

XIAOYAN ZHOU

■ CONTACT DETAILS ■

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■ ROLES AND MEMBERSHIPS ■

- Lecturer, Sydney Dental School, the University of Sydney
- Member of Australian Society of Endodontology (NSW branch)
- Member of Royal Australasian College of Dental Surgeons

■ EDUCATION & QUALIFICATION ■

2022/03	Fellowship in Higher Education Academy (FHEA)
2022/01	Graduate Certificate in Educational Studies (Higher Education)
2018/04	AHPRA registration-General Dentist (Registration number: DEN0002171588)
2018/01	Australian Dental Council Certificate
2011/03-2015/02	Doctor of Philosophy Faculty of Dentistry, The University of Sydney, Australia. Thesis title: Investigations into a new secretion pathway for the export of gingipain from <i>Porphyromonas gingivalis</i>
2007/09 – 2010/07	Master of Dental Science (Endodontics & Operative Dentistry), Guanghua School of Stomatology, Sun Yat-sen University, China. Thesis title: Study of the effect of matrix extracellular phosphoglycoprotein on the regeneration of injured pulp-dentin complex
2002/09 – 2007/07	Bachelor of Dental Science, Guanghua School of Stomatology, Sun Yat-sen University, China

■ CLINICAL WORKING EXPERIENCE ■

2020/01-To Date	Lecturer School of Dentistry, Faculty of Medicine and Health The University of Sydney
2015/04-2019/12	Post-doctoral Research Associate School of Dentistry, Faculty of Medicine and Health The University of Sydney
2018/06-To Date	General Dentist 1Smile Dental, Sydney
2010/07-2011/02	Specialist in Endodontics (full-time) Department of Endodontics & Conservative Dentistry Guanghua Hospital of Stomatology, Guangzhou, China
2008/03-2010/07	General Dentist (part-time) Guanghua Hospital of Stomatology, Guangzhou, China
2006/07-2007/07	Intern (full-time) in Clinical Dentistry Guanghua Hospital of Stomatology, Guangzhou, China
2005/07-2005/10	Intern (full-time) in Emergency, Internal Medicine and General Surgery People's Hospital of Zhongshan City, Zhongshan, China

■ TEACHING EXPERIENCES ■

2017/04-To Date	Clinical Educator (Endodontics, Integrated Clinic and Exodontia clinic, Simulation Clinic in Endodontics, Tooth Morphology, Radiology, Tooth Conservation, Cariology) Doctor of Dental Medicine, Bachelor of Oral Health School of Dentistry, Faculty of Medicine and Health, The University of Sydney
2023/07-To Date	Facilitator of Interprofessional learning, Faculty of Medicine and Health, the University of Sydney
2015-2019	Guest lecturer, Life Science Bachelor of Oral Health School of Dentistry, Faculty of Medicine and Health, The University of Sydney
2016/03-2016/11	Tutor, Indigenous Tutorial Assistance Scheme (ITAS): Faculty of Dentistry, The University of Sydney
2017-To Date	<u>STUDENT RESEARCH SUPERVISION-</u> <ul style="list-style-type: none">• Auxiliary supervisor for PhD candidate• Doctor of Dental Medicine Program Student Research (currently 7 projects under supervision/co-supervision)• Summer Research student supervision

■ RESEARCH ■

Current Research Projects

- The Effect of Retreatment Solvents on the Integrity of Dental Dams (Co-investigator: A/Prof William Ha)
- Diagnostic efficacy of dental imaging in crack tooth. (Co-investigators: Dr Atieh Sadr, Dr Shwetha Hegde)
- Factors affecting the decision-making of direct pulp capping procedures amongst dental practitioners. (Co-investigators: Dr Smitha Sukumar, Dr Atieh Sadr)
- Establishment of the Westmead Oral Health Biobank linked to multidisciplinary patient-based oral health database at Westmead Centre for Oral Health (Co-investigator: Dr Shanika Nanayakkara)
- Designer embryonic fibroblast cells in the periodontal regeneration with delivery of anti-inflammatory biologics – An *in vitro* model (Co-investigators: Dr Jinlong Gao, Dr Munira Xaymardan)
- Explore the impact of periodontal pathogens on the development of congenital heart defects in genetic susceptible embryo using murine model (Co-investigators: Dr Jinlong Gao, Dr Munira Xaymardan)

Publications

- Senevirathna, L; Ratnayake, H. E.; Jayasinghe, N.; **Zhou XY**; Gao, JL., Nanayakkara, S. (2023) Water fluoridation in Australia: a systematic review. *Environmental Research*: 116915.
- **Zhou, XY**, Gao, JL, Holden, A. C., & Nanayakkara, S. (2022). Perceptions and attitudes of dental practitioners towards impacts of Covid 19 pandemic on clinical dentistry: a cross-sectional study. *BMC oral health*, 22(1), 1-9.
- Liang, A., Huang, L., Li, B., Huang, Y., **Zhou, XY**, Zhang, X., & Gong, Q. (2022). Micro-CT Evaluation of Different Root Canal Irrigation Protocols on the Removal of Accumulated Hard Tissue Debris: A Systematic Review and Meta-Analysis. *J Clin Med*, 11(20), 6053.
- **Zhou, XY**, Nanayakkara, S. (2022). Buccal infiltration with 4% articaine may be an alternative option to inferior alveolar nerve block with 2% lidocaine for pulp therapy in primary mandibular molars. *Journal of Evidence-Based Dental Practice*, 22(4), 101801.
- Leadbeatter, D, Nanayakkara, S, **Zhou, XY**, Gao, J (2023). Employability in health professional education: A scoping review. *BMC Medical Education*, 23(1), 1-11.
- **Zhou XY**, Nanayakkara S (2022). Intracanal cryotherapy may reduce postoperative Endodontic pain. *Journal of Evidence-Based Dental Practice*, 22(1), 101678
- **Zhou XY**, Nanayakkara S (2021). Chlorhexidine and Sodium Hypochlorite provide similar antimicrobial effect in root canal disinfection. *Journal of Evidence Based Dental Practice*, 21(3), 101577.
- **Zhou XY**, Nanayakkara S, Songsiripraduboon S, Gao JL, Prabhu N (2020). A retrospective study on pediatric dental treatment under general anesthesia in a tertiary public facility in Australia. *Pediatric Dental Journal*, 30(3), 201-207.
- Wang XD, Liu LM, **Zhou XY**, Huo YB, Gao JL, Gu HJ. Casein phosphopeptide combined with fluoride enhances the inhibitory effect on initial adhesion of *Streptococcus mutans* to the saliva-coated hydroxyapatite disc. *BMC Oral Health*; 2020, 20:169.
- **Zhou XY**, Nanayakkara S, Gao JL, Nguyen KA, Adler CJ. Storage media and not extraction method has the biggest impact on recovery of bacteria from the oral microbiome. *Sci Rep*. 2019;9(1):14968. doi: 10.1038/s41598-019-51448-7.

- **Zhou XY**, Nanayakkara S. Corticosteroids can be effective in reducing postoperative endodontic pain. *J Evid Based Dent Pract*. 2020 June; 20 (2):101439.
- Chen J, Liu F, Lee SA, Chen S, **Zhou XY**, Ye P, Riordan SM, Liu L, Zhang L. Detection of IL-18 and IL-1 β protein and mRNA in human oral epithelial cells induced by *Campylobacter concisus* strains. *Biochem Biophys Res Commun*. 2019;518(1):44-49.
- Nanayakkara S, **Zhou XY**, Spallek H. Impact of big data on oral health outcomes. *Oral Diseases*. 2019 Jul;25(5):1245-1252.
- Nanayakkara S, **Zhou XY**. Periodontitis May Be Associated with Chronic Kidney Disease, but Evidence on Causal Association Is Limited. *J Evid Based Dent Pract*. 2019 Jun;19(2):192-194.
- Gao JL, Kwan AH, Yammine A, **Zhou XY**, Trehwella J, Hugrass BM, Collins D. A. T., Horne J, Ye P, Harty D, Nguyen KA, Gell D, Hunter N, Structural properties of a haemophore facilitate targeted elimination of the pathogen *Porphyromonas gingivalis*. *Nat Commun*. 2018 Oct 5;9(1):4097.
- Spallek H, Weingberg SM, Manz M, Nanayakkara S, **Zhou XY**, Johnson L. Perceptions and attitudes toward data sharing among dental researchers. *JDR Clinical & Translational Research*, 2019, 4(1).
- Nokhbehsaim M, Memmert S, Damanaki A, Nanayakkara S, **Zhou XY**, Jäger A, Deschner J. Effect of interleukin-1 β on ghrelin receptor in periodontal cells. *Clin Oral Investig*. 2019 Jan;23(1):113-122.
- Nokhbehsaim M, Damanaki A, Nogueira Am Eick S, Memmert S, **Zhou XY**, Nanayakkara S, Gotz W, Cirelli J, Jager A, Deschner J. Regulation of Ghrelin receptor by periodontal bacteria in vitro and in vivo. *Mediators Inflamm*. 2017; 2017:4916971.
- Gu H, **Zhou XY**, Ling J, Liu L, Zhao Z, Gao JL. Comparative Efficacy of Experimental Solutions in Occluding Dentin Tubules: Calcium Phosphate Based and Oxalate-Based Solutions. *Dentistry*, 2017, 7: 411. doi:10.4172/2161-1122.1000412
- Lasica A, Goulas T, Mizgalska D, **Zhou XY**, de Diego, I., Ksiazek M, Madej, M, Guo, Y, Guevara T, Nowak M, Nguyen K, et al. Structural and functional probing of PorZ, an essential bacterial surface component of the type-IX secretion system of human oral-microbiomic *Porphyromonas gingivalis*. *Scientific Reports*, 2016, 6, 1-22.
- Gu HJ, Ling JQ, **Zhou XY**, Liu LM, Gao JL. Mineralising and antibacterial effects of modified calcium phosphate treatment on human root cementum. *BMC Oral Health*. 2016, 17(1):22.
- Qin J, Wang L, Zheng L, **Zhou XY**, Zhou YM. Concentrated growth factor promotes Schwann cell migration partly through the integrin β 1-mediated activation of the focal adhesion kinase pathway. *Int J Mol Med*. 2016;37(5):1363-70.
- **Zhou XY**, Gao JL, Hunter N, Potempa J, Nguyen KA. Sequence-independent processing site of the C-terminal domain (CTD) influences maturation of the RgpB protease from *Porphyromonas gingivalis*. *Mol Microbiol*. 2013, 89(5):903-17.
- Zhang XM, **Zhou XY**, Hu DY. Combining 3-dimensional degradable electrostatic spinning scaffold and dental follicle cells to build peri-implant periodontium. *Dent Hypotheses*. 2013, 4(4):118-21.
- Zhang XM, Tu R, Yin W, **Zhou XY**, Li X, Hu D. Micro-computerized tomography assessment of fluorescence aided caries excavation (FACE) technology: comparison with three other caries removal techniques. *Aust Dent J*. 2013, 58(4):461-7.
- Wei X, Liu L, **Zhou XY**, Ling JQ. The effect of MEPE and its downstream osteogenesis related gene expression on the proliferation and differentiation of human dental pulp cells. *J Endod*, 2012;38(3):330–8.
- **Zhou XY**, Chen YY, Wei X, et al. Heat transfer to periodontal tissues and apical GP during thermal obturation in a Finite element analysis model. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*. 2010,110(2):257-63.
- **Zhou XY**, Zhang F, Wei X, et al. Application of induced pluripotent stem cells reprogrammed from dental pulp cells: A novel therapy for tooth regeneration. *Dent Hypotheses*. 2011, 2(1):38-44.
- **Zhou XY**, Wei X. Research progress of matrix extracellular phosphoglycoprotein and its important fragments. *Journal of International Stomatology*. 2009, 36(3):326-8.
- Zhang F, **Zhou XY**, Wei X. Research progress of critical pluripotency-related transcriptional factors and the effects. *J Int Stomat* 2011, (2)214-7.

- Wei X, Zhang F, Liu L, **Zhou XY**. The effect of Ad5-Oct4-EGFP transfection on the pluripotency-associated genes expressions of human dental pulp cells. Chinese J Stomat Res. 2011, 5(4):347-5.

CONFERENCES

- 2023 International Association for Dental Research ANZ 2023, oral present at one symposium. *Showcase of identifying research questions from clinical practice*.
- 4th Meeting of the International Association for Dental Research Asia-Pacific Region (IADR-APR) 2019, oral presentation. *Evaluating the effect of storage media and DNA extraction method on the recovery of bacteria from the oral microbiome*.

Grants

- Knowledge, attitudes and challenges towards infection control following COVID-19 among dental practitioners. (Dental Council of NSW Education and Research Grant 2020-2021) AUD \$7,728.75.
Investigators: **Zhou XY**, Nanayakkara S, Holden A
- Designer embryonic fibroblast cells in the periodontal regeneration with delivery of anti-inflammatory biologics-An in vitro model. (Australian Dental Research Foundation 2020-2021), AUD \$9,852.
Investigators: Gao JL, **Zhou XY**, Xaymardan M
- Expression and Regulation of Apelin in Chronic periodontitis (01/2018-12/2018, Dental Research Committee Seed Funding 2017), AUD \$10,000
Investigators: **Zhou XY**, Nanayakkara S, Deschner J, Spahr A, Divnik-Resnik T
- Establishment of the Westmead Oral Health Biobank linked to multidisciplinary patient-based oral health database at Westmead Centre for Oral Health. (2015-2016, No. E1403/20401)
Total \$15,000, funded by Faculty Research Committee Funding.
Investigators: Nanayakkara S, **Zhou XY**.

■ GOVERNANCE, LEADERSHIP, ENGAGEMENT ■

- Coordinator for DMD Dental Electives, School of Dentistry, Faculty of Medicine and Health, The University of Sydney
- Chair of Student Professionalism Committee, School of Dentistry, Faculty of Medicine and Health, The University of Sydney
- Member of Academic Board, The University of Sydney
- Interviewer of double degree dental program Multiple Mini Interviews selection process,
- Judge for student poster presentation competition at Sydney Dental School Research Day
- Reviewer for DMD student research reports, School of Dentistry, Faculty of Medicine and Health, The University of Sydney
- Associate President of Australian Society of Endodontology (NSW branch)
- Member of organizing committee in World Endodontic Congress 2026
- Peer Reviewer for PLoS One, Materials, International Journal of Environmental Research and Public Health
- Reviewer of Australian Dental Research Foundation (ADRF) grant