

# Curriculum Vitae



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## PERSONAL INFORMATION

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Name:	DING Hao	Gender:	Male
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## WORKING EXPERIENCE

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Faculty of Dentistry, The University of Hong Kong

-- Post-doctoral Fellow

July 2022 - Present

-- Research Assistant

Oct. 2016 - Oct. 2017

(Coordinator of Massive Open Online Course (MOOC) - *Materials in Oral Health* on Coursera Platform)

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## EDUCATION

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Faculty of Dentistry, The University of Hong Kong

**Ph.D in Dental Materials Science**

Nov. 2017 - Mar. 2022

Faculty of Dentistry, The University of Hong Kong

**M.Sc in Dental Materials Science**

Sept. 2015 - Oct. 2016

College of Materials and Chemistry & Chemical Engineering, Chengdu University of Technology

**B.Eng in Materials Science & Engineering**

Sept. 2011 - July 2015

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## PUBLICATIONS

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1. Yun, J., Burrow, M.F., Matinlinna, J.P., **Ding, H.**, Chan, S.M., Tsoi, J.K.H., & Wang, Y. (2024). Design of Multi-Functional Bio-Safe Dental Resin Composites with Mineralization and Anti-Biofilm Properties. *Journal of Functional Biomaterials*. 15(5), 120. (**JCR Rank: Q2**)
2. **Ding, H.**<sup>†</sup>, Pan, Z.<sup>†</sup>, Loh, Y.M., Wang, C., & Tsoi, J.K.H. (2024). Effects of Nano-Diamond-Coated Milling Bits on Cutting Dental Zirconia. *Coatings*, 14(4), 473. (**Cover Article, JCR Rank: Q2**)  
<sup>†</sup>: Contributed equally
3. Yang, Y.<sup>†</sup>, **Ding, H.**<sup>†</sup>, Han, A., Bai, X., Bijle, M.N., Tsoi, J.K.H., & Matinlinna, J.P. (2023). *Porphyromonas gingivalis* can degrade dental zirconia. *Dental Materials*, 39(12), 1105-1112. (**JCR Rank: Q1**)  
<sup>†</sup>: Contributed equally
4. **Ding, H.**, Zhang, M., Lo, B.C.Y., Lo, E.C.M., & Tsoi, J.K.H. (2023). A personalised 3D-printed dental plaque removal mouthguard for older adults. *International Dental Journal*, 73(6), 828-833. (**JCR Rank: Q2**)
5. **Ding, H.**, Cui, Z., Maghami, E., Chen, Y., Matinlinna, J.P., Pow, E.H.N., Fok, A.S.L., Burrow, M.F., Wang, W., & Tsoi, J.K.H. (2023). Morphology and mechanical performance of dental crown designed by 3D-Deep Convolutional Generative Adversarial Network (3D-DCGAN). *Dental Materials*, 39(3), 320-332. (**JCR Rank: Q1**)
6. **Ding, H.**, Wu, J., Zhao, W., Matinlinna, J.P., Burrow, M.F., & Tsoi, J.K.H. (2023). Artificial intelligence in dentistry – A review. *Frontiers in Dental Medicine*, 4, 1085251.
7. Tsoi, J.K.H., & **Ding, H.** (2022). A narrative review on the overlooked aspects of dPROs in connection with dental materials. *Journal of Evidence-Based Dental Practice*, 23(1) Supplement, 101796. (**JCR Rank: Q1**)
8. **Ding, H.**, Yang, Y., Li, X., Cheung, G.S.P., Matinlinna, J.P., Burrow, M.F., & Tsoi, J.K.H. (2022). A simple AI-enabled method for quantifying bacterial adhesion on dental materials. *Biomaterial Investigations in Dentistry*, 9(1), 75-83.

9. Tsoi, J.K.H., **Ding, H.**, Hon, K., & Leung, Y.Y. (2021). The spread of droplets and aerosols of surgical motor handpiece irrigation using different suction systems. *Frontiers in Dental Medicine*, 2, 727111.
10. **Ding, H.**, Tsoi, J.K.H., Kan, C.W., & Matinlinna, J.P. (2021). A simple solution to recycle and reuse dental CAD/CAM zirconia block from its waste residuals. *Journal of Prosthodontic Research*, 65(3), 311-320. (JCR Rank: Q1)
11. Han, A., **Ding, H.**, Tsoi, J.K.H., Imazato, S., Matinlinna, J.P., & Chen, Z. (2020). Prolonged UV-C irradiation is a double-edged sword on the zirconia surface. *ACS omega*, 5(10), 5126-5133. (JCR Rank: Q2)
12. Ho, C.M.B., **Ding, H.**, Chen, X., Tsoi, J.K.H., & Botelho, M.G. (2018). The effects of dry and wet grinding on the strength of dental zirconia. *Ceramics International*, 44(9), 10451-10462. (JCR Rank: Q1)

### Conferences

1. **Ding, H.**, Zhang, Y., Bai, X., Lo, K.Y.M., Wang, C., & Tsoi, J.K.H. (2023). The Mechanical and Adhesive Properties of Three Self-Adhesive Resin Cements. In *2023 IADR/AADR/CADR General Session, Bogotá, Colombia*. **(Finalist of IADR Joseph Lister Award for New Investigators Competition)**
2. **Ding, H.**, Cui, Z., Maghami, E., Chen, Y., Matinlinna, J.P., Pow, E.H.N., Fok, A.S.L., Burrow, M.F., Wang, W., & Tsoi, J.K.H. (2021). Can Artificial Intelligence (AI) Design Natural Tooth Morphology?. In *35th Annual Scientific Meeting of the IADR-SEA Division, Hong Kong*. **(Recipient of IADR-SEA Research Category Award (Dental Materials and Biomaterials Category))**
3. **Ding, H.**, Li, X., Tsui, K.H., Fan, Z., Cheung, G.S.P., Matinlinna, J.P., & Tsoi, J.K.H. (2019). Initial bacterial adhesion counting on nanopyramid-structured surfaces using artificial-intelligence technique. In *2019 IADR/AADR/CADR General Session, Vancouver, BC, Canada*. **(Recipient of IADR Kulzer Travel Award)**
4. Tsoi, J.K.H., & **Ding, H.** (2017). Teaching and learning mode in HKU dental materials science. In *12th Annual Dental Materials Conference cum 5th Chinese Stomatological Association (CSA) Dental Materials sub-committee meeting, Tianjin*.
5. Tsoi, J.K.H., **Ding, H.**, & Matinlinna, J.P. (2017). Recycling dental zirconia wastes: Is it feasible?. In *2017 CED-IADR/NOF Oral Health Research Congress*.

### In process

1. Yun, J., Burrow, M.F., Matinlinna, J.P., **Ding, H.**, Chan, S.M., Wang, Y., & Tsoi, J.K.H. Design of novel biosafe composite with versatile biomechanical properties, in vitro biocompatibility and anti-biofilm capacity for hard-tissue repairment. Under Review, Submitted to *Journal of Dentistry* on 6 Nov. 2023.

2. Pan, F., Xu, M., Bai, X., **Ding, H.\***, & Tsoi, J.K.H. Effects of different UV-C irradiations on dental zirconia. To be submitted.

\*: Corresponding author

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### **PATENT**

1. Zhao, W., **Ding, H.**, Tsoi, J.K.H., & Wu, J. Deep learning based method to generate a dental prosthesis (用于生成口腔修复体的基于深度学习的方法).

U.S. Patent Application No. 18/429,195 filed on 31 January 2024;

Chinese Patent Application No. 20241013525.2 filed on 31 January 2024.

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### **TEACHING ACTIVITIES**

*Teaching Dental Materials Science (DMS) Modules for BDS and MSc(DMS) students at HKU Faculty of Dentistry.*

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| 1. DENT7502: Guided Learning Tutorials               | Fall 2017 & 2018        |
| 2. DENT7503: Laboratory Class & Theme-based Sessions | Spring & Fall 2017-2023 |
| 3. DENT7505: Biomaterials I                          | Fall 2023               |
| 4. DENT7506: Biomaterials II                         | Fall 2023               |

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## ACADEMIC SERVICES

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- Guest Associate Editor for *Frontiers in Dental Medicine*.
- Invited Journal Reviewer for *International Journal of Paediatric Dentistry*, *Polymers*, *Dentistry Journal*, *F1000Research*.
- Interactive Talk Session chair for the 2023 IADR/LAR General Session in Bogotá, Colombia.

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## AWARDS (in chronological order)

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1. HKU Postgraduate Scholarship, Nov. 2017 – Oct. 2021.
2. Finalist, HKU Interdisciplinary Research Competition, April 2019.
3. Second Prize, 5<sup>th</sup> Hong Kong University Student Innovation and Entrepreneurship Competition, **HKD 5K**, May 2019.
4. IADR Kulzer Travel Award, 97<sup>th</sup> IADR General Session, Vancouver, Canada, **USD 2.5K**, June 2019.
5. IADR-SEA Research Category Award (Dental Materials and Biomaterials Category), 35<sup>th</sup> Annual Scientific Meeting of the IADR-SEA Division, Hong Kong, **USD 500**, Dec. 2021.
6. Finalist, IADR Joseph Lister Award for New Investigators Competition, 101<sup>st</sup> IADR General Session, Bogotá, Columbia, **USD 500**, June 2023.

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## GRANTS (in chronological order)

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1. DigiDent AI Limited, An AI-enabled Full-automatic Dental Prosthesis Design Workflow, Technology Start-up Support Scheme for Universities (TSSSU), Innovation and Technology Commission of the Hong Kong Government, **HKD 710K**, Apr. 2019 – Mar. 2022, **Principal Investigator**.
2. A Clinical Research in Using Artificial Intelligence (AI) to Design Dental Crown, Health and Medical Research Fund (HMRF), FHB, **HKD 1105.488K**, Apr. 2021 – Mar. 2024, **Co-Investigator**.
3. An Optical Coherence Tomography Integrated Intraoral Scanner for Secondary Caries Detection, Oral Health Research and Innovation Fund (OHRIF), HKU Faculty of Dentistry, **HKD 300K**, Dec. 2022 – May 2024, **Principal Investigator**.

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## IN THE PRESS

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1. **Fox News** May 2023  
[AI in dentistry: Researchers find that artificial intelligence can create better dental crowns](#)
2. **South China Morning Post** May 2023  
[Artificial intelligence can help to create customised dental crowns within seconds, team led by HKU scientists says](#)
3. **HKU Press Release** April 2023  
[HKU Dentistry develops core technologies using generative AI in smart manufacturing of dental crowns](#)

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## LANGUAGE SKILLS

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1. Chinese: – Mandarin: Native; – Cantonese: Fluent.
2. English: Fluent.
3. French: Level A2 – HKU Non-degree French Courses (~200 hours).
4. German: Level A1 – HKU Non-degree German Courses (~100 hours).