360.

Casarrubios, L., Gómez-Cerezo, N., Sánchez-Salcedo, S., Feito, M., Serrano, M., Saiz-Pardo, M., et al. (2020) Silicon substituted hydroxyapatite/VEGF scaffolds stimulate bone regeneration in osteoporotic sheep. *Acta Biomaterialia*, 101: 544-553.

Chen, C., Gilpin, N. and Walsh, L.* (2020) Discrepancy in therapeutic and prophylactic antibiotic prescribing in general dentists and maxillofacial specialists in Australia. *Antibiotics*, 9(8): 492-14.

Chen, C., Lohavanichbut, P., Zhang, Y., Houck, J., Upton, M., Abedi-Ardekani, B., et al. (2020) Prediction of survival of HPV16-negative, p16-negative oral cavity cancer patients using a 13-gene signature: A multicenter study using FFPE samples. *Oral Oncology*, 100

Chen, Y.*, Han, P.*, Dehghan-Manshadi, A.*, Kent, D.*, Ehtemam-Haghighi, S.*, Jowers, C., et al. (2020) Sintering and biocompatibility of blended elemental Ti-xNb alloys. *Journal of the Mechanical Behavior of Biomedical Materials*, 104.

Chen, Y., Zhang, S., Cui, Q., Ni, J., Wang, X., Cheng, X., et al. (2020) Microengineered poly(HEMA) hydrogels for wearable contact lens biosensing. *Lab on a Chip*, 20(22): 4205-4214.

Choi, S. and Thomson, P. (2020) Multiple oral cancer development—Clinico-pathological features in the Hong Kong population. *Journal of Oral Pathology and Medicine*, 49(2): 145-149.

Chu, C., Lee, N., Adeoye, J., Thomson, P. and Choi, S. (2020) Machine learning and treatment outcome prediction for oral cancer. *Journal of Oral Pathology and Medicine*, 49(10): 977-985.

Chu, J., Chia, K., Qui, A., Moule, A.* and Ha, W. (2020) The effects of sodium hypochlorite and ethylenediaminetetraacetic acid on the microhardness of Mineral Trioxide Aggregate and TotalFill Bioceramic Putty. *Australian Endodontic Journal*, 46(1): 33-39.

Costello, C., Kerr, B.*, Weir, T.* and Freer, E.* (2020) The incidence and severity of root resorption following orthodontic treatment using clear aligners. *Australasian Orthodontic Journal*, 36(2): 130-137.

Dang, H., Vaquette, C.*, Shabab, T., Pérez, R., Yang, Y., Dargaville, T., et al. (2020) Porous 3D printed scaffolds for guided bone regeneration in a rat calvarial defect model. *Applied Materials Today*, 20

Day, P., Flores, M., O'Connell, A., Abbott, P., Tsilingaridis, G., Fouad, A., et al. (2020) International Association of Dental Traumatology guidelines for the management of traumatic dental injuries: 3. Injuries in the primary dentition. *Dental Traumatology*, 36(4): 343-359.

de Luca, X.*, Newell, F., Kazakoff, S., Hartel, G., McCart Reed, A.*, Holmes, O., et al. (2020) Using whole-genome sequencing data to derive the homologous recombination deficiency scores. *npj Breast Cancer*, 6(1)

Devenish, G., Mukhtar, A., Begley, A., Spencer, A., Thomson, W., Ha, D., et al. (2020) Early childhood feeding practices and dental caries among Australian preschoolers. *The American Journal of Clinical Nutrition*, 111(4): 821-828.

Di Credico, G., Polese, J., Dal Maso, L., Pauli, F., Torelli, N., Luce, D., et al. (2020) Alcohol drinking and head and neck cancer risk: the joint effect of intensity and duration. *British Journal of Cancer*, 123(9): 1456-1463.

Dimitropoulos, Y., Holden, A., Gwynne, K., Do, L., Byun, R. and Sohn, W. (2020) Outcomes of a co-designed, community-led oral health promotion program for Aboriginal children in rural and remote communities in New South Wales, Australia. *Community Dental Health*, 37(2): 132-137.

Do, L. and Australian Research Centre for Population Oral Health (2020) Guidelines for use of fluorides in Australia: update 2019. *Australian Dental Journal*, 65(1): 30-38.

Do, L., Ha, D., Bell, L., Devenish, G., Golley, R., Leary, S., et al. (2020) Study of mothers' and infants' life events affecting oral health (SMILE) birth cohort study: cohort profile. *BMJ Open*, 10(10)

Do, L., Ha, D., Roberts-Thomson, K. and Spencer, A. (2020) Dental fluorosis in the Australian adult population. *Australian Dental Journal*, 65(S1): S47-S51.

Do, L., Peres, K., Ha, D. and Roberts-Thomson, K. (2020) Oral epidemiological examination – protocol: the National Study of Adult Oral Health 2017-18. *Australian Dental Journal*, 65(S1): S18-S22.

Fenelon, T., Bakr, M., Walsh, L.* and George, R. (2020) Effects of lasers and their delivery characteristics on machined and micro-roughened titanium dental implant surfaces. *Bioengineering*, 7(3): 93-13.

Foley, M., Spencer, A., Lalloo, R.* and Do, L. (2020) A causative approach to demographic and socioeconomic factors affecting parental ratings of child oral health. *JDR Clinical and Translational Research*, 6(1): 1-9.

Forbes, R.*, Beckman, E.*, Tower, M.*, Mandrusiak, A.*, Mitchell, L.*, Sexton, C.*, et al. (2020) Interprofessional, student-led community health clinic: expanding service provision and clinical education capacity. *Australian Health Review*, 45(2): 255-260.

Fouad, A., Abbott, P., Tsilingaridis, G., Cohenca, N., Lauridsen, E., Bourguignon, C., et al. (2020) International Association of Dental Traumatology guidelines for the management of traumatic dental injuries: 2. Avulsion of permanent teeth. *Dental Traumatology*, 36(4): 331-342.

Fu, B.*, McGowan, K., Sun, J. and Batstone, M. (2020) Increasing frequency and severity of odontogenic infection requiring hospital admission and surgical management. *British Journal of Oral and Maxillofacial Surgery*, 58(4): 409-415.

Galibourg, A., Peters, O., Diemer, F., Nasr, K. and Maret, D. (2020) Continuing endodontic education and COVID-19: before, during and after?. *International Endodontic Journal*, 53(11): 1598-1599.

Gaudin, A., Tolar, M. and Peters, O.* (2020) Cytokine production and cytotoxicity of calcium silicate-based Sealers in 2- and 3-dimensional cell culture models. *Journal of Endodontics*, 46(6): 818-826.

GBD 2017 Oral Disorders Collaborators, Bernabe, E., Marcenes, W., Hernandez, C., Bailey, J., Abreu, L., et al. (2020) Global, regional, and national levels and trends in burden of oral conditions from 1990 to 2017: A systematic analysis for the Global Burden of Disease 2017 Study. *Journal of Dental Research*, 99(4): 362-373.

GBD 2019 Universal Health Coverage Collaborators, Lalloo, R. and Hasan, M. (2020) Measuring universal health coverage based on an index of effective coverage of health services in 204 countries and territories, 1990-2019: a systematic analysis for the Global Burden of Disease Study 2019. *Lancet*, 396(10258): 1250-1284.

Gluskin, A., Lai, G., Peters, C. and Peters, O.* (2020) The double-edged sword of calcium hydroxide in endodontics: Precautions and preventive strategies for extrusion injuries into neurovascular anatomy. *Journal of the American Dental Association*, 151(5): 317-326.

Goh, E.*, Beech, N.* and Johnson, N.* (2020) Dental anxiety in adult patients treated by dental students: a systematic review. *Journal of Dental Education*, 84(7): 805-811.

Goh, E.*, Beech, N.* and Johnson, N.* (2020) Traumatic maxillofacial and brain injuries: a systematic review. *International Journal of Oral and Maxillofacial Surgery*, 50(8): 1027-1033.

Gómez-Cerezo, M.*, Lozano, D., Arcos, D., Vallet-Regí, M. and Vaquette, C.* (2020) The effect of biomimetic mineralization of 3D-printed mesoporous bioglass scaffolds on physical properties and in vitro osteogenicity. *Materials Science and Engineering C*, 109

Gulati, K.*, Moon, H., Kumar, P., Han, P.* and Ivanovski, S.* (2020) Anodized anisotropic titanium surfaces for enhanced guidance of gingival fibroblasts. *Materials Science and Engineering: C*, 112

Guo, T.*, Gulati, K.*, Shen, Z., Han, P.* and Fan, Z. (2020) Therapeutic outcomes of non-grafted and platelet concentrations-grafted transcrestal maxillary sinus elevation (TSFE): a systematic review and meta-analysis. *Scientific Reports*, 10(1)

Gupta, A., Kheur, S., Arakeri, G., Thirumal Raj, A., Badhe, R., Patil, S., et al. (2020) Efficacy of scaffold-mediated localized chemotherapy in cancer: a systematic review of current research. *Journal of Oral Pathology and Medicine*, 49(5): 375-385.

Gwiazda, M., Kumar, S., Swieszkowski, W., Ivanovski, S.* and Vaquette, C.* (2020) The effect of melt electrospun writing fiber orientation onto cellular organization and mechanical properties for application in anterior cruciate ligament tissue engineering. *Journal of the Mechanical Behavior of Biomedical Materials*, 104

Haag, D., Schuch, H., Ha, D., Do, L. and Jamieson, L. (2020) Oral health inequalities among Indigenous and non-Indigenous children. *JDR Clinical and Translational Research*, 6(3): 238008442093904-323.

Haagsma, J., James, S., Castle, C., Dingels, Z., Fox, J., Hamilton, E., et al. (2020) Burden of injury along the development spectrum: Associations between the Socio-demographic Index and disability-adjusted life year estimates from the Global Burden of Disease Study 2017. *Injury Prevention*, 26(Supp 1): injuryprev-2019.

Ha, D., Crocombe, L., Khan, S. and Do, L. (2020) The impact of different determinants on the dental caries experience of children living in Australia rural and urban areas. *Community Dentistry and Oral Epidemiology*, 49(4): 337-345.

Ha, D., Spencer, A., Ju, X. and Do, L. (2020) Periodontal diseases in the Australian adult population. *Australian Dental Journal*, 65(S1): S52-S58.

Hall, A., Kromhout, H., Schütz, J., Peters, S., Portengen, L., Vermeulen, R., et al. (2020) Laryngeal cancer risks in workers exposed to lung carcinogens: Exposure-effect analyses using a quantitative job exposure matrix. *Epidemiology*, 31(1): 145-154.

Han, P.* and Ivanovski, S.* (2020) Saliva-friend and foe in the COVID-19 outbreak. *Diagnostics*, 10(5)

Han, P.*, Bartold, P., Salomon, C.* and Ivanovski, S.* (2020) Salivary small extracellular vesicles associated miRNAs in periodontal status—A pilot study. *International Journal of Molecular Sciences*, 21(8)

Han, P.*, Lai, A.*, Salomon, C.* and Ivanovski, S.* (2020) Detection of Salivary Small Extracellular Vesicles Associated Inflammatory Cytokines Gene Methylation in Gingivitis. *International Journal of Molecular Sciences*, 21(15): 5273-17.

Hariyani, N., Do, L., Spencer, A., Thomson, W., Scott, J. and Ha, D. (2020) Maternal caries experience influences offspring's early childhood caries — a birth cohort study. *Community Dentistry and Oral Epidemiology*, 48(6): 561-569.

Hassan, A., Devenish, G., Golley, R., Ha, D., Do, L. and Scott, J. (2020) Sources and determinants of wholegrain intake in a cohort of Australian children aged 12-14 months. *International Journal of Environmental Research and Public Health*, 17(24): 1-13.

Hides, J., Frazer, C., Blanch, P., Grantham, B., Sexton, C.* and Mendis, M. (2020) Clinical utility of measuring the size of the lumbar multifidus and quadratus lumborum muscles in the Australian football league setting: a prospective cohort study. *Physical Therapy in Sport*, 46: 186-193.

Hides, J., Lambrecht, G., Sexton, C.*, Pruett, C., Petersen, N., Jaekel, P., et al. (2020) The effects of exposure to microgravity and reconditioning of the lumbar multifidus and anterolateral abdominal muscles; implications for people with LBP. *The Spine Journal*, 21(3): 477-491.

Hoffman, T., Antovski, P., Tebon, P., Xu, C.*, Ashammakhi, N., Ahadian, S., et al. (2020) Synthetic biology and tissue engineering: toward fabrication of complex and smart cellular constructs. *Advanced Functional Materials*, 30(26)

Hosseinpour, S.*, Walsh, L.* and Xu, C.* (2020) Biomedical application of mesoporous silica nanoparticles as delivery system: a biological-safety perspective. *Journal of Materials Chemistry B*, 8(43): 9863-9876.

Huang, B. and Zachar, J.* (2020) Social and behavioural determinants of areca nut consumption in adolescents. *Oral Diseases*, 26(8): 1820-1826.

Irvine, V., John, J., Scott, J., Hayden, A., Do, L., Bhole, S., et al. (2020) Factors influencing the early introduction of sugar sweetened beverages among infants: findings from the HSHK Birth Cohort Study. *Nutrients*, 12(11): 3343-16.

Jackson, K., Ong, D.* and Freer, E.* (2020) Spontaneous eruption of maxillary third molars in the adult patient undergoing orthodontic treatment after first molar extractions. *Clinical Case Reports*, 8(8): 1392-1398.

Johnson, L.*, de Jersey, J.*, Masci, P.*, Zhao, K.*, Bennett, N.*, Dimeski, G.*, et al. (2020) Progress curve analysis of the one stage chromogenic assay for ecarin. *Analytical Biochemistry*, 608

Johnson, N.* and Roberts, M.* (2020) Frontal sinus fracture management: a systematic review and meta-analysis. *International Journal of Oral and Maxillofacial Surgery*, 50(1): 75-82.

Ju, X., Ribeiro Santiago, P., Do, L. and Jamieson, L. (2020) Validation of a 4-item child perception questionnaire in Australian children. *PLoS One*, 15(9)

Kalita-de Croft, P.*, Lim, M.*, Chittoory, H.*, de Luca, X.*, Kutasovic, J.*, Day, B., et al. (2020) Clinicopathologic significance of nuclear HER4 and phospho-YAP(S127) in human breast cancers and matching brain metastases. *Therapeutic Advances in Medical Oncology*, 12

Kularatna, S., Lalloo, R.*, Kroon, J., Tadakamadla, S., Scuffham, P. and Johnson, N. (2020) Demonstration of high value care to improve oral health of a remote Indigenous community in Australia. *Health and Quality of Life Outcomes*, 18(1)

Kuzekanani, M., Walsh, L. and Amiri, M. (2020) Prevalence and distribution of the middle mesial canal in mandibular first molar teeth of the Kerman population: A CBCT study. *International Journal of Dentistry*, 2020: 1-6.

Lai, Y.*, Zafar, S.*, Leonard, H., Walsh, L.* and Downs, J. (2020) Oral health education and promotion in special needs children: systematic review and meta-analysis. *Oral Diseases*.

Lalloo, R.*, Lucchesi, L., Bisignano, C., Castle, C., Dingels, Z., Fox, J., et al. (2020) Epidemiology of facial fractures: Incidence, prevalence and years lived with disability estimates from the Global Burden of Disease 2017 study. *Injury Prevention*, 26(Supp 1): injuryprev-2019.

Layton, C.* and Layton, D.* (2020) Time-to-event survival statistics in ophthalmology: methodological research. *Clinical and Experimental Ophthalmology*, 48(9): 1136-1145.

Lei, C.*, Cao, Y.*, Hosseinpour, S.*, Gao, F.*, Liu, J., Fu, J.*, et al. (2020) Hierarchical dual-porous hydroxyapatite doped dendritic mesoporous silica nanoparticles based scaffolds promote osteogenesis in vitro and in vivo. *Nano Research*, 14(3): 770-777.

Li, H., Guo, H., Xu, C., Liu, L., Hu, S., Hu, Z., et al. (2020) Inhibition of glycolysis by targeting lactate dehydrogenase A facilitates hyaluronan synthase 2 synthesis in synovial fibroblasts of temporomandibular joint osteoarthritis. *Bone*, 141

Liu, J., Xu, C.*, Xu, Y., Ye, Q.*, Fu, S., Hu, N., et al. (2020) Bioinspired scaffolds with hierarchical structures for tailored mechanical behaviour and cell migration. *Ceramics International*, 46(15): 24102-24109.

Li, Y., Du, Z., Xie, X., Zhang, Y., Liu, H., Zhou, Z., et al. (2020) Epigenetic changes caused by diabetes and their potential role in the development of periodontitis. *Journal of Diabetes Investigation*.

Logsdon, J., Dunlap, C., Arias, A., Scott, R. and Peters, O.* (2020) Current trends in use and reuse of nickel-titanium engine-driven instruments: a survey of endodontists in the United States. *Journal of Endodontics*, 46(3): 391-396.

Lopez Silva, C., Singh, A., Calache, H., Derbi, H. and Borromeo, G. (2020) Association between disability status and dental attendance in Australia — a population-based study. *Community Dentistry and Oral Epidemiology*, 49(1): 33-39.

Low, C., Kim, S., Liu, C. and Stormon, N.* (2020) Exploring dentistry students' knowledge of HIV and attitudes towards saliva screening for HIV. *European Journal of Dental Education*, 24(3): 483-490.

Low, C., Ong, D.* and Freer, E.* (2020) Non-surgical interdisciplinary management for an adult patient with a Class III malocclusion (case report). *Australian Dental Journal*, 66(1): 96-104.

Lui, H., Vaquette, C.*, Denbeigh, J., Bindra, R., Kakar, S. and Wijnen, A. (2020) Multiphasic scaffold for scapholunate interosseous ligament reconstruction: a study in the rabbit knee. *Journal of Orthopaedic Research*.

Manchery, N., Subbiah, G., Nagappan, N. and Premnath, P. (2020) Are oral health education for carers effective in the oral hygiene management of elderly with dementia? A systematic review. *Dental Research Journal*, 17(1)

Manohar, N., Hayden, A., Bhole, S.* and Arora, A. (2020) Predictors of early introduction of core and discretionary foods in Australian infants—results from HSHK birth cohort study. *Nutrients*, 12(1)

Maret, D., Peters, O., Vaysse, F. and Vigarios, E. (2020) Integration of telemedicine into the public health response to COVID-19 must include dentists. *International Endodontic Journal*, 53(6): 880-881.

Maret, D., Vergnes, J., Peters, O.*, Peters, C., Nasr, K. and Monsarrat, P. (2020) Recent advances in cone-beam CT in oral medicine. *Current Medical Imaging Reviews*, 16(5): 553-564.

Martinez-Marquez, D., Gulati, K.*, Carty, C., Stewart, R. and Ivanovski, S.* (2020) Determining the relative importance of titania nanotubes characteristics on bone implant surface performance: a quality by design study with a fuzzy approach. *Materials Science and Engineering: C*, 114

McCloy, K. and Peck, C. (2020) Common factors in the presentation and management of chronic temporomandibular disorders and chronic overlapping pain disorders. *Journal of Oral Pathology and Medicine*, 49(6): 454-460.

McGowan, K.*, Phillips, T.*, Gielis, E., Dover, T.*, Mitchell, G.*, Mutch, A.*, et al. (2020) Developing a prototype for integrated dental and diabetes care: understanding needs and priorities. *Australian Dental Journal*, 66(1): 41-48.

McLaughlin, K., Milne, T., Zafar, S., Zanicotti, D., Cullinan, M., Seymour, G., et al. (2020) The in vitro effect of VEGF receptor inhibition on primary alveolar osteoblast nodule formation. *Australian Dental Journal*, 65(3): 196-204.

Mei, L., Lai, Y., Lee, P., Ng, A., Tan, K., Zafar, S.*, et al. (2020) Final year dental students' career plans, work patterns, work-life balance and domestic life in New Zealand and Australia. *European Journal of Dental Education*, 24(4): 679-686.

Mercado, F.*, Hamlet, S. and Ivanovski, S.* (2020) A 3-year prospective clinical and patient-centered trial on subepithelial connective tissue graft with or without enamel matrix derivative in Class I-II Miller recessions. *Journal of Periodontal Research*, 55(2): 296-306.

Miles, P., Freer, E. and Ong, D. (2020) 2020 survey of Australian orthodontists' procedures. *Australasian Orthodontic Journal*, 36(2): 138-145.

Mousa, H., Hussein, K., Sayed, M., El-Aassar, M., Mohamed, I., Kwak, H., et al. (2020) Development of biocompatible tri-layered nanofibers patches with endothelial cells for cardiac tissue engineering. *European Polymer Journal*, 129

Murray, C., Abbafati, C., Abbas, K., Abbasi, M., Abbasi-Kangevari, M., Abd-Allah, F., et al. (2020) Five insights from the Global Burden of Disease Study 2019. *The Lancet*, 396(10258): 1135-1159.

Murray, C., Aravkin, A., Zheng, P., Abbafati, C., Abbas, K., Abbasi-Kangevari, M., et al. (2020) Global burden of 87 risk factors in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. *The Lancet*, 396(10258): 1223-1249.

Nagendrababu, V., Kishen, A., Chong, B., Priya, E., Duncan, H., Rôças, I., et al. (2020) Preferred Reporting Items for study Designs in Endodontology (PRIDE): guiding authors to identify and correct reporting deficiencies in their manuscripts prior to peer review. *International Endodontic Journal*, 53(5): 589-590.

Nangle, M.* and Manchery, N.* (2020) Can chronic oral inflammation and masticatory dysfunction contribute to cognitive impairment?. *Current Opinion in Psychiatry*, 33(2): 156-162.

O'Malley, L., Macey, R., Allen, T., Brocklehurst, P., Thomson, F., Rigby, J., et al. (2020) Workforce Planning Models for Oral Health Care: A Scoping Review. *JDR Clinical & Translational Research*

Ong, D.* and Dance, G. (2020) Posterior tooth autotransplantation: a case series. *Australian Dental Journal*, 66(1): 85-95.

Peres, K., Ha, D. and Christofis, S. (2020) Trend and distribution of coronal dental caries in Australians adults. *Australian Dental Journal*, 65(S1): S32-S39.

Peres, K., Thomson, W., Chaffee, B., Peres, M., Birungi, N., Do, L., et al. (2020) Oral health birth cohort studies: achievements, challenges, and potential. *Journal of Dental Research*, 99(12): 1321-1331.

Peres, M. and Lalloo, R.* (2020) Tooth loss, denture wearing and implants: Findings from the National Study of Adult Oral Health 2017–18. *Australian Dental Journal*, 65(S1): S23-S31.

Peters, O.*, Arias, A. and Choi, A. (2020) Mechanical properties of a novel nickel-titanium root canal instrument: stationary and dynamic tests. *Journal of Endodontics*, 46(7): 994-1001.

Peters, O.*, Teo, M., Ooi, J., Foo, A., Teoh, Y.* and Moule, A.* (2020) The effect of different sealer removal protocols on the bond strength of AH plus-contaminated dentine to a bulk-fill composite. *Australian Endodontic Journal*, 46(1): 5-10.

Philip, N.*, Leishman, S.*, Bandara, H.* and Walsh, L.* (2020) Growth inhibitory effects of antimicrobial natural products against cariogenic and health-associated oral bacterial species. *Oral Health and Preventive Dentistry*, 18(3): 537-541.

Philip, N.*, Leishman, S.*, Bandara, H., Healey, D.* and Walsh, L.* (2020) Randomized controlled study to evaluate microbial ecological effects of CPP-ACP and cranberry on dental plaque. *JDR Clinical and Translational Research*, 5(2): 118-126.

Poli, H.*, Mutch, A.*, Anitha, A.*, Ivanovski, S.*, Vaquette, C.*, Castner, D., et al. (2020) Evaluation of surface layer stability of surface-modified polyester biomaterials. *Biointerphases*, 15(6)

Quigley, N., Loo, D., Choy, C. and Ha, W.* (2020) Clinical efficacy of methods for bonding to zirconia: a systematic review. *Journal of Prosthetic Dentistry*, 125(2): 1-10.

Reina, N., Barrere, S., Peters, O., Rapp, L., Vergnes, J. and Maret, D. (2020) Reply to the letter by JY Jenny. *Orthopaedics and Traumatology: Surgery and Research*, 106(1): 205-205.

Reina, N., Barrere, S., Peters, O., Rapp, L., Vergnes, J. and Maret, D. (2020) Reply to the letter by JY Jenny Réponse à la lettre de J.-Y. Jenny. *Revue de Chirurgie Orthopedique et Traumatologique*, 106(1): 78-79.

Rossi-Fedele, G., Damiani, F., Love, R., George, R., Parashos, P., Wu, M., et al. (2020) Revised guidelines for educational requirements for specialisation in endodontics in Australia and New Zealand (July 2020). *Australian Endodontic Journal*, 46(3): 302-306.

Saidy, N.*, Shabab, T., Bas, O., Rojas-González, D., Menne, M., Henry, T., et al. (2020) Melt electrowriting of complex 3D anatomically relevant scaffolds. *Frontiers in Bioengineering and Biotechnology*, 8: 1-14.

Sathasivam, H., Casement, J., Bates, T., Sloan, P., Thomson, P., Robinson, M., et al. (2020) Gene expression changes associated with malignant transformation of oral potentially malignant disorders. *Journal of Oral Pathology and Medicine*, 50(1): 60-67.

Shih, W., Tran, K., Yang, V., El Masoud, B.*, Sexton, C.* and Zafar, S.* (2020) Investigation of inter- and intra-rater reliability using digital dental software for prosthodontics crown preparations. *Journal of Dental Education*, 84(9): 1037-1045.

Siddiqi, A., Zafar, S.*, Sharma, A. and Quaranta, A. (2020) Awareness of diabetic patients regarding the bidirectional association between periodontal disease and diabetes mellitus: A public oral health concern. *The Journal of Contemporary Dental Practice*, 21(11): 1270-1274.

Siddiqi, A., Zafar, S.*, Sharma, A. and Quaranta, A. (2020) Diabetes mellitus and periodontal disease: the call for interprofessional education and interprofessional collaborative care - a systematic review of the literature. *Journal of Interprofessional Care*: 1-9.

Sin, J., Hamlet, S., Walsh, L.*, Love, R. and George, R. (2020) Oxidising agents and its effect on human dentine fluorescence diagnostic measurements. *Photodiagnosis and Photodynamic Therapy*, 31

Skelly, E., Johnson, N., Kapellas, K., Kroon, J., Lalloo, R.* and Weyrich, L. (2020) Response of salivary microbiota to caries preventive treatment in Aboriginal and Torres Strait Islander children. *Journal of Oral Microbiology*, 12(1): 1-12.

Sofi, H., Abdal-hay, A.*, Ivanovski, S.*, Zhang, Y. and Sheikh, F. (2020) Electrospun nanofibers for the delivery of active drugs through nasal, oral and vaginal mucosa: current status and future perspectives. *Materials Science and Engineering C*, 111

Songtrakul, K., Azarpajouh, T., Malek, M., Sigurdsson, A., Kahler, B.* and Lin, L. (2020) Modified apexification procedure for immature permanent teeth with a necrotic pulp/apical periodontitis: A case series. *Journal of Endodontics*, 46(1): 116-123.

Stamm, T., Omara, M., Bakerc, S., Page, L., Thomson, W., Benson, P., et al. (2020) Rasch model of the child perceptions questionnaire in multi-country data. *Journal of Dentistry*, 93: 1-7.

Staples, R.*, Ivanovski, S.* and Vaquette, C.* (2020) Fibre guiding scaffolds for periodontal tissue engineering. *Journal of Periodontal Research*, 55(3): 331-341.

Stormon, N.* and Lalloo, R.* (2020) Monitoring the extent of water fluoridation coverage in Australia. *Health Promotion Journal of Australia*, 31(2): 169-171.

Stormon, N.*, Ford, P.* and Lalloo, R.* (2020) Family-level predictors of Australian children's dental caries and injuries. *Pediatric Dentistry*, 42(1): 28-39.

Stormon, N.*, Sowa, P.*, Anderson, J. and Ford, P.* (2020) Facilitating access to dental care for people experiencing homelessness. *JDR Clinical and Translational Research*

Tadakamadla, S., Lalloo, R.*, Kroon, J. and Johnson, N. (2020) Surface-specific caries preventive effect of an intervention comprising fissure sealant, povidone-iodine and fluoride varnish in a remote indigenous community in Australia. *International Journal of Environmental Research and Public Health*, 17(6)

Taing, M.*, Ford, P. and Freeman, C. (2020) Community pharmacy staff needs for the provision of oral health care education and advice in Australia. *Journal of the American Pharmacists Association*, 60(6): 993-1000.e9.

Tang, K., Menezes, L., Baeten, K., Walsh, L.*, Whitfield, B., Batstone, M.*, et al. (2020) Oral HPV16 prevalence in oral potentially malignant disorders and oral cavity cancers. *Biomolecules*, 10(2)

Tang, K., Vasani, S., Menezes, L., Taheri, T.*, Walsh, L.*, Hughes, B.*, et al. (2020) Oral HPV16 DNA as a screening tool to detect early oropharyngeal squamous cell carcinoma. *Cancer Science*, 111(10): 3854-3861.

Tang, K., Vasani, S., Taheri, T.*, Walsh, L.*, Hughes, B.*, Kenny, L.*, et al. (2020) An occult HPV-driven oropharyngeal squamous cell carcinoma discovered through a saliva test. *Frontiers in Oncology*, 10

Tasia, W., Lei, C.*, Cao, Y.*, Ye, Q.*, He, Y.* and Xu, C.* (2020) Enhanced eradication of bacterial biofilms with DNase I-loaded silver-doped mesoporous silica nanoparticles. *Nanoscale*, 12(4): 2328-2332.

Teoh, Y., Athanassiadis, B. and Walsh, L. (2020) Assessing calcium hydroxide penetration. *Journal of Endodontics*, 46(9): 1340-1340.

Thomson, P. (2020) Back to the future: revisiting oral carcinogenesis, stem cells and epithelial cell proliferation. *Faculty Dental Journal*, 11(1): 30-34.

Tronstad, O.*, Flaws, D., Lye, I., Fraser, J.* and Patterson, S.* (2020) Doing time in an Australian ICU; the experience and environment from the perspective of patients and family members. *Australian Critical Care*, 34(3): 254-262.

Tronstad, O.*, Flaws, D., Lye, I., Fraser, J.* and Patterson, S.* (2020) The intensive care unit environment from the perspective of medical, allied health and nursing clinicians: a qualitative study to inform design of the 'ideal' bedside. *Australian Critical Care*, 34(1): 15-22.

Tseng, H.*, Kulina, I.*, Salga, M.*, Fleming, W.*, Vaquette, C.*, Genêt, F., et al. (2020) Neurogenic heterotopic ossifications develop independently of granulocyte-colony stimulating factor and neutrophils. *Journal of Bone and Mineral Research*, 35(11): 2242-2251.

Tsotsis, P., Dunlap, C., Scott, R., Arias, A. and Peters, O.* (2020) A survey of current trends in root canal treatment: access cavity design and cleaning and shaping practices. *Australian Endodontic Journal*, 47(1): 27-33.

Vaquette, C.*, Bock, N. and Tran, P. (2020) Layered antimicrobial selenium nanoparticle-calcium phosphate coating on 3D printed scaffolds enhanced bone formation in critical size defects. *ACS Applied Materials and Interfaces*, 12(50): 55638-55648.

Verdelis, K., Chaudhry, S., Madoori, M., Hasselbach, R., Chong, R., Peters, O.*, et al. (2020) Effect of expertise on TF adaptive system instrumentation quality in simulated mandibular molar canals. *Australian Endodontic Journal*, 46(3): 432-438.

Vos, T., Lim, S., Abbafati, C., Abbas, K., Abbasi, M., Abbasifard, M., et al. (2020) Global burden of 369 diseases and injuries in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. *The Lancet*, 396(10258): 1204-1222.

Walsh, L.* (2020) Novel approaches to detect and treat biofilms within the root canals of teeth: a review. *Antibiotics*, 9(3)

Wang, H., Abbas, K., Abbasifard, M., Abbasi-Kangevari, M., Abbastabar, H., Abd-Allah, F., et al. (2020) Global age-sex-specific fertility, mortality, healthy life expectancy (HALE), and population estimates in 204 countries and territories, 1950–2019: a comprehensive demographic analysis for the Global Burden of Disease Study 2019. *The Lancet*, 396(10258): 1160-1203.

Wang, W., Adeoye, J., Thomson, P. and Choi, S. (2020) Statistical profiling of oral cancer and the prediction of outcome. *Journal of Oral Pathology and Medicine*, 50(1): 39-46.

Wang, Y.* and Lam, A. (2020) Epigallocatechin gallate and gallic acid affect colonization of abiotic surfaces by oral bacteria. *Archives of Oral Biology*, 120: 1-6.

Wang, Y.* and Lam, A. (2020) Inhibitory effects of saliva as a suspending fluid on attachment of oral bacteria to hydroxyapatite and titanium. *Archives of Oral Biology*, 120: 1-6.

Wang, Y.*, Samaranayake, L. and Dykes, G. (2020) Tea extracts modulate oral biofilm development by altering bacterial hydrophobicity and aggregation. *Archives of Oral Biology*, 122: 1-7.

Wright, P.*, Kahler, B.* and Walsh, L.* (2020) The effect of temperature on the stability of sodium hypochlorite in a continuous chelation mixture containing the chelator clodronate. *Australian Endodontic Journal*, 46(2): 244-248.

Wright, P.*, Scott, S., Shetty, S.*, Kahler, B.* and Walsh, L.* (2020) Resistance to compressive force in continuous chelation. *Australian Endodontic Journal*.

Xu, C.*, Cao, Y.*, Lei, C.*, Li, Z.*, Kumeria, T.*, Meka, A.*, et al. (2020) Polymer-mesoporous silica nanoparticle core-shell nanofibers as a dual-drug-delivery system for guided tissue regeneration. *ACS Applied Nano Materials*, 3(2): 1457-1467.

Xu, C.*, Xiao, L., Cao, Y.*, He, Y.*, Lei, C.*, Xiao, Y., et al. (2020) Mesoporous silica rods with cone shaped pores modulate inflammation and deliver BMP-2 for bone regeneration. *Nano Research*, 13(9): 2323-2331.

Xu, J., He, Y., Li, Y. and Ye, Q. (2020) Shape memory behaviour of gelatin – alginate interpenetrating network hydrogel. *Materials Letters*, 260

Yang, L., Yang, A., Chen, L., Firth, N.*, Prabhu, S.* and Zachar, J.* (2020) Knowledge of oral cancer amongst dental patients attending public clinics in South East Queensland, Australia. *Journal of Cancer Education*.

Yokota, K., Yu, S., Tan, T., Anderson, J. and Stormon, N.* (2020) The extent and nature of dental anxiety in Australians experiencing homelessness. *Health and Social Care in the Community*, 28(6): 2352-2361.

Yu, W., Wang, X., Guo, Y., Yang, S., Zhou, Z., Sun, X., et al. (2020) The osteogenesis performance of titanium modified via plasma-enhanced chemical vapor deposition: In vitro and in vivo studies. *Biomedical Materials*, 15(5).

Zachar, J. and Kanagaratnam, R. (2020) The impact of the COVID-19 pandemic in managing dental pain: a case report on a foreign body reaction after third molar surgery. *Oral Surgery*.

Zachar, J.*, Huang, B. and Yates, E. (2020) Awareness and knowledge of oral cancer amongst adult dental patients attending regional university clinics in New South Wales, Australia: a questionnaire-based study. *International Dental Journal*, 70(2): 93-99.

Zafar, S.* and Siddiqi, A. (2020) Biological responses to pediatric stainless steel crowns. *Journal of Oral Science*, 62(3): 245-249.

Zafar, S.* and Zachar, J.* (2020) Evaluation of augmented reality application for learning dental anatomy as a novel educational tool. *European Journal of Dental Education*, 24(2): 259-265.

Zafar, S.*, Cullinan, M.*, Drummond, B., Seymour, G. and Coates, D. (2020) Effects of zoledronic acid and geranylgeraniol on angiogenic gene expression in primary human osteoclasts. *Journal of Oral Science*, 62(1): 79-83.

Zafar, S.*, Lai, Y., Sexton, C.* and Siddiqi, A. (2020) Virtual Reality as a novel educational tool in preclinical paediatric dentistry training: students' perceptions. *International journal of paediatric dentistry*, 30(6): 791-797.

Zafar, S.*, Renner, P. and Zachar, J.* (2020) Dental trauma simulation training using a novel 3D printed tooth model. *Dental Traumatology*, 36(6): 641-647.

Zhou, X., Luo, Z., Baidya, A., Kim, H., Wang, C., Jiang, X., et al. (2020) Biodegradable beta-cyclodextrin conjugated gelatin methacryloyl microneedle for delivery of water-insoluble drug. *Advanced Healthcare Materials*, 9(11)

Conference Paper

Chua, A., Halim, C., Pham, E., AlQahtani, S. and Zafar, S. (2020). Reliability of the London Atlas for age estimation in Australian children. In Research Day, School of Dentistry Online. Research Day, School of Dentistry Online, The University of Queensland, QLD Australia. Online.

Chua, A., Halim, C., Pham, E., AlQahtani, S. and Zafar, S. (2020). Reliability of the London Atlas for age estimation in Australian children. In UG Dental Student Conference. UG Dental Student Conference, The University of Queensland, QLD Australia. 19 November 2020.

Doan, N.*, Truong, L., Doan, J.* and Reher, P. (2020). Overcoming single dental implant failure using two small implant support for one crown: five year retrospective study. In IFMBE Proceedings. 7th International Conference on the Development of Biomedical Engineering in Vietnam (BME7), Ho Chi Minh City, Vietnam, (289-293). 27-29 June 2018.

Do, H., Truong, K., Pham, D., Ngo, L., Tran, H. and Doan, N. (2020). Oral impacts on daily performances of children 12 and 15-year-old in Can Tho City. In IFMBE Proceedings. 7th International Conference on the Development of Biomedical Engineering in Vietnam (BME7), Ho Chi Minh City, Vietnam, (585-589). 27-29 June 2018.

Hogerheyde, T., Walsh, L. and Zafar, S. (2020). The effects of disinfection and sterilisation protocols on preformed paediatric crowns. In Research Day Online 2020. Research Day Online 2020, Brisbane, QLD, United States. Online.

Huynh, R., Du, D., Im, J., Zachar, J. and Zafar, S. (2020). Trends and awareness of percutaneous injuries at a dental school. In UG Dental Student Conference. UG Dental Student Conference, The University of Queensland. 19th November 2020.

Huynh, T. and Doan, N.* (2020). Primarily surgical treatment of cervical cancers diagnosed in stages IA–IIA at Can Tho Oncology Hospital: an overview of 9 years' experience 2000–2008. In IFMBE Proceedings. 7th International Conference on the Development of Biomedical Engineering in Vietnam (BME7), Ho Chi Minh City, Vietnam, (633-640). 27-29 June 2018.

Huynh, T., Ho, H., Vo, K., Huynh, L., Chau, T. and Doan, N.* (2020). Lymph node dissection by laparoscopic surgery in patients underwent right colon cancer treatment. In IFMBE Proceedings. 7th International Conference on the Development of Biomedical Engineering in Vietnam (BME7), Ho Chi Minh City, Vietnam, (641-643). 27-29 June 2018.

Huynh, T., Tran, D., Chau, T., Huynh, T., Trinh, C. and Doan, N.* (2020). An overview of immune checkpoints and immunotherapy in cancer. In IFMBE Proceedings. 7th International Conference on the Development of Biomedical Engineering in Vietnam (BME7), Ho Chi Minh City, Vietnam, (619-625). 27-29 June 2018.

Huynh, T., Tran, D., Chau, T., Nguyen, M. and Doan, N.* (2020). Biological alterations of lung carcinoma. In IFMBE Proceedings. 7th International Conference on the Development of Biomedical Engineering in Vietnam (BME7), Ho Chi Minh City, Vietnam, (597-603). 27-29 June 2018.

Jeon, S., Chong, M., Jin, G., Zachar, J. and Zafar, S. (2020). A retrospective analysis of non-sharps related injuries in a dental school setting. In UG Dental Student Conference. UG Dental Student Conference, The University of Queensland, QLD Australia. 19 November 2020.

Nakahashi, K., Chin, C., Ting, J., El Masoud, B., Walsh, L. and Zafar, S. (2020). Emerald Intra-Oral Scanner and Compare® software as assessment tools in preclinical paediatric dental education. In UG Dental Student Conference. UG Dental Student Conference, The University of Queensland, QLD Australia. 19 November 2020.

Nakahashi, K., Chin, C., Ting, J., El Masoud, B., Walsh, L. and Zafar, S. (2020). Emerald™ Intra-Oral Scanner and Compare® software as assessment tools in preclinical paediatric dental education. In Research Day, School of Dentistry Online 2020. Research Day, School of Dentistry Online 2020, The University of Queensland, QLD, Australia. Online.

Nguyen, D., Nguyen, V., Do, L. and Doan, N. (2020). An evaluation on initial deficiency of left ventricular systolic function in patients with systemic hypertension by speckle tracking echocardiography. In IFMBE Proceedings. 7th International Conference on the Development of Biomedical Engineering in Vietnam (BME7), Ho Chi Minh City, Vietnam, (591-595). 27.

Truong, L., Doan, J.*, Reher, P. and Doan, N.* (2020). Application of oxygen on gagging patients with sleep disordered breathing: ten year retrospective study. In IFMBE Proceedings. 7th International Conference on the Development of Biomedical Engineering in Vietnam (BME7), Ho Chi Minh City, Vietnam, (651-655). 27-29 June 2018.

Truong, L., Doan, N.*, Reher, P. and Duong, Q. (2020). Dental implant or dental transplant: a two case report. In IFMBE Proceedings. 7th International Conference on the Development of Biomedical Engineering in Vietnam (BME7), Ho Chi Minh City, Vietnam, (277-281). 27-29 June 2018.

Zafar, S. (2020). Behaviour management of dentally anxious children. In The Paediatric Dental Practice, CPD event. The Paediatric Dental Practice, CPD event, Gold Coast, QLD Australia. 12th March 2020.

Zafar, S. (2020). Pain management in paediatric dentistry. In The Australian New Zealand Society for Paediatric Dentistry Queensland Committee CPD event. The Australian New Zealand Society for Paediatric Dentistry Queensland Committee CPD event, Brisbane, QLD Australia. 17th August 2020.

Zafar, S. (2020). Stainless steel crowns in paediatric dentistry. In Hands-on CPD course Australian Dental Association Qld Branch. Hands-on CPD course Australian Dental Association Qld Branch, Brisbane, QLD Australia. 18th August 2020.

Zafar, S. (2020). Stainless steel crowns in paediatric dentistry. In Oral presentation and Hands-on CPD course Australian Dental Association Qld Branch. Oral presentation and Hands-on CPD course Australian Dental Association Qld Branch, Brisbane, QLD Australia. 11th August 2020.

Zafar, S. (2020). Stainless steel crowns in paediatric dentistry. Oral presentation and Hands-on CPD course. In Australian Dental Association Qld Branch. Australian Dental Association Qld Branch, Brisbane, QLD Australia. 17 November 2020.

DClinDent Thesis

Fu, D. (2020) Utilisation of general anaesthesia and conscious sedation for patients with special needs in Queensland.

Kumar, K. (2020) Root canal cleaning in complex canals using agitated irrigation fluids.

Postgraduate Research

Higher Degree by Research student scholarships

PhD

Amelia Carr
Bilal El-Masoud
Tianqi Guo
Sepanta Hosseinpour Dougolsar
Anjana Jayasree
Nicolie Jenkins
Yvonne Lai
Miriam Lee
Nithin Manchery
Alison Nation
Vignesh Selvaprithiviraj
Reuben Staples
Srinivas Sulugodu Ramachandra

MPhil

Cheryl Chen
Philip Chien
Leigh Harrison-Barry
Thomas Hogerheyde
Mark Westaway

Higher Degree by Research completed PhD students

Andrea Kazoulis
Patricia Wright

Higher Degree by Research ongoing PhD students

Amelia Carr
Bilal El-Masoud
Tulio Fernandez
Tianqi Guo
Sepanta Hosseinpour Dougolsar
Nicolie Jenkins
Yvonne Lai
Miriam Lee
Baboucarr Lowe
Nithin Manchery
Alison Nation
Vignesh Selvaprithiviraj
Reuben Staples
Srinivas Sulugodu Ramachandra
Arosha Weerakoon

Higher Degree by Research new PhD students

Anjana Jayasree

Higher Degree by Research completed MPhil students

Joshua Mitchell

Higher Degree by Research ongoing MPhil students

Aya Alali
Leigh Harrison-Barry
Thomas Hogerheyde
Stephanie Tan

Higher Degree by Research new MPhil students

Cheryl Chen
Philip Chien
Ashwin Nanda
Mark Westaway

DClinDent completed students

Dayea Oh
Jake Thomas Samuels
Aaron David Gascoigne
Kiran Kumar
Yu-Yao Teoh
Haylea Louise Blundell
Raj Kumar Gaddam
Amesha Maree
Amro Ahmed Farag
Akila Vithanage
Salah Al-Deen Mortaja
Kavita Rana
David Fu

DClinDent ongoing students

Remy Head
May Lam
Andy Tsai
Jimmy Hsiao
Anthony Puljich
Dinusha Thalagala
Ahmed Ali Al-Humairi
Janice Chuang
Shenna Ho

DClinDent new students

Gwengo Tapiwa
Lam Jonathan
O'Connor Joseph
Stephens Caitlin
Bou-Samra Gabrielle
Briggs Thomas
Liaw Andrew
Gim Yong Hoon (Jimmy)
Ohm Reeynaa

Undergraduate Research

Year 5 BSc Dental Student Research Projects

SMS reminders to improve public outpatient attendance: a retrospective study

Researchers: Cecilia Chen, Pei-Chen Chen & Elizabeth C. Hsu
Supervisors: Dr Ellen Gielis, Dr Kelly McGowan, Nicole Stormon

An Exploration into the Accessibility of Dental Services by pregnant Aboriginal and Torres Strait Islander women in South East Queensland

Researchers: Grace Kan, Valerie CW Kwok, Daniel Saw
Supervisors: A/Professor Ratilal Lalloo, Dr Bobby Thomas, Joanne Sutton

What are the enablers and barriers to dental attendance in Indigenous Australians?

Researchers: Anthony Taing, Viet Toan Anton Tran, James Yang
Supervisors: Professor Pauline Ford, Clare Mangoyana

Assessing the communication preferences of the Metro North eligible population for accessing information and dental care through Metro North Oral Health Services

Researchers: Emma Leong, John Pham, Deborah Seah
Supervisors: Alison Dickinson, Dr Michael Foley

Analysis of oral health content promoted by health organisations and social media influencers in Australia

Researchers: Pei Qing Teo, Shiuang Ling Felicia Chin, Long Chee Jessie Ng
Supervisor: Nicole Stormon

The impact of the COVID-19 Pandemic on public dental waiting lists in Queensland

Researchers: Pragya Singhal, Layanga Ranasinghe, Chung Y. Chuo
Supervisor: A/Professor Ratilal Lalloo

The relationship between early childhood development, dental caries and oral health behaviours in Indigenous Australian children

Researchers: Jia Min Goh, Subin Moon, Luke Zhang
Supervisors: Nicole Stormon, Christopher Sexton

The Child Dental Benefits Schedule and its Impact on Indigenous Children's Rate of Dental Attendance

Researchers: Phuc Pham, Martin Nguyen, Theresa Truong
Supervisors: Dr Claudia Silva Lopez, Christopher Sexton

An Assessment of the Quality of Referrals to a public Oral Medicine Department: Orofacial Pain

Researchers: Yong Jie Tan, Min Jae Kim, Yujin Lee
Supervisor: Dr Sarah Chaw

An Audit of the Quality of Referral Letters to a Public Oral Medicine Department: Oral Mucosal Lesions

Researchers: Ivy Wu, Sean Kah Chuen Ho, Xin Sharon Chen
Supervisor: Dr Sarah Chaw

Reliability of the London Atlas for age estimation in Australian Children

Researchers: Amanda Chua, Christabel Halim, Ethan Pham
Supervisors: Sakher AlQahtani, Sobia Zafar

Exploring Medicine and Dentistry students' personality traits: a five-year study of student cohorts

Researchers: Martin Seysan, Matin Mirabediny, Dominic Wall
Supervisors: Nicole Stormon, Professor Di Eley

Students' Perception and Understanding of Ethics and Professionalism Through Dental School

Researchers: Thomas Kim, Alan Kwok, Gi-Yong Park
Supervisor: Christopher Sexton

Short Term International Dental Experiences in Recent Dental Graduates and Undergraduate Dental Students at an Australian University

Researchers: Wei-Yi Chen, Natalie La, An-Lun Cheng
Supervisor: Dr Sowmya Shetty

Perceived incidence of academic integrity breaches in an undergraduate dental program, and students' attitudes towards such breaches

Researchers: Furqan Ahmed, Adrian T. Balendra, Daniel Karam
Supervisor: Dr Sandra March

Trends and awareness of percutaneous injuries at a dental school

Researchers: Richard Huynh, Deborah Du, Jun-Ho Im
Supervisors: Dr Jessica Zachar, Dr Sobia Zafar

A retrospective analysis of non-sharps related injuries in a dental school setting

Researchers: Soyeon Jeon, Mark Chong, Gwanghyun Jin
Supervisors: Dr Sobia Zafar, Dr Jessica Zachar

EmeraldTM Intra-Oral Scanner and Compare® Software in Paediatric Dental Simulation

Researchers: Kent Nakahashi, Cheryl M.L. Chin, Jason Y.H. Ting
Supervisors: Dr Sobia Zafar, Professor Laurence Walsh, Dr Bilal El Masoud

Evaluation of training dental practitioners in Stainless Steel crown placement in West Moreton Hospital Oral Health Service (WMOHS)

Researchers: Li Yeoh, Irvin S. H. Tang, Vanessa T. E. Ling
Supervisors: Dr Jessica Zachar, Dr Kelly McGowan, Nicole Stormon

The effects of different irrigating solutions on MTA penetration into dentinal tubules

Researchers: Jethro Siao, Khai Yi Liew, Shaun Wong
Supervisors: Dr George Bogen, Dr Yu-Yao Teoh

A comparison of the dissolution of various glass ionomer cements in open sandwich Class II restorations by acids commonly found in the oral cavity

Researchers: Dinuki Perera, Sean Yu, Henry Zeng
Supervisors: Professor Ian Meyers, Professor Laurence Walsh

Dissolution of Novel Bioactive Dental Restorative Materials in Common Oral Acids

Researchers: Darryl WJ. Lock, Natalynn JM. Ong, Shijia Sun
Supervisors: Professor Ian Meyers, Professor Laurence Walsh

Flowable lined proximal restorations: the influence of overlying material radiopacity, liner thickness and clinical experience on radiographic interpretation

Researchers: Sari Simawy, Rahul Rana, Tam-Minh Nguyen
Supervisors: Professor Laurence Walsh, Dr Alyssa Zhang

Research Day 2020 presentations

Harnessing the native extracellular matrix for periodontal regeneration

Fanny Blaudez, Saso Ivanovski, Cedryck Vaquette

Reliability of the London Atlas for age estimation in Australian Children

Amanda Chua, Christabel Halim, Ethan Pham, Sakher AlQahtani, Sobia Zafar

Tailored Bioactivity and Therapy from Dual Micro-Nano Titanium Dental Implants

Karan Gulati, Sašo Ivanovski

Optimized Fabrication of Bioactive Nano-Engineered Titanium Dental Implants

Tianqi Guo, Karan Gulati, Pingping Han and Saso Ivanovski

The effects of disinfection and sterilisation protocols on preformed paediatric crowns

Thomas Hogerheyde, Laurence Walsh, Sobia Zafar

Large pore mesoporous silica nanoparticle for microRNA-26a delivery to rat bone marrow mesenchymal stem cells

Sepanta Hosseinpour, Chun Xu, Laurence J. Walsh

The Effect of Azithromycin Loaded Melt Electrowritten Polycaprolactone Membrane on Human Oral Biofilm in Situ

Soo Jin Lim, Srinivas Ramachandra, PingPing Han, Cedryck Vaquette, Saso Ivanovski

Prospective memory and oral health in late adulthood

Nithin Manchery, Matthew R. Nangle, Sarah A. Grainger, Simon Haines, Archana Pradhan, Peter G. Rendell, Julie D. Henry

Emerald™ Intra-Oral Scanner and Compare® Software in Paediatric Dental Simulation

Kent Nakahashi, Cheryl Mee Len Chin, Jason Yi Hong Ting, Bilal El Masoud, Laurence Walsh, Sobia Zafar

Weak hydrofluoric acid effects on titanium surface roughness

Ashwin M Nanda, Dr Carol Tran, Prof Laurence J Walsh

Investigation of oral microcosms formation and growth on 3D MEW scaffolds

Srinivas Ramachandra, Pingping Han, Abdalla Abdal-hay, Ryan Lee, Saso Ivanovski

The effects of different irrigating solutions on MTA penetration into dentinal tubules

Siao J, Liew B, Wong S, Teoh YY, Bogen G

Oral health of Australian children and their parents

Nicole Stormon, Susan Clifford, Katherine Lange, Pauline Ford, Melissa Wake, Ratilal Laloo

Research Staff

Research Only Staff

Ali, Abdalla
Gomez Cerezo, Maria N
Gulati, Karan
Han, Pingping
Vaquette, Cedryck
Xu, Chun

Academic Staff

Arora, Himanshu
Ashman, Robert B
Bogen, George
Chaw, Sarah Y Y
Dudhia, Mohammed R
El Masoud, Bilal M
Farang, Amro A
Fernandez Medina, Tulio E
Freer, Elissa M
Gervais, Mark J
Goh, Phillip K T
Hosseinpourdougolsar, Sepanta
Ivanovski, Saso
Johnson, Nigel
Kazoullis, Andrea
Kerr, Brett
Khan, Ambereen

Kunjukrishna Pillai, Unnikrishnan
Laloo, Ratilal
Lee, Sang B
Lopez Silva, Claudia P
Mangoyana, Clare N
Nangle, Matthew R
Oh, Dayea
Ong, Desmond C
Peters, Christine I
Peters, Ove A
Sexton, Christopher T
Shetty, Sowmya
Stormon, Nicole L
Thomson, David H
Zachar, Jessica J
Zafar, Sobia
Zhang, Alyssa

Honorary And Adjunct Staff

Alexander, Terence A
Alqahtani, Sakher
Bartle, Emma K
Bartold, Peter M
Brown, Louise F
Cullinan, Mary P
Donos, Nikolaos
Firth, Norman A

Forrest, Alex
Freer, Terry
Hutmacher, Dietmar W
Kahler, William A
Kruger, Brian J
Layton, Danielle M
Mansour, Mohammed M
Marshall, Roderick I
Mercado, Faustino
Meyers, Ian A
Monsour, Paul A J
Moule, Alexander J
Newman, Bruce A
Olive, Richard J
Pateman, Kelsey A
Porter, Suzette A T
Prabhu, Soorebettu R
Seow, Wan K
Seymour, Greg
Symons, Anne L
Tran, Carol
Walsh, Laurence J
Wright, Patricia P

Research Professional Staff

Chopra, Divya
Maartens, Joachim H

The University of Queensland School of Dentistry

Oral Health Centre, 288 Herston Road
Corner Bramston Terrace and Herston Road
Herston QLD 4006, Australia

Email: dentistry.research@uq.edu.au

Phone: (07) 3365 8022

dentistry.uq.edu.au



**THE UNIVERSITY
OF QUEENSLAND**
AUSTRALIA



**Queensland
Government**