

Medical and Dental Sciences



## **Advanced Prosthodontics**

Professor – Noriyuki Wakabayashi

Associate Professor – Takeshi Ueno ( ~ October), Yuka Sumita ( ~ May)

Junior Associate Professor – Atsushi Takaichi (June ~ ), Kousuke Nozaki,  
Mariko Hattori (career advancement) (June ~ ), Junichiro Wada (December ~ )

Assistant Professor – Atsushi Takaichi ( ~ May), Kensuke Takakusaki, Mariko Hattori ( ~ May),  
Natsuko Murakami, Mai Murase (June ~ ), Junichiro Wada ( ~ November)

Restart Postdoctoral (RPD) Research Fellowships - Yuka Kajima

Project Assistant Professor - Mihoko Haraguchi, Mai Murase ( ~ May), Toshiki Yamazaki

Hospital Staff – Hisami Okawara ( ~ March), Kim Eung Yeol ( ~ March), Kazuki Sakamoto ( ~ March),  
Hirokazu Sato, Shintaro Suzuki, Hiroko Tani, Miyo Tsuji (April ~ ), Tomiharu Nagayama,  
Haruka Fujita ( ~ March), Hitomi Matsuno (April ~ )

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

Graduate Students - Ali Ahmed Sameir Mohamed , Ali Islam Elsayed , Alkrayem Bilal Lukman , Yurika Ishioka,  
Yuji Uchida, Miona Utsumi, Qu Wenri, Wu Huaze, Gao Yuan ( ~ March), Yoshio Kobayashi, Kohei Komine,  
Shinsuke Koyama, Jiang Mengtian, Zhiwei Zhou, Zou Shiqi, Huichuan Xu, Satsuki Tanaka, Miyuki Tanimoto,  
Zhang Yihui, Zhang Fan , Zhang Maorui, Zheng Jingpu, Ding Zhiyuan, Thida Phyto, Chugh Anshul , Dong Jialin,  
Towithelertkul Cheewin ( ~ March), Han Xuewei, Bai Ziyi, Asuka Hirata, Pradhan Nehasha,  
Miao Menghan (April ~ ), Yuki Mouri, Yang Shiyi, Yu Hongli, Bin Li, Wang Jiangyu, Wang Yujia ( ~ March)

Part-time Special Student - Arwa Hammam Melhem (October ~ ), Kazuki Nakane, Pang Xinyu,  
Miao Menghan ( ~ March), Kazuma Mori, Teruyuki Yoda

Registered Resident - Tetsu Sato

Designated Professor, Tokyo Medical and Dental University - Yuka Sumita (June ~ )

Clinical Professor - Masaru Yatabe

Part-time Lecturer (Faculty of Dentistry) - Takayuki Arai, Yasuha Ikawa, Keigo Isoshima, Hideaki Inagawa,  
Shusuke Inukai, Yuki Iwaki,  
Takeshi Ueno (November ~ ), Keichiro Uchikura, Hirofumi Uchida, Elbashti Mahmoud Ellarousi, Hisami Okawara,  
Takeshi Otsubo, Masahiro Ona, Taihei Kasai, Ryunosuke Kazama, Kim Eung Yeol, Hayato Kumagai,  
Masato Kotake, Hirofumi Sato, Natsuki Suzuki, Yuka Sumita, Takashi Sekinishi, Yuko Teruyama, Yusuke Toyoshima,  
Yasuo Nakajima,  
Koji Nagata, Kazutoshi, Nakamura, Gen Nabeshima, Noriko Hatano, Yoko Hayashi,  
Hironari Hayama, Kazuyuki Handa, Shiro Hibi, Masahiro Hirasawa, Kengo Fujiki,  
Haruka Fujita (April ~ ), Ichiro Minami, Yesiboli Yeerken ( ~ March), Chie Watanabe

Part-time Lecturer (Graduated School) - Yuki Arai, Ken Inohara, Shogo Ozawa, Chihiro Tanikawa, Hideharu Hibi,  
Kazuhiro Hori, Hitoshi Mukohyama

Visiting Researcher - Kweh Ting Jing, Malaysia, 3-14 April 2023.

## ( 1 ) Outline

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. After the reorganization of prosthodontic departments based on the research fields in 2021 and the acceptance of the staff from the Department of Maxillofacial Prosthetics because of its discontinuation in 2022, as the Department of Advanced 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, Junichiro Wada

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

AMED Translational Research Program: Mihoko Haraguchi

< 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 (Yuka Sumita)

Yamaha Corporation, Yamaha Music Foundation (Yuka Sumita, Mariko Hattori)

The MIKIYA Science And Technology Foundation (Yuka Sumita)

Tokyo metropolitan government (Yuka Sumita)

Innovation Idea Contest (Mariko Hattori)

Innovation Idea Contest (Mariko Hattori)

< WISE Program >

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

## ( 3 ) Education

School of Dentistry

Year 1

Introduction to Dentistry

Year 3

Tooth Carving

Introduction to Clinical Dentistry

Observation and assistance at clinic term I 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). 7 April, 14 April, 21 April, 6 October 2023.

#### **( 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. 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. 2023.04; 67(2); 196-205

2. Yue Yin, Kosuke Nozaki, Reina Nemoto, Omnia Saleh, Yayoi Oishi, Mayuko Matsumura, Wataru Komada, Hiroyuki Miura, Kenji Fueki. Marginal fit and retention force of zirconia resin-bonded fixed dental prostheses in the posterior region with different designs *Journal of Dental Sciences*. 2023.12;
3. Yurika Ishioka, Junichiro Wada, Eung-Yeol Kim, Kazuki Sakamoto, Yuki Arai, Natsuko Murakami, Toshiki Yamazaki, Kensuke Takakusaki, Hironari Hayama, Miona Utsumi, Shunsuke Inukai, Noriyuki Wakabayashi. Morphological Comparison of Residual Ridge in Impression for Removable Partial Denture between Digital and Conventional Techniques: A Preliminary In-Vivo Study *Journal of Clinical Medicine*. 2023.11; 12(22); 7103
4. Bai Z, Hattori M, Sumita YI, Wakabayashi N. Case report of a patient with mandibulectomy followed up for 11 years. *Journal of oral science*. 2023.11;
5. Wu, HZ; Ueno, T; Nozaki, K; Xu, HC; Nakano, Y; Chen, P; Wakabayashi, N. Lithium-Modified TiO<sub>2</sub> Surface by Anodization for Enhanced Protein Adsorption and Cell Adhesion *ACS APPLIED MATERIALS & INTERFACES*. 2023.11; 15(48); 55232-55243
6. Gao Y, Hattori M, Sumita YI, Wakabayashi N. Creating and analyzing digital scans of a mandibulectomy cast with simulated trismus. *J Prosthet Dent*. 2023.10;
7. Thant SW, Takaichi A, Kajima Y, Mohamed A, Nozaki K, Takahashi H, Chen P, Hanawa T, Wakabayashi N. Effect of ultraviolet irradiation treatment on shear bond strength between polymethyl methacrylate and cobalt-chromium-molybdenum alloy. *Dental materials journal*. 2023.09; 42(5); 748-755
8. Tanabe G, Towithelertkul C, Fukutome M, Sumita YI, Wakabayashi N. All-in-one-piece type prosthesis combining an obturator, a facial prosthesis, and glasses for the rehabilitation of midfacial defect and its speech evaluation: A clinical report. *Int J Maxillofac Prosthetics*. 2023.09; 6(1); 20-24
9. Amr Mohamed, Atsushi Takaichi, Yuka Kajima, Takao Hanawa, Noriyuki Wakabayashi. Reusing the Co-Cr-Mo support structures of selective laser melted parts: Evaluation of mechanical properties and microstructures *Sustainable Materials and Technologies*. 2023.07; 36; e00608
10. Linn Htat H, Takaichi A, Kajima Y, Kittikundecha N, Kamijo S, Hanawa T, Wakabayashi N. Influence of stress-relieving heat treatments on the efficacy of Co-Cr-Mo-W alloy copings fabricated using selective laser melting. *Journal of prosthodontic research*. 2023.07;
11. Watanabe C, Wada J, Mizutani K, Nagayama T, Uchida H, Shibata Y, Wakabayashi N. Radiographic predictive factors for 10-year survival of removable partial denture abutment teeth: Alveolar bone level and density *Journal of Prosthodontic Research*. 2023.07; 67(3); 437-443
12. Mohamed, A; Takaichi, A; Kajima, Y; Hanawa, T; Wakabayashi, N. Reusing the Co-Cr-Mo support structures of selective laser melted parts: Evaluation of mechanical properties and microstructures *SUSTAINABLE MATERIALS AND TECHNOLOGIES*. 2023.07; 36;
13. Murase M, Pradhan N, Sumita YI, Wakabayashi N. Use of digital technology in prosthesis fabrication for an elderly patient with a maxillectomy and severe trismus: A clinical report. *J Prosthet Dent*. 2023.06; online.;
14. Ali IE, Enomoto K, Sumita Y, Wakabayashi N. Combined digital-conventional workflow to fabricate a definitive obturator from an interim obturator for a patient with an anterior maxillectomy defect. *J Prosthet Dent*. 2023.06; online.;
15. Wada, J; Wada, K; Garoushi, S; Shinya, A; Wakabayashi, N; Iwamoto, T; Vallittu, PK; Lassila, L. Effect of 3D printing system and post-curing atmosphere on micro- and nano-wear of additive-manufactured occlusal splint materials *JOURNAL OF THE MECHANICAL BEHAVIOR OF BIOMEDICAL MATERIALS*. 2023.06; 142; 105799
16. 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*. 2023.05; 36(3); 366-374
17. Wang Y, Hattori M, Masaki K, Sumita YI. Detailed speech evaluation including formant 3 analysis and voice visualization in maxillofacial rehabilitation: A clinical report. *J Prosthet Dent*. 2023.05; online.;

18. Yu H, Fujita H, Akiyama M, Sumita YI, Wakabayashi N. Prevalence of Possible Dementia in Patients with Maxillofacial Defects and Difficulty of Inserting Obturator in Maxillectomy Patients: Toward Better Provision of Supportive Care. *Journal of clinical medicine*. 2023.04; 12(7);
19. Ali IE, Sumita YI, Hatano N, Kosaka M, Hoshi K, Wakabayashi N. Interdisciplinary management of a patient with medication-related osteonecrosis of the jaw: A clinical report. *Int J Maxillofac Prosthetics*. 2023.04; 6(1); 16-19
20. Mohamed A, Takaichi A, Kajima Y, Takahashi H, Wakabayashi N. Physical Properties of Additively Manufactured Tooth-Colored Material Attached to Denture Base-Colored Material in a Printed Monolithic Unit. *Polymers*. 2023.04; 15(9); 2134
21. Wada J, Wada K, Uctasli S, Wakabayashi N, Iwamoto T, Vallittu PK, Lassila L. Effect of splinting material type and location on resistance against deflection force of splinted periodontally compromised teeth with hypermobility. *Journal of the mechanical behavior of biomedical materials*. 2023.04; 142; 105873
22. Matsushita Y, Liu J, Chu AKY, Tsutsumi-Arai C, Nagata M, Arai Y, Ono W, Yamamoto K, Saunders TL, Welch JD, Ono N. Bone marrow endosteal stem cells dictate active osteogenesis and aggressive tumorigenesis. *Nature communications*. 2023.04; 14(1); 2383
23. Junichiro Wada, Kanae Wada, Sufyan Garoushi, Akikazu Shinya, Noriyuki Wakabayashi, Tsutomu Iwamoto, Pekka K. Vallittu, Lippo Lassila. Effect of 3D printing system and post-curing atmosphere on micro- and nano-wear of additive-manufactured occlusal splint materials *Journal of the Mechanical Behavior of Biomedical Materials*. 2023.03; 142; 105799
24. Yo Akiyama, Manabu Kanazawa, Maiko Iwaki, Tamaki Hada, Yumika Soeda, Ryosuke Otake, Kenta Kashiwazaki, Yuriko Komagamine, Natsuko Murakami, Atsushi Takaichi, Noriyuki Wakabayashi, Shunsuke Minakuchi. Fabrication of milled removable partial dentures using a custom plate with prefabricated artificial teeth. *J Prosthodont Res*. 2023.02;
25. Kazuki Sakamoto, Junichiro Wada, Yuki Arai, Hironari Hayama, Yurika Ishioka, Eung-Yeol Kim, Ryunosuke Kazama, Yusuke Toyoshima, Noriyuki Wakabayashi. Effect of abutment tooth location on the accuracy of digital impressions obtained using an intraoral scanner for removable partial dentures *Journal of Prosthodontic Research*. 2023.02;
26. Ali IE, Sumita YI, Wakabayashi N. Comparison of Praat and Computerized Speech Lab for formant analysis of five Japanese vowels in maxillectomy patients. *Front Neurosci*. 2023.02; 17; 1098197
27. Hattori M, Patzelt SBM, Itoh M, Sumita YI, Wakabayashi N. Case Report: Dental treatment for an oboist: Post-trauma prosthetic rehabilitation and evaluation of musical performance. *Front Psychol*. 2023.02; 13; 1022205
28. Hitomi Matsuno, Bin Li, Hisami Okawara, Yusuke Toyoshima, Cangyou Xie, Masud Khan, Natsuko Murakami, Kazuhiro Aoki, Noriyuki Wakabayashi. Effect of tension and compression on dynamic alveolar histomorphometry *Journal of the Mechanical Behavior of Biomedical Materials*. 2023.02;
29. Hitomi Matsuno, Bin Li, Hisami Okawara, Yusuke Toyoshima, Cangyou Xie, Masud Khan, Natsuko Murakami, Kazuhiro Aoki, Noriyuki Wakabayashi. Effect of tension and compression on dynamic alveolar histomorphometry *Journal of the Mechanical Behavior of Biomedical Materials*. 2023.02;
30. Zhang M, Hattori M, Akiyama M, Elbashti ME, Liu R, Sumita YI. Three-dimensional evaluation of the dental arch in cleft lip and palate after prosthetic treatment. *J Prosthodont Res*. 2023.01; 67(1); 87-92
31. Kanamori Y, Seki N, Foxton R, Moross J, Komagamine Y, Mizutani K, Hosaka K, Kanazawa M, Hatayama T, Komada W, Yonemitsu I, Akiyama M, Kaewmanee PC, Kaewsutha N, Nitta H, Wakabayashi N, Morio I. Fostering globally competent dental students through virtual team-working, problem-solving and person-centred multi-disciplinary care planning. *Journal of Dental Sciences*. 2023.01; 18(1); 95-104
32. Wang J, Murase M, Towithelertkul C, Tani H, Sumita YI. Custom-made radiotherapy prosthesis for external and internal radiotherapy in a patient with lip cancer. *J Oral Sci*. 2023.01; 65(1); 65-68
33. Kamel A, Yamazaki T, Murakami N, Lyu H, Komine K, Badr A, Fekry G, Takahashi H, Wakabayashi N. Retentive force of a conical crown with CAD/CAM-fabricated PEEK and zirconia secondary crowns on titanium implant abutments. *Dental materials journal*. 2023.01; 42(3); 336-342



34. Junichiro Wada, Kanae Wada, Mona Gibreel, Noriyuki Wakabayashi, Tsutomu Iwamoto, Pekka K. Vallittu, Lippo Lassila. Effect of Surface Polishing on Physical Properties of an Occlusal Splint Material for Additive Manufacturing under Protection Gas Post-Curing Condition Polymers. 2023.01; 15(3); 625
35. Wada Kanae, Ijbara Manhal, Salim Nesreen A., Wada Junichiro, Iwamoto Tsutomu. Three-dimensional microscopic comparison of wear behavior between immature and mature enamel: an in vitro study BMC ORAL HEALTH. 2023.01; 23(1); 40
36. Mohamed A, Takaichi A, Kajima Y, Takahashi H, Wakabayashi N. Bond strength of CAD/CAM denture teeth to a denture base resin in a milled monolithic unit. Journal of prosthodontic research. 2023.01;
37. Towithelertkul C, Sumita YI, Haraguchi M, Murase M, Fujita H, Tanabe G, Kanazaki A, Yoshi S, Kosaka M, Hattori M. A 20-year clinical survey of radiotherapy prostheses at the Clinic for Maxillofacial Prosthetics of Tokyo Medical and Dental University Hospital. J Oral Sci. 2023.01; 65(1); 6-9
38. Yasuyuki Kowaka, Kosuke Nozaki, Tomoyuki Mihara, Kimihiro Yamashita, Hiroyuki Miura, Zhenquan Tan, Satoshi Ohara. Development of Nanosheets with High Dye Degradation Performance by Regulating Crystal Growth. Materials (Basel). 2023.01; 16(3);
39. Ali IE, Otomaru T, Sumita YI. Refabrication of an implant-retained obturator using the denture duplication technique in a bilateral maxillectomy patient with a free fibula osteocutaneous flap. J Prosthodont Res. 2023.01; 67(1); 157-160
40. Liu R, Hattori M, Zhang M, Sumita YI. Use of an occlusal ramp for rehabilitation after a mandibulectomy and its effects on mastication. J Prosthet Dent. 2023.01; 129(1); 234-238
41. Alchawoosh A, Hashimoto K, Kawashima N, Noda S, Nozaki K, Okiji T. Hydraulic calcium silicate-based root canal sealers mitigate proinflammatory cytokine synthesis and promote osteogenesis in vitro Journal of Dental Sciences. 2023;

#### [Misc]

1. Elbashti ME. Tokyo 2nd edition of the international workshop for Young Maxillofacial Prosthetic Educators (yMPE): Building educators' skills and making impact. Int J Maxillofac Prosthetics. 2023.04; 6(1); 2-7
1. Sumita YI. Fabrication of the maxillofacial prostheses for the patient with mandible defect and future perspectives in maxillofacial prosthetic treatment. Journal of Japanese Dental Science Federation. 2023.12; 2; 44-53
2. Sumita YI. Psychoacoustic analysis of the noise produced by dental cutting equipment. Japanese Journal of Sensory Evaluatio. 2023.04; 27(1); 17-19
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? Part 4. Follow-Up after RPD Placement The Quintessence. 2023.02; 42(2); 66-91

#### [Conference Activities & Talks]

1. Atsushi Takaichi, Yuka Kajima, San Win Thant, Noriyuki Wakabayashi. Effect of ultraviolet treatment on shear bond strength between polymethyl methacrylate and cobalt-chromium-molybdenum alloy fabricated by selective laser melting. Ninth International Conference on Mechanics of Biomaterials and Tissues 2023.12.17 Waikoloa
2. Yuka Kajima, Atsushi Takaichi, Hein Linn Htat, Noriyuki Wakabayashi. Effect of beam spot size on the microstructural and mechanical properties of selective laser melted Co-Cr-Mo alloys. Ninth International Conference on Mechanics of Biomaterials and Tissues 2023.12.17 Waikoloa
3. Chugh A. Exploring Life Opportunities: A Voyage from India to Japan. International College of Dentistry 2023.12.16 帝国ホテル東京
4. 白子儀, 服部 麻里子, 隅田 由香. 上顎骨切除術と下顎骨切除術を行った患者に対して obturator と occlusal ramp を併用した下顎義歯を使用した 1 例 (A case report of the use of an obturator and a mandibular prosthesis combined with the occlusal ramp for a patient with maxillectomy and mandibulome). 顎顔面補綴 2023.12.01

5. 于 紅莉, 藤田 遥, 隅田 由香. 頭頸部欠損患者における顎顔面補綴物挿入困難の有病率 より良い補綴治療の提供に向けて (Prevalence of the difficulty of inserting maxillofacial prostheses in patients with head and neck defects: toward better provision of supprtive care). 顎顔面補綴 2023.12.01
6. Chugh A, Hattori M, Sumita YI, Wakabayashi N. Color stability of two pigmented silicone elastomers for maxillofacial prostheses with exposure to cold beverages: An in vitro study. The 70th Annual Meeting of the American Academy of Maxillofacial Prosthetics 2023.10.21 San Diego (USA)
7. Haraguchi M, Ali IE, Takada A, Sumita YI. Prosthetic rehabilitation in a severe case of MRONJ with total sequestration of the entire dentoalveolar segment. The 70th Annual Meeting of the American Academy of Maxillofacial Prosthetics 2023.10.21 San Diego (USA)
8. Ali IE, Sumita YI, Wakabayashi N. Advancing maxillofacial prosthodontics using pretrained convolutional neural networks: Image-based classification of the maxilla. The 70th Annual Meeting of the American Academy of Maxillofacial Prosthetics 2023.10.21 San Diego (USA)
9. Han X, Hattori M, Sumita YI, Haraguchi M, Wakabayashi N. Factors related to masticatory rhythm in patients with head and neck tumors. The 70th Annual Meeting of the American Academy of Maxillofacial Prosthetics 2023.10.21 San Diego (USA)
10. Yu H, Sumita YI, Wakabayashi N. 3D mandibular analysis following iatrogenic mandibular fracture associated with mandibulectomy: case report. The 70th Annual Meeting of the American Academy of Maxillofacial Prosthetics 2023.10.21 San Diego (USA)
11. Wang J, Murase M, Sumita YI, Wakabayashi N. Radiological protectivity of conventional heat-cured PMMA and 3D-printed PMMA for radiotherapy prostheses. The 70th Annual Meeting of the American Academy of Maxillofacial Prosthetics 2023.10.21 San Diego (USA)
12. Miao M, Sumita YI, Wakabayashi N. Using a convolutional neural network for image-based classification of the mandible in maxillofacial prosthodontics. The 70th Annual Meeting of the American Academy of Maxillofacial Prosthetics 2023.10.21 San Diego (USA)
13. Yoshio Kobayashi, Yuka Kajima, Atsushi Takaichi, and Noriyuki Wakabayashi. The effect of scanning strategies on the fitness accuracy and residual stress of SLM-fabricated 3-unit fixed dental prostheses. The 3rd International Symposium on Design & Engineering by Joint Inverse Innovation for Materials Architecture (DEJI2MA-3) 2023.10.20 Tokyo
14. Jiang Mengtian, Kosuke Nozaki, Takeshi Ueno, Satoshi Ohara, Takayuki Mokudai, Noriyuki Wakabayashi. Influence of three kinds of ionic antibacterial agents on the antibacterial effect of titania. The 3rd International Symposium on Design & Engineering by Joint Inverse Innovation for Materials Architecture (DEJI2MA-3) 2023.10.20
15. Bai Z, Han X, Sumita YI, Hattori M, Maki K, Aboelez MA, Wakabayashi N. Predicting maximum occlusal force and tongue pressure in head and neck cancer patients using decision tree analysis. The 20th Biennial Meeting of the International College of Prosthodontists 2023.10.15 Shanghai (China)
16. Merve Uctasli, Mine Betul Uctasli, Kanae Wada, Junichiro Wada, Lippo Lassila. Surface Topography of Different Types of CAD/CAM Restorative Materials. 2023 CED/NOF –IADR Oral Health Research Congress 2023.09.21 Rhodes, Greece
17. Jiang Mengtian, Kosuke Nozaki, Takeshi Ueno, Noriyuki Wakabayashi. Development of metal nanoparticle-modified titanium dioxide nanosheets through photodeposition. 9th International Summer Program, Tokyo Medical and Dental University 2023.08.01
18. Maorui Zhang , 福島雄大 , 野崎浩佑 , 中西秀之 , 若林則幸 , 位高啓史. Enhancement of bone regeneration by coadministration of angiogenic and osteogenic factors using messenger RNA. 第 44 回日本炎症・再生医学会 2023.07.12
19. Merve Uctasli, Kanae Wada, Junichiro Wada, Lippo Lassila, Mine Betul Uctasli. Surface morphology hybrid ceramic material after different etching protocol. The 7th International Congress on Adhesive Dentistry 2023.06.03 Konya, Turkey
20. Mohamed Ahmed Sameir, 正木 啓太, 服部 麻里子, 隅田 由香, 若林 則幸. 話者非依存型自動音声認識における上顎欠損患者の発話の影響 (The impact of maxillectomy patients' speech on contemporary speaker-independent automatic speech recognition platforms). 日本補綴歯科学会誌 2023.05.01

21. Maorui Zhang, Yuta Fukushima, Kosuke Nozaki, Noriyuki Wakabayashi, Keiji Itaka. Co-delivery of Runx2 and VEGF Messenger RNA by Polyplex Nanomicelles Improves the Process of Mandibular Bone Regeneration. 第 22 回日本再生医療学会総会 2023.03.24
  22. Xu Huichuan, Ueno Takeshi, Wu Haze, Nozaki Kosuke, Wkabayashi Noriyuki. Modified-Glutathione coating immobilized on titanium surface enhances its biocompatibility. . The 2023 AADOCR/CADR Annual Meeting & Exhibition 2023.03.16 Portland, Oregon, USA
  23. Wu Haze, Ueno Takeshi, Xu Huichuan, Nozaki Kosuke, Wkabayashi Noriyuki. Lithium-immobilized titanium surface by anodization with enhanced biological activity . The 2023 AADOCR/CADR Annual Meeting & Exhibition 2023.03.16
  24. Junichiro Wada. Physical properties of additive-manufactured occlusal splints. Turku mid-winter meeting 2023.02.03 Turku, Finland
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1. Hiroyuki Ishiyama, Masayuki Hidashima, Shusuke Inukai, Meiyo Tamaoka, Akira Nishiyama, Yasunari Miyazaki, Kenji Fueki. The effect of reduction rate of respiratory resistance associated with mandibular advancement on the efficacy of oral appliance for obstructive sleep apnea.. The 22nd Annual Meeting of the Japanese Academy of Dental Sleep Medicine 2023.10.08 Kyoto, Japan
  2. Ishioka Y, Wada J, Kim EY, Sakamoto K, Murakami N, Yamazaki T, Utsumi M, Inukai S, Wakabayashi N. Morphological comparison of residual ridge between digital and conventional impression techniques for removable partial denture. Annual meeting of Tokyo branch of Japan Prosthodontic Society, 2023 2023.12.03 Tokyo
  3. Li B, Murase M, Yamatani Y, Masaki K, Hattori M, Wakabayashi N. Using digital technology in fabricating hollow Palatal augmentation prosthesis for functional recovery to a hemiglossectomy patient: A clinical report. 2023 Annual Scientific Meeting of Japan Prosthodontic Society, Tokyo Branch 2023.12.03 Tokyo (Japan)
  4. Murase M, Tachikawa N, Hasegawa Y, Tomoda T, Marukawa E. A case of bone anchored prosthesis for left side maxillectomy. The 27th Annual Meeting of Japanese Academy of Maxillofacial Implants 2023.12.02 Tokyo (Japan)
  5. Hattori M, Murase M, Mouri Y, Matsui S, Wada J, Wakabayashi N. Retention of a speech-aid prosthesis using a magnetic attachment on a patient with cleft lip and palate: A case report. The 33rd Annual Meeting of the Japanese Society of Magnetic Applications in Dentistry 2023.11.11 Tokyo (Japan)
  6. Matsui S, Murase M, Mouri Y, Li B, Hattori M, Wada J, Wakabayashi N. The case report of maxillofacial prosthesis using a magnetic attachment after maxillary sinus cancer treatment. The 33rd Annual Meeting of the Japanese Society of Magnetic Applications in Dentistry 2023.11.11 Tokyo (Japan)
  7. Shintaro Suzuki, Junichiro Wada, Noriyuki Wakabayashi. A case rehabilitated using overdentures with magnetic attachments for a partially edentulous patient with severe periodontal disease. The 33rd Annual Meeting of the Japanese Society of Magnetic Applications in Dentistry 2023.11.11 Tokyo, Japan
  8. Qu Wenrui, Takaichi Atsushi, Kajima Yuka, Kamijo Shingo, Wakabayashi Noriyuk. Effect of build orientation on trueness and adaptation of maxillary complete denture frameworks fabricated by selective laser melting. Japan Dental Science and Engineering Society Kinki/Chushikoku Regional Meeting Seminar 2023.10.29 Osaka
  9. Junichiro Wada. Reconsideration of removable partial denture from the viewpoint of the protection of periodontally weakened teeth. The 9th World Dental Meeting in Japan 2023 2023.10.01 Yokohama, Japan
  10. Haraguchi M, Omura K, Kugimoto T, Sumita YI. Prosthetic rehabilitations for patient with mandibular defect caused by BRONJ treatment. The 47th Annual Meeting of Japan Society for Head and Neck Cancer 2023.06.16 Osaka (Japan)
  11. Bai Z, Hattori M, Sumita YI. A case report of the use of an obturator and a mandibular prosthesis combined with the occlusal ramp for a patient with maxillectomy and mandibulectomy. The 40th Annual Meeting of Japanese Academy of Maxillofacial Prosthetics 2023.06.03 Nagoya (Japan)

12. Yamatani Y, Kasahara T, Nakamura H, Hattori M, Masaki K, Sumita YI. Fabrication of a palatal augmentation prosthesis using digital technology. The 40th Annual Meeting of Japanese Academy of Maxillofacial Prosthetics 2023.06.03 Nagoya (Japan)
13. Higashiyama K, Haraguchi M, Miyamoto Y, Ozawa H, Adachi T, Sumita YI. A case of oral hygiene management for a patient with perforated left buccal mucosa after surgery and proton radiotherapy for oral cancer. The 40th Annual Meeting of Japanese Academy of Maxillofacial Prosthetics 2023.06.03 Nagoya (Japan)
14. Otomaru T, Fujita H, Teruyama Y, Sumita YI. Delivery of a CoCr metal based dento-maxillary prosthesis with custom made zirconium artificial teeth in a maxillectomy patient: A case report. The 40th Annual Meeting of Japanese Academy of Maxillofacial Prosthetics 2023.06.03 Nagoya (Japan)
15. Haraguchi M, Towithelertkul C, Hattori M, Murase M, Fujita H, Sumita YI. A 20-year clinical survey of radiotherapy prostheses at the Clinic for Maxillofacial Prosthetics of Tokyo Medical and Dental University Hospital. The 40th Annual Meeting of Japanese Academy of Maxillofacial Prosthetics 2023.06.02 Nagoya (Japan)
16. Fukutome M, Oki M, Fujita H, Sumita YI. A case of facial prosthesis retained on an exposed mandibular reconstruction plate after mandibulectomy due to osteoradionecrosis. The 40th Annual Meeting of Japanese Academy of Maxillofacial Prosthetics 2023.06.02 Nagoya (Japan)
17. Yu H, Fujita H, Sumita Yi. Prevalence of the difficulty of inserting maxillofacial prostheses in patients with head and neck defects -toward better provision of supportive care-. The 40th Annual Meeting of Japanese Academy of Maxillofacial Prosthetics 2023.06.02 Nagoya (Japan)
18. Murase M, Pradhan N, Sumita YI. A case report on fabrication of denture using digital technology for a medication-related osteonecrosis of the jaw. The 40th Annual Meeting of Japanese Academy of Maxillofacial Prosthetics 2023.06.02 Nagoya (Japan)
19. Haraguchi M, Towithelertkul C, Hattori M, Murase M, Fujita H, Sumita YI. A 20-year clinical survey of radiotherapy prostheses at the Clinic for Maxillofacial Prosthetics of Tokyo Medical and Dental University Hospital. The 40th Annual Meeting of Japanese Academy of Maxillofacial Prosthetics 2023.06.02
20. Han X, Haraguchi M, Sumita YI. Effect of wearing a denture for masticatory rhythm in mandibulectomy patients. The 40th Annual Meeting of Japanese Academy of Maxillofacial Prosthetics 2023.06.02 Nagoya (Japan)
21. Haraguchi M, Makie A, Han X, Sumita YI. Cr-Br treatment for occlusion and aesthetic restoration in 2 patients with cleft lip and palate. The 47th Annual Meeting of Japanese Cleft Palate Association 2023.05.26 Tokyo (Japan)
22. Masaki K, Sumita YI, Tonouchi E, Harazono Y, Morita K. A case of articulation therapy and surgery for a child with Tongue-tie with Autism Spectrum Disorder. The 47th Annual Meeting of Japanese Cleft Palate Association 2023.05.26 Tokyo (Japan)
23. Sumita YI. Seminar: Long-term follow-up of a patient with cleft lip and palate using prosthetic supportive care. The 47th Annual Meeting of Japanese Cleft Palate Association 2023.05.26 Tokyo (Japan)
24. Otomaru T, Hattori M, Sumita YI. Application of magnetic attachments to upper anterior teeth in a patient with cleft lip and palate. The 47th Annual Meeting of Japanese Cleft Palate Association 2023.05.26 Tokyo (Japan)
25. Hattori M, Murase M, Haraguchi M, Sumita YI. Use of digital technology in prosthetic treatment on cleft-lip and palate patients: A case report . The 47th Annual Meeting of Japanese Cleft Palate Association 2023.05.26 Tokyo (Japan)
26. Murase M, Masaki K, Tamura S, Hattori M, Sumita YI. A case of right cleft lip and palate patient treated with speech-aid removable prostheses. The 47th Annual Meeting of Japanese Cleft Palate Association 2023.05.26 Tokyo (Japan)
27. Matsumura M, Yanaka W, Nozaki K, Komada W, Kitazaki H, Baba S, Matsumura M, Fueki K. A case study of treatment methods for patients with resin and metal allergies based on patch test. The 132rd Annual Meeting of the Japan Prosthodontic Society 2023.05.21

28. Junichiro Wada. Practical considerations for interventional study -from planning to writing-. The 132rd Annual Meeting of the Japan Prosthodontic Society 2023.05.21 Yokohama, Japan
29. Matsumoto M, Matsumura M, Saleh O, Yanaka W, Beniya R, Nozaki K, Matsumura M, Wakabayashi N, Fueki K. Colorimetric study of anterior CAD/CAM crowns - Effect of opaque cement on metal abutment teeth. The 132rd Annual Meeting of the Japan Prosthodontic Society 2023.05.20
30. Takaichi A, Mohamed A, Kajima Y, Takahashi H, Wakabayashi N. Bond Strength of CAD/CAM Denture Teeth to a Denture Base Resin. 132th annual scientific meeting of Japan Prosthodontic Society 2023.05.20 Yokohama
31. Pradhan N, Murase M, Tani H, Sumita YI. Evaluation of nutritional status by brief type diet history questionnaire among head and neck cancer patients. The 38th Annual Meeting of Japanese Society for Clinical Nutrition and Metabolism 2023.05.09 Kobe (Japan)
32. Matsumura M, Nozaki K, Yanaka W, Saleh O, Matsumura M, Fueki K. Effect of abutment teeth and luting cement on color tone of anterior CAD/CAM crowns. The 14th Annual Meeting of the Japan Academy of Digital Dentistry 2023.04.23
33. Qu W, Kajima Y, Takaichi A, Wakabayashi N. Preliminary research on the trueness of complete denture framework fabricated with contactless support by selective laser melting. The 81th General Session of the Japanese Society for Dental Materials and Devices 2023.04.15 Funabori
34. Komine K, Murakami N, Yamazaki T, Wakabayashi N. Effect of restorative material thickness on thermal stress. The 81st General Session of the Japanese Society for Dental Materials and Devices 2023.04.15 Tower Hall Funabori

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

1. The 2023 AAMP Student Poster Competition, Research-2nd Place (Ali IE), The 70th Annual Meeting of the American Academy of Maxillofacial Prosthetics, 2023.10

#### **[Others]**

1. 2nd International Workshop for Young Maxillofacial Prosthetics Educators (yMPE), 2023.03  
The 2nd International Workshop for Young Maxillofacial Prosthetics Educators (yMPE) was hosted by the International Faculty Development Course (IFDC) and organized by the Maxillofacial Prosthetics team of TMDU, March 7-10, 2023. It was supported by an education grant, funded by the Education and Research Foundation of the International College of Prosthodontists (ICP). This workshop was also sponsored by the International Journal of Maxillofacial Prosthetics (iJMP).
2. Dysphagia Diet Awareness Workshop, 2023.03  
Dysphagia Diet Awareness Workshop, was supported by the Female Faculty of Promotion Program (FFPP) of Tokyo Medical and Dental University and the International Faculty Development Course (IFDC) and organized by the Maxillofacial Prosthetics team of TMDU, March 9, 2023. It was sponsored by a grant, funded by the Initiative for Realizing Diversity in the Research Environment.