

# Advanced Prosthodontics

Professor - Noriyuki Wakabayashi

Associate Professor - Takeshi Ueno, Yuka Sumita (Carrere up) ( ~ March 2022, Maxillofacial Prosthetics)

Junior Associate Professor - Kosuke Nozaki (August ~)

Assistant Professors - Atsushi Takaichi, Kensuke Takakusaki, Mariko Hattori ( ~ March 2022, Maxillofacial Prosthetics), Natsuko Murakami, Toshiki Yamazaki, Junnichi Wada (Sabbatical)

Restart Postdoctoral (RPD) Research Fellowships: Yuka Kajima

Project Assistant Professor - Mihoko Haraguchi ( ~ March 2022, Maxillofacial Prosthetics), Mai Murase ( ~ March 2022, Maxillofacial Prosthetics)

Hospital Staff - Hisami Okawara, Kim Eung Yeol, Kazuaki Sakamoto, Hirokazu Sato, Shintaro Suzuki, Tomiharu Nagayama, Yoko Hayashi, TANABE Gen ( ~ March 2022 Quit, Maxillofacial Prosthetics), FUJITA Haruka ( ~ March 2022, Maxillofacial Prosthetics), TANI Hiroko (May ~)

Speech-Language-Hearing Therapist - MASAKI Keita (Clinic for Speech Therapy)

Graduate Students

- Amr Gamal, Yurika Ishioka, Yuji Uchida, Miona Utsumi, Qu Wenrui, Wu huaze, Yoshio Kobayashi, Kohei Komine, San Win Thant, Jiang Mengtian, Zou Shiqi, Huichuan Xu, Satsuki Tanaka, Zhang Yihui, Zhao Qian, Zhang Maorui, Zheng Jingpu, Ding Zhiyuan, Thida Phyo, Asuka Hirata, Hein Linn Htat, Hitomi Matsuno, Yang Shiyi, Lyu Huaxin, Bin Li, ALI Ahmed Sameir Mohamed (April ~), Alkryaem Bilal Lukman (October ~)

( ~ March 2022, Maxillofacial Prosthetics)

TANI Hiroko ( ~ March), GAO Yuan, WANG Yujia, TOWITHELERTKUL Cheewin, YU Hongli, CHUGH Anshul, HAN Xuwei, ALI Islam Elsayed, BAI Ziyi, WANG Jiangyu, ZHANG Fan, PRADHAN Nehasha

Part-time Special Student - Koki Abe, Tetsu Sato, Dong Jialin, ALI Ahmed Sameir Mohamed ( ~ March 2022, Maxillofacial Prosthetics), PANG Xinyu (April ~), MIAO Menghan (October ~)

Clinical Professor - Masaru Yatabe

Part-time Lecturer (Faculty of Dentistry) - Yuki Arai, Yasuha Ikawa, Keigo Isoshima, Hideaki Inagawa, Shusuke Inukai, Yuki Iwaki, Keiichiro Uchikura, Hirofumi Uchida, Takeshi Ootubo, Chie Okamoto, Masahiro Ona, Taihei Kasai, Ryunosuke Kazama, Hayato Kumagai, Masato Kotake, Hirohumi Sato, Natsuki Suzuki, Takashi Sekinishi, Yusuke Toyoshima, Yasuo Nakajima, Kohji Nagata, Kazutoshi Nakamura, Gen Nabeshima, Youko Hayashi, Hironari Hyama, Kazuyuki Handa, Shiro Hibi, Masahiro Hirasawa, Kengo Fujiki, Ichiro Minami, Chie Watanabe

( ~ March 2022, Maxillofacial Prosthetics)

ARAI Takayuki, ELBASHTI Mahmoud Ellarousi, HATANO Noriko, TERUYAMA Yuko, YESIBOLI Yeerken (April ~)

Part-time Lecturer (Graduated School) - Hideharu Hibi, Kazuhiro Hori

( ~ March 2022, Maxillofacial Prosthetics)

OZAWA Shogo, TANIGAWA Chihiro, INOHARA Ken, MUKOHYAMA Hitoshi (April ~)

Visiting Researcher - ABOUELEZZ Marwa Ahmed Mohamed Abdelrahman

## ( 1 ) Outline

Department of Advanced Prosthodontics made a fresh start in April 2022, merging with Department of Maxillofacial Prosthetics. Historically, our Department has inherited the clinical and research backgrounds that the First Department of Prosthodontics and the Department of Masticatory Function Rehabilitation were proud of, and we specialized in removable partial prosthodontics. Now we are responsible for bridging the gap between basic sciences and clinical research on development of the prosthetic materials and technologies, as well as teaching and training dental professionals as our future human resources.

## ( 2 ) Research

1. Treatment Planning, Treatment and Evaluation in Prosthodontics
2. Design Optimization of Prosthodontic Biomaterials
3. Biological Evaluation of Oral Tissues in Prosthodontic Patients
4. Educational Development in Prosthodontics

Grants-in-Aid for Scientific Research

Grants-in-Aid for Scientific Research(C): Noriyuki Wakabayashi, Takeshi Ueno, Shunsuke Inukai, Kosuke Nozaki, Kimihiro Yamashita, Masahiro Ona, Atsushi Takaichi, Yuka Kashima

Grant-in-Aid for Young Scientists: Kouji Nakata, Yusuke Toyoshima, Hisami Okawara, Kensuke Takakusaki, Gen Nabeshima, Hideaki Inagawa, Yasuha Ikawa

Private Grant

Nissin Dental Products INC. (Noriyuki Wakabayashi)

Nissin Dental Products INC. (Noriyuki Wakabayashi)

MITSUI & CO., LTD. (Noriyuki Wakabayashi)

Tokuyama Dental Corporation (Noriyuki Wakabayashi)

Tokuyama Dental Corporation (Kosuke Nozaki)

Yamaha Corporation: Raising of music dentistry (Yuka SUMITA)

Yamaha Corporation, Yamaha Music Foundation: Effect of music exercise on oral function (Yuka SUMITA)

The MIKIYA Science And Technology Foundation: Structured infrastructure construction of expert skill for the application of AI technology to medical diagnosis (Yuka SUMITA)

Innovation Idea Contest 2022: Development of a speech examination equipment Speech-EX (Mariko HATTORI)

WISE Program

Huichuan Xu, Bin Li, Miona Utsumi, Zhao Qian, Kohei Komine, Zhang Maorui, Yu Hongli, Jiang Mengtian

## ( 3 ) Education

School of Dentistry

Year 1

Introduction to Dentistry

Year 3

Tooth Carving

Introduction to Clinical Dentistry

Observation and assistance at clinic term and II

Basic Occlusal Reconstruction

Introduction to Research article writing and Patent acquisition

Year 4

Research Project

Removable Partial Prosthodontics

Advanced knowledge and skill with occlusion

Experience learning of dental practice

Years 5 and 6

-  
Case study

Dental Practice and Clinical Practicum for Comprehensive Patient Care (Clinical Internship)

School of Oral Health Care Sciences, School of Oral Health Care Sciences

Year 2 Prosthodontics

Years 3 and 4 Practice for Dental Hygiene Care

School of Oral Health Care Sciences, Course for Oral Health Engineering

Year 2 Removable Prosthodontics Technology

Extension Course

TMDU International Faculty Development Course (IFDC). 31 January, 8 April, 15 April, 22 April, 1 July 2022.

#### **(4) Lectures & Courses**

This Department offers a variety of educational courses pertaining to the specialized clinical management of tooth loss, primarily for undergraduate students at the School of Dentistry. The courses include lectures, tutorials, hands-on sessions, clinical simulations, and clinical internship instructions.

The ability to perform clinical operations on patients with tooth loss, including the skills required for medical interviews, oral examinations, diagnosis, decision making, impression making, bite registration, denture design and technology, and denture delivery and maintenance, is essential for clinical dental professionals. The objectives of our courses are to provide learning and training in contemporary removable prosthodontics and enhance the knowledge and skills of students to help them develop and flourish in their future career as dental and oral health professionals.

#### **(5) Clinical Services & Other Works**

All faculty members are assigned to treat patients at the Prosthodontics department in the Dental Hospital of the Tokyo Medical and Dental University. While the rate of tooth retention has increased in comparison with previously reported rates, the number of patients in need of a removable partial denture has increased. Our specialists primarily work on advanced cases that are referred from other departments and outside the hospital. The departmental mission also includes the development and application of new prosthodontic materials, their clinical trial, and the spread of novel and inventive knowledge to the community.

#### **(6) Clinical Performances**

The Department specializes in removable partial prosthodontics and aims to restore missing teeth and associated oral tissues; improve physiological functions such as occlusion, mastication, swallowing, and speech; maintain normal oral sensation; and restore the original appearance of individual patients. Treatment modalities, materials, and denture design are all based on the case history and chief complaints of the patients. The ultimate goal is to improve the oral health-related quality of life of patients.

The Department also manages the clinic for Maxillofacial Prosthetics and the clinic for Speech Therapy that do the prosthodontic and/or prosthetic treatment for patients with defects in oral and/or maxillofacial regions.

#### **(7) Publications**

##### **[Original Articles]**

1. Nakai H, Inokoshi M, Nozaki K, Yoshihara K, Matsukawa A, Nagaoka N, Tonprasong W, Minakuchi S. Osteoblast Response of Additively Manufactured Zirconia and Alumina-Toughened Zirconia. *Materials (Basel)*. 2022.12; 15(23); 8685
2. Gao Y, Hattori M, Zhang M, Elbashti ME, Sumita YI. Evaluating the feasibility and accuracy of digitizing a maxillary defect model simulating various trismus conditions. *Int J Prosthodont*. 2022.12; online.;
3. Hattori M, Patzelt SBM, Stadler S, Kohal RJ, Vach K, Elbashti ME, Sumita YI. Computerized optical scanning of ears: An in vitro evaluation with an intraoral scanner. *J Prosthet Dent*. 2022.12; online.;

4. Eung-Yeol Kim, Junichiro Wada, Kazuki Sakamoto, Yurika Ishioka, Yuki Arai, Natsuko Murakami, Toshiki Yamazaki, Hironari Hayama, Miona Utsumi, Shusuke Inukai, Noriyuki Wakabayashi. Effect of Scanning Origin Location on Data Accuracy of Abutment Teeth Region in Digital Impression Acquired Using Intraoral Scanner for Removable Partial Denture: A Preliminary In Vitro Study *Journal of Clinical Medicine*. 2022.12; 11(24); 7392
5. Ali IE, Murase M, Yonehara Y, Sumita YI. Time and cost of maxillofacial prosthetic treatment: The need for assessment. *Jpn Dent Sci Rev*. 2022.11; 58; 67-68
6. Inamochi Y, Kohno EY, Wada J, Murakami N, Takaichi A, Arai Y, Ueno T, Fueki K, Wakabayashi N.. Knowledge acquisition efficacy of a remote flipped classroom on learning about removable partial dentures *J Prosthodont Res*. 2022.11;
7. Wang Y, Hattori M, Liu R, Sumita YI. Digital acoustic analysis of the first three formant frequencies in patients with a prosthesis after maxillectomy. *J Prosthet Dent*. 2022.11; online.;
8. Trang BNH, Kanazawa M, Murakami N, Wakabayashi N, Hada T, Sahaprom N, Komagamine Y, Minakuchi S. Stress distribution of one-piece and two-piece mini-Implant overdentures with various attachment systems and diameters: A finite element analysis. *Journal of prosthodontic research*. 2022.11;
9. Saleh O, Nozaki K, Matsumura M, Yanaka W, Abdou A, Miura H, Fueki K. Emergence angle: Comprehensive analysis and machine learning prediction for clinical application. *Journal of prosthodontic research*. 2022.11;
10. Chie Watanabe, Junichiro Wada, Koji Mizutani, Tomiharu Nagayama, Hirofumi Uchida, Yo Shibata, Noriyuki Wakabayashi. Radiographic predictive factors for 10-year survival of removable partial denture abutment teeth: Alveolar bone level and density *Journal of Prosthodontic Research*. 2022.11;
11. Towithelertkul C, Sumita YI, Murakami T, Notake R, Akiyama M, Yoshimura R, Wakabayashi N. Radiation attenuation properties of materials used to fabricate radiotherapy prostheses in vitro study. *J Oral Sci*. 2022.10; 64(4); 274-278
12. Junichiro Wada, Kanae Wada, Mona Gibreel, Noriyuki Wakabayashi, Tsutomu Iwamoto, Pekka K. Vallittu, Lippo Lassila. Effect of Nitrogen Gas Post-Curing and Printer Type on the Mechanical Properties of 3D-Printed Hard Occlusal Splint Material Polymers. 2022.10; 14(19); 3971
13. Kajima Yuka, Takaichi Atsushi, Htata Hein Linn, Hanawa Takao, Wakabayashi Noriyuki. Recrystallization behavior of selective laser melted Co-Cr-Mo alloys with several heat treatment times *MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING*. 2022.10; 856;
14. Junichiro Wada, Kanae Wada, Mona Gibreel, Noriyuki Wakabayashi, Tsutomu Iwamoto, Pekka K. Vallittu, Lippo Lassila. Effect of 3D Printer Type and Use of Protection Gas during Post-Curing on Some Physical Properties of Soft Occlusal Splint Material Polymers. 2022.10; 14(21); 4618
15. Hattori M, Haraguchi M, Semper-Hogg W, Kohal RJ, Sumita YI. Prosthodontic rehabilitation on a patient with limited mouth opening related to rheumatoid arthritis: A clinical report. *Int J Maxillofac Prosthetics*. 2022.09; 5(1); 18-21
16. Ali ASM, Hattori M, Sumita YI. Consonant evaluation during fabrication of a removable prosthesis for a cleft lip and palate patient: A clinical report. *Int J Maxillofac Prosthetics*. 2022.09; 5(1); 22-24
17. Haraguchi M, Towithelertkul C, Ali IE, Han X, Sumita YI. An indirect-direct technique with hot water for fabricating a cast metal crown under an existing removable partial denture. *J Prosthet Dent*. 2022.09; online.;
18. Towithelertkul C, Haraguchi M, Tanabe G, Fujita H, Ali IE, Han X, Sumita YI. Two-piece detachable interlocking mold for low-dose-rate brachytherapy: A dental technique for radiotherapy prosthesis fabrication. *J Prosthet Dent*. 2022.08; online.;
19. Ali IE, Hattori M, Sumita YI, Wakabayashi N. Effect of cut-out rescan procedures on the accuracy of an intraoral scanner used for digitizing an ear model: An in vitro study. *J Prosthodont*. 2022.08; online.;

20. Jia Deng, Yuta Fukushima, Kosuke Nozaki, Hideyuki Nakanishi, Erica Yada, Yuki Terai, Kenji Fueki, Keiji Itaka. Anti-Inflammatory Therapy for Temporomandibular Joint Osteoarthritis Using mRNA Medicine Encoding Interleukin-1 Receptor Antagonist. *Pharmaceutics*. 2022.08; 14(9);
21. Murase M, Tani H, Sumita YI, Ino S, Taniguchi H. Nutritional assessment in a maxillectomy patient from the preoperative period to definitive obturator insertion: A case report. *J Prosthodont Res*. 2022.07; 66(3); 514-518
22. Elbashti ME, Aswehlee AM, Rahman MA, Sumita YI, Bornstein MM, Schimmel M, Abou-Ayash S, Molinero-Mourelle P. Triangular mesh reduction of digitized maxillectomy defects for prosthetic rehabilitation: A 3D deviation study. *J Dent*. 2022.07; 122; 104090
23. Nozaki K, Nagai A, Endo T, Hashimoto K, Yamashita K.. Electrical polarization and ionic conduction properties of  $\beta$ -tricalcium phosphate bioceramics with controlled vacancies by sodium ion substitution *Ceramics International*. 2022.06; 48(11); 15791-15799
24. Han X, Haraguchi M, Sumita YI. Effect of a lingual augmentation prosthesis for preventing salivation after subtotal glossectomy: A clinical report. *Int J Maxillofac Prosthetics*. 2022.05; 5(1); 13-17
25. Zhang F, Hattori M, Sumita YI. Facial prosthesis fabricated from dental material for an exposed reconstruction plate: A clinical report. *Int J Maxillofac Prosthetics*. 2022.05; 5(1); 10-12
26. Tan T, Zhao Q, Kuwae H, Ueno T, Chen P, Tsutsumi Y, Mizuno J, Hanawa T, Wakabayashi N. Surface properties and biocompatibility of sandblasted and acid-etched titanium-zirconium binary alloys with various compositions. *Dental materials journal*. 2022.04; 41(2); 266-272
27. Takakusaki K, Murakami N, Wada J, Kasai T, Matsuno H, Yamazaki T, Iwasaki N, Yatabe M, Takahashi H, Wakabayashi N. Effect of retention hole designs in artificial teeth on failure resistance of the connection with thermoplastic resin. *Dental materials journal*. 2022.04; 41(4); 573-579
28. Tanabe G, Hattori M, Obata S, Takahashi Y, Churei H, Nishiyama A, Ueno T, Sumita YI. Case report: Psychoacoustic analysis of a clarinet performance with a custom-made soft lip shield worn to prevent mucosal erosion of lower lip. *Front Psychol*. 2022.04; 13; 852866
29. Chiaki Tsutsumi-Arai, Yuki Arai, Chika Terada-Ito, Takahiro Imamura, Seiko Tatehara, Shinji Ide, Noriyuki Wakabayashi, Kazuhito Satomura. Microbicidal effect of 405-nm blue LED light on *Candida albicans* and *Streptococcus mutans* dual-species biofilms on denture base resin. *Lasers Med Sci*. 2022.03; 37(2); 857-866
30. Liu H, Inokoshi M, Nozaki K, Shimizubata M, Nakai H, Cho Too TD, Minakuchi S. Influence of high-speed sintering protocols on translucency, mechanical properties, microstructure, crystallography, and low-temperature degradation of highly translucent zirconia. *Dent Mater*. 2022.02; 38(2); 451-468
31. Hattori M, Murase M, Sumita YI. Hoarseness evaluation and prosthetic rehabilitation after maxillofacial surgery: A clinical report. *Int J Maxillofac Prosthetics*. 2022.02; 4; 43-46
32. Saito N, Mikami R, Mizutani K, Takeda K, Kominato H, Kido D, Ikeda Y, Buranasin P, Nakagawa K, Takemura S, Ueno T, Hosaka K, Hanawa T, Shinomura T, Iwata T. Impaired dental implant osseointegration in rat with streptozotocin-induced diabetes. *Journal of periodontal research*. 2022.01; 57(2); 412-424
33. Fueki Kenji, Inamochi Yuka, Wada Junichiro, Arai Yuki, Takaichi Atsushi, Murakami Natsuko, Ueno Takeshi, Wakabayashi Noriyuki. A systematic review of digital removable partial dentures. Part I: Clinical evidence, digital impression, and maxillomandibular relationship record(和訳中) *Journal of Prosthodontic Research*. 2022.01; 66(1); 40-52
34. Takaichi Atsushi, Fueki Kenji, Murakami Natsuko, Ueno Takeshi, Inamochi Yuka, Wada Junichiro, Arai Yuki, Wakabayashi Noriyuki. A systematic review of digital removable partial dentures. Part II: CAD/CAM framework, artificial teeth, and denture base(和訳中) *Journal of Prosthodontic Research*. 2022.01; 66(1); 53-67
35. Yamaguchi J, Chiba R, Komuro H, Ihara K, Nozaki K, Nagai A, Furukawa T, Sasano T. Local Injection of Hydroxyapatite Electret Ameliorated Infarct Size After Myocardial Infarction. *Circulation reports*. 2022.01; 4(1); 38-47

36. Chowdhury RU, Churei H, Tanabe G, Yoshida Y, Hayashi K, Takahashi H, Wada T, Uo M, Mizobuchi T, Chowdhury NU, Ueno T. Useful design of custom-made mouthguard for athletes undergoing orthodontic treatment with brackets and wires. *J Dent Sci.* 2022.01; 17(1); 308-315
37. Uchida H, Wada J, Watanabe C, Nagayama T, Mizutani K, Mikami R, Inukai S, Wakabayashi N.. Effect of night denture on tooth mobility in denture wearers with sleep bruxism: a pilot randomized controlled trial. *Journal of Prosthodontic Research.* 2022; 66(4); 564-571
38. Uchikura K, Murakami N, Yamazaki T, Lyu H, Nagata K, Ona M, Iwasaki N, Takahashi H, Wakabayashi N. Fracture resistance of CAD/CAM restorative materials in mismatched removable partial denture rests: An in vitro experimental and finite element analysis *Dental materials journal.* 2022.05; 41(3); 466-472
39. Huaxin Lyu, Natsuko Murakami, Toshiki Yamazaki, Junichiro Wada, Miona Utsumi, Noriyuki Wakabayashi. Evaluation of PEEK and zirconia occlusal rest designs for removable partial dentures based on finite element analysis *J Prosthodont Res.* 2022.05;
1. Junichiro Wada. Prosthetic strategies for efficient use and protection of weakened abutment teeth *Annals of Japan Prosthodontic Society.* 2022.01; 14(1); 38-45

#### [Books etc]

1. Nozaki K, Saleh O, Arakawa S, Miura H. *Water-Formed Deposits Fundamentals and Mitigation Strategies.* Elsevier, 2022.03

#### [Misc]

1. Ali IE, Sumita YI. Medication-related osteonecrosis of the jaw: Prosthodontic considerations. *Jpn Dent Sci Rev.* 2022.11; 58; 9-12
2. Ali IE, Chugh A, Towithelertkul C, Hattori M, Sumita YI. The rising challenge of mucormycosis for maxillofacial prosthodontists in the Covid-19 pandemic: A literature review. *J Prosthodont Res.* 2022.07; 66(3); 395-401
3. Elbashti ME, Molinero-Mourelle P, Aggarwal H, Aswehlee AM, Schimmel M, Abou-Ayash S, Yamamori T, Baba K, Sumita YI. Feasibility and accuracy of using intraoral scanners to digitize maxillectomy defects for prosthetic rehabilitation: A systematic review. *Int J Maxillofac Prosthetics.* 2022.05; 5(1); 3-9
4. Kenji Fueki, Yuka Inamochi, Junichiro Wada, Yuki Arai, Atsushi Takaichi, Natsuko Murakami, Takeshi Ueno, Noriyuki Wakabayashi. A systematic review of digital removable partial dentures. Part I: Clinical evidence, digital impression, and maxillomandibular relationship record. *J Prosthodont Res.* 2022.01; 66(1); 40-52
5. Atsushi Takaichi, Kenji Fueki, Natsuko Murakami, Takeshi Ueno, Yuka Inamochi, Junichiro Wada, Yuki Arai, Noriyuki Wakabayashi. A systematic review of digital removable partial dentures. Part II: CAD/CAM framework, artificial teeth, and denture base. *J Prosthodont Res.* 2022.01; 66(1); 53-67
1. Junichiro Wada, Koji Mizutani, Noriyuki Wakabayashi. The Successful Concept of Removable Partial Denture in Patient with Periodontitis: How to Preserve and Involve the Fragile Abutment Tooth in RPD? Part 3. Prosthodontic Approach for Fragile Abutment Tooth Protection *The Quintessence.* 2022.12; 41(12); 82-101
2. Junichiro Wada, Koji Mizutani, Noriyuki Wakabayashi. The Successful Concept of Removable Partial Denture in Patient with Periodontitis: How to Preserve and Involve the Fragile Abutment Tooth in RPD? Part 2. Removable Partial Denture Designing to Protect and Utilize Abutment Tooth *The Quintessence.* 2022.10; 41(10); 74-92
3. Junichiro Wada, Koji Mizutani, Noriyuki Wakabayashi. The Successful Concept of Removable Partial Denture in Patient with Periodontitis: How to Preserve and Involve the Fragile Abutment Tooth in RPD? Part1. Prosthodontic Treatment Following Periodontal Management *The Quintessence.* 2022.08; 41(8); 36-55
4. A systematic review of digital removable partial dentures *Ann Jpn Prosthodont Soc.* 2022.01; 14(1); 17-24
5. Wada J, Takaichi A, Wakabayashi N. Clinical procedure of magnetic attachment-Let's reconfirm its usefulness with the opportunity of insurance listing- *The Nippon Dental Review.* 2022.01; 82(1); 88-95

## [Conference Activities & Talks]

1. Hattori M. Digital evaluation in musicians' dentistry: An effective tool for performance. Digitodontics Webinar Series 2022.11.22 (Webinar)
2. Kanae Wada, Junichiro Wada, Hanae Kanazawa, Janna Waltimo-Siren, Tsutomu Iwamoto, Pekka K. Vallittu, Lippo Lassila. Nano-mechanical Properties of Primary Molar Enamel with Enamel Hypoplasia, Early Enamel Demineralized, and Sound Enamel. International Association of Pediatric Dentistry (IAPD) 2nd Global Summit 2022.11.12 Roma, Italy
3. Kanae Wada, Junichiro Wada, Hanae Kanazawa, Janna Waltimo-Siren, Tsutomu Iwamoto, Pekka K. Vallittu, Lippo Lassila. Kiillevaurioalenta merkittävästi maitohampaan pintakovuutta. Finnish Dental Journal 2022.11.10 Helsinki, Finland
4. Nakai H, Inokoshi M, Nozaki K, Minakuchi S. Cell viability and osteogenic ability of additively manufactured zirconia. International Dental Materials Congress 2022 2022.11.04 hybrid (web, Taipei)
5. Kanae Wada, Junichiro Wada, Hanae Kanazawa, Janna Waltimo-Siren, Tsutomu Iwamoto, Pekka K. Vallittu, Lippo Lassila.. Mechanical and Histological Properties of Primary Molar Enamel with Enamel Hypoplasia. Biomaterials and Medical Devices Research Program of BioCity Turku, Turku Biomaterials Days 2022.10.27 Turku, Finland
6. Junichiro Wada, Kanae Wada, Mona Gibreel, Noriyuki Wakabayashi, Tsutomu Iwamoto, Pekka K. Vallittu, Lippo Lassila. Effect of Nitrogen Post-Curing on Surface Conditions of 3D-Printed Splint. The Academy of Dental Materials 2022 Meeting 2022.10.01 Athens, Greece
7. Tanabe G, Hattori M, Mizuguchi D, Masaki K, Wang Y, Hasegawa S, Tohara H, Sumita YI. Effect of voice training on maxillofacial function; a preliminary survey. Musicians' and Performing Artists' Health and Performance Conference 2022 (MHPC22) 2022.09.23 Oslo (Norway)+Web
8. Hattori M, Tanabe G, Patzelt SBM, Schulze D, Sumita YI. Visualization of oral function during playing a wind instrument by a lateral dental impression: a proof-of-concept investigation. Musicians' and Performing Artists' Health and Performance Conference 2022 (MHPC22) 2022.09.22 Oslo (Norway)+Web
9. Junichiro Wada, Kanae Wada, Mona Gibreel, Sufyan Garoushi, Pekka K. Vallittu, Lippo Lassila. Effect of Post-curing at Nitrogen Gas on Mechanical Properties of Water-stored 3D-printed Hard Occlusal Splint. The 2022 annual Conference of the European Prosthodontic Association 2022.09.22 Siena, Italy
10. Junichiro Wada, Kanae Wada, Mona Gibreel, Noriyuki Wakabayashi, Tsutomu Iwamoto, Pekka K. Vallittu, Lippo Lassila. Effect of printer types on mechanical properties of 3D-printed splint. The PAN EUROPEAN REGION of the International Association for Dental Research (PER-IADR Oral Health Research Congress) 2022.09.16 Marseille, France
11. Kanae Wada, Junichiro Wada, Mona Gibreel, Noriyuki Wakabayashi, Tsutomu Iwamoto, Pekka K. Vallittu, Lippo Lassila. Effect of nitrogen gas on mechanical properties of 3D-printed splint. The PAN EUROPEAN REGION of the International Association for Dental Research (PER-IADR Oral Health Research Congress 2022.09.16 Marseille, France
12. Merve Uatasli , Junichiro Wada , Kanae Wada , Lippo Lassila. Different types of CAD/CAM materials surface morphology examination and clinical indications. The 26th Turkish Dental Association International Dental Meeting, Istanbul 2022.09.08 Istanbul
13. Junichiro Wada, Kanae Wada, Mona Gibreel, Noriyuki Wakabayashi, Tsutomu Iwamoto, Pekka K. Vallittu, Lippo Lassila. Effect of Post-curing at Nitrogen Gas on Mechanical Properties of Water-stored 3D-printed Soft Occlusal Splint. Scandinavian Society for Prosthodontic Dentistry 2022.08.19 Aarhus, Denmark
14. Saleh O, Nozaki K, Matsumura M, Yanaka W, Miura H, Fueki K. Development of an emergence angle estimation program by machine learning. The 131st Annual Meeting of the Japan Prosthodontic Society 2022.07.16
15. Sumita YI. Digitized acoustic evaluation: An objective approach to improve speech in head and neck cancer patients. Digitodontics Webinar Series 2022.07.07 (Webinar)

16. Hattori M, Tanabe G, Sumita YI, Obata S, Churei H, Ueno T. Does playing music influence the rehabilitation of a maxillofacial defect patient?. 40th Annual PAMA International Symposium 2022.06.25 Chicago (USA)+Web
17. Tonprasong W, Inokoshi M, Tamura M, Yoshihara K, Takahashi R, Wada T, Nozaki K, Minakuchi S. Porphyromonas gingivalis adhesion on highly polished tooth-colored materials. 2022 IADR/APR General Session & Exhibition 2022.06.24 web
18. Hattori M. Maxillofacial prosthodontics – Speech analysis. Seminar with Faculty of Dentistry University of Malaya, TMDU-UM Maxillofacial Prosthodontics lecture series 2022.05.11 (Web Seminar)
19. Hattori M. TMDU maxillofacial prosthodontics cases – Sharing session. Seminar with Faculty of Dentistry University of Malaya, TMDU-UM Maxillofacial Prosthodontics lecture series 2022.04.27 (Web Seminar)
1. Matsuno H, Li B, Okawara H, Toyoshima Y, Murakami N, Wakabayashi N. Effect of Tension and Compression on Dynamic Alveolar Histomorphom. Annual Scientific Meeting of Japan Prosthodontic Society Tokyo Branch 2022 2022.12.18 Tokyo
2. Komine K, Murakami N, Yamazaki T, Utsumi M, Li B, Ona M, Wakabayashi N. Effect of restorative material thickness on thermal stress. Annual Scientific Meeting of Japan Prosthodontic Society Tokyo Branch 2022 2022.12.18 Tokyo
3. Utsumi M, Murakami N, Yamazaki T, Sakamoto K, Lyu H, Komine K, Kim EY, Wada J, Wakabayashi N. Accuracy of light-cured relining material in direct relining of removable partial dentures. Annual Scientific Meeting of Japan Prosthodontic Society Tokyo Branch 2022 2022.12.18 Tokyo
4. Lyu H, Murakami N, Yamazaki T, Zou S, Ding Z, Wada J, Wakabayashi N. Stress Analysis of PEEK and Zirconia Occlusal rest designs for Removable Partial Dentures. Annual Scientific Meeting of Japan Prosthodontic Society Tokyo Branch 2022 2022.12.18 Tokyo
5. Hirata A, Takakusaki K, Tanimoto M, Nakamura R, Komine K, Murakami N, Nozaki K, Wakabayashi N. Adhesion of *C. albicans* to the light-cured denture base relining material. Annual Scientific Meeting of Japan Prosthodontic Society Tokyo Branch 2022 2022.12.18 Tokyo
6. Kim E, Wada J, Sakamoto K, Ishioka Y, Arai Y, Murakami N, Yamazaki T, Hayama H, Utsumi M, Inukai S, Wakabayashi N. Effect of scanning origin location on data accuracy of digital impression acquired using an intraoral scanner for partially edentulous dental arch. Annual Scientific Meeting of Japan Prosthodontic Society Tokyo Branch 2022 2022.12.18 Tokyo
7. Matsumura M, Nozaki K, Yanaka W, Beniya R, Matsumoto A, Wakabayashi N, Fueki K. Effect of cement space on color tone of anterior CAD/CAM crowns. 2022.12.18
8. Ali IE, Hattori M, Sumita YI, Wakabayashi N. Effect of cut-out rescanning procedures on the accuracy of an intraoral scanner used for digitizing an ear model: An in vitro study. The 87th Annual Meeting of the Stomatological Society, Japan 2022.12.03 Tokyo (Japan)
9. Towithelertkul C, Sumita YI, Wakabayashi N. Radiation attenuation properties of materials used to fabricate radiotherapy prostheses in vitro study. The 87th Annual Meeting of the Stomatological Society, Japan 2022.12.02 Tokyo (Japan)
10. Hattori M, Sumita YI. Fabrication of music splint as dental treatment for wind instrumental player. The 1st Annual Meeting of Japanese Performing Arts Medicine Association 2022.07.18 Tokyo (Japan)
11. Sumita YI, Ito E, Bai Z, Hattori M. How to increase the ability of eating? Consideration of musical exercises. The 1st Annual Meeting of Japanese Performing Arts Medicine Association 2022.07.18 Tokyo (Japan)
12. Nishiyama A, Tanabe G, Hattori M, Churei H, Sumita YI, Ueno T. Dental problems that the person teaching the instrumentalist believes affect the performance. The 1st Annual Meeting of Japanese Performing Arts Medicine Association 2022.07.18 Tokyo (Japan)
13. Tanabe G, Obata S, Hattori M, Churei H, Nishiyama A, Ueno T, Mori T, Sumita YI. Exploring the relation between Musical Instrument Performance and Oral Sciences -Current state and policy for a massive questionnaire survey of instrumentalists through academia-industry collaboration-. The 1st Annual Meeting of Japanese Performing Arts Medicine Association 2022.07.18 Tokyo (Japan)



14. Murase M, Tani H, Sumita YI. Fabrication of maxillofacial prosthesis using digital technology for a maxillectomy patient with sever trismus. The 131st Annual Meeting of the Japan Prosthodontic Society 2022.07.17 Osaka (Japan)+Web
15. Effect of retention hole designs in artificial teeth on failure resistance of the connection with thermoplastic resin.. The 131st Annual Meeting of the Japan Prosthodontic Society 2022.07.16 Osaka
16. Hattori M. Evening Session 3: Potential of prosthodontics for oral hypofunction -Swallowing, articulation, and sleep breathing-. The 131st Annual Meeting of the Japan Prosthodontic Society 2022.07.16 Osaka (Japan)+Web
17. Hattori M, Yamatani Y, Sumita YI. Fabrication of metal based maxillofacial prosthesis for the mandibular defect patient after tumor resection using digital technology. The 131st Annual Meeting of the Japan Prosthodontic Society 2022.07.16 Osaka (Japan)+Web
18. Haraguchi M, Towithelertkul C, Tanabe G, Fujita H, Han X, Sumita YI. Two-piece detachable interlocking mold for low-dose-rate brachytherapy: A dental technique for radiotherapy prosthesis fabrication. The 39th Annual Meeting of Japanese Academy of Maxillofacial Prosthetics 2022.06.24 Miyazaki (Japan)+Web
19. Hattori M, Gao Y, Wang Y, Sumita YI. Fabrication of mandibular suction prosthesis using piezography technique for maxillofacial defect patients. The 39th Annual Meeting of Japanese Academy of Maxillofacial Prosthetics 2022.06.24 Miyazaki (Japan)+Web
20. Sumita YI. Educational Seminar. The 13rd Educational Seminar of Japan Society for Head and Neck Cancer 2022.06.20 (Web)
21. Haraguchi M, Tsushima F, Yoshimura R, Sumita YI, Michi Y, Harada H. Prosthetic rehabilitations for 4 patients with maxillary defect caused by recent cancer treatments. The 46th Annual Meeting of Japan Society for Head and Neck Cancer 2022.06.17 Nara (Japan)+Web
22. Sumita YI. Symposium 1. The 46th Annual Meeting of Japan Society for Head and Neck Cancer 2022.06.17 Nara (Japan)+Web
23. Atsushi Takaichi. Present of manufacturing dental prosthesis by Selective laser melting method. 2022.06.11
24. Murase M, Tani H, Sumita YI. A case of effective nutritional intake of oral function with maxillofacial treatment for head and neck cancer patient. The 37th Annual Meeting of Japanese Society for Clinical Nutrition and Metabolism 2022.05.31 Yokohama (Japan)+Web
25. Tanabe G, Hattori M, Tani H, Sumita YI. Two case reports of speech aid repair support for patients with cleft lip and palate. The 46th Annual Meeting of Japanese Cleft Palate Association 2022.05.27 Kagoshima (Japan)+Web
26. Harazono Y, Tonouchi E, Ishibashi R, Masaki K, Anzai E, Takahara N, Morita K, Yoda T. A clinical study on treatment strategy for patients with submucous cleft palate. The 46th Annual Meeting of Japanese Cleft Palate Association 2022.05.26 Kagoshima (Japan)+Web
27. Zhang F, Hattori M, Sumita YI. Research of skin color acrylic resin based on CIELAB color system.. The 79th Annual Meeting of Japanese Society for Dental Materials and Devices 2022.05.21 Morioka (Japan)
28. Takaichi A, Thant SW, Mohamed A, Kajima Y, Ashida M, Hanawa T, Wakabayashi N. Ultraviolet treatment of Co-Cr alloy to enhance adhesion of PMMA . 2022.05.21 Morioka
29. Kajima Y, Takaichi A, Hein Linn Htat, Hanawa T, Wakabayashi N. Effects of heat treatment times on recrystallization process of Co-Cr-Mo alloys fabricated by selective laser melting. 2022.05.21 Morioka

#### **[Awards & Honors]**

1. The 2021 Japanese Academy of Maxillofacial Prosthetics Best Paper Award (Zhang M), Japanese Academy of Maxillofacial Prosthetics, 2022.06