

School of Dentistry 2018 Research Report



Contents

i. Foreword	3
1. Core Research Groups	4
Advanced Material and Technologies (Lead - Professor Laurie Walsh)	4
Regenerative Dentistry (Lead - Professor Adam Ye)	5
Tissue Engineering and Additive Manufacturing (Lead - Professor Saso Ivanovski)	6
Dental Public Health (Lead – Associate Professor Ratilal Laloo)	8
2. Research Grants	9
3. Journal Publications	12
4. Edited Books & Chapters	19
4.1 Letters to the Editor	19
4.2 Editorials	19
4.3 DClinDent Theses	19
5. Abstract Publications	20
6. Conference, Oral & Poster Presentations	20
7. Postgraduate Research	23
7.1 Higher Degree by Research Student Scholarships	23
7.2 Higher Degree by Research – Completed PhD Student in 2018	23
7.3 Higher Degree by Research – Ongoing PhD Students in 2018	23
7.4 Higher Degree by Research – New Commencements PhD Students in 2018	24
7.5 Higher Degree by Research – Ongoing MPhil Student in 2018	25
7.6 Higher Degree by Research – New Commencement MPhil Student in 2018	25
7.7 Completed 2018 Doctor of Clinical Dentistry Candidates	25
7.8 Ongoing 2018 Doctor of Clinical Dentistry Candidates	26
7.9 Commencing 2018 Doctor of Clinical Dentistry Candidates	26
8. Undergraduate Research	27
8.1 Year 5 BSc Dental Student Research Projects	27
9. Research Staff	30
9.1 UQ Academic Staff	30
9.2 UQ Honorary Research Staff	30
9.3 UQ Postdoctoral Research Fellows	31
9.4 UQ Research Assistants	31
9.5 UQ Visiting Academics	31

i. Foreword

It is a pleasure to present the 2018 University of Queensland School of Dentistry Research Report. The school has a long standing history of producing high quality oral health research, with the aim of contributing to the advancement of evidence based knowledge both locally and internationally. We have a strong focus on translational research, emphasising the importance of research impact on patient outcomes, as well as healthcare policy and practice.

The School has demonstrated a strong track record of quality research, achieving the highest level of 5 ('well-above world standard') in the most recent Excellence in Research for Australia (ERA) rankings. This is a testament to the exceptional quality research being undertaken at the school.

In 2018, the school continued with its strong upward trajectory of research activity, underpinned by significant recruitment of academic staff, which has resulted in a strong increase in both the quantity and quality of research outputs. Research within the school focusses on several themes, spanning fields from biomaterial science and tissue engineering through to technologies applied in clinical practice, dental public health and dental education.

In 2018, there were four principal research streams established at the school:

Advanced Materials and Technologies: This group works across the interface between oral microbiology, cariology, dental materials science and advanced technologies to explore key topics of importance with an emphasis on the transition of research into clinical practice.

Regenerative Dentistry: This group conducts a wide range of translational research in tissue engineering, stem cells and molecular biology aiming to replace, engineer or regenerate damaged tissues or organs, restoring normal functionality

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 at a population level.

Tissue Engineering and Additive Manufacturing: This group focusses on bioengineering solutions to regenerating and reconstructing oral and maxillofacial tissues, exploring novel advances in biomaterial science and innovations in biomanufacturing.

Our staff and students are continually striving to achieve research excellence. This report reflects the depth and breadth of research being undertaken at the school. These achievements have helped to provide effective solutions to contemporary challenges in dentistry and position the School as a global leader in dental and oral health research.

1. Core Research Groups

Advanced Material and Technologies (Lead - Professor Laurie Walsh)

The Advanced Materials and Technologies group works across the interface between oral microbiology, cariology, dental materials science and advanced technologies to explore key topics of importance with an emphasis on the transition of research into clinical practice.

Key collaborators within UQ include Pam Douglas (Medicine), Peter Hill (Public Health), Mark Blaskovich and Zyta Ziora (IMB). External collaborators in 2018 included Helen Boocock and Margaret Pukallus (Metro South), Sarah Cresswell and Roy George (Griffith University), Paul Abbott, Joon Park, Andrew Brostek, Estie Kruger and Marc Tennant (UWA), Kumar Raghav (Charles Sturt University), Ola Al Batanyeh (JUST Jordan), Maryam Kuzekanani (Kerman University Iran), Bharat Suneja (Baba Jaswant Singh Dental College, India), Hans Laroo and Basil Athanassiadis.

Members for this group in 2018 included the following:

UQ academics: George Bogen, Alex Forrest, Ambereen Khan, Ratilal Laloo, Bilal El Masoud, Alex Moule, Archana Pradhan, Kim Seow, Sowmya Shetty, Laurie Walsh, Sobia Zafar, Alyssa Zhang

UQ academic title holders: Bill Kahler, Peter Osborne, Ove Peters, Carol Tran

Postdocs: Shaneen Leishman, Kathryn Elsworthy, Helen He, Fardad Shakibaie

Research assistant: Janet Palmer

PhD students: David Joo, Vishal Kapoor, Nebu Philip, Trish Wright

MPhil students: Leigh Harrison-Barry

DClinDent students: David Fu, Yu-Yao Teoh, Kiran Kuman, Kavita Rana, David Fu.

BDSc students: Erin Leask, Laura Chen, Mariska Taverne, Hui Chin, Alyce Chau, Jeremy Chitty, Cheng Jiang, Cheryl Chen, Nicole Silajew, Minal Thatikonda, Monisha Kumar, Malak Fouda, Ai Leen Wee

Examples of Major Projects in 2018:

Novel antimicrobial agents (including phytochemicals, silver nanoparticles, and calcium hydroxide nanoparticles): Nebu Philip, Helen He, Zyta Ziora, Hans Laroo, Carol Tran, Laurie Walsh.

Endodontic technologies and materials (including medicament pastes, endodontic cements and irrigants): Trish Wright, Bill Kahler, Ove Peters, Alex Moule, Kiran Kumar, George Bogen, Kumar Raghav, Maryam Kuzekanani, Paul Abbott, Basil Athanassiadis, Laurie Walsh

Restorative and prosthodontic dental materials: David Joo, Kavita Rana, Ambereen Khan, Bilal El Masoud, Sowmya Shetty, Ai Leen Wee, Malak Fouda, Laurie Walsh

Caries prevention in children (including clinical trials of novel caries preventive strategies, and combinations of fluorides and CPP-ACP): Kathryn Elsworthy, Shaneen Leishman, Jan Palmer, Eloise West, Leigh Harrison-Barry, Kim Seow, Margaret Pukallus, Helen Boocock, Ratilal Laloo, Mark Blaskovich, Laurie Walsh

Fluorescence diagnostics (including assessment of microbial proteins in biofilms and in dental hard tissues): Fardad Shakibaie, Yu-Yao Teoh, Ola Al Batanyeh, Laurie Walsh

Advanced imaging technologies and lasers (including radiographic imaging, 3D imaging, and optically controlled laser debridement): Minal Thatikonda, Monisha Kumar, Alex Forrest, Roy George, Sobia Zafar, Alyssa Zhang, Laurie Walsh

Clinical safety (including antibiotic prescribing, patient triage for general anaesthesia, and infection control in dental practice): Cheryl Chen, Nicole Silajew, Peter Osborne, Erin Leask, Laura Chen, Mariska Taverne, Hui Chin, David Fu, Archana Pradhan, Laurie Walsh

Infant oral care/tongue tie: Alyce Chau, Jeremy Chitty, Cheng Jiang, Vishal Kapoor, Peter Hill, Pam Douglas, Laurie Walsh

Regenerative Dentistry (Lead - Professor Adam Ye)

The Regenerative Dentistry research stream conducts a wide range of translational research in tissue engineering, stem cells, nanomaterials, and molecular biology aiming to replace, engineer or regenerate damaged tissues or organs, restoring normal functionality.

Biomedical approaches to tissue regeneration predominately involve the use of stem cells, controlled released nano-delivery systems for growth factors, electrospinning, 3D bio-printing and gene editing and reprogramming.

The research members within this stream collaborate extensively with local institutions (UQ AIBN, IMB, School of Pharmacy; Griffith University, James Cook University, Queensland University of Technology, etc.) as well as international research partners (Wenzhou Medical University, Harvard University, UCLA, University of Otago, etc) on projects focused on the regeneration of bone, nerve, dental pulp and periodontal tissue.

Members for this group in 2018 included the following:

Professor Adam Qingsong Ye – Professor of Orthodontics and Stream Lead of Regenerative Dentistry
Dr Chun Xu – NHMRC Early Career Fellow
Dr Helen Yan He – Postdoctoral Research Fellow
Dr Matthew Nangle – Senior Lecturer
Dr Sobia Zafar – Senior Lecturer
Dr Jia Xu – Senior Research Assistant
Dr Yanfeng Han – Senior Research Assistant
Zhihao Li – Research Assistant
Yifang Zhao – Research Assistant
Lan Xiao – Research Assistant
Cathy Yuxue Cao – Research Assistant
Baboucarr Lowe – Doctor of Philosophy Candidate
Ashwin Nanda – Doctor of Philosophy Candidate
Dr Na Liu – Visiting Scholar
Dr Jing Song – Visiting Scholar

Examples of Major Projects in 2018:

Design of bioactive scaffolds for bone tissue engineering

Stem cells and growth factors for nerve regeneration and repair

Nanomaterials and biofilm control

Research Grants in 2018:

- Functional nano-cement scaffolds for the treatment of osteoporotic bone defects.
 - NHMRC Early Career Fellowships
- Enhanced osseointegration on growth factor releasing anodized 3D printed titanium dental implants with titania nanotubes.
 - Australian Dental Research Fund Inc.
- Endogenous bone regenerative technique to repair hard tissue defects in congenital craniofacial clefts
 - ARC Discovery Early Career Researcher Award
- Nano-engineered membrane as an efficient growth factor delivery system for periodontal tissue regeneration.
 - Australian Dental Research Fund Inc.

Tissue Engineering and Additive Manufacturing (Lead - Professor Saso Ivanovski)

The Ivanovski Tissue Engineering and Additive Manufacturing (iTEAM) research stream works at the forefront of innovation in regenerative medicine, restoring native oro-dental tissue form and function through the application of novel materials and manufacturing technologies to tissue engineering.

Focus areas of this stream include the regeneration of periodontal tissues, the enhancement of horizontal and vertical bone augmentation in the oral region, the functionalisation of metallic dental implants, the application of immunomodulation to encourage healing, and the modulation of bacterial response through material modifications. Within these research areas, functional approaches typically involve the development of novel biomaterials and tissue engineering scaffold strategies, preclinical testing, the advancement of additive manufacturing technologies, and the targeting of clinical translation.

Research leaders within this stream are active collaborators in both a clinical and research setting, with ongoing projects with internal (UQ CCR, UQ FoM, TRI, QBI, AIBN), external (QUT IHBI, QUT CARF, Griffith MHIQ), and international universities (Paris University (Diderot), University of Minho, Mayo Clinic, Chinese Academy of Sciences, Technical University of Munich) along with prominent industry partners (Geistlich Pharma/Biomaterials, Straumann Group).

Members for this group in 2018 included the following:

UQ academics: Saso Ivanovski, Ryan Lee, Amro Farag

Postdoctoral researchers: Kanika Jain, Karan Gulati, Michal Bartnikowski, Abdalla Ali, Pingping Han, Cedryck Vaquette

PhD students: Tulio Fernandez, Srinivas Sulugodu Ramachandra, Nimal Thattaruparambil Raveendran, Amelia Carr, Miriam Lee, Reuben Staples, Tianqi Guo, Vignesh Selvaprithiviraj

Visiting PhD students: Fanny Blaudez (Griffith), Greeshma Ratheesh (QUT), Alexandra Mutch (UQ - School of Chemistry)

MPhil student: Joshua Mitchell

Masters students: Anna Garbuzov, Nicholas Bao Han Hang, Yixiao Zhou, My Tran Hoai

DClinDent students: Akila Vithanage, Sarah Benton

Additive Biomanufacturing and Clinical Translation

In this research theme, the additive biomanufacturing technologies of 3-dimensional (3D) printing and melt electrospinning writing (MEW) are explored with an aim to engineer highly innovative structures for tissue regeneration. Prominently, this theme targets the utilisation of additive manufacturing technologies for the development of multiphasic constructs for various applications in regenerative dentistry (periodontal and vertical bone regeneration etc.), with aims to reach clinical translation of these products in 2020.

Involved researchers: Dr Michal Bartnikowski, Dr Abdalla Ali, Dr Cedryck Vaquette, Mr Nimal Thattaruparambil Raveendran, Mr Vignesh Selvaprithiviraj, Ms Amelia Carr, Mr Reuben Staples, Ms Fanny Blaudez

Several projects are listed below:

- **Decellularised tissue engineered construct for periodontal regeneration in a porcine model:** Cedryck Vaquette, Saso Ivanovski, Ryan Lee, Tulio Fernandez, Fanny Blaudez
- **A multiphasic hierarchical 3D bioprinted hydrogel scaffold for periodontal regeneration:** Nimal Thattaruparambil Raveendran, Cedryck Vaquette, Michal Bartnikowski, Saso Ivanovski
- **The controlled manufacturing of fibre guiding scaffold for promoting functional periodontal ligament attachment:** Reuben Staples, Cedryck Vaquette, Saso Ivanovski
- **Development of a 3D-printed bone-ligament-bone construct for scapholunate interosseous ligament reconstruction:** Hayman Lui, Cedryck Vaquette, Saso Ivanovski.
- **Development and Characterisation of a Novel Bioink Using Autogenous Bone Source:** Greeshma Ratheesh, Cedryck Vaquette, Yi Xiao (QUT)

Functional Biomaterials

The focus of this research theme is innovation in biomaterials science, producing bioactive biomaterials that are able to provide functional cues to the local environment. This involves work such as surface modification or functionalisation of materials, blending of polymer or ceramic composites, and novel polymerisations.

Involved researchers: Dr Abdalla Ali, Dr Cedryck Vaquette, Dr Michal Bartnikowski, Mr Nimal Thattaruparambil Raveendran, Mr Vignesh Selvaprithiviraj, Dr Tulio Fernandez, Ms Fanny Blaudez

- **Application of a commercially available xenograft and platelet concentrate as loading agent for local delivery of Azithromycin in the treatment of Peri-implantitis:** Miriam Lee, Saso Ivanovski, Cedryck Vaquette
- **Harnessing the native extracellular matrix for periodontal regeneration:** Fanny Blaudez, Stephen Hamlet (Griffith), Himanshu Arora (Griffith), Saso Ivanovski, Cedryck Vaquette
- **Chitosan/graphene porous scaffold for bone regeneration:** My Tran, Reuben Staples, Cedryck Vaquette, Natalia Alves (Uni Minho, Portugal)
- **Injectable swelling hydrogels for soft tissue augmentation:** Vignesh Selvaprithiviraj, Cedryck Vaquette, Saso Ivanovski, Michal Bartnikowski

Nano-Engineered Implants

Aimed at achieving early stability and long-term success of metal-based (Ti, Zr and alloys) dental implants, electrochemically anodized surfaces with various nanotopographies are fabricated on implants to enable enhanced bioactivity and local drug elution. This research theme focusses on achieving maximum therapeutic potential from the surface of implants which can cater to inappropriate immunomodulation, soft- and hard-tissue integration and prevent bacterial infection.

Involved researchers: Dr Karan Gulati, Dr Pingping Han, Dr Guo Tianqi

Research Projects:

- **Nano-engineered titanium dental abutments towards guidance of gingival fibroblasts:** Karan Gulati, Pingping Han, Benjamin Fournier (Paris Diderot University, France), Saso Ivanovski
- **Application of quality by design (QBD) towards optimized fabrication of titania nanotubes modified implants for industry translation:** Daniel Martinez-Marquez (Griffith University), Karan Gulati, Rodney A. Stewart (Griffith University), Saso Ivanovski
- **Transmucosal tissue integration from the surface of nano-engineered titanium dental abutments:** Guo Tianqi, Pingping Han, Benjamin Fournier (Paris Diderot University, France), Saso Ivanovski
- **Fabrication optimization of controlled nanotopographies on dental implants with preserved micro-roughness:** Karan Gulati, Saso Ivanovski

Diagnostics in Periodontal Management

The theme aims to implement the current diagnostic protocol, by investigating the molecular drivers (e.g. protein, epigenetics, proteome and lipidome) abundant in biofluids, as a novel molecular biomarker for periodontal management. This work involves clinical periodontology, molecular biology, extracellular vesicles biology, epigenetics and meta-omics analysis.

Involved researchers: Dr Pingping Han, Dr Akila Vithanage, Dr Ryan Lee, Professor Saso Ivanovski

Dental Public Health (Lead – Associate Professor Ratilal Laloo)

The Dental Public Health (DPH) research stream broadly conducts research to understand the epidemiology of health and oral ill-health; and improve and enhance the oral health of communities at a population level. The DPH stream has a specific focus on understanding and improving the oral health and quality of life of vulnerable populations including Aboriginal and Torres Strait Islander People, people suffering general health morbidities such as Multiple Sclerosis, mental health illnesses and people who are homeless. The stream is also keenly interested in investigating best clinical practice to ensure populations receive evidence-based care.

Members of the stream has significant networks and collaborations across UQ (for example various schools across the Faculty of Health and Behavioural Sciences, Faculty of Medicine and the Centre for the Business and Economics of Health) as well as with Australian and international universities. The stream is a collaborator on the Global Burden of Disease. The stream is well-established with a critical mass of both academic staff and Higher Degree Research students.

Members for this group in 2018 included the following:

Associate Professor Ratilal Laloo – Discipline Lead and Director (Research Training)
 Professor Pauline Ford – Head of School
 Dr Matthew Nangle – Senior Lecturer
 Christopher Sexton – Associate Lecturer
 Dr Jessica Zachar – Associate Lecturer
 Dr Archana Pradhan – Adjunct/Honorary Senior Lecturer
 Dr Kelly McGowan – Research Officer
 Alison Dickinson – Doctor of Philosophy Candidate
 Dr Nicolie Jenkins – Doctor of Philosophy Candidate
 Nithin Manchery – Doctor of Philosophy Candidate
 Nicole Stormon – Doctor of Philosophy Candidate

Examples of Major Projects in 2018:

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

Laloo, R., Kroon, J., Tut, O., Kularatna, S., Jamieson, L.M., Wallace, V., Boase, R., Fernando, S., Cadet-James, Y., Scuffham, P.A., Johnson, N.W. 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.

Laloo, R., Tadakamadla, S.K., Kroon, J., Tut, O., Kularatna, S., Boase, R., Kapellas, K., Gilchrist, D., Cobbleddick, E., Rogers, J., Johnson, N.W. Salivary characteristics and dental caries experience in remote Indigenous children in Australia: a cross-sectional study.

Predictors of oral health in Australian children

Stormon, N., Kazantzis, N., Ford, P.J. and Laloo, R. Children's oral health in Australia: The past decade's research agenda.

Facilitating access to dental care for disadvantaged adults

Stormon, N., Pradhan, A., McAuliffe, A. and Ford, P.J. Does a facilitated pathway improve access to dental services for homeless and disadvantaged adults?

Stormon, N., Pateman, K., Smith, P., Callander, A. and Ford, P.J. Evaluation of a community based dental clinic for youth experiencing homelessness in Brisbane.

Oral health of people living with Multiple Sclerosis

Sexton, C., Laloo, R., Stormon, N., Pateman, K., van der Mei, I., Campbell, J., Ford, P.J. Oral health and behaviours of people living with Multiple Sclerosis in Australia.

Oral Health of Older Adults

Nangle, M.R., Riches, J., Grainger, S.A., Manchery, N., Sachdev, P.S., Henry, J.D. Oral Health and Cognitive Function in Older Adults: A Systematic Review.

Global Burden of Disease (GBD)

Kassebaum, N.J., Smith, A.G.C., Bernabé, E., Fleming, T.D., Reynolds, A.E., Vos, T., Murray, C.J.L., Marcenes, W.; GBD 2015 Oral Health Collaborators. Global, Regional, and National Prevalence, Incidence, and Disability-Adjusted Life Years for Oral Conditions for 195 Countries, 1990-2015: A Systematic Analysis for the Global Burden of Diseases, Injuries, and Risk Factors.

2. Research Grants

NHMRC Early Career Fellowships

- Dr Karan Gulati - *Titanium implants with dual micro and nano-scale topography for electrically stimulated osteogenic and antibacterial functions.* - \$80,738

UQ Development Fellowship

- Dr Pingping Han - *Discovering novel targets for treating bone loss associated with ageing-related osteoporosis through long non-coding RNA landscapes.* - \$59,008

International Team for Implantology Research Grant

- Dr Karan Gulati, Dr Ryan Lee, Dr Pingping Han & Professor Saso Ivanovski - *Nano-Engineered Titanium Abutments for Enhanced Gingival Fibroblast Functions In Vitro.* - \$38,337

2018 HaBS Research Collaboration Seeding Grants

- Dr Peter Michael Moyle & Professor Adam Ye - *Improving Human Health: Novel Formulations of Antimicrobials to Combat Superbugs.* - \$36,750
- Dr Helen He, Tushar Kumeria, Amirali Popat & Professor Adam Ye - *Osteoimmunomodulation through Nano-structuring: Enhanced Osseointegration on Anodized 3D printed Titanium Dental Implants with Titania Nanotubes.* - \$32,000

HaBS Faculty Economic & Health Value of Student Placements Research Grants

- Dr Sandra March, Professor Laurie Walsh, A/Professor Ratilal Laloo, Professor Stephen Birch - *Outcomes of clinical placement: an audit of the economic and social benefits of a dental student clinical outplacement program for an Indigenous population in a rural Queensland community.* - \$50,000
- Professor Pauline Ford, Dr Ellen Gielis, Dr Kelly McGowan, Mr Chris Sexton, Dr Marcin Sowa - *Economic and health value of final year dental student placements.* - \$50,000

UQ ECR Grants

- Dr Michal Bartnikowski - *Patient-specific degradable tissue-engineered scaffolds for jaw bone regeneration.* - \$37,000
- Dr Pingping Han - *Salivary exosomal DNA methylation: a potential epigenetic biomarker for periodontitis.* - \$34,000
- Dr Karan Gulati - *'Fit and Forget': Dual micro-nano titanium dental implants with electro-stimulated bioactivity.* - \$33,000

2018 UQ Teaching and Learning Grants - Teaching Innovation Grants

- Dr Emma Bartle, Associate Prof Jodie Copley, Ruth Dunwoodie, Dr Anne Hillfor - *Strengthening capacity for IP work-integrated learning through development of authentic assessment of IP skills in clinical and simulation contexts.* - \$53,975

MTPConnect

- Lloyd, D., Bindra, R., Orthocell Limited, Zheng, M-H., Vaquette, C. - *Development of a 3D printed graft for surgical repair of the Scapholunate Interosseous wrist ligament.* (SLIL). 2018-2020 - \$891,500

ADRF Research Grants

- Mr Tulio Fernandez, Professor Dietmar Hutmacher, Professor Saso Ivanovski, Dr Cedryck Vaquette - *Autologous platelet - Derivated grown factors for the functionalization of PCL-3D printed constructs: An in-vitro and in-vivo study.* - \$14,600
- Dr Karan Gulati, Dr Stephen Hamlet, Professor Saso Ivanovski, Dr Ryan Lee, Moon, HJ. - *Immunomodulatory effects of Titania nanotubules during early stage of osseous healing.* - \$10,500
- Dr Sarah Grainger, Professor Julie Henry, Dr Matthew Nangle - *Oral care capacity and oral health in late adulthood.* - \$5,268
- Dr Karan Gulati, Professor Saso Ivanovski, Dr Cedryck Vaquette - *Nano-Engineered Titanium Dental Implants for Enhanced Osteogenesis.* - \$ 6,548
- Dr Amro Farag, Professor Saso Ivanovski - *MCP-1 induced by rough titanium surface topography recruits mesenchymal stem cells for early bone healing.* - \$4,484
- Dr Chun Xu, Professor Adam Ye - *Developing novel growth factors delivery systems for guided tissue regeneration by combining state-of-art nanotechnology and electrospinning method.* - \$4,400
- Himanshu Arora, Dr Stephen Hamlet, Professor Saso Ivanovski, Dr Stephen Hamlet, Dr Cedryck Vaquette - *Effect of local delivery of a novel melatonin containing hydrogel on peri-implant bone regeneration in an osteoporotic large animal model.* - \$1,120
- Dr Yan He, Dr Tushar Kumeria, Dr Amirali Popat, Dr Chun Xu, Professor Adam Ye - *Enhanced Osseointegration on growth factor releasing anodized 3D printed titanium dental implants with titanium nanotubes.* - \$8,207
- Dr Michal Bartnikowski, Professor Saso Ivanovski, Dr Cedryck Vaquette - *Promoting periodontal regeneration through immunomodulation with timed lithium release from 3D printed polycaprolactone scaffolds.* - \$12,563
- Professor Saso Ivanovski, A/Professor Grondahl Lisbeth, Mr Nimal T. Raveendran, Dr Cedryck Vaquette - *A multiphasic hierarchical hydrogel bioprinted scaffold for periodontal regeneration.* - \$14,784
- Associate Professor Robert Ashman, Ms Andrea Kazoullis - *Properties of an isolate of Candida Albicans that are associated with oro-pharyngeal colonization.* - \$5,570
- Dr Sarah Benton, Professor Pauline Ford, A/Professor Coral Gartner, Professor Saso Ivanovski - *The effect of E-cigarette use on clinical parameters and inflammatory biomarkers in response to routine scaling and cleaning.* - \$1,996
- Professor Saso Ivanovski, Dr Miriam Lee, Dr Cedryck Vaquette - *Application of a commercially available xenograft impregnated with Azithromycin for peri-implantitis treatment.* - \$9,832

Colgate-Palmolive Student Grants

- Denice Loo Sze Shan, Annie Zhang & Max Lee - *The influence of dental students' knowledge and belief systems on the practice of smoking cessation.* - \$250

- Joshua Lau, Clinton Choy, Edward Kuswanto - *Identifying the sources of stress among UQ BSc(Hons) students and their opinion about current education practices.* - \$230
- Rick Chu, Daniel Du, Mei Ying Ho - *Assessing the cutting efficiency of different burs on zirconia crowns.* - \$1,000
- Nithin Manchery - *Development of a standardized caregiver administered intervention to enhance oral health in cognitively impaired older adults.* - \$1,000
- Cheryl Chin, Ellie Kim, Jia Ru Toh - *Enhancing the First Year BSc(Hons) student experience: An evaluation of the student peer mentoring program.* - \$1,000
- Dr Arosha Weerakoon - *The effect of patient age and tooth location on dentine mineral composition.* - \$1,000

Other Grants

- Dr Michal Bartnikowski - *High resolution 3D printed scaffolds as an improved standard in regenerative medicine.* - \$1,000
- Dr Emma Bartle, Dr Kelly McGowan - *Becoming a dental clinical supervisor: motivation, socialization and navigation.* - \$2,250
- S. Birch, A/Professor Ratilal Laloo - *Developing a fit-for-purpose planning methodology for the oral health care workforce.* UQ Global Strategy and Partnerships Seed Funding Scheme - \$5,000
- Dr Pingping Han - *Discovering the correlation between salivary nano-vesicles and periodontitis.* - \$2,250
- Dr Helen He - *The potential emergence of multi-drug resistance induced by triclosan containing toothpaste.* - \$2,250
- Dr Kanika Jain - *Chairside Isolation and Utilization of Buccal Fat Pad derived Mesenchymal Stem Cells.* - \$2,250
- Dr Ryan Lee - *The effects of enamel matrix derivative on human macrophage phenotypes and early inflammation.* - \$2,250
- Srinivas Ramachandra - *Systemic administration of azithromycin as an adjunct to nonsurgical periodontal therapy in severe periodontitis.* - \$2,250
- Nicole Stormon - *Child Health CheckPoint: Tooth Booth study.* - \$1,979
- Dr Cedryck Vaquette - *Fibre guiding melt electrospun scaffold and Emdogain for the hierarchical regeneration of the periodontium complex.* - \$2,250
- Dr Chun Xu - *Multifunctional nano-engineered electrospun membrane for periodontal tissue regeneration.* - \$2,250

3. Journal Publications

Abdal-hay, A., Abbasi, N., Gwiazda, M., Hamlet, S. & Ivanovski, S. (2018) Novel polycaprolactone/hydroxyapatite nanocomposite fibrous scaffolds by direct melt-electrospinning writing. *European Polymer Journal*, 105: 257-264. DOI: <https://doi.org/10.1016/j.eurpolymj.2018.05.034>

Abdal-hay, A., Agour, M., Kim, Y., Lee, M., Hassan, M., El-Ainin, H. et al. (2018) Magnesium-particle/polyurethane composite layer coating on titanium surfaces for orthopedic applications. *European Polymer Journal*, 112: 555-568. DOI: <https://doi.org/10.1016/j.eurpolymj.2018.10.012>

Abdal-hay, A., Bartnikowski, M., Hamlet, S. & Ivanovski, S. (2018) Electrospun biphasic tubular scaffold with enhanced mechanical properties for vascular tissue engineering. *Materials Science and Engineering C: Materials for Biological Applications*, 82: 10-18. DOI: <https://doi.org/10.1016/j.msec.2017.08.041>

Abdal-Hay, A., Hamlet, S. & Ivanovski, S. (2018) Fabrication of a thick three-dimensional scaffold with an open cellular-like structure using airbrushing and thermal cross-linking of molded short nanofibers. *Biofabrication*, 11(1). DOI: <https://doi.org/10.1088/1758-5090/aae421>

Alayan, J. & Ivanovski, S. (2018) A prospective controlled trial comparing xenograft/autogenous bone and collagen-stabilized xenograft for maxillary sinus augmentation-complications, patient-reported outcomes and volumetric analysis. *Clinical Oral Implants Research*, 29(2): 248-262. DOI: <https://doi.org/10.1111/clr.13107>

Alkhubaizi, Q., Moule, A., Al-Sane, M. & Sorkin, J. (2018) Oral health practices and knowledge among parents and hired caregivers. *European Archives of Paediatric Dentistry*, 19(6): 403-410. DOI: <https://doi.org/10.1007/s40368-018-0372-6>

Alowaidi, F., Hashimi, S., Alqurashi, N., Alhulais, R., Ivanovski, S., Bellette, B. et al. (2018) Assessing stemness and proliferation properties of the newly established colon cancer 'stem' cell line, CSC480 and novel approaches to identify dormant cancer cells. *Oncology Reports*, 39(6): 2881-2891. DOI: <https://doi.org/10.3892/or.2018.6392>

Alqurashi, N., Hashimi, S., Alowaidi, F., Ivanovski, S. & Wei, M. (2018) Dual mTOR/PI3K inhibitor NVP-BEZ235 arrests colorectal cancer cell growth and displays differential inhibition of 4E-BP1. *Oncology Reports*, 40(2): 1083-1092. DOI: <https://doi.org/10.3892/or.2018.6457>

Andersson, L., Andreasen, J., Day, P., Heithersay, G., Trope, M., DiAngelis, A. et al. (2018) Guidelines for the management of traumatic dental injuries: 2. Avulsion of permanent teeth. *Pediatric Dentistry*, 40(6): 424-431. eSpace Reference: [UQ:81dfbe6](https://doi.org/10.1111/j.1600-9657.2012.01125.x)

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Shakibaie, F., Lamard, L., Rubinzstein-Dunlop, H., Walsh, L.J. (2018) Application of Fluorescence Spectroscopy for Microbial Detection to Enhance Clinical Investigations. In: Britun N & Nikiforov A (Eds) Photon Counting. Croatia: InTech Publishers. (pp. 225-242). DOI: <http://dx.doi.org/10.5772/intechopen.73616>

Walsh, L.J. (2018) Caries diagnosis aided by fluorescence. In: Arkanlan Z (Ed) Dental Caries - Diagnosis and Management. Croatia: InTech Publishers. (pp. 97-115). DOI: <http://dx.doi.org/10.5772/intechopen.75459>

4.1 Letters to the Editor

McGowan, K. (2018) Insufficient Evidence to Compare the Efficacy of Treatments for Medication-Related Osteonecrosis of the Jaws. Journal of Evidence-Based Dental Practice, 18(1): 70-72. DOI: <https://doi.org/10.1016/j.jebdp.2017.12.001>

Kapoor, V., Douglas, P., Hill, P., Walsh, L. & Tennant, M. (2018) Frenotomy for tongue-tie in Australian children, 2006-2016: an increasing problem. The Medical journal of Australia, 208(2): 88-89. DOI: <https://doi.org/10.5694/mja17.00438>

4.2 Editorial

Li, H., Ye, A. & Su, M. (2018) Application of Stem Cells and Advanced Materials in Nerve Tissue Regeneration. Stem Cells International, 2018: 4243102-2. DOI: <https://doi.org/10.1155/2018/4243102>

4.3 DClinDent Theses

Fu, Sigid (2018) Evaluation of the relationship between cervical vertebral maturation variables and fusion of the speno-occipital synchondrosis. Professional Doctorate, School of Dentistry, The University of Queensland. DOI: <https://doi.org/10.14264/uql.2019.1>

Franco, Christopher Stephen (2018) A comparison of two 3-dimensional mandibular superimposition techniques and a 2-dimensional superimposition technique against Bjork's structural method. Professional Doctorate, School of Dentistry, The University of Queensland. DOI: <https://doi.org/10.14264/uql.2019.5>

Selim, Daniel (2018) The state of dentomaxillofacial radiology in Australia and dentist satisfaction with radiology reporting. Professional Doctorate, School of Dentistry, The University of Queensland. DOI: <https://doi.org/10.14264/uql.2019.13>

5. Abstract Publications

Copley, J., Hill, A., Olson, R., Bartle, E., Dunwoodie, R., Zuber, A. et al. (2018) The VOTIS – developing a video observation tool for assessment of inter-professional skills. In Australian and New Zealand Association for Health Professional Education (ANZAHPE) Conference. Australian and New Zealand Association for Health Professional Education (ANZAHPE) Conference, Hobart, TAS, Tasmania. 1-4 July 2018. eSpace Reference: [UQ:95c3373](#)

Davin, L., Thistlethwaite, J. & Bartle, E. (2018) Detached concern – unsustainable. In Australian and New Zealand Association for Health Professional Education (ANZAHPE) Conference. Australian and New Zealand Association for Health Professional Education (ANZAHPE) Conference, Hobart, Tasmania. 1-4 July 2018. eSpace Reference: [UQ:0797bca](#)

McGregor, G. & Bartle, E. (2018) Understanding challenges dental students face in communicating with patients: building insight to inform the development of an effective intervention. In Australian and New Zealand Association for Health Professional Education (ANZAHPE) Conference. Australian and New Zealand Association for Health Professional Education (ANZAHPE) Conference, Hobart, Tasmania. 1-4 July 2018. eSpace Reference: [UQ:ad523c2](#)

Martinez-Marquez, D., Gulati, K., Mirnajafizadeh, A., Carty, C., Stewart, R. & Ivanovski, S. (2018) Quality by Design towards Standardization of 3D Printed Bone Implants and scaffolds for Industry Translation. In 4th World Congress on Electrical Engineering and Computer Systems and Science. 4th World Congress on Electrical Engineering and Computer Systems and Science, Madrid, Spain. August 21 – 23 2018. DOI: <https://doi.org/10.11159/icbes18.124>

Scott, J., Gillis, D., Ryan, A., Hargovan, H. & Blum, S. (2018). Prevalence of anti-neuronal antibodies in patients admitted with first episode of psychosis and their clinical outcomes. In Schizophrenia Bulletin. 6th Biennial Conference of the Schizophrenia-International-Research-Society (SIRS), Florence, Italy, (S61-S61). 04-08 April 2018. DOI: <https://doi.org/10.1093/schbul/sby014>

6. Conference, Oral & Poster Presentations

Bartnikowski, M., Bartnikowski, N., Ali, A., Kim, YK., Ivanovski, S. (2018). Acid and base treatment of polycaprolactone scaffolds for improved surface characteristics. Tissue Engineering and Regenerative Medicine International Society (TERMIS) World Congress, Kyoto, Japan. 04-07 Sep 2018.

Doan, N. & Duong, Q. (2018). An evaluation on the therapeutic effects of mls laser on the outcomes of flapless dental implant surgery in posterior maxilla of post menopause women. In Toi Vo Van, Thanh An Nguyen Le, Thang Nguyen Duc (Eds.), IFMBE Proceedings. 6th International Conference on the Development of Biomedical Engineering in Vietnam, BME 2016, Ho Chi Minh, Vietnam, (615-619). 27-29 June 2016. DOI: https://doi.org/10.1007/978-981-10-4361-1_105

Doan, N., Du, Z., Xiao, J., Reher, P., Xia, W., Crawford, R. et al. (2018). An evaluation on the effect of osteoporosis on osseointegration around titanium implants in posterior maxilla following a tooth extraction. In IFMBE Proceedings. 6th International Conference on the Development of Biomedical Engineering in Vietnam, BME 2016, Ho Chi Minh, Vietnam, (603-607). 27-29 June 2016. DOI: https://doi.org/10.1007/978-981-10-4361-1_103

Doan, N., Du, Z., Xiao, J., Reher, P., Xia, W., Crawford, R. et al. (2018). The effects of simvastatin on osseo-integration around titanium implants in posterior maxilla of osteoporotic rats. In IFMBE Proceedings. 6th International Conference on the Development of Biomedical Engineering in Vietnam, BME 2016, Ho Chi Minh City, Vietnam, (609-613). 26-29 June 2016. DOI: https://doi.org/10.1007/978-981-10-4361-1_104

Duong, Q., Oloyede, A. & Doan, N. (2018). A philosophical opinion of creating a model of osmotic component in articular cartilage. In IFMBE Proceedings. 6th International Conference on the Development of Biomedical Engineering in Vietnam (BME6), Ho Chi Minh City, Vietnam, (935-939). June 2016. DOI: https://doi.org/10.1007/978-981-10-4361-1_158

Elsworthy, K., Leishman, S.J., Harrison-Barry, L., Palmer, J., Pukallus, M., Boocock, H., Walsh, L.J., Seow, W.K. Mutans streptococci and caries experience from birth to age 6-years. 96th IADR General Session and Exhibition, London, UK, 25th – 28 July 2018.

Gulati, K. and Ivanovski, S. Fit and Forget: Nano-Engineered Bioactive Titanium Dental Implants. 3rd International Conference on Emerging Advanced Nanomaterials (ICEAN) 2018, Newcastle, NSW. 30 Oct-02 Nov 2018. (Oral Invited Talk)

Gulati, K. Nano-Engineered Therapeutic Dental Implants. Research Sandpit at School of Dentistry, The University of Queensland, Herston, QLD. 27 March 2018. (Oral Invited Talk)

Gulati, K. and Ivanovski, S. Nanoporous Titanium Dental Implants: Fabrication, Therapy and Clinical Translation Challenges. UQ Dentistry Research Day 2018, at School of Dentistry, The University of Queensland, Herston, QLD, 06 July 2018. (Oral Presentation)

Gulati, K. et al. Nano-Engineered Dental Implants and Abutments: Optimized Fabrication and Tailored Bioactivity. International Association for Dental Research (IADR) Meeting, London, England, 25-28 July 2018. (Poster Presentation)

Harrison-Barry, L., Elsworthy, K., Pukallus, M., Leishman, S.J., Walsh, L.J., Seow, W.K. Targeted Early Education Reduces Prevalence of Early Childhood Caries. 96th IADR General Session and Exhibition, London, UK, 25th – 28 July 2018.

Kroon, J., Laloo, R., Tut, O., Tadakamadla, S., Kularatna, S., Johnson, N. Passive Versus Active Intervention in a Remote Indigenous Community. 96th IADR General Session and Exhibition, London, UK, 25th – 28 July 2018.

Kularatna, S., Laloo, R., Kroon, J., Johnson, N. Providing Oral Health Care to Remote Indigenous Children: Cost Analysis. 96th IADR General Session and Exhibition, London, UK, 25th – 28 July 2018.

Laloo, R. (Presenter), Tadakamadla, S., Kroon, J., Tut, O., Kularatna, S., Johnson, N. Impact of a Preventive Caries Intervention in Remote Indigenous Children. 96th IADR General Session and Exhibition, London, UK, 25th – 28 July 2018.

Martinez-Marquez, D., Gulati, K., Mirnajafizadeh, A., Carty, C., Stewart, R. & Ivanovski, S. (2018). Quality by Design towards Standardization of 3D Printed Bone Implants and scaffolds for Industry Translation. In 4th World Congress on Electrical Engineering and Computer Systems and Science. 4th World Congress on Electrical Engineering and Computer Systems and Science, Madrid, Spain. August 21 – 23 2018. DOI: <https://doi.org/10.11159/icbes18.124>

McCloy, K., Doan, N. & Abeyratne, U. (2018). A systematic review of the association between urinary biomarkers and pain. In Toi Vo Van, Thanh An Nguyen Le, Thang Nguyen Duc (Eds.), 6th International Conference on the Development of Biomedical Engineering in Vietnam, BME 2016, Ho Chi Minh City, Vietnam, (443-447). 27-29 June 2016. DOI: https://doi.org/10.1007/978-981-10-4361-1_75

McCloy, K., Doan, N. & Abeyratne, U. (2018). Electroencephalography in the diagnosis and therapeutic monitoring of chronic pain. In Toi Vo Van, Thanh An Nguyen Le, Thang Nguyen Duc (Eds.), IFMBE Proceedings. 6th International Conference on the Development of Biomedical Engineering in Vietnam, BME 2016, Ho Chi Minh, Vietnam, (421-425). 27-29 June 2016. DOI: https://doi.org/10.1007/978-981-10-4361-1_71

Newell, N., Tadakamadla, S., Tut, O., Laloo, R., Kularatna, S., Kroon, J. Preventive Interventions Impact Salivary Physiology in a Remote Indigenous Community. 96th IADR General Session and Exhibition, London, UK, 25th – 28 July 2018.

Papapanou, P., Sanz, M., Buduneli, N., Dietrich, T., Feres, M., Fine, D. et al. (2018). Periodontitis: Consensus report of workgroup 2 of the 2017 World Workshop on the Classification of Periodontal and Peri-Implant Diseases and Conditions. In *Journal of Clinical Periodontology*. World Workshop on the Classification of Periodontal and Peri-Implant Diseases and Conditions, Chicago, IL, United States, (S162-S170). 9-11 November 2017. DOI: <https://doi.org/10.1111/jcpe.12946>

Papapanou, P., Sanz, M., Buduneli, N., Dietrich, T., Feres, M., Fine, D. et al. (2018). Periodontitis: Consensus report of workgroup 2 of the 2017 World Workshop on the Classification of Periodontal and Peri-Implant Diseases and Conditions. In *Journal of Periodontology*. World Workshop on the Classification of Periodontal and Peri-Implant Diseases and Conditions, Chicago, IL, United States, (S173-S182). 9-11 November 2017. <https://doi.org/10.1002/JPER.17-0721>

Philip, N., Leishman, S.J., Bandara, N.H., Walsh, L.J. Inhibitory Effects of Fruit Berry Extracts on *Streptococcus mutans* Biofilms. 58th Annual Scientific Meeting of the IADR ANZ Division, Perth, 22nd-25th September 2018. DOI: <https://doi.org/10.1111/eos.12602>

Pradhan, A. Alzheimer's Australia online modules – Evaluation and outcomes. Oral Health and Dementia/NDIS Workshop. Australian Society of Special Care in Dentistry, Melbourne, 14 September 2018.

Pradhan, A. Models of Oral Health Care – for dependent older adults in urban, rural and remote areas. 24th International Association for Disability and Oral Health (IADH) Congress, Dubai, 31 August-2 September 2018.

Pradhan, A. Dental Service at a retirement village: a model for alternative setting. Special Care Dentistry Association (SCDA) 30th Annual Meeting, Seattle, USA, 27-29 April, 2018.

Skelly, E., Johnson, N., Laloo, R., Kroon, J., Speicher, D., Tut, O., Kapellas, K., Jamieson, L., Weyrich, L. Oral Bacteriome Response to Caries Prevention in Australian Indigenous Children. 96th IADR General Session and Exhibition, London, UK, 25th – 28 July 2018.

Stormon, N., Ford, P., Laloo, R. Children's Oral Health trends: the Longitudinal Study of Australian Children. 58th Annual Scientific Meeting of the IADR ANZ Division, Perth, 22nd-25th September 2018. eSpace Reference: [UQ:718bce8](https://doi.org/10.1111/eos.12602)

Stormon, N., Kazantzis, N., Ford, P., Laloo, R. Children's Oral Health in Australia: the past decades research agenda. 58th Annual Scientific Meeting of the IADR ANZ Division, Perth, 22nd-25th September 2018. eSpace Reference: [UQ:a0ad035](https://doi.org/10.1111/eos.12602)

Tadakamadla, S., Laloo, R., Kroon, J., Tut, O., Kularatna, S., Johnson, N. Annual "Big-Bang" Prevention is Effective on Occlusal and Smooth Surfaces. 96th IADR General Session and Exhibition, London, UK, 25th – 28 July 2018.

West, E.E., Palmer, J.E., Elsworthy, K.A., Leishman, S.J., Walsh, L.J. Radiographic Assessment of Fluoride Dentifrice Effects on Caries in Children. 58th Annual Scientific Meeting of the IADR ANZ Division, Perth, 22nd-25th September 2018.

7. Postgraduate Research

7.1 Higher Degree by Research Student Scholarships

- Tulio Fernandez - UQ Graduate School Scholarship (International)
- Tianqi Guo - UQ Graduate School Scholarship (International)
- Nithin Manchery - UQ Graduate School Scholarship (International)
- Nimal Raveendran - UQ Graduate School Scholarship (International)
- Srinivas Ramachandra - UQ Graduate School Scholarship (International)
- Nebu Philip - UQ Graduate School Scholarship (International)
- Vignesh Selvaprithviraj - UQ Graduate School Scholarship (International)
- Nicole Stormon - UQ Graduate School Scholarship (Domestic)
- Reuben Staples - UQ Graduate School Scholarship (Domestic)

7.2 Higher Degree by Research – Completed PhD Student in 2018

- David Joo - *Surface Optimization of Elastomeric Impression Materials*
 - Principal Advisor: Professor Laurie Walsh
 - Associate Advisor: Dr Sowmya Shetty

7.3 Higher Degree by Research – Ongoing PhD Students in 2018

- Nicolie Jenkins - *Oral Health Workforce*
 - Principal Advisor: Associate Professor Ratilal Laloo
 - Associate Advisors: Professor Pauline Ford, Professor David Brennan
- Andrea Kazoullis - *Interaction of Candida albicans and innate immune cells in vitro*
 - Principal Advisor: A/Professor Robert Ashman
 - Associate Advisors: Dr Glenn Duval, Professor Lakshman Samaranayake
- Vishal Kapoor - *Tongue tie surgery in infants (Through the UQ School of Public Health)*
 - Principal Advisor: A/Professor Peter Hill
 - Associate Advisor: Professor Laurie Walsh
- Baboucarr Lowe - *High-Throughput screening of stem cell-surface interactions*
 - Principal Advisor: Professor Adam Ye
 - Associate Advisor: Professor Yin Xiao
- Gillian McGregor - *Development of serious games technology to enhance teaching and learning of professional psychology skill*
 - Principal Advisor: Dr Emma Bartle
 - Associate Advisor: Professor Bernadette Watson
- Nebu Philip – *Ecological Approaches to Dental Caries Prevention: Alternations of Biofilms by Natural Products and Casein Phosphopeptide-Amorphous Calcium Phosphate*
 - Principal Advisor: Professor Laurie Walsh
 - Associate Advisors: Dr Nihal Bandara, Dr Shaneen Leishman
- Arosha Weerakoon - *Evaluation of micro and macroscopic properties of etch and rinse, self-etch and glass ionomer cements on bonding to young and sclerotic dentine*
 - Principal Advisor: Associate Professor Anne Symons
 - Associate Advisors: Professor Ian Meyers, Dr David Thomson, Professor Pauline Ford

- Patricia Wright - *Improved irrigation and disinfection systems in endodontic*
 - Principal Advisor: Professor Laurie Walsh
 - Associate Advisor: Dr William Kahler

7.4 Higher Degree by Research – New Commencements PhD Students in 2018

- Amelia Carr - *Development of bone-ligament-bone construct for orthopaedic surgery application in small joints*
 - Principal Advisor: Dr Cedryck Vaquette
 - Associate Advisor: Professor Saso Ivanovski
- Tulio Fernandez - *Vertical Bone Augmentation Using Platelet Rich Plasma- PCL 3d Printed Construct*
 - Principal Advisor: Professor Saso Ivanovski
 - Associate Advisors: Dr Cedryck Vaquette, Professor Dietmar Hutmacher
- Tianqi Guo - *Nano-engineered Titanium Dental Abutments for Enhanced Soft Tissue Integration*
 - Principal Advisor: Professor Saso Ivanovski
 - Associate Advisors: Dr Karan Gulati, Dr Pingping Han
- Miriam Lee - *A comparison of periodontitis and peri-implantitis treatment modalities using fibrous and granulate biomaterials impregnated with Azithromycin in a porcine model*
 - Principal Advisor: Professor Saso Ivanovski
 - Associate Advisor: Dr Cedryck Vaquette
- Nithin Manchery - *Oral Health and Cognitive Function*
 - Principal Advisor: Dr Matthew Nangle
 - Associate Advisors: Professor Julie Henry, Professor Perminder Sachdev
- Joshua Mitchell - *Vertical bone augmentation: observing extra-skeletal bone formation and resorption patterns in animal models*
 - Principal Advisor: Dr Cedryck Vaquette
 - Associate Advisor: Professor Saso Ivanovski
- Ashwin Nanda - *Repairing bone defects with bioceramics using 3D printing*
 - Principal Advisor: Dr Chun Xu
 - Associate Advisor: Professor Adam Ye
- Vignesh Selvaprithviraj - *3D Bioprinted electrospun scaffold/hydrogel based multiphasic constructs for periodontal regeneration*
 - Principal Advisor: Professor Saso Ivanovski
 - Associate Advisors: Dr Cedryck Vaquette, Dr Michal Bartnikowski
- Reuben Staples - *The controlled manufacturing of fibre guiding scaffold for promoting functional periodontal ligament attachment*
 - Principal Advisor: Dr Cedryck Vaquette
 - Associate Advisor: Professor Saso Ivanovski
- Nicole Stormon - *Predictors of oral health in Australian children*
 - Principal Advisor: A/Professor Ratilal Laloo
 - Associate Advisor: Professor Pauline Ford
- Srinivas Ramachandra - *Anti-microbial & host modulating properties of systemically administered azithromycin in periodontal diseases resistant to conventional therapy*
 - Principal Advisor: Professor Saso Ivanovski
 - Associate Advisors: Dr Ryan Lee, Dr Pingping Han

- Nimal Raveendran - *3D cell printed scaffolds for periodontal regeneration*
 - Principal Advisor: Professor Saso Ivanovski
 - Associate Advisors: Dr Cedryck Vaquette, Dr Michal Bartnikowski

7.5 Higher Degree by Research – Ongoing MPhil Student in 2018

- Stephanie Tan - *Efficacy of cold saline irrigation on reducing post-operative complications of third molar extraction*
 - Principal Advisor: Associate Professor Anthony Lynham
 - Associate Advisor: Dr Alistair Reid

7.6 Higher Degree by Research – New Commencement MPhil Student in 2018

- Leigh Harrison-Barry - *A Longitudinal study of early childhood caries-Results at four-six years*
 - Principal Advisor: Professor Laurie Walsh
 - Associate Advisors: Dr Kathryn Elsworth, Ms Margaret Pukallus, Professor Kim Seow

7.7 Completed 2018 Doctor of Clinical Dentistry Candidates

- Charlie Boast - *Ultrastructural analysis of osteocyte interface with dental implants of different composition in health and osteoporosis in an ovine model*
 - Advisor: Professor Saso Ivanovski
- Vanessa May Brown - *Oral-health related quality of life and orthodontic treatment in adolescents (A systematic review and meta-analysis)*
 - Advisor: Associate Professor David Healey
- Natasha Clare - *Associations between Oral Health–Related Quality of Life, Malocclusion and Family Size*
 - Advisor: Associate Professor David Healey
- Christopher Franco - *A comparison of two 3-dimensional mandibular superimposition techniques and a 2-dimensional superimposition technique against Bjork's structural method*
 - Advisor: Associate Professor David Healey
- Sigid Fu - *Evaluation of the relationship between cervical vertebral maturation variables and fusion of the speno-occipital synchondrosis*
 - Advisor: Professor Paul Monsour
- Yastira Lalla - *Retrospective analysis of referral patterns to a Dentomaxillofacial Radiologist from private practitioners*
 - Advisor: Professor Paul Monsour
- Lisetta Lam - *Alveolar ridge preservation in posterior maxillary teeth for reduction in the need for sinus floor elevation procedures*
 - Advisor: Professor Saso Ivanovski
- Daniel Selim - *The state of Dentomaxillofacial Radiology in Australia and dentist satisfaction with radiology reports*
 - Advisor: Professor Paul Monsour

7.8 Ongoing 2018 Doctor of Clinical Dentistry Candidates

- Sarah Benton - *The Association of Smoking Compared to Vaping On Clinical Periodontal Parameters And Inflammatory Biomarkers*
 - Advisor: Professor Saso Ivanovski
- Christopher Costello - *Root Resorption following Orthodontic Treatment with Invisalign*
 - Advisors: Dr Brett Kerr, Associate Professor David Healey, Dr Tony Weir
- Phillip Goh - *Treatment duration by morphology of impacted maxillary canines: a retrospective, multi-practitioner study*
 - Advisors: Professor Paul Monsour, Professor Richard Olive
- Arun Vels Shailendran - *Accuracy and reliability of tooth widths and Bolton ratios estimated by ClinCheck® Pro*
 - Advisors: Dr Elissa Freer, Dr Brett Kerr, Associate Professor David Healey, Dr Tony Weir
- Borjana Simanovic - *The impact of changing advice regarding infant sleeping position on craniofacial morphology: a retrospective study*
 - Advisors: Dr Elissa Freer, Professor Richard Olive

7.9 Commencing 2018 Doctor of Clinical Dentistry Candidates

- Haylea Blundell - *Predictability of overbite control with the Invisalign® appliance*
 - Advisors: Dr Elissa Freer, Dr Brett Kerr, Dr Tony Weir
- David Fu - *Utilisation of General Anaesthesia and Conscious Sedation for Patients with Special Needs in Queensland*
 - Advisors: Professor Laurie Walsh, Dr Archana Pradhan
- Raj Kumar Gaddam - *Reliability of Labiolingual Incisor Inclination Changes with the Invisalign Appliance*
 - Advisors: Dr Elissa Freer, Dr Brett Kerr, Dr Tony Weir
- Aaron Gascoigne - *A novel disinfectant delivery system involving controlled release of Octenidine from silica based nanoparticles*
 - Advisors: Dr Unni Kunjukrishna Pillai, Associate Professor Alex Moule
- Kiran Kumar - *Root canal cleaning in complex canals using agitated fluids*
 - Advisors: Professor Laurie Walsh, A/Professor Alex Moule, Dr George Bogan
- Soo Jin Lim - *The effect of azithromycin containing medical grade polycaprolactone membrane on human oral biofilm*
 - Advisors: Professor Saso Ivanovski, Dr Ryan Lee
- Amesha Maree - *Clinical expression of programmed rotation and uprighting of maxillary winged central incisors with the Invisalign® appliance*
 - Advisors: Dr Elissa Freer, Dr Brett Kerr, Dr Tony Weir
- Dayea Oh - *Survey of Australian Oral Maxillofacial Surgeons in Imaging Use for Maxillofacial Bone Fracture Assessment*
 - Advisors: Professor Paul Monsour, Dr Alyssa Zhang
- Kavita Rana - *Effect of repeated screw joint closing and opening cycle on preload and screwhead and screw thread morphology of an angled and straight channel screw abutment*
 - Advisors: A/Professor David Thomson, Professor Laurie Walsh, Dr Bilal El Masoud

- Jake Samuels - *The cross-sectional morphology of the mandible in the premolar region: A cone beam study*
 - Advisors: Professor Paul Monsour, Dr Alyssa Zhang
- Akila Vithanage - *Lipidome analysis of gingival health, biofilm induced gingivitis, and stage III and IV periodontitis: A prospective clinical trial*
 - Advisors: Professor Saso Ivanovski, Dr Ryan Lee

8. Undergraduate Research

8.1 Year 5 BSc Dental Student Research Projects

- *Characteristics of patients with endodontic treatment need in a public service dental clinic in Australia*
 - Researchers: Luther Nguyen-Pham, Tung-Tsan Su, Naomi Mian Yu Tan
 - Supervisors: Dr Unni Pillai, Dr Irina Leonida
- *Does social media presence of endodontic journal articles improve their citation?*
 - Researchers: Yen-Chen Chang, Huang Huang, Mingna Zhou
 - Supervisor: Dr Unni Pillai
- *Is the amalgam end-game upon us?*
 - Researchers: Keishi O. Barnes, Alister T. Campbell
 - Supervisor: Dr Sandra March
- *Investigation of the uses, cleaning and cementation of zirconia-based tooth-supported restorations among a sample of dentists in Queensland: a pilot study*
 - Researchers: Aryana R. Sia, Andrea J. Yew, Kenneth J. Ng
 - Supervisors: Dr Bilal El Masoud, Associate Professor Ratilal Laloo
- *Management of deep caries in Australia: attitudes and behaviours among dentists*
 - Researchers: Bianca Y.Y. Chai, Bryant Y.X. Tay, Catherine Y.T. Chow
 - Supervisors: Dr Unni Pillai, Dr Janet Fuss
- *Factors influencing dental students perceived quality of periodontal education and its impact on referral patterns*
 - Researchers: Troy D. Blakeney, Erika S. Green, Bridget E. Wall
 - Supervisor: Dr Vincent O'Rourke
- *Current practices in the management of tongue-tie in infants and the effects of treatments*
 - Researchers: Alyce W. Chau, Jeremy P. Chitty, Cheng Jiang
 - Supervisor: Professor Laurie Walsh
- *A comparison of the prescribing habits of general and specialist practitioners for dental procedures*
 - Researchers: Cheryl X. Chen, Nicole Silajew
 - Supervisor: Professor Laurie Walsh
- *An assessment of infection control in dental practices in South East Queensland*
 - Researchers: Erin Leask, Laura Chen, Mariska Taverne, Hui Chin
 - Supervisor: Professor Laurie Walsh
- *Analysis of factors affecting patient satisfaction with dental fillings placed within two years*
 - Researchers: Colin Sar, Adam Prove, Kaichen Qiu
 - Supervisor: Dr Sandra March

- *Risk indicators of complications within seven days following extractions of permanent tooth/teeth in West Moreton Hospital and Health Service*
 - Researchers: Wing Yin Tse, Sze Yeen Vong
 - Supervisor: Dr Ellen Gielis
- *Factors influencing restoration failure resulting in the need for retreatment within six months*
 - Researchers: John Woo, Evan Gai, Ryan Samimi
 - Supervisor: Dr Ellen Gielis
- *Barriers and motivations in seeking dental treatment*
 - Researchers: Nick Lim, Tze M. Tay, Bryan K.J. Ong
 - Supervisors: Associate Professor Ratilal Laloo, Dr Bruce Kidd
- *Comparison of the effects of five per cent sodium hypochlorite and 17 per cent ethylenediaminetetraacetic acid on the microhardness of Mineral Trioxide Aggregate and TotalFill Bioceramic Putty*
 - Researchers: Yimin K. Chia, Jacklyn H.R. Chu, Alexander L. Qui
 - Supervisors: Associate Professor Alexander Moule, Dr William Ha
- *Assessing the cutting efficiency of different burs on Zirconia Substrate*
 - Researchers: Daniel Du, Rick Chu, Mei Ying Ho
 - Supervisors: Associate Professor Alex Moule, Professor Ove Peters
- *The effect of different sealer removal protocols on the bond strength of AH-Plus Contaminated Dentine to etch and rinse adhesives*
 - Researchers: Ashley S.W. Foo, Justin M.V. Ooi, Mark R.X. Teo
 - Supervisors: Professor Ove Peters, Associate Professor Alex Moule
- *Identifying the sources of stress among undergraduate dental students and their opinion about current education practices*
 - Researchers: Clinton Choy, Edward Kuswanto, Joshua K.B. Lau
 - Supervisor: Dr Emma Bartle
- *Does participation in Simulation Peer Clinics better prepare dental students to begin clinical practice?*
 - Researchers: Daniel Makary, Ka Wai Kenneth Ho, Henry Yang
 - Supervisor: Dr Sandra March
- *The influence of dental students' knowledge and belief systems on the practice of smoking cessation*
 - Researchers: Denice Loo Sze Shan, Annie Zhang, Max N. Lee
 - Supervisors: Professor Pauline Ford, Dr Kelsey Pateman
- *Relationship of emotion regulation and social cognitive function with overall mental health of dental students*
 - Researchers: Aarushi Gumber, Twinkle Gulwani
 - Supervisors: Dr Matthew Nangle, Professor Julie Henry, Julia Riches
- *Understanding the rheological properties of dental composite resins*
 - Researcher: Malak Fouda
 - Supervisor: Dr Sowmya Shetty
- *Evaluation of online training in aged care for dental students*
 - Researchers: Juri Heo, Myungji Kim, Hongseok Lee
 - Supervisor: Dr Archana Pradhan
- *Evaluation of the pre- and post- training of dental practitioners in aged care*
 - Researchers: Ha Nguyen, So Young Park, Danica Zhan
 - Supervisor: Dr Archana Pradhan

- *Dental and ear problems in Australian Special Olympic athletes*
 - Researchers: Darien Vi Sen Koh, Pei Shan Tabitha Tan, Zhi Ying Tan
 - Supervisor: Dr Archana Pradhan
- *Use of the Dental Activities Test to explore dentally related function in an aged care setting - a feasibility study*
 - Researchers: An Ting Fan, Yung-Wen Hsiao, Amanda Lin, Xin Yu Koh, Dr Nithin M. Gopinathan, Dr Sarah Grainger
 - Supervisors: Professor Julie Henry, Dr Matthew Nangle, Dr Archana Pradhan
- *Inhibition of biofilm formation of oral microorganisms by Perilla Leaf Extract*
 - Researcher: Chia Yun Lee
 - Supervisor: Dr Chris Wang
- *Effect of crude tea extracts on Single Species Oral Biofilms*
 - Researcher: Anthony Lim
 - Supervisor: Dr Chris Wang
- *Determining the stainability of composite resin and the superficial stain removal of composite resin*
 - Researchers: Yoon Seok Jang, Constance Ju, George Liao
 - Supervisors: Chun Xu, Prof Adam Ye, Dr Helen He
- *REDFACES: Rapid Endodontic Debridement Fluorescence Assisted Control for Endodontics*
 - Researchers: Minal Thatikonda, Monisha M Kumar
 - Supervisor: Professor Laurie Walsh
- *Investigating the Efficacy of Dentine Desensitizing Agents Using Scanning Electron Microscopy*
 - Researcher: Ai Leen Wee
 - Supervisor: Dr Sowmya Shetty
- *Effect of lyophilization on decellularized biphasic tissue engineered constructs in periodontal regeneration*
 - Researchers: Rachel Wheeler, Jee Who Choi, Yan Zhao Loo
 - Supervisor: Dr Amro Farag
- *Oral side effects of anti-rheumatic drugs*
 - Researcher: Zixian Yang
 - Supervisor: Nicole Stormon
- *The oral effects of antiepileptic medications*
 - Researchers: Cindy Zhou, Jeannine Shen, Hsuan-Yao Wen
 - Supervisor: Nicole Stormon
- *Oral health impacts of medications used to treat asthma, chronic obstructive pulmonary disorder and cough*
 - Researchers: Kendy Hwang, Hau Yung (Victor) Chai, Mingyang Lee
 - Supervisor: Nicole Stormon

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A/Professor David Healey
A/Professor Ratilal Laloo
A/Professor Alex Moule
A/Professor Ram Prabhu
A/Professor David Thomson
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Dr Amro Farag
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Christopher Sexton
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E/Professor Kim Seow
E/Professor Greg Seymour
A/Professor Mary Cullinan
A/Professor Bill Kahler
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