

Division of Clinical Cariology and Endodontology
Department of Oral Rehabilitation

Outline

Our division focuses on the research, education and patient care regarding the diagnosis, treatment, and prevention of diseases or trauma to teeth in operative dentistry and endodontology based on minimally-invasive dentistry. Our main goal is to develop dentin remineralization/regeneration therapy in caries treatment. Our research interests are shown below.

Faculty members

Professor : Takashi SAITO, D.D.S., Ph.D.

Assistant professor/full-time lecturer : Masanobu IZUMIKAWA, D.D.S., Ph.D.

Yasuhiro MATSUDA, D.D.S., Ph.D.

Assistant professor/research associate : Yasuhiko NAGAI, D.D.S., Ph.D., Tomoo YUI, D.D.S., Ph.D.

Md Riasat HASAN, B.D.S., Ph.D. (IEEC)

Postdoctoral fellow : Youjing QIU, D.D.S., Ph.D.

Visiting researcher : Jia TANG, D.D.S., Ph.D.



Takashi SAITO



Masanobu IZUMIKAWA



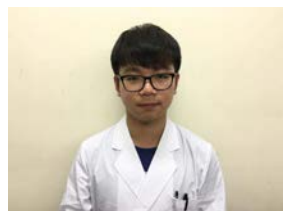
Yasuhiro MATSUDA



Yasuhiko NAGAI



Tomoo YUI



Youjing QIU



Jia TANG

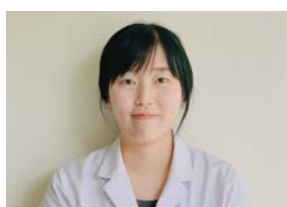


Md Riasat HASAN

Instructors ; Takanori INOKUMA, D.D.S., Ryoko SUWA, D.D.S., Miki TANIGUCHI, D.D.S.,
Hiromu YAJJIMA, D.D.S.



Takanori INOKUMA



Miki TANIGUCHI



Hiromu YAJJIMA

Postgraduate students ; Shamima SULTANA, B.D.S., Morsheda KHATUN, B.D.S.,
Masahiko SAKURAI, D.D.S., Bayarchimeg ALTANKHISHIG, D.D.S., Tubayesha HASSAN, B.D.S.,
Karnoon SHAMSOON, B.D.S., Yaxin RAO, D.D.S.



Shamima SULTANA



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Tubayesha HASSAN



Karnoon SHAMSOON



Yaxin RAO



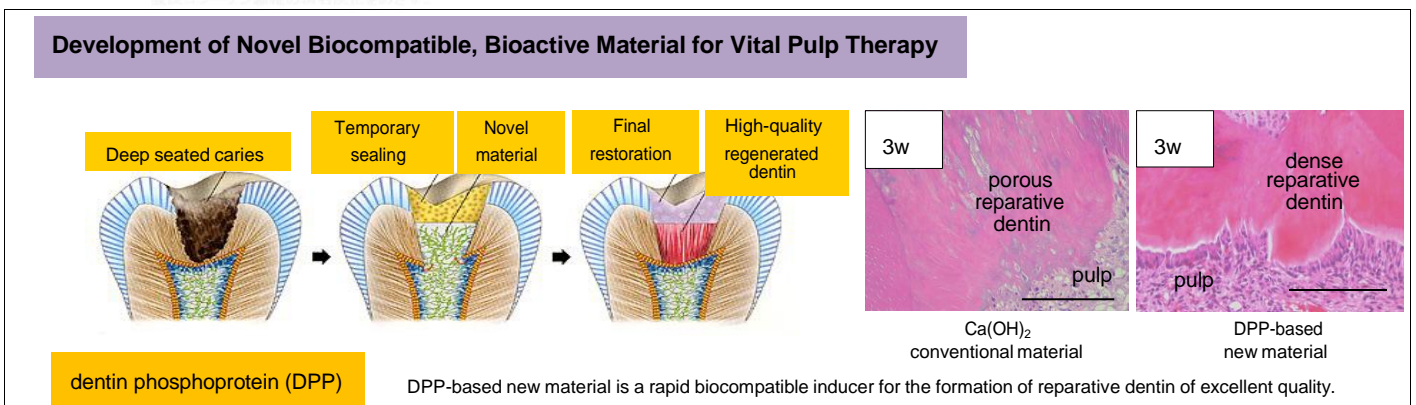
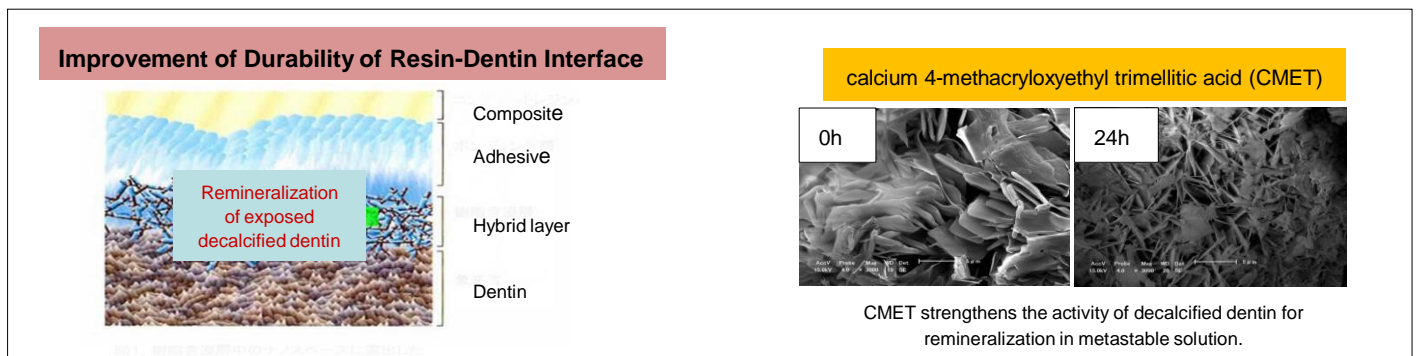
Hsinyu TSAI



Chihsun TSAI

Main research in progress

- 1) Development of the materials having dentin remineralization and antibacterial activities
- 2) Development of the materials for dentin regeneration
- 3) Study on increase of durability of adhesive interface
- 4) Study on optimization of endodontic treatment



Current publications

- * KL. Oh, YW. Kuo, CY. Wu, BH. Huang, FT. Pai, HH. Chou, T. Saito, T.Ueno, YC. Cho, MS. Huang. The Potential of a Hair Follicle Mesenchymal Stem Cell-Conditioned Medium for Wound Healing and Hair Follicle Regeneration. *Applied Sci* 10(2646) 1-13 2020.
- * N. Acharya, MR. Hasan, D. Kafle, A. Chakradhar, T. Saito. Effect of hand and rotary instruments on the fracture resistance of teeth: An in vitro study. *Dent J.* 2020 8 38 2020.
- * T. Hassan, Y. Qiu, J. Tang, T. Saito. Dentin Phosphophoryn and its Possibilities in Regenerative Dentistry: A Review. *Dent J Health Sci Univ Hokkaido* 38(2) 9-15 2019.
- * NA. Nomann, S. Ito, MR. Hasan, Y. Qiu, T. Saito. Effect of 4-META/MMA-TBB resin containing calcium chloride dihydrate on dentin remineralization and its mechanical properties. *J Oral Tissue Engin* 17(2) 43-52 2019.
- * K. Okuyama, Y. Matsuda, H. Yamamoto, Y. Tamaki, T. Saito, M. Hayashi, Y. Yoshida, H. Sano, T. Sato, M. Koka, Fluorine distribution from fluoride-releasing luting materials into human. *Nuclear Instruments and Methods in Physics Research Section B* 456 16-20 2019.
- * Y. Matsuda, K. Okuyama, H. Yamamoto, M. Fujita, S. Abe, T. Sato, N. Yamada, M. Koka, H. Sano, M. Hayashi, SK. Sidhu, T. Saito. Antibacterial effect of a fluoride-containing ZnO/CuO nanocomposite. *Nuclear Instruments and Methods in Physics Research Section B* 458 184-188 2019.
- * SB. Alapati, M. Iijima, WA. Brantley, S. Ito, T. Muguruma, T. Saito, I. Mizoguchi. Micro-XRD and nanoindentation investigation of bioceramics for dental pulp therapy. *Medical Devices & Sensors* DOI: 10.1002/mds3.10027 2019.
- * Y. Kondo, S. Ito, O. Uehara, Y. Kurashige, Y. Fujita, T. Saito, M. Saitoh. Chemical and biological properties of new sealant-use cement materials. *Dent Mater* 35(5) 673-685 2019.
- * R. Uemura, J. Miura, T. Ishimoto, K. Yagi, Y. Matsuda, M. Shimizu, T. Nakano, M. Hayashi. UVA-activated riboflavin promotes collagen crosslinking to prevent root caries. *Sci Rep*, 2019 Vol 9(1) 1252 10.1038/s41598-018-38137-71
- * Y. Qiu, J. Tang, T. Saito. The in vitro effects of CCN2 on odontoblast-like cells. *Arch Oral Biol* 94 54-61 2018.
- * J. Tang and T. Saito. iMatrix-511 stimulates the proliferation and differentiation of MDPC-23 cells into odontoblast-like phenotype. *J Endod.* 44(9) 1367-1375 2018.

Recent Patents

- * J. Tang and T. Saito. Pharmaceutical composition including laminin fragments to treat or prevent the disease, disorder or symptom of tooth dentin and/or dental pulp. US Application No.16825116. March 20, 2020.
- * T. Saito, Y. Qiu *et al.* odontoblast-proliferation/differentiation promoter. JP Application No.2019-193019. Oct. 23, 2019.