

2017

**Hiroshima University Graduate of Biomedical & Health  
Sciences (Dentistry) and Hiroshima University Hospital  
(Dental Departments)**

# **Research Achievements**

## **2017**

# Contents

## **Hiroshima University School of Dentistry, Hiroshima University Hospital, Graduate School of Biomedical & Health Sciences**

### ○ **Departments of Program of Dentistry**

- [Department of Calcified Tissue Biology](#)
- Department of Oral Biology
- [Department of Physiology and Oral Physiology](#)
- [Department of Molecular Biology and Biochemistry](#)
- [Department of Oral and Maxillofacial Pathobiology](#)
- Department of Bacteriology
- [Department of Cellular and Molecular Pharmacology](#)
- [Department of Biomaterials](#)
- Department of Mucosal Immunology
- [Department of Periodontal Medicine, and Division of Preventive and Restorative Dentistry \(Department of Periodontics and Endodontics\)](#)
- [Department of Molecular Oral Medicine & Maxillofacial Surgery, Division of Oral and Maxillofacial Surgery and Oral Medicine \(Department of Oral and Maxillofacial Surgery\)](#)
- Department of Oral and Maxillofacial Surgery, and Division of Oral and Maxillofacial Surgery and Oral Medicine (Department of Oral and Maxillofacial Reconstructive Surgery)
- [Department of Advanced Prosthodontics, and Division of Preventive and Restorative Dentistry \(Department of Oral Implant\)](#)
- [Department of Advanced Prosthodontics, and Division of Preventive and Restorative Dentistry \(Department of Prosthetic Dentistry\)](#)
- [Department of Orthodontics and Craniofacial Development Biology, and Division of Oral Health and Development \(Department of Orthodontics\)](#)
- [Department of Oral & Maxillofacial Radiology, Division of Oral and Maxillofacial Surgery and Oral Medicine \(Department of Oral and Maxillofacial Radiology\)](#)
- [Department of Biological Endodontics, and Division of Preventive and Restorative Dentistry \(Department of Operative and Conservative Dentistry\)](#)
- Department of Pediatric Dentistry, and Division of Oral Health and Development (Department of Pediatric Dentistry)
- [Department of Dental Anesthesiology, and Division of Oral & Maxillofacial](#)

Surgery and Oral Medicine (Department of Dental Anesthesiology and Orofacial Pain Management)

- Department of Global Dental Medicine and Molecular Oncology

○ **Departments of Program of Oral Health Sciences**

- Department of Public Oral Health
- Department of Maxillofacial Functional Development
- Department of Oral Health Management
- Department of Anatomy and Functional Restorations
- Department of Medical System and Biomaterial Engineering
- Department of Oral Biology & Engineering

○ **Central Research Laboratory**

○ **Division of General Dentistry, Department of General Dentistry**

○ **Division of Oral Health and Development, Department of Oral Health**

○ **Division of Oral Health and Development, Department of Special Care Dentistry**

○ **Central Clinical Divisions, Special Dental Clinic Section**

○ **Central Clinical Divisions, Center of Oral Clinical Examination**

○ **Central Clinical Divisions, Dental Technicians Section**

○ **Central Clinical Divisions, Dental Hygiene Section**

○ **Dental Clinic**

○ **Dental Medical Information Section**

## Department of Calcified Tissue Biology

### (1) Staff and Students

Professor: Yuji Yoshiko

Assistant Professor: Tomoko Minamizaki, Hirotaka Yoshioka (until March)

Research Assistant: Yayoi Sato, Atsuko Tomiyama, Masaaki Toshishige (from August)

Graduate Student: Saki Okita (Orthodontic Dentistry, until March), Yuko Nakao (Orthodontic Dentistry, until March), Faisal Ahmed, Yasumasa Irie (Pediatric Dentistry), Sarmin Nushrat, Masashi Nakano (Pediatric Dentistry), Shota Ito (Orthodontic Dentistry), Chise Fujimoto

### (2) Main Research Activities

- 1 : Bone and tooth formation and mineralization
- 2 : Calcitropic and phosphotropic factors and mineral metabolism
- 3 : Osteonetwork
- 4 : MicroRNAs
- 5 : Bone metastasis

### (3) Research Achievements

#### A) Original Papers (including Case Reports)

- 1 : Comparative proteome analysis of wild-type and klotho-knockout mouse kidneys using a combination of MALDI-IMS and LC-MS/MS: Yoko Fujino, Tomoko Minamizaki, Ikue Hayashi, Asako Kawakami, Takaaki Miyaji, Kaoru Sakurai, Hirotaka Yoshioka, Katsuyuki Kozai, Mitsugi Okada, Yuji Yoshiko: *Proteomics Clin Appl.* 11 (7-8), 2017.

#### B) Review

- 1 : The Roles of Long Non-Protein-Coding RNAs in Osteo-Adipogenic Lineage Commitment: Hirotaka Yoshioka, Yuji Yoshiko: *Int J Mol Sci.* 18 (6), 2017.

#### C) Publications

- 1 : Bone and Tooth: Yuji Yoshiko: The encyclopedia of phosphorus (Hisao Otake et al., Eds): Asakura Publishing Co., Ltd. (Tokyo), 88, 2017.

#### D) Other Publications

#### E) Presentation at Scientific Meeting

- 1 : Single-Cell RNA Sequencing Provides Molecular Dissection of Osteoblasts and their Adipogenic Potential: Masashi Nakano, Hirotaka Yoshioka, Saki Okita, Kotaro Tanimoto, Katsuyuki Kozai, Tomoko Minamizaki, Yuji Yoshiko: The American Society for Bone and Mineral Research 2017 Annual Meeting (Denver), 2017.
- 2 : MicroRNA-125b Derived from Osteoblasts Exerts its Anti-Osteolytic Effect through Targeting Preosteoclasts: Faisal Ahmed, Tomoko Minamizaki, Shota Ito, Nushrat Sarmin, Chise Fujimoto, Yuko Nakao, Kotaro Tanimoto, Shinji Hiyama, Yuji Yoshiko: The American Society for Bone and Mineral Research 2017 Annual Meeting (Denver), 2017.
- 3 : Imaging and mapping of mouse bone using MALDI-imaging mass spectrometry: Tomoko Minamizaki, Yuji Yoshiko: The 59<sup>th</sup> Annual Meeting of Japanese Association for Oral Biology (Matsumoto), 2017.
- 4 : Nano-CT analysis shows dysmorphology of osteocyte lacunae in a Klotho-deficient skeletal aging mouse model: Ahmed F., Minamizaki T., Yoshiko Y.: The 50th Hiroshima University Dental Society (Hiroshima), 2017.
- 5 : Single cell RNA-sequencing shows transcriptional heterogeneity in osteoblasts and their transdifferentiation potential into adipocytes: The 35th Annual Meeting of the Japanese Society for Bone and Mineral Research (Fukuoka), 2017.
- 6 : Overexpression of miR-125b in osteoblasts increases bone mass with a decreased number of osteoclasts: Shota Ito, Tomoko Minamizaki, Faisal Ahmed, Chise Fujimoto, Nushrat Sarmin, Kotaro Tanimoto, Asako Nobukiyo, Yusuke Sotomaru, Yuji Yoshiko: The 72nd Chugoku-Shikoku Sectional Meeting of Japanese Association of Anatomists. (Hiroshima), 2017.
- 7 : Osteoblasts communicate with osteoclasts via miR-125b: Yasumasa Irie, Tomoko Minamizaki, Faisal Ahmed, Chise Fujimoto, Shota Ito, Nushrat Sarmin, Katsuyuki Kosai, Kotaro Tanimoto, Yuji Yoshiko: The 72nd Chugoku-Shikoku Sectional Meeting of Japanese Association of Anatomists. (Hiroshima), 2017.
- 8 : The role of miR-125b in osteoblasts: Chise Fujimoto, Tomoko Minamizaki, Yasumasa Irie, Faisal Ahmed, Shota Ito, Nushrat Sarmin. Katsuyuki Kozai, Kotaro Tanimoto, Yuji Yoshiko: The 72nd Chugoku-Shikoku Sectional Meeting of Japanese Association of Anatomists. (Hiroshima), 2017.

- 9 : MiR-125b in matrix vesicles derived from osteoblasts suppresses osteoclast formation by targeting *Prdm1*: Yasumasa Irie, Katsuyuki Kozai: The 55th Annual Conference of the Japanese Society of Pediatric Dentistry (Fukuoka) 2017.

#### F) Special lectures in academic meetings

- 1 : New insight into matrix vesicles as microRNA carriers: Tomoko Minamizaki, Yuji Yoshiko: The 59th Annual Meeting of Japanese Association for Oral Biology (Matsumoto), 2017.

#### (4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1 : Grants-in-Aid for Scientific Research (C) (Continuance): Tomoko Minamizaki, Trials to inhibit bone metastasis by focusing on miRNAs in bone. 16K11443. 1,950,000 yen
- 2 : Japan Agency for Medical Research and Development, The iD3 Booster (Continuance): Yuji Yoshiko, Development of a new class of anti-ectopic mineralization. DNW-14017. 24,516,000 yen
- 3 : Japan Agency for Medical Research and Development, Rare/Intractable Disease Research (New): Yuji Yoshiko, Development of a new class of anti-mineralization. 23,790,000 yen
- 4 : Grants-in-Aid for Scientific Research (C) (New): Yuji Yoshiko (Co-investigator), Functional analysis of soluble FGF receptor derived from bone and cartilage and its application to bone and cartilage regeneration. 17K11804. 200,000 yen
- 5 : Grants-in-Aid for Scientific Research (C) (New): Yuji Yoshiko (Co-investigator), Analysis of fate determination of osteoblasts at the single cell level with the search for a novel target of bone formation agents. 17K11613. 200,000 yen
- 6 : Raffinee International Corporation (New): Yuji Yoshiko, 1,800,000 yen

#### (5) Academic Awards, etc.

- 1 : Faisal Ahmed et al : Plenary Poster, The American Society for Bone and Mineral Research 2017 Annual Meeting (Denver), 2017.
- 2 : Faisal Ahmed : Young Investigator Travel Grant, The American Society for Bone and Mineral Research 2017 Annual Meeting (Denver), 2017.
- 3 : Faisal Ahmed : ASBMR 2017 Travel Grant, The Japanese Society for Bone and Mineral Research, 2017.
- 4 : Masashi Nakano: ASBMR 2017 Travel Grant, The Japanese Society for Bone and Mineral Research, 2017.
- 5 : Mai Yoshino: Japan Dental Association/Dentsply Sirona, Student Clinician Research

Program (SCRIP), Japanese delegate qualifying competition, The 1st Place, 2017.

(6) Patents

- 1 : Yuji Yoshiko, Yuichiro Takei, Tomoko Minamizaki, Hiroataka Yoshioka, Yasuo Ochi: Inhibitors of osteoclast formation and/or function, activators of osteoclast formation and/or function, and screening methods for inhibitors/activators of osteoclast formation and/or function (JP2017039668)  
Applicants: Ono Pharmaceutical Co. Ltd. and Hiroshima University.

[Return to Contents](#)

## Department of Physiology and Oral Physiology

### (1) Staff s and Students

Professor : SUGITA, Makoto

Associate Professor : HIRONO, Chikara (~2017.3)

Assistant Professor : KITAGAWA, Michinori

Graduate Students : YAMAMOTO, Kuniyo

### (2) Main Research Activities

- 1 : The molecular and cellular bases of taste perception and coding
- 2 : The neuronal mechanisms underlying the taste-evoked behavioral and emotional responses
- 3 : The molecular mechanisms of ion and fluid transport in salivary glands
- 4 : The molecular mechanisms in development, morphogenesis and functional maintenance of salivary glands and oral tissues
- 5 : Studies on the function and dysfunction of ion channels and transporters

### (3) Research Achievements

#### A) Original Papers (including Case Reports)

#### B) Review

#### C) Publications

#### D) Other publication

#### E) Presentation at Scientific Meeting

- 1 : The rate-limiting activities for anion secretion from acinar and duct cells in salivary glands : Sugita M., Ueno K., Kitagawa M., Shiba Y., Hirono C. : The 59th Annual Meeting of Japanese Association for Oral Biology (Matsumoto), 2017.
- 2 : Functional analysis of transcriptional co-factor YAP in embryonic salivary gland tissue : Kitagawa M., Hirono C., Sugita M. : The 40th Annual Meeting of the Molecular biology Society of Japan (Kobe), 2017.

3 : The biphasic effect of extracellular glucose concentration on salivary fluid secretion : Terachi M., Hirono C., Kitagawa M., Sugita M. : 2017 NIPS Research Meeting (Okazaki), 2017.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

1 : The Salt Science Research Foundation: Sugita M., Information processing and mutual regulation in the neurons relaying attractive and aversive salt tastes. ¥1,200,000.

(5) Academic Awards, etc.

(6) Patents

[Return to Contents](#)

## Department of Molecular Biology and Biochemistry

### (1) Staff and Students

Professor: Chisa Shukunami

Assistant Professor: Katsumi Fujimoto

Assistant Professor: Hiroshi Yamashita (~ Aug.)

Assistant Professor (Special Appointment): Yuki Yoshimoto

Graduate Student: Seima Tanaka (~ Sep.)

Undergraduate Student: Kengo Mori

### (2) Main Research Activities

- 1 : Mechanisms regulating in the establishment of the junction between cartilage and tendon/ligament
- 2 : The role of Pax1 during formation of vertebral column
- 3 : Mechanisms of tendon/ligament formation
- 4 : Mechanisms of periodontal ligaments formation
- 5 : Pathogenic mechanisms involved in adolescent idiopathic scoliosis
- 6 : Mechanisms regulating differentiation of dental pulp stem cells

### (3) Research Achievements

#### A) Original Papers (including Case Reports)

- 1 : Scleraxis is required for maturation of tissue domains for proper integration of the musculoskeletal system : Yoshimoto Y, Takimoto A, Watanabe H, Hiraki Y, Kondoh G, Shukunami C.: *Sci. Rep.*, 7, 45010, 2017.
- 2 : Wnt/beta-catenin signaling suppresses expressions of Scx, Mxk, and Tnmd in tendon-derived cells : Kishimoto Y, Ohkawara B, Sakai T, Ito M, Masuda A, Ishiguro N, Shukunami C, Docheva D, Ohno K.: *PLoS One*, 12(7), e0182051, 2017.
- 3 : Tenomodulin is Required for Tendon Endurance Running and Collagen I Fibril Adaptation to Mechanical Load : Dex S, Alberton P, Willkomm L, Sollradl T, Bago S, Milz S, Shakibaei M, Ignatius A, Bloch W, Clausen-Schaumann H, Shukunami C, Schieker M, Docheva D.: *EBioMedicine*, 20, 240-254, 2017.
- 4 : TGF-beta1 Improves Biomechanical Strength by Extracellular Matrix Accumulation Without Increasing the Number of Tenogenic Lineage Cells in a Rat Rotator Cuff Repair Model : Arimura H,

Shukunami C, Tokunaga T, Karasugi T, Okamoto N, Taniwaki T, Sakamoto H, Mizuta H, Hiraki Y.:  
Am. J. Sports Med., 45(10), 2394-2404, 2017.

## B) Review

- 1 : Integration of the musculoskeletal components by tendons and ligaments : Chisa Shukunami :  
Clinical Calcium, 27(3), 43-49, 2017.

## C) Publications

## D) Other Publications

## E) Presentation at Scientific Meeting

- 1 : Trends in basic sciences on the musculoskeletal system: Hisafumi Komori, Chisa Shukunami, Yasuharu Kobayashi, Shiro Ikegawa: Bone Summit (Fukuoka), 2017
- 2 : The role of Scleraxis in the formation of tendons and ligaments integrating the musculoskeletal system: Yuki Yoshimoto, Aki Takimoto, Yuji Hiraki, Chisa Shukunami: The 35<sup>th</sup> Annual Meeting of the Japanese Society for Bone and Mineral Research (Hakata), 2017.
- 3 : Establishment of a new mouse model for cleidocranial dysplasia by TALEN mediated genome editing: Yuki Yoshimoto, Kengo Mori, Mari Hoshino, Seima Tanaka, Hitomi Watanabe, Tetsushi Sakuma, Hiroshi Yamashita, Tetsuji Okamoto, Gen Kondoh, Takashi Yamamoto, Yuji Hiraki, Chisa Shukunami The 2<sup>nd</sup> Annual Meeting of The Japanese Society for Genome Editing (Osaka), 2017.

## F) Special lectures in academic meetings

- 1 : Regulation of intervertebral disc development by Pax1 and Sox9: Shukunami C: Gordon Research Conference (Barga), 2017.
- 2 : Scx/Sox9 positive progenitors contribute to enthesis formation : Yuki Yoshimoto, Aki Takimoto, Yuji Hiraki, Chisa Shukunami: The 59<sup>th</sup> Annual Meeting of Japanese Association For Oral Biology (Matsumoto), 2017.
- 3 : Molecular mechanism regulating formation and maintenance of intervertebral discs: Chisa Shukunami: The 8<sup>th</sup> Orthopedic Research Club (Kisarazu), 2017
- 4 : Scleraxis is required for maturation of tissue domains for integration of musculoskeletal system: Yuki Yoshimoto, Aki Takimoto, Hitomi Watanabe, Gen Kondoh, Tetsushi Sakuma, Takashi Yamamoto,

Yuji Hiraki, Chisa Shukunami: Consortium of Biological Sciences 2017 (Kobe), 2017.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1 : Grant-in-Aid for Challenging Exploratory Research: Chisa Shukunami, 16K15780. ¥1,100,000
- 2 : AMED : Chisa Shukunami, 17929951. ¥1,153,000
- 3 : Grant-in-Aid for Scientific Research (C): Aki Takimoto, Chisa Shukunami, 16K10899. ¥100,000
- 4 : Grant-in-Aid for Challenging Exploratory Research: Shigeru Miyaki, Chisa Shukunami, 16K15667. ¥200,000
- 5 : The Cooperative Research Program of the Institute for Frontier Medical and life Sciences, Kyoto University: Chisa Shukunami, ¥2,000,000
- 6 : Grant-in-Aid for Young Scientists (B): Yuki Yoshimoto, 17K17092. ¥2,300,000
- 7 : Grant-in-Aid for Scientific Research (C): Katsumi Fujimoto, 16K09624. ¥150,000
- 8 : Grant-in-Aid for Scientific Research (C): Katsumi Fujimoto, 17K115415B. ¥200,000

(5) Academic Awards, etc.

(6) Patents

[Return to Contents](#)

## Department of Oral and Maxillofacial Pathobiology

### (1) Staffs and Students

Professor : Takashi Takata  
 Associate Professor : Mutsumi Miyauchi  
 Assistant Professor : Hisako Furusho, Toshinori Ando (until August)  
 Research Assistant : Chea Chanbora  
 Graduate Student : Shinichi Sakamoto (D3), Shrestha Madhu (D3), Sakura Yamada (D3, Department of orthodontics)

### (2) Main Research Activities

- 1 Molecular pathology on development and progression of oral cancer
- 2 Study on cellular differentiation and diagnostic pathology of odontogenic tumors and salivary gland tumors.
- 3 Translational study on new preventive and therapeutic method with lactoferrin for bone destructive diseases such as periodontitis and rheumatoid arthritis
- 4 Study on oral-systemic disease connection
- 5 Development of prognostic/diagnostic examination system of preterm birth targeting serum Galectin-3

### (3) Research Achievements

#### A) Original Papers (including Case Reports)

- 1: The C-terminus of amelogenin enhances osteogenic differentiation of human cementoblast lineage cells.: Kunimatsu R., Yoshimi Y., Hirose N., Awada T., Miyauchi M., Takata T., Li W., Zhu L., Denbesten P.K., Tanimoto K.: J Periodontal Res., 2017 Apr;52(2):218-224. doi: 10.1111/jre.12384.
- 2: Bovine lactoferrin reduces extra-territorial facial allodynia/hyperalgesia following a trigeminal nerve injury in the rat.: Horie K., Watanabe M., Chanbora C., Awada T., Kunimatsu R., Uchida T., Takata T., Tanimoto K.: Brain Res., 2017 Aug 15;1669:89-96. doi: 10.1016/j.brainres.2017.04.015.
- 3: The 4th Edition of the Head and Neck WHO Blue Book: Editor's Perspectives.: El-Naggar A.K., Chan J., Takata T., Grandis J., Slootweg P.: Hum Pathol., Jun 2, 2017. pii: S0046-8177(17)30171-5. doi: 10.1016/j.humpath.2017.05.014.

- 4: N-terminal region of human ameloblastin synthetic peptide promotes bone formation.: Kitagawa M., Ando T., Subarnbhesaj A., Uchida T., Miyauchi M., Takata T.: *Odontology*, 2017 Jan;105(1):116-121. doi: 10.1007/s10266-016-0243-8.
- 5: New tumour entities in the 4th edition of the World Health Organization Classification of Head and Neck tumours: odontogenic and maxillofacial bone tumours.: Speight P.M., Takata T.: *Virchows Arch.*, 2017 Jul 3. doi: 10.1007/s00428-017-2182-3.
- 6: Involvement of *Porphyromonas gingivalis* in the progression of non-alcoholic fatty liver disease.: Nakahara T., Hyogo H., Ono A., Nagaoki Y., Kawaoka T., Miki D., Tsuge M., Hiraga N., Hayes C.N., Hiramatsu A., Imamura M., Kawakami Y., Aikata H., Ochi H., Abe-Chayama H., Furusho H., Shintani T., Kurihara H., Miyauchi M., Takata T., Arihiro K., Chayama K.: *J gastroenterol.*, 2017 Jul 24. doi: 10.1007/s00535-017-1368-4.
- 7: Bio-implant as a novel restoration for tooth loss.: Lee D.J., Lee J.M., Kim E.J., Takata T., Abiko Y., Okano T., Green D.W., Shimono M., Jung H.S.: *Sci Rep.*, 2017 Aug 7;7(1):7414. doi: 10.1038/s41598-017-07819-z.
- 8: Loss of stearyl-CoA desaturase-1 activity induced leptin resistance in neuronal cells.: Thon M., Hosoi T., Chea C., Ozawa K.: *Biol Pharm Bull.*, 2017;40(8):1161-1164. doi: 10.1248/bpb.b17-00311.
- 9: Tissue inhibitor of metalloproteinase-1 promotes cell proliferation through YAP/TAZ activation in cancer.: Ando T., Charindra D., Shrestha M., Umehara H., Ogawa I., Miyauchi M., Takata T.: *Oncogene*, 2017 Sep 18. doi: 10.1038/onc.2017.321.
- 10: Roles of VEGF-Flt-1 signaling in malignant behaviors of oral squamous cell carcinoma.: Subarnbhesaj A., Miyauchi M., Chanbora C., Mikuriya A., Nguyen P.T., Furusho H., Ayuningtyas N.F., Fujita M., Toratani S., Takechi M., Niida S., Takata T.: *PLoS One*, 2017 Nov 17;12(11):e0187092. doi: 10.1371/journal.pone.0187092. eCollection 2017.
- 11: Inhibition of DMH-DSS-induced colorectal cancer by liposomal bovine lactoferrin in rats.: Sugihara Y., Zuo X., Takata T., Jin S., Miyauchi M., Isikado A., Imanaka H., Tatsuka M., Qi G., Shimamoto F.: *Oncol Lett.*, Nov,14(5):5688-5694, 2017. doi: 10.3892/ol.2017.6976.
- 12: Ameloblastin induces tumor suppressive phenotype and enhances chemosensitivity to doxorubicin via Src-Stat3 inactivation in osteosarcoma.: Ando T., Kudo Y., Iizuka S., Tsunematsu T., Umehara H., Shrestha M., Matsuo T., Kubo T., Shimose S., Arihiro K., Ogawa I., Ochi M., Takata T.: *Sci Rep.*, 2017 Jan 5;7:40187. doi: 10.1038/srep40187.
- 13: Central mucoepidermoid carcinoma arising from glandular odontogenic cyst confirmed by analysis of MAML2 rearrangement.: A case report: Nagasaki A., Ogawa I., Sato Y., Takeuchi K., Kitagawa M.,

Ando T., Sakamoto S., Shrestha M., Uchisako K., Koizumi K., Toratani S., Konishi M., Takata T.: Pathol Int., 2017. doi: 10.1111/pin.12609. (in press)

15: A case of primordial odontogenic tumor: A new entity in the latest WHO classification (2017): Ando T., Shrestha M., Nakamoto T., Uchisako K., Yamasaki S., Koizumi K., Ogawa I., Miyauchi M., Takata T.: Pathol Int., 2017 Jul;67(7):365-369. doi: 10.1111/pin.12543.

16: A Recurrent Case of Ameloblastoma 20 Years after Enucleation and Marsupialization.: Kanda T., Nakato H., Hamada M., Kado K., Higaki M., Obayashi Fumitaka, Fukutani T., Tani R., Ando T., Hayashidou Y., Toratani S., Okamoto T. : J. Hiroshima Univ. Dent. Soc., 49(1):53-58, 2017.

#### B) Reviews

- 1 : Part 2 Molecular pathology of cancer, B cancer of organ, 3. Odontogenic tumor: Ando T., Ogawa I., Takata T.: Molecular pathology of cancer –from pathological diagnosis to search for therapeutic target. (edited by Fukayama M., Kanai Y., Tanaka S.) Pathology and Clinical Medicine Special issue vol. 34, 79-83, 2016.

#### C) Publications

- 1: WHO Classification of Head and Neck Tumours, 4th edition: El-Naggar A.K., Chan J.K.C., Grandis J.R., Takata T., Slootweg P.J., IARC (Lyon) , 2017.,
- 2: Salivary gland disease: Takata T.: Case Based Review, Oromandibular disease (Kaneda T., Kuyama K. edits), Nagasue shoten inc., 2017.

#### D) Other Publications

- 1: Relationship between chronic odontogenic infection and systemic health condition. - *P.gingivalis* odontogenic infection is a risk factor of non-alcoholic steatohepatitis.-, Prevent the occurrence of diseases! Forefront of disease prevention by health check.: Takata T., Miyauchi M., Furusho H.: Animus, 93: 11-18, 2017.
- 2: The Standards of Japanese National Licensure Examination for Dentist, FY2018 edition.: Takata T.: Dental Health department, Health Policy Bureau, Ministry of Health, 2017.

#### E) Presentation at Scientific Meeting

##### 1) Special lectures in academic meetings

- 1: Selection and specificity of myoepithelial/basal cell markers in pathological diagnoses of salivary gland tumors. Companion meeting “Review of significance of immunohistochemistry in practical

pathologic diagnosis of salivary gland tumors.”: Ogawa I., Takata T.: 106th Annual Meeting of the Japanese Society of Pathology (Tokyo), 2017.

2: Renewal of WHO classification of odontogenic tumor (4<sup>th</sup> edition) -points of the revision-: Takata T.: 28<sup>th</sup> Annual Meeting of Japanese Society of Oral pathology (Kawagoe), 2017.

3: Major revised points of 4th edition of WHO classification of odontogenic tumors.: Takata T.: 11<sup>th</sup> Academic Conference of Chinese Society of Oral Pathology (Shenyang), 2017.

4: *Porphyromonas gingivalis* odontogenic infection exacerbates NASH (Non-alcoholic steatohepatitis) progression.: Miyauchi M., Furusho H., Sakamoto S., Ouhara K., Kurihara H., Takata T.: The Japanese Society of Periodontology Diamond Anniversary Meeting (Kyoto), 2017.

## 2) Presentation at International Scientific Meeting

1: Metastatic chordoma occurring in the gluteus maximus muscle: A case report.: Sakamoto S., Kuraoka K., Taniyama D., Zaitzu J., Saito A., Yasumura N., Yoshida-Tanaka M., Ohnishi H., Taniyama K.: 24<sup>th</sup> Thai-Japanese Workshop in Diagnostic Cytopathology (Chonburi), 2017.

## 3) Presentation at Domestic Scientific Meeting

1: Dental infection of *Porphyromonas gingivalis* induces preterm birth through Galectin-3: Miyauchi M., Urabe S., Konishi H., Miyoshi H., Kudo Y., Takata T.: 69<sup>th</sup> Annual Congress of the Japan Society of Obstetrics and Gynecology (Hiroshima), 2017.

2: Large-scale common research about the reality of odontogenic tumor in Asia.: Takata T., Senba I., Maeda H., Takeda Y., Kumamoto H., Kuyama K., Toyosawa S., Nagatsuka J., Miyauchi M., Ogawa I.: 106<sup>th</sup> Annual Meeting of the Japanese Society of Pathology (Tokyo), 2017.

3: *Porphyromonas gingivalis* Odontogenic infection activates hepatic stellate cells and exacerbates NASH (Non-alcoholic steatohepatitis) progression.: Miyauchi M, Nagasaki A., Sakamoto S., Furusho H., Takata T.: 60<sup>th</sup> Annual Meeting of the Japanese Society of Periodontology(Hakata), 2017.

4: The transition of tissue inhibitor of metalloproteinase-1 and -4 expressions induces aggressive behavior and poor patient survival in dedifferentiated liposarcoma via YAP/TAZ activation.: Shrestha M., Ando T., Ogawa I., Miyauchi M., Takata T.: 50<sup>th</sup> Annual Meeting of the Hiroshima University Dental Society (Hiroshima), 2017.

5: The transition of tissue inhibitor of metalloproteinase-1 and -4 expressions induces aggressive behavior and poor patient survival in dedifferentiated liposarcoma via YAP/TAZ activation.: Shrestha M.,

Ando T., Ogawa I., Miyauchi M., Takata T.: 28<sup>th</sup> Annual Meeting of Japanese Society of Oral pathology (Kawagoe), 2017.

6: Galectin-3 is possible predictive / diagnostic biomarker of spontaneous preterm birth caused by placental infection.: Chou K., Miyauchi M., Furusho H., Sakamoto S., Takata T.: 65<sup>th</sup> Annual Meeting of Japanese Society of Dental Research (Tokyo), 2017.

7: The effects of *Porphyromonas gingivalis* (*P.g.*) infection into hepatocyte on development and progression of hepatocellular carcinoma (HCC):. Sakamoto S., Furusho H., Miyauchi M., Tahara H., Takata T.: Japanese Society of Periodontology Diamond Anniversary Meeting (Kyoto), 2017.

#### 4) Case Reports at Scientific Meeting

1: Parotid gland lesion (Sclerosing polycystic adenosis) : Ogawa I., Takata T.: 123rd Academic Meeting of Chugoku-Shikoku Branch of the Japanese Society of Pathology (Kurashiki), 2017.

2: Buccal tumor (Carcinoma ex pleomorphic adenoma, widely invasive): Sakamoto S., Ogawa I., Ohta K.,

Shigeishi H., Nakamoto T., Takata T.: 68th Meeting of Hiroshima Pathological Conference (Hiroshima), 2017.

3: Soft palate tumor (Desmoid-type fibromatosis):Furusho H., Oobayashi M., Ogawa I., Fujita Y., Sugata T., FujiharaK., Takata T.: 28th Annual Meeting of Japanese Society of Oral Pathology (Kawagoe), 2017.

4: A case of recurrent pleomorphic adenoma with infiltrative growth of the palate: Ogawa I., Miyasaka C.,

Ishida M., Fujisawa T., Ihara H., Nagao T., Takata T.: 62<sup>nd</sup> Annual Meeting of the Japan Salivary Gland Society

(Tokyo), 2017.

#### 5) Others

1: Chronic odontogenic infection and Systemic health. - *P.gingivalis* Odontogenic infection is a risk factor of NASH- 15<sup>th</sup> MEDIENCE FORUM 2017, Prevent the occurrence of diseases! Forefront of disease prevention by health check (Tokyo), 2017.

2: Quality Assurance of Dental Education - Assessment Standards for Accreditation of Dental Education:- Takata T.: Hong Bang International University (Vietnam), 2017.

- 3: The vision and activity for the social industry-academia cooperation of Hiroshima University.: Takashi T.: The regional forum to promote full-scale collaboration research among industry, academia and government in Chugoku. (Hiroshima), 2017.
- 4: Goal of Hiroshima-research complex: Takata T.: Founding memorial AIST Chugoku association center symposium of association for promotion of Hiroshima research complex (Hiroshima), 2017.
- 5: University in perspective of company and company in perspective of University.: Takashi T.: 16<sup>th</sup> Forum of university in Hiroshima prefecture (Hiroshima), 2017.
- 6: The vision and activity for the social industry-academia cooperation of Hiroshima University -The correspondence situation to "guideline" and problem-: Takata T.: Charge Director Meeting of a National University Corporation in FY 2017 (Tokyo), 2017.
- 7: OPERA "Genome editing" industry-academia co-creation consortium.: Takata T.: 3<sup>rd</sup> WG of Japan Association of National Universities to promote full-scale collaboration research among industry, academia and government (Tokyo), 2017.
- 8: Industry-academia cooperation in Hiroshima University.: Takata T.: 2<sup>nd</sup> Chiiki -University cooperation forum "Innovation of industrial and human resource development by cooperation of industry-university-government" (Tokyo), 2017.
- 9: Hiroshima University Triple Helix Collaboration "Collaboration for Innovation: Academy, Industry and Government working together": Takashi Takata: The 3rd Japan-Mexico Rectors Summit (Hiroshima), 2017.

#### (4) Status of Receiving Grants-in Aid for Scientific Research

- 1: Grants-in-Aid for Scientific Research (Scientific Research(B)) (Continuance): Takata T.: Decision of the sequence on Lactoferrin important for anti-osteoclastogenesis and development of peptide medicine for bone destructive lesions.  
(16H05503: 4,940,000 yen)
- 2: Grants-in-Aid for Scientific Research (Scientific Research(C)) (Continuance): Miyauchi M.: Clarification of pathological progression mechanisms nonalcoholic steatohepatitis caused by dental infection of periodontal pathogen.  
(16K11444: 1,560,000 yen)
- 3: Grants-in-Aid for Scientific Research (Young Scientists (B)) (Continuance): Furusho H.: Explication

of NASH exacerbation through TLR2-pathway by redcomplex odontogenic infection. (16K20437: 1,430,000 yen)

4: Grants-in-Aid for Scientific Research (Young Scientists (B)) (New): Ando. T.: Explication of a YAP regulatory mechanism of TIMP-1 in tumor. (17K17084: 1,690,000 yen)

5: Donated fund from Sunstar Co. Ltd. (Continuance): Takata T. (Study on periodontitis)

6: Donated fund for Hiroshima Prefecture tumor registration business (Continuance): Takata T. (Study on oral diseases)

7: Donated fund from Mitsubishi-Mihara Hospital (Continuance): Takata T. (Study on diagnosis for oral disease)

8: Donated fund from Earth Co. (New): Takata T.

9: Donated fund from Arkray, Inc. (New): Miyauchi M.

( 5 ) Academic Awards

- |                   |   |
|-------------------|---|
| 1: Eri Ishida     | Hiroshima University President Award  |
| 2: Madhu Shrestha | 50 <sup>th</sup> Hiroshima University Dental Society Research Incentive Award |
| 3: Toshinori Ando | The Japanese Society of Oral Pathology Encouraging Award                      |
| 4: Keimi Chou     | 2017 JADR/Joseph Lister Award   |

[Return to Contents](#)

## Department of Cellular and Molecular Pharmacology

### (1) Staff and Students

Professor: Takashi Kanematsu

Assistant Professor: Satoshi Asano, Yosuke Yamawaki

Professor (Special Appointment): Katsuya Morita, Toshiyuki Sasaguri, Minoru Wakamori, Takayuki Tsukuba, Akira Toyofuku, Tamotsu Kiyoshima

Graduate Student: Yuka Maetani, Hiroki So, Syuzo Sakata

Collaborator: Kae Harada (Kagoshima University), Kana Oue (Hiroshima University Hospital Medical Staff), Tomomi Sano (Kyushu University)

Research Student: Satomi Shirawachi (6th), Yuri Taniguchi (6th), Satoru Kusaka (5th), Munechika Takaishi (5th), Yasuka Ikura (4th)

### (2) Main Research Activities

- 1 : Studies on the molecular mechanisms of GABA<sub>A</sub> receptor signaling in the central nervous system
- 2 : Studies on the regulatory mechanisms of food intake and energy metabolism
- 3 : Studies on the roles of a new autophagy-related molecule in autophagy pathway
- 4 : Studied on the mechanisms of cell migration regulated by a new molecule
- 5 : Studies on the molecular mechanisms of thermogenesis in brown adipocytes
- 6 : Studies on the relationship between immune systems and depression-like behavior

### (3) Research Achievements

#### A) Original Papers (including Case Reports)

1 : Epicatechin downregulates adipose tissue CCL19 expression and thereby ameliorates diet-induced obesity and insulin resistance: Sano T, Nagayasu S, Suzuki S, Iwashita M, Yamashita A, Shinjo T, Sanui T, Kushiyama A, Kanematsu T, Asano T, Nishimura F: *Nutr Metab Cardiovasc Dis.* 27(3): 249–259, 2017.

2 : Propofol anesthesia is reduced in Phospholipase C-related inactive protein type-1 knockout mice: Nikaïdo Y, Furukawa T, Shimoyama S, Yamada J, Migita K, Koga K, Kushikata T, Hirota K, Kanematsu T, Hirata M, Ueno S: *J Pharmacol Exp Ther.* 361(3): 367–374, 2017.

3 : General anesthetic actions on GABA<sub>A</sub> receptors in vivo are reduced in phospholipase C-related catalytically inactive protein knockout mice : Hayashiuchi M, Kitayama T, Morita K, Yamawaki Y, Oue K, Yoshinaka T, Asano S, Harada K, Kang Y, Hirata M, Irifune M, Okada M and Kanematsu T: *J Anesth.*

31(4): 531–538, 2017.

4 : Phospholipase C-related catalytically inactive protein-knockout mice exhibit uncoupling protein 1 upregulation in adipose tissues following chronic cold exposure: Oue K, Yamawaki Y, Asano S, Mizokami A, Hirata M, Irifune M, Kanematsu T: *J Oral Biosci*, 59(2): 108–112, 2017.

5 : Suppression of cell migration by phospholipase C-related catalytically inactive protein-dependent modulation of PI3K signalling: Asano S, Taniguchi Y, Yamawaki Y, Gao J, Harada K, Takeuchi H, Hirata M, Kanematsu T: *Sci Rep*. 7(1): 5408, 2017.

6 : Differential effects of chronic stress in young-adult and old female mice: cognitive-behavioral manifestations and neurobiological correlates. Lotan A, Lifschytz T, Wolf G, Keller S, Ben-Ari H, Tatarsky P, Pillar N, Oved K, Sharabany J, Merzel TK, Matsumoto T, Yamawaki Y, Mernick B, Avidan E, Yamawaki S, Weller A, Shomron N, Lerer B: *Mol Psychiatry*. 2017. doi: 10.1038/mp.2017.237.

## B) Review

1 : Phospholipase C-related catalytically inactive protein can regulate obesity, a state of peripheral inflammation: Yamawaki Y, Oue K, Shirawachi S, Asano S, Harada K and Kanematsu T: *Jpn Dent Sci Rev*, 53(1): 18–24, 2017.

## C) Publications

1 : *Basic Principles of Dental Pharmacology (Simplified for Dental Students)* : Kanematsu T, Yamawaki Y : Edit- Ohura K, et al., Suenaga (Kyoto Japan), pp.16-22, 2017.

## E) Presentation at Scientific Meeting

1 : Expression of phospholipase C-related catalytically inactive protein suppresses cancerous metastasis : Asano Satoshi, Kanematsu Takashi : The 90th Annual Meeting of The Japanese Pharmacological Society (Nagasaki), 2017.

2 : Upregulation of UCP1 expression in the adipose tissues of *Prip*-KO mice exposed to a cold environment : Oue Kana, Masahiro Irifune, Takashi Kanematsu : The 131st Regional Meeting (Kinki) of The Japanese Pharmacological Society (Nagoya), 2017.

3 : Anti-inflammatory effects of antidepressant in glial cells : Yosuke Yamawaki, Satomi Shirawachi, Munechika Takaishi, Shigeto Yamawaki, Takashi Kanematsu : The 50th Annual Meeting of the Hiroshima University Dental Society (Hiroshima), 2017.

4 : Over expression of PRIP in MCF-7 cells, a breast cancer cell line, enhances cisplatin induced apoptosis : Yuka Maetani, Satoshi Asano, Masahiro Irifune, Takashi Kanematsu : The 50th Annual Meeting of the Hiroshima University Dental Society (Hiroshima), 2017.

5 : Regulation of cytokinesis by phospholipase C-related catalytically inactive protein, as a sequestrant of

PI(4,5)P<sub>2</sub> in the cleavage furrow : Satoshi Asano, Takashi Kanematsu : The 59th Annual Meetings of Japanese Association for Oral Biology (Matsumoto), 2017.

6 : The mechanism of phospholipase C-related catalytically inactive protein (PRIP)-mediated energy metabolism by  $\beta$ -adrenergic stimulation in brown adipocytes : Oue Kana, Yosuke Yamawaki, Satoshi Asano, Masahiro Irifune, Takashi Kanematsu : The 59th Annual Meetings of Japanese Association for Oral Biology (Matsumoto), 2017.

7 : Role of PLC-related catalytically inactive protein in LPS-induced anorexia : Satomi Shirawachi, Yosuke Yamawaki, Takashi Kanematsu : The 59th Annual Meetings of Japanese Association for Oral Biology (Matsumoto), 2017.

8 : Phospholipase C-related inactive protein type-1 is involved in intravenous anesthetic-induced EEG changes in mice : Yoshikazu Nikaido, Tomonori Furukawa, Shuji Shimoyama, Tetsuya Kushikata, Kazuyoshi Hirota, Takashi Kanematsu, Masato Hirata, Shinya Ueno : The 40th Annual Meetings of The Japan Neuroscience Society (Tokyo), 2017.

9 : Study on the mechanism of increased energy expenditure of CCR7 deficient mouse : Tomomi Sano, Takashi Kanematsu, Fusanori Nishimura : The 64th Annual Meetings of JADR (Tokyo), 2017.

10 : Inflammatory response in Hippocampal region induced by experimental periodontitis in mice : Daisuke Furutama, Shinji Matsuda, Tsuyoshi Fujita, Yosuke Yamawaki, Mikihiro Kajiyama, Saki Hatano, Ai Okanobu, Noriyoshi Mizuno, Takashi Kanematsu, Hidemi Kurihara : The 60th Annual Meetings of Japanese Society of Periodontology (Kyoto), 2017.

#### (4) Status of Receiving Grants-in Aid for Scientific Research, etc.

1 : Grant-in-Aid for Scientific Research (C): Kanematsu T.: Study of phospholipid metabolism dysfunction in cancer. Project number 16K11503. Amount 4,680,000 (2016–2018).

2 : Grant-in-Aid for Scientific Research (C): Asano S.: Development research of anti-malignant tumor agent applying a new metastasis-regulating factor PRIP. Project number 17K11644. Amount 4,550,000 (2017–2019).

3 : Grant-in-Aid for Scientific Research (C): Yamawaki Y.: Research for elucidating mechanisms of stress responsiveness as basis of central dysfunction caused by periodontal disease. Project number 17K11670. Amount 4,550,000 (2017–2019).

#### (5) Academic Awards, etc.

1 : Satomi Shirawachi : Student Best Poster Award (co-authors: Yosuke Yamawaki, Takashi Kanematsu), The 59th Annual Meetings of Japanese Association for Oral Biology

## Department of Biomaterials

### (1) Staff and Students

Professor: Koichi Kato

Assistant Professor: Yuji Nomura, Isao Hirata

Graduate Student: Shakya Ajay, Azusa Onishi, Tomoko Ogasawara, Fumiko Nishio, Yuuka Yamauchi,  
Satoshi Miyauchi, Ayana Nakano

### (2) Main Research Activities

- 1: Biomaterials and biodevices for regenerative medicine
- 2: Study on the interactions between biological systems and biomaterial surfaces
- 3: Development of novel disinfectants for dental materials

### (3) Research Achievements

#### A) Original Papers (including Case Reports)

- 1: Saiji Shimoe, Isao Hirata, Mai Otaku, Koichi Kato, Takahiro Satoda. Formation of chemical bonds at zirconia surfaces with acidic functional monomers. *J. Oral Sci.*, in press. (Accepted on 27 July, 2017)
- 2: Masayuki Okazaki, Masakazu Furuta, Aira Matsugaki, Takayoshi Nakano, Isao Hirata, Koichi Kato, Takashi Oda, Mamoru Sato. Molecular level analyses of mechanical properties of PTFE sterilized by Co-60 gamma-ray irradiation for clinical use. *Radiation Phys. Chem.*, 139:126–131 (2017).

#### B) Review

#### C) Publications

#### D) Other Publications

#### E) Presentation at Scientific Meeting

- 1: Interplay between cell death and differentiation in 3D mesenchymal stem cell pellets: Try Ky, Malina Prak, and Koichi Kato: The 5th Annual Meeting of the Japan Biomaterials Association ChuShikoku

- Symposium (Tokushima, Japan), 18 January 2017.
- 2: Bioengineered Culture Substrates for the Efficient Expansion of Mesenchymal Stem Cells: Ajay Shakya, Eiji Imado, Isao Hirata, and Koichi Kato The 5th Annual Meeting of the Japan Biomaterials Association ChuShikoku Symposium (Tokushima, Japan), 18 January 2017.
  - 3: Effect of Molecular Crowding on the Dynamics of Antigen-antibody Interactions at Solid/Liquid Interfaces: Isao Hirata, Koichi Kato: International Workshop on Nano device Technologies 2017 (Higashi-Hiroshima, Japan), 2 May 2017.
  - 4: Bioengineered Culture Substrates for the Efficient Expansion of Mesenchymal Stem Cells: Ajay Shakya, Eiji Imado, Kim Phuong Nguyen, Isao Hirata, Koichi Kato: 50th Hiroshima University Dental Society Meeting (Hiroshima, Japan), 17 June 2017.
  - 5: Structural and functional characterizations of engineered basic fibroblast growth factor immobilized on solid surfaces: Nguyen Kim Phuong, Ajay Shakya, Isao Hirata, Koichi Kato: Kinki-Chushikoku Branch Summer Seminar – The Society of Dental Materials and Devices (Ootsu, Japan), 5 August 2017.
  - 6: Surface immobilization of neurotrophin-4 mimetic peptide for the selective binding of a TrkB-expressing population from iPS cells: Haruhisa Watanabe, Aimi N. Abdullah, Yuuka Yamauchi, Isao Hirata, Koichi Kato: Kinki-Chushikoku Branch Summer Seminar – The Society of Dental Materials and Devices (Ootsu, Japan), 5 August 2017.
  - 7: Surface immobilized basic fibroblast growth factor -a novel approach for the efficient expansion of mesenchymal stem cells using bioengineered surfaces-: Ajay Shakya, Eiji Imado, Kim Phuong Nguyen, Isao Hirata, Koichi Kato: 7th National Scientific Meeting in Dentistry and 4th Joint Scientific Meeting in Dentistry (Surabaya, Indonesia), 5–7 October 2017.
  - 8: Effect of culture method on differentiation of iPS cells to odontogenic epithelial cells: Satoshi Miyauchi, Aimi N. Abdullah, Koichi Kato: Joint Meeting of 56th Hiroshima Prefectural Dental Association and 101th Hiroshima University Dental Society (Hiroshima, Japan), 29 October 2017.
  - 9: Improvement of Differentiation from iPS Cells to Oral Epithelial Cell-like Cells: Azusa Onishi, Aimi N. Abdullah, Kotaro Tanimoto, Koichi Kato: The 39th Annual Meeting of the Japanese Society for Biomaterials (Tokyo, Japan), 20-21 November 2017.

#### F) Special lectures in academic meetings

- 1: Genetic engineering of functional polypeptides for designing biologically-active materials: Koichi Kato: European Materials Research Society 2017 Spring Meeting (Strasbourg, France), 22–26 May 2017.
- 2: Differentiation of mesenchymal stem cells in response to anisotropic microenvironments established in three-dimensional pellets: Try Ky, Malina Prak, Isao Hirata, Koichi Kato: 5th China-Japan

- Symposium on Nanomedicine (Suzhou, China), 16-18 September 2017.
- 3: Bioengineered Surface Design for Mesenchymal Stem Cell Culture: Isao Hirata, Ajay Shakya, Nguyen Kim Phuong, Koichi Kato: 5th China-Japan Symposium on Nanomedicine (Suzhou, China), 16-18 September 2017.
  - 4: Protein engineering as a new methodology for synthesizing functional biomaterials: Koichi Kato: 7th National Scientific Meeting in Dentistry and 4th Joint Scientific Meeting in Dentistry (Surabaya, Indonesia), 5–7 October 2017.
  - 5: Towards engineering composite grafts with ordered tissue structure: Koichi Kato: Padjadjaran DIES Forum 2017 (Bandung, Indonesia), 3–4 November 2017.
  - 6: Biologically engineered surfaces for stem cell expansion: Koichi Kato: 18th International Union of Materials Research Societies – International Conference in Asia (IUMRS-ICA) (Taipei, Taiwan), 5–9 November 2017.
  - 7: Formation of cartilage grafts from mesenchymal stem cells under 3D microenvironments: H. Sugino, K. Try, M. Prak, M. Kanawa, I. Hirata, K. Tanimoto, K. Kato: International Symposium on Nanomedicine (Sendai, Japan) 13 December 2017.

#### (4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: Grant-in-Aid for Scientific Research (B), Ministry of Education, Culture, Sports, Science and Technology, Representative Kato K.: Kato K.: Design of culture substrate for large-scale preparation of epithelial cell derived from iPS cell.: No. 16H03182. 2,500,000JPY.
- 2: Grant-in-Aid for Scientific Research (C), Ministry of Education, Culture, Sports, Science and Technology, Representative Tanimoto K.: Kato K.: Dynamic control of stem cells from human exfoliated deciduous teeth (SHED) by construction of microenvironment and its application to palate cleft regeneration treatment.: No. 16K11788. 200,000JPY.
- 3: Grant-in-Aid for Scientific Research (B), Ministry of Education, Culture, Sports, Science and Technology, Representative Kurihara H.: Kato K.: Development of periodontal tissue regeneration therapy by 3D tissue transplantation constructed from spherical bone marrow mesenchymal stem cell clusters.: No. 15H05053. 50,000JPY.
- 4: Grant-in-Aid for challenging Exploratory Research, Ministry of Education, Culture, Sports, Science and Technology, Representative Hirata I.: Hirata I.: Development of Resin and Powder mixed biodegradable filament for 3D printing system.: No. 16K15803. 500,000JPY.
- 5: Grant-in-Aid for Scientific Research (C), Ministry of Education, Culture, Sports, Science and Technology, Representative Shimoe S.: Hirata I.: Development of new micro-maintenance for expansion of application area of zirconia.: No. 16K11593. 50,000JPY
- 6: Grant-in-Aid for Scientific Research (B), Ministry of Education, Culture, Sports, Science and

Technology, Representative Kato K.: Hirata I.: Design of culture substrate for large-scale preparation of epithelial cell derived from iPS cell.: No. 16H03182. 100,000JPY.

- 7: Grant-in-Aid for Scientific Research (C), Ministry of Education, Culture, Sports, Science and Technology, Representative Kanawa M.: Hirata I.: Development of differentiation predictive marker to evaluate stemness of bone marrow derived mesenchymal stem cells.: No.17K11541. 200,000JPY.

#### (5) Academic Awards, etc.

- 1: Ajay Shakya, Eiji Imado, Kim Phuong Nguyen, Isao Hirata, Koichi Kato: Bioengineered Culture Substrates for the Efficient Expansion of Mesenchymal Stem Cells: Research Incentive Award: 50th Hiroshima University Dental Society Meeting (Hiroshima, Japan), 17 June 2017.

#### (6) Patents

- 1: Sawajiri M., Nomura Y., T Shimizu: AC electrolytic water apparatus and producing method, prevention of tumor growth using an AC electrolytic water. (JP2017-205615) (Medical Environment Techno Co.,Ltd.)

[Return to Contents](#)

- **Department of Periodontal Medicine**
- **Division of Preventive and Restorative Dentistry  
(Department of Periodontics)**

(1) Staffs and Students

Professor: Hidemi Kurihara

Associate Professor: Tsuyoshi Fujita

Associate Professor, Lecturer: Noriyoshi Mizuno

Assistant Professor: Yuushi Uchida (- February), Katsuhiko Takeda, Tomoyuki Iwata,

Kazuhisa Ouhara, Mikihito Kajiya, Shinji Matsuda

Assistant Professor (Special Appointment): Eri Kaneda (-February)

Resident: Mizuho Kittaka (studying abroad), Kei Kashiwai (-March), Tetsuya Yoshimoto (studying abroad), Yusuke Aida (-March), Keita Takahashi, Kei Takahashi (-March), Ai Okanobu, Manabu Takewaki,

Graduate Student: Yoshie Niitani (under leave of absence), Masahiko Suzukawa, Syuichi Munenaga, Keiichi Akutagawa, Nao Komatsu, Yoko Sato, Minami Yoshioka (under leave of absence), Shinya Sasaki, Yuta Hamamoto, Tasuku Takemura, Daisuke Furutama, Saki Hatano, Sota Motoike, Susumu Horikoshi, Misako Tari

Clinical Trainee: Takayoshi Nagahara, Nobuaki Yamaguchi (-July), Akihiro Konishi, Kaoruko Iwabuchi, Yoshiaki Shimasaki, Yuushi Uchida (April -), Kei Takeshita (April -)

(2) Main Research Activities

- 1: Immunological study on the onset of periodontics
- 2: Study on periodontal tissue regeneration using bone marrow mesenchymal stem cells
- 3: Study on periodontal tissue regeneration using neurotrophines
- 4: Study on the relationship between periodontal disease and rheumatoid arthritis
- 5: Study on the relationship between periodontal disease and diabetes mellitus
- 6: Study on physiological function and differentiation of the cells derived from periodontal ligament
- 7: Study on prevention for periodontal disease
- 8: Study on gingival hyperplasia

(3) Research Achievements

Original Papers (including Case Reports)

1. DC-STAMP is an osteoclast fusogen engaged in periodontal bone resorption.  
Wittrasameewong W, Kajiya M, Movila A, Rittling S, Ishii T, Suzuki M, Matsuda S, Mazda Y, Torruella MR, Azuma MM, Egashira K, Freire MO, Sasaki H, Wang CY, Taubman MA, Kawai T

- Journal of Dental Research, 2017 Jun, 96(6), 685-693
2. A novel gingival overgrowth mouse model induced by the combination of CsA and ligature-induced inflammation  
Ai Okanobu, Shinji Matsuda, Mikihiro Kajiyama, Tsuyoshi Fujita, Mizuho Kittaka, Hidemi Kurihara  
Journal of Immunological Methods, 2017 January, 445, 31-36
  3. Brain-Derived Neurotrophic Factor Inhibits Peptidoglycan-Induced Inflammatory Cytokine Expression in Human Dental Pulp Cells.  
Takeda K, Tokunaga N, Aida Y, Kajiyama M, Ouhara K, Sasaki S, Mizuno N, Fujita T, Kurihara H.  
Inflammation, 2017 Feb, 40(1), 240-247
  4. Xenotransplantation of interferon-gamma pretreated clumps of a human mesenchymal stem cell/extracellular matrix complex induces mouse calvarial bone regeneration  
Kei Takeshita, Souta Motoike (equal contribution), Mikihiro Kajiyama, Nao Komatsu, Manabu Takewaki, Kazuhisa Ouhara, Tomoyuki Iwata, Katsuhiko Takeda, Noriyoshi Mizuno, Tsuyoshi Fujita, Hidemi Kurihara  
Stem Cell Research & Therapy, 2017 April, 8(1), 101
  5. MSC/ECM Cellular Complexes Induce Periodontal Tissue Regeneration.  
Takewaki M, Kajiyama M, Takeda K, Sasaki S, Motoike S, Komatsu I, Matsuda S, Ouhara K, Mizuno N, Fujita T, Kurihara H.  
Journal of dental research, 2017 August, 96(9), 984-991
  6. Effect of local bone marrow stromal cell administration on ligature-induced periodontitis in mice  
Iguchi S, Suzuki D, Kawano E, Mashimo T, Kajiyama M, Toriumi T, Kawai T, Kurihara H, Isokawa K, Sato S, Honda M  
Journal of Oral Science, 2017, 59(4), 629-637
  7. Useful Immunochromatographic Assay of Calprotectin in Gingival Crevicular Fluid for Diagnosis of Diseased Sites in Patients with Periodontal Diseases.  
Kido JI, Murakami S, Kitamura M, Yanagita M, Tabeta K, Yamazaki K, Yoshie H, Watanabe H, Izumi Y, Suda R, Yamamoto M, Shiba H, Fujita T, Kurihara H, Mizuno M, Mishima A, Kawahara N, Hashimoto K, Naruishi K, Nagata T.  
J Periodontol, 2017 Sep, 6, 1-19

## B) Review

## C) Publications

## D) Other Publications

## E) Presentation at Scientific Meeting

1. Investigation of mechanotransduction pathway in the regulation of stem cell fate in 3D culture clumps of an MSCs/ECM complex  
Mikihito Kajiya, Nao Komatsu, Souta Motoike, Manabu Takewaki, Kei Takeshita, Kazuhisa Ouhara, Katsuhiko Takeda, Tomoyuki Iwata, Tsuyoshi Fujita, Hidemi Kurihara  
The 16th Congress of the Japanese Society for Regenerative Medicine (2017 March, Sendai)
2. Histological examination of furcation area periodontal tissue regeneration using Clumps of MSCs/ECM complex (C-MSCs)  
Manabu Takewaki, Mikihito Kajiya, Katsuhiko Takeda, Shinya Sasaki, Souta Motoike, Nao Komatsu, Shinji Matsuda, Kazuhisa Ouhara, Noriyoshi Mizuno, Tsuyoshi Fujita, and Hidemi Kurihara  
The 16th Congress of the Japanese Society for Regenerative Medicine (2017 March, Sendai)
3. The effect of cryopreservation on bone regenerative capacity of Clumps of MSCs/ECM complex  
Souta Motoike, Mikihito Kajiya, Kei Takeshita, Manabu Takewaki, Nao Komatsu, Tomoyuki Iwata, Katsuhiko Takeda, Kazuhisa Ouhara, Noriyoshi Mizuno, Tsuyoshi Fujita, Hidemi Kurihara  
The 16th Congress of the Japanese Society for Regenerative Medicine (2017 March, Sendai)
4. YAP/TAZ Signaling in 3D Culture Clumps of a MSC/ECM Complex  
Nao Komatsu, Mikihito Kajiya, Souta Motoike, Manabu Takewaki, Kei Takeshita, Tomoyuki Iwata, Kazuhisa Ouhara, Katsuhiko Takeda, Tsuyoshi Fujita, Hidemi Kurihara  
95th General Session & Exhibition of the International Association for Dental Research (2017 March, San Francisco, USA)
5. The C5a involvement in rheumatoid arthritis with P.gingivalis-infection in SKG-mice  
Syuichi Munenaga, Kazuhisa Ouhara, Masahiro Yamakawa, Mikihito Kajiya, Katsuhiko Takeda, Yushi Uchida, Noriyoshi Mizuno, Tsuyoshi Fujita, Hidemi Kurihara  
95th General Session & Exhibition of the International Association for Dental Research (2017 March, San Francisco, USA)
6. The involvement of C5a in the progression of P.gingivalis-infected rheumatoid arthritis in SKG mice.  
Syuichi Munenaga, Kazuhisa Ouhara, Masahiro Yamakawa, Satoshi Yamasaki, Eiji Sugiyama, Hidemi Kurihara  
The 61st Annual General Assembly and Scientific Meeting of the Japan College of Rheumatology (2017 April, Fukuoka)

7. The effect of cryopreservation on bone regenerative capacity of Clumps of MSCs/ECM complex  
Motoike Souta, Mikihiro Kajiya, Kei Takeshita, Manabu Takewaki, Nao Komatsu, Tomoyuki Iwata, Katsuhiko Takeda, Kazuhisa Ouhara, Noriyoshi Mizuno, Tsuyoshi Fujita, Hidemi Kurihara  
The 60th Spring Meeting of the Japanese Society of Periodontology (2017 May, Fukuoka)
8. Mechanotransduction in 3D culture clumps of a mesenchymal stem cell/extracellular matrix complex regulates the cell fate  
Nao Komatsu, Mikihiro Kajiya, Souta Motoike, Manabu Takewaki, Kei Takeshita, Kazuhisa Ouhara, Katsuhiko Takeda, Tomoyuki Iwata, Tsuyoshi Fujita, Hidemi Kurihara  
The 60th Spring Meeting of the Japanese Society of Periodontology (2017 May, Fukuoka)
9. The involvement of C5a in the progression of P.gingivalis-infected rheumatoid arthritis in SKG mice.  
Syuichi Munenaga, Kazuhisa Ouhara, Mikihiro Kajiya, Katsuhiko Takeda, Yushi Uchida, Noriyoshi Mizuno, Tsuyoshi Fujita, Hidemi Kurihara  
The 60th Spring Meeting of the Japanese Society of Periodontology (2017 May, Fukuoka)
10. Analysis of gut microbiota in RA induced SKG mouse with Porphyromonas gingivalis infection  
Yuta Hamamoto, Kazuhisa Ouhara, Syuichi Munenaga, Mikihiro Kajiya, Noriyoshi Mizuno, Tsuyoshi Fujita, Hidemi Kurihara  
The 60th Spring Meeting of the Japanese Society of Periodontology (2017 May, Fukuoka)
11. Morphological analysis of junctional epithelium on ligature-induced experimental periodontitis in mice  
Tasuku Takemura, Tsuyoshi Fujita, Shinji Matsuda, Mikihiro Kajiya, Yushi Uchida, Keiichi Akutagawa, Kazuhisa Ouhara, Katsuhiko Takeda, Noriyoshi Mizuno, Hidemi Kurihara  
The 60th Spring Meeting of the Japanese Society of Periodontology (2017 May, Fukuoka)
12. Effects of glycyrrhizin on ligature-induced periodontitis with Porphyromonas gulae infection in diabetes model mouse  
Keiichi Akutagawa, Tsuyoshi Fujita, Tasuku Takemura, Kazuhisa Ouhara, Mikihiro Kajiya, Shinji Matsuda, Noriyoshi Mizuno, Hidemi Kurihara  
The 50th Scientific Meeting of Hiroshima University Dental Society (2017 June, Hiroshima)
13. Effects of glycyrrhizin on ligature-induced periodontitis with Porphyromonas gulae infection in diabetes model mice  
Keiichi Akutagawa, Tsuyoshi Fujita, Tasuku Takemura, Kazuhisa Ouhara, Mikihiro Kajiya, Shinji Matsuda, Noriyoshi Mizuno, Hidemi Kurihara  
The 38th Annual Meeting of the Japanese Society of Inflammation and Regeneration

(2017 July, Osaka)

14. Investigation of the regulatory mechanism for cell function on mesenchymal stem cells in periodontal regeneration by micro RNA

Tomoyuki Iwata

The 36th annual meeting of the Japanese Society for Bone and Mineral Research

(2017 July, Fukuoka)

15. Administration of a novel SYK inhibitor Entospletinib ameliorates fully established inflammation and bone destruction in adult cherubism mice

Tetsuya Yoshimoto, Toshio Kondo, Mizuho Kittaka, Ysuyoshi Ueki

ASBMR 2017 Annual Meeting (2017 September, Denver, USA)

16. Mechanotransduction in 3D culture clumps of a mesenchymal stem cell/extracellular matrix complex regulates the cell fate

Nao Komatsu, Mikihito Kajiya, Tsuyoshi Fujita, Hidemi Kurihara

The 59th Annual Meeting of Japanese Association for Oral Biology (2017 September, Matsumoto)

17. Clumps of a mesenchymal stem cell/extracellular matrix complex induces periodontal tissue regeneration

Manabu Takewaki, Mikihito Kajiya, Katsuhiko Takeda, Shinya Sasaki, Souta Motoike, Nao Komatsu, Shinji Matsuda, Kazuhisa Ouhara, Noriyoshi Mizuno, Tsuyoshi Fujita, and Hidemi Kurihara

The 12th Asian Pacific Society of Periodontology Meeting (2017 September, Seoul, Korea)

18. Effects of brain-derived neurotrophic factor (BDNF) as an adjunct to non-surgical periodontal treatment on ligature-induced periodontitis in dogs

Shinya Sasaki, Katsuhiko Takeda, Manabu Takewaki, Kazuhisa Ouhara, Mikihito Kajiya, Shinji Matsuda, Noriyoshi Mizuno, Tsuyoshi Fujita, Hidemi Kurihara

The 12th Asian Pacific Society of Periodontology Meeting (2017 September, Seoul, Korea)

19. Elucidation of the role of NR4A1 in CsA induced gingival overgrowth

Ai Okanobu, Shinji Matsuda, Mikihito Kajiya, Tsuyoshi Fujita, Hidemi Kurihara

The 12th Asian Pacific Society of Periodontology Meeting (2017 September, Seoul, Korea)

20. Effects of brain-derived neurotrophic factor (BDNF) as an adjunct to non-surgical periodontal treatment on ligature-induced periodontitis in dogs

Shinya Sasaki, Katsuhiko Takeda, Manabu Takewaki, Kazuhisa Ouhara, Mikihito Kajiya, Shinji Matsuda, Noriyoshi Mizuno, Tsuyoshi Fujita, Hidemi Kurihara

The 101st Scientific Meeting of Hiroshima University Dental Society

(2017 October, Hiroshima)

21. The effect of oral inoculation of different type FimA Porphyromonas gingivalis to SKG

mouse in the progression of rheumatoid arthritis

Yuta Hamamoto, Kazuhisa Ouhara, Jyunzo Hisatsune, Syuichi Munenaga, Mikihiro Kajiya,  
Noriyoshi Mizuno, Tsuyoshi Fujita, Motoyuki Sugai, Hidemi Kurihara

The 101st Scientific Meeting of Hiroshima University Dental Society  
(2017 October, Hiroshima)

22. Standardized evaluation of bFGF-induced periodontal tissue regeneration  
Katsuhiko Takeda, Hidemi Kurihara  
Workshop by Chugoku-Shikoku regional 3 universities of the Japanese society of  
Periodontology/ Chugoku-Shikoku regional branch of the Japanese academy of clinical  
periodontology (2017 November, Hiroshima)
23. Dental hygienist's activities and the effects in dental clinical support for HIV-infected patients  
Okada M Matsui K, Iwata T, Sintani T, Kinoshita K, Miyahara A, Ikeda Y, Saitou S,  
Maruyama E, Hamamoto K, Yamasaki N, Hujii T, Shiba H.  
The 31th Annual Meeting of the Japanese Society for AIDS Research (2017 November, Tokyo)
24. Involvement of C5a in the progression of experimental arthritis in SKG mice induced by  
Porphyromonas gingivalis infection  
Syuichi Munenaga, Kazuhisa Ouhara, Hidemi Kurihara  
The 46th Annual Meeting of the Japanese Society for Immunology (2017 December, Sendai)
25. The oriental medicine, magnoliaceae (Kouboku), inhibits the production of methyl mercaptan  
via mgl mRNA inhibition.  
Yoko Sato, Kazuhisa Ouhara, Tomoaki Shintani, Masae Kitagawa, Ikuko Ogawa,  
Mikihiro Kajiya, Noriyoshi Mizuno, Tsuyoshi Fujita, Hidemi Kurihara  
The 60th Japanese Society of Periodontology Diamond Anniversary Meeting in Kyoto  
(2017 December, Kyoto)
26. The effect of oral inoculation of different type FimA Porphyromonas gingivalis to SKG mouse in  
the progression of rheumatoid arthritis  
Yuta Hamamoto, Kazuhisa Ouhara, Syuichi Munenaga, Mikihiro Kajiya, Noriyoshi Mizuno,  
Tsuyoshi Fujita, Hidemi Kurihara  
The 60th Japanese Society of Periodontology Diamond Anniversary Meeting in Kyoto  
(2017 December, Kyoto)
27. Involvement of C5a in the progression of experimental arthritis in SKG mice induced by  
Porphyromonas gingivalis infection  
Syuichi Munenaga, Kazuhisa Ouhara, Mikihiro Kajiya, Katsuhiko Takeda, Noriyoshi Mizuno,  
Tsuyoshi Fujita, Hidemi Kurihara  
The 60th Japanese Society of Periodontology Diamond Anniversary Meeting in Kyoto  
(2017 December, Kyoto)

28. Effects of glycyrrhizin on ligature-induced periodontitis with *Porphyromonas gulae* infection in diabetes model mice

[Return to Contents](#)

- **Department of Molecular Oral Medicine & Maxillofacial Surgery**
- **Division of Oral & Maxillofacial Surgery and Oral Medicine (Department of Oral & Maxillofacial Surgery)**

(1) Staff and Students

Professor: Tetsuji Okamoto    Department Chair: Tetsuji Okamoto (Concurrent appointment)

Associate Professor: Shigeaki Toratani

Clinical Associate Professor: Yasutaka Hayashido

Assistant Professor: Ryouji Tani, Yukio Yoshioka, Kouichi Koizumi, Taku Kanda, Kensaku Sumi,  
Tomoaki Hamana, Sachiko Yamasaki, Taishi Sakaue

Clinical fellow: Yuki Taguchi, Atuko Hmada, Mirei Suematu (~Sep), Eri Akagi(~May)

Shigeru Sakurai, Fuyuyoshi Takatsu (~Apr), Hiroataka Takatao

Humitaka Obayashi(Apr~), Kouji Tsushima(Oct~), Taeko Fukutani(Oct~),

Registered part-time doctor: Emiko Usui, Isao Takahashi, Koh Nabeshima, Yasutaka Ishida,

Hidemasa Miyata, Yoshinari Myoken(Apr~), Yoshinori Fujita(Apr~)

Kohsei Okamoto(Apr~), Yoku Ito(Apr~), Takahiko Hujii(~May),

Mirei Suematu (Oct~)

Graduate Student: Humitaka Obayashi(~May), Kouji Tsushima(~Sep), Taeko Fukutani(~Sep),

Youji Nakase, Mirai Higaki, Suguru Hirota, Kensaku Matsui, Nguyen Quang Tam,

Kaori Uchisako, Seiya Hayashi, Tadayoshi Nobumoto, Takefumi Mishima

Shigeki Sato (~Apr)

Iwao Katayama, Hidemasa Miyata, Yuuichi Arita, Tomohiro Sado,

Visiting Researcher: ROSLI, Siti Nur Zawani

(2) Main Research Activities

1. Gene/molecular diagnosis and therapy for oral cancer and salivary gland tumors. (Cancer stem cells, growth factors, growth factor receptors, invasion and metastasis, tumor angiogenesis, and molecular/gene target therapy).
2. The molecular/genetic diagnosis and therapy for oral and cranio-maxillofacial deformities.
3. Establishment and characterization of human induced pluripotent stem (iPS) cells derived from human pulp cells in serum- and feeder-free cell culture.

4. Generation of human induced pluripotent stem (iPS) cells derived from patients with genetic disorders in the oral and cranio-maxillofacial region in serum- and feeder-free culture to elucidate the molecular mechanism involved in the disease.
5. Purification of biologically active factors from marine organism.
6. Photodynamic therapy for oral cancer.
7. Immune cell therapy for oral cancer by using NK/lymphokine-activated killer (LAK) cells.
8. Jaw and tooth regeneration *in vitro*.
9. Molecular-epidemiological study of oral and maxillofacial disease among residents of Semipalatinsk Nuclear Test Site (SNTS) area in Kazakhstan.
10. Measuring brain hemodynamic changes on mounting dental appliance using Near-Infrared Spectroscopy

### (3) Research Achievements

#### A) Original Papers (including Case Reports)

1. Shintani T, Takatsu F, Rosli SNZ, Usui E, Hamada A, Sumi K, Hayashido Y, Toratani S, Okamoto T: Eldecalcitol (ED-71), an analog of  $1\alpha,25(\text{OH})_2\text{D}_3$ , inhibits the growth of squamous cell carcinoma (SCC) cells *in vitro* and *in vivo* by down-regulating expression of heparin-binding protein 17/fibroblast growth factor-binding protein-1 (HBp17/FGFBP-1) and FGF-2. *In Vitro Cellular & Development Biology. Animal* 14 July (9) P810-817 2017.
2. Fujita Y and Myoken Y: Hemiatrophy of the Denervated Tongue: *Clinics in Surgery* 2017 2: 1641
3. Toshinori Ando, Madhu Shrestha, Takashi Nakamoto, Kaori Uchisako, Sachiko Yamasaki, Koichi Koizumi, Ikuko Ogawa, Mutsumi Miyauchi, Takashi Takata: A case of primordial odontogenic tumor : A new entity in the latest WHO classification: *Pathology International* 2017 Jul;67(7):365-369
4. Koji TSUSHIMA, Yasutaka HAYASHIDO, Taishi SAKAUE, Mirei MATSUOKA, Shigeru SAKURAI, Tetsuji OKAMOTO : Study on function of Human Double Minute 2 (HDM2) in invasion and growth of Oral Squamous cell carcinomas : *The Japanese Journal of Tissue Culture Society for Dental Research* Vol.26 (1) p7-8,2017.
5. H. Nakatao, S. Yamasaki, E. Akagi, A. Hamada, S. Toratani, T. Okamoto : Functional Analysis of rBC2LCN Lectin-recognizing Glycoprotein-positive Cells in Squamous Cell Carcinoma Cell Lines. : *The journal of Japan Tissue Culture Society for Dental Research* Vol.26 (1) p25-26,2017
6. Atsuko Hamada, Eri Akagi, Hiroataka Nakatao, Fumitaka Obayashi, Taeko Yasui, Sachiko Yamasaki, Shigeaki Toratani, Tetsuji Okamoto: Generation of Disease-specific human iPSCs in integration-,

- feeder-, and serum-free culture: The Japanese Journal of Tissue Culture Society for Dental Research, Vol.26(1), p29-30, 2017.
7. K. Matsui, Y. Yoshioka, S. Yamasaki, S. Sakurai, T. Hamana Y, Hayashido, T. Okamoto.: Cases of Disseminated Intravascular Coagulation (DIC) and Idiopathic Thrombocytopenic Purpura (ITP) Revealed by Abnormal Intraoral Hematoma Formation : *J.Jpn.Oral Medicine*. Vol. 23 (1) 28-33, 2017.
  8. Taku Kanda, Hirotaka Nakatao, Atsuko Hamada, Kensaku Sumi, Mirai Higaki, Humitaka Ohbayashi, Taeko Fukutani, Ryouji Tani, Toshinori Andoh, Yasutaka Hayashidou, Shigeaki Toratani, Tetsuji Okamoto: A recurrent case of ameloblastoma 20 years after enucleation and marsupialization: The Journal of Hiroshima Univ. Dental Society Vol.49 (1) p53-58,2017.
  9. Y.Ito,J.Hara.:Efforts of surgery periodic oral care, medical and dental collaboration at JA Onomichi General Hospital.:The Medical Bulletin of Onomichi General Hospital. Vol.27 (0929-5610) 29-33, 2017.
  11. Yuki Asakawa, Tomomi Mituyoshi, Ryou Kuniyoshi, Naomi Date, Yuuko Nakao, Mami Takano, Kouichi Koizumi, Tetsuji Okamoto, Koutarou Tanimoto : A Case of Mandibular Retrusion with Temporomandibular Disorders Treated by Two-jaw Surgery:The journal of Hiroshima University Dental Society Vol.49 (1), P23-30, 2017.
  12. Naohiro Kimura, Yukio Yoshioka, Kouichi Koizumi, Atsuko Hamada, Hirotaka Nakatao, Kensaku Sumi, Ikuko Ogawa, Shigeaki Toratani, Tetsuji Okamoto : A Case of Myoepithelioma of the Upper Lip : The journal of Hiroshima University Dental Society Vol.49 (1) p48-52, 2017.
  13. ODA Aya, YOSHIDA Keita, MUKAI Tomohiro, TAKAHASHI Tamayo, YOSHINAKA Taiga, OHUE Kana, MUKAI Akari, KANDA Taku, ODA Yuki, IRIFUNE Masahiro :A Case of an MRI Examination Performed on an Obese, Intellectually Disabled Patient under Intravenous Sedation and Physical Restraint: JJSDH Vol.38 (1) p47-52, 2017.

#### B) Review article

not applicable

#### C) Publications

not applicable

#### D) Other Publications

not applicable

## E) Presentation at Scientific Meeting

### 1. **International Conference (invited speaker)**

- Tetsuji Okamoto : Overview and perspective in 30 years research of my laboratory after the Cell Science Center: The 15th International Conference on cellular endocrinology, 2017.11.18. (Hiroshima)
2. Myoken Yoshinari: In memories of Dr. Gordon H. Sato: The 15th International Conference on cellular endocrinology, 2017.11.18. (Hiroshima)

### **International Meeting**

1. H.Nakatao, E.Akagi, A. Hamada, S. Yamasaki, S. Toratani, T. Okamoto: Function of rBC2LCN Lectin-recognizing Glycoprotein-positive Cells in Squamous Cell Carcinoma Cell Lines.: In Vitro Biology Meeting (Raleigh North Carolina USA )2017.6.10-14.
2. Yukio YOSHIOKA, Hirotaka NAKATAO, Atsuko HAMADA, Makoto OJIKI, Tetsuji OKAMOTO: Antitumor effect of crambescidin-657 purified from the Indonesian sponge *Clathria bulbotoxa* on human squamous cell carcinoma cells: The 15th International Conference on cellular endocrinology, 2017.11.18. (Hiroshima)
3. Koji TSUSHIMA, Yasutaka HAYASHIDO, Taishi SAKAUE, Mirei MATSUOKA, Shigeru SAKURAI, Tetsuji OKAMOTO: Study on function of Human Double Minute 2 (HDM2) in invasion and growth of Oral Squamous cell carcinomas: The 15th International Conference on cellular endocrinology, 2017.11.18. (Hiroshima)
4. Tam Quang NGUYEN, Atsuko HAMADA, Hirotaka NAKATAO, Shigeaki TORATANI, Tetsuji OKAMOTO : Ionizing radiation induces cancer stem cell properties for head and neck squamous cell carcinoma cell lines in serum-free defined culture : The 15th International Conference on cellular endocrinology, 2017.11.18. (Hiroshima)
5. Kensaku MATSUI, Ryouji TANI, Sachiko YAMASAKI, Atsuko HAMADA, Takefumi MISHIMA , Kaori UCHISAKO, Hisako SASAHARA, Shigeaki TORATANI, Tetsuji OKAMOTO: Diversity analysis of gut and oral microbiome in oral cancer patients and beneficial effects of probiotics: The 15th International Conference on cellular endocrinology, 2017.11.18. (Hiroshima)
6. Taeko FUKUTANI, Atsuko HAMADA, Hirotaka NAKATAO, Fumitaka OBAYASHI, Sachiko YAMASAKI, Taku KANDA, Kouichi KOIZUMI, Shigeaki TORATANI, Tetsuji OKAMOTO : Genetic diagnosis of Neurofibromatosis type I (von Recklinghausen's disease) and establishment of NF1-specific induced pluripotent stem cells (iPSCs) in virus integration-, feeder-, and serum-free defined culture for disease model study: The 15th International Conference on cellular endocrinology, 2017.11.18. (Hiroshima)

7. Mirei Matsuoka, Yukio Yoshioka, Koichi Koizumi, Ryoji Tani, Yasutaka Hayashido, Shigeaki Toratani, Tetsuji Okamoto : A clinical study of patients over 85 years of age with oral cancer: The 15th International Conference on cellular endocrinology, 2017.11.18. (Hiroshima)
8. Fumitaka Obayashi, Atsuko Hamada, Hirotaka Nakatao, Taeko Fukutani, Eri Akagi, Sachiko Yamasaki, Taku Kanda, Shigeaki Toratani, Tetsuji Okamoto : Genetic diagnosis of Cowden Syndrome (CS) and establishment of CS-specific induced pluripotent stem cells (iPSC) in virus integration-, feeder-, and serum-free defined culture for disease model study: The 15th International Conference on cellular endocrinology, 2017.11.18. (Hiroshima)
9. Suguru Hirota, Shinji Matsumoto Akira Kikuchi : Identification of Wnt-dependent transient amplifying-like cells in salivary gland by marker gene *Aqp3* : The 15th International Conference on cellular endocrinology, 2017.11.18. (Hiroshima)
10. Mirai Higaki, Tomoaki Shintani, Atsuko Hamada, S.N.Z. Rosli, Emiko Usui, Tetsuji Okamoto : MiR-6887-5p inhibits squamous cell carcinoma cell growth via downregulation of HBp17/FGFBP-1 expression : The 15th International Conference on cellular endocrinology, 2017.11.18. (Hiroshima)
11. Atsuko HAMADA, Hirotaka NAKATAO, Humitaka OHBAYASHI, Taeko HUKUTANI, Sachiko YAMASAKI ,Kouichi KOIZUMI, Shigeaki TORATNI, Tetsuji OKAMOTO : Generation of disease specific-iPSCs in virus integration-, feeder-, and serum-free defined culture, and their use for disease model study: The 15th International Conference on cellular endocrinology, 2017.11.18. (Hiroshima)

#### Conference (invited speaker)

1. T Okamoto : Development of diagnostic and therapeutic methods for oral and maxillofacial disease by cellular-endocrinological study using serum-free culture : The 71<sup>th</sup> The Congress of the Japanese Stomatological Society 2017.4.26-28 (Matsuyama)

#### Domestic Meeting presentations

1. Shimamoto, K. Yano, H. Kagawa, K. Kinehara, A. Hamada, T. Okamoto, H. Tahara: An in vitro model for cancer stem cell dormancy and recurrence using tet-inducible reprogramming system: The 16<sup>th</sup> Congress of the Japanese Society for Regenerative Medicine, 2017.3.7-9 (Sendai)
2. N.Ito, K.Okamoto, T.Sakamoto, M.Hunakoshi, K.Mita, S.Kitaguchi,H.Tanaka, Y.Hujii, Y.Ueda, S.Toratani, T.Okamoto : Usefulness of the dentistry intervention in the prevention of the BMA-related necrosis of the jaw bone and the early detection : The 47<sup>th</sup> The hiroshima breast disease society 2017.4.8. (Hiroshima)
3. F.Obayashi, A.Hamada, H.Nakatao, E.Akagi, S.Hayashi, S.Yamasaki, T.Kanada, S.Toratani,

- T.Okamoto: Establishment of Cowden syndrome-specific iPSC cells: The 71<sup>th</sup> Annual meeting of the Japanese Stomatological Society 2017.4.26-28. (Matsuyama)
4. A. Hamada, E. Akagi, H. Nakatao, F. Obayashi, T. Fukutani, S. Yamasaki, K. Koizumi, S. Toratani, M. Otaka, M. Nakanishi, T. Okamoto : Generation of disease specific-iPSCs in virus integration-, feeder-, and serum-free defined culture, and their use for disease model study: The 71<sup>st</sup> Annual Meeting of The Japanese Stomatological Society 2017.4.26-28 (Matsuyama)
  5. H. Nakatao, E. Akagi, A. Hamada, S.Yamasaki, S.Toratani, T. Okamoto : Functional Analysis of rBC2LCN Lectin-recognizing Glycoprotein-positive Cells in Squamous Cell Carcinoma Cell Lines : The 71<sup>th</sup> Annual meeting of the Japanese Stomatological Society 2017.4.26-28. (Matsuyama)
  6. K. Tsushima, Y. Hayashido, T. Sakaue, M. Matsuoka, S. Sakurai, T. Okamoto: Functional analysis of HDM2 on invasion of oral squamous cell carcinoma: The 71<sup>th</sup> Annual meeting of the Japanese Stomatological Society 2017.4.26-28. (Matsuyama)
  7. S. Sakurai, Y. Hayashido, Y. Yoshioka, T.Hamana, T. Sakaue, M. Matsuoka, T. Okamoto: A study on clinical manifestation and expression of focal adhesion kinase (FAK) and phosphorylated FAK in oral squamous cell carcinoma : The 71<sup>th</sup> Annual meeting of the Japanese Stomatological Society 2017.4.26-28. (Matsuyama)
  8. M. Matsuoka, Y. Yoshioka, F. Takatsu, S. Hirota, T. Sakaue, S. Yamasaki, T.Hamana, T. Kanda, k. Sumi, K.Koizumi, R. Tani, Y. Hayashido, S. Toratani, T. Okamoto: A clinical study of super elderly patients waith oral cancer : The 71<sup>th</sup> Annual meeting of the Japanese Stomatological Society 2017.4.26-28. (Matsuyama)
  9. Y.Ito,J.Hara: A Case of Brancheal Cyst in chin, Cystectomy and Genioplasty Surgery : The 71<sup>th</sup> Annual meeting of the Japanese Stomatological Society 2017.4.26-28. (Matsuyama)
  10. Tomomi Date, Yuuko Nakao, Hiroshi Ueda, Taku Kanda, Koiche Koizumi,Koutarou Tanimoto : A case of severe skeletal open bite with suspected as acromegaly treated by orthognathic surgery : The 27<sup>th</sup>Annual meeting of the Japanese society for jaw deformities.2017.5. 1 (Tokyo)
  11. Y Fujita, J Kobayashi, E Sakaue, H Kohada, Y Yamane, M Ohobayashi, M Fujihara, Y Myoken, T Okamoto: A Case of Mucoepidermoid Carcinoma Derived from Palatal Gland and Forming Cystic Lesion in the Maxillary Sinus. : The 46nd Regional Meeting of the Japanese Society of Oral and Maxillofacial Surgeons, 2017. 5.27. (Shinyamaguchi)
  12. Y Myoken, J Kobayashi, E Sakaue, H Kohada, Y Yamane, Y Fujita, T Okamoto : Clinical Findings of Invasive Sinus Aspergillois in Immunocompromiseds Patients: Early Stages vs. Advanced Stages.:The 46nd Regional Meeting of the Japanese Society of Oral and Maxillofacial Surgeons, 2017. 5.27. (Shinyamaguchi)
  13. T.Noriyuki,N.Takazawa,R.Nakanuno,C.Morita,Y.Ito,M.Odawara,C.Fujiwara,T.Shimazui,T.hirai,T.E gusa,Y.Unemoto :What is required for palliative care physician with palliative care intervention

- from early stage :The 22nd Congress of Japanese Society for Palliative Medicine 2017.6.23-25.  
(Kanagawa)
14. Yuichi Arita, Akihiko Sakamoto, Tetsuji Okamoto, Kiyotaka Matsuoka, Runa Shigemi, Masae Oshita, Tomoyuki Mantani, Shinji Akagi, Yukihiro Kawamoto, Ryo Ogami, Sayuru Tsuyuguchi: Investigation of the usefulness of evaluation of swallowing function for dysphagia caused by dementia and accompanying extrapyramidal symptoms : The 20th Annual Congress of Japan Association of Neurosurgical Clinics,2017.7.15-16. (Hiroshima)
  15. Kiyotaka Matsuoka, Yuichi Arita, Runa Shigemi, Masae Oshita, Masae Hirata, Kayo Nakamoto, Kaori Nishi : A case report of enabled oral ingestion after rehabilitation therapy through the Specialist Teams for a brain stem tumor patient.:The 20th Annual Congress of Japan Association of Neurosurgical Clinics.2017.7.15-16. (Hiroshima)
  16. C.Kubota,I.Sato,T.Egusa,M.Yasuhara,S.Horikawa,Y.Ito:A case of bisphosphonate related osteonecrosis of the jaw in Onomichi General Hospital:The 43th bisann medical Society,2017.7.19. (Onomichi)
  17. Taeko Fukutani, Atsuko Hamada, Hirotaka Nakatao, Fumitaka Obayashi, Sachiko Yakmasaki, Taku Kanda, Koichi Koizumi, Shigeaki Toratani, Tetsuji Okamoto. : Genetic diagnosis of Neurofibromatosis type I(von Recklinghausen's disease, NF1) and establishment of NF1-specific induced pluripotent stem cells (iPSCs) for the study of disease mechanisms : The 27<sup>th</sup> general meeting of Japanese Society of Oral Medicine • The 30<sup>th</sup> general meeting of The Japanese Society of Oral Diagnosis/Oral Medicine. 2017.9.15-17 (Sapporo)
  18. C.Okugawa,K.Hamahara,Y.Ito,J,Hara:Changes in consciousness of ward staff due to dental intervention to neurosurgery inpatients and future issues : The 12th The general meeting of Japanese Dental Hygienist Society,2017.9.15-16. (Tokyo)
  19. Kiyotaka Matsuoka,Yuichi Arita, Akihiko Sakamoto, Runa Shigemi, Masae Oshita : A case report of total oral nutrition after rehabilitation therapy for dysphagia caused by progressive supranuclear palsy.:The 23<sup>rd</sup> Annual Meeting of the Japanese Society of Dysphagia Rehabilitation. 2017.9.15-16. (Chiba)
  20. S. Hirota, S. Matsumoto, A. Kikuchi: Identification and functional analysis of Wnt signal response cells in adult mouse salivary gland: The 9<sup>th</sup> Basic Biology Forum of Young Scientists 2017.9.20. (Osaka)
  21. Y Fujita, E Sakaue, M Ohobayashi, Y Myoken, T Okamoto : A Case of Mucoepidermoid Carcinoma Derived from Palatal Gland and Forming Cystic Lesion in the Maxillary Sinus. :The 62nd Congress of the Japanese Society of Oral and Maxillofacial Surgeons 2017. 10 20-22. (Kyoto),

22. Y Myoken, E Sakaue, Y Fujita, T Okamoto: Invasive Sinus Aspergillosis in Immunocompromised Patients: Clinical Findings for Early Diagnosis. The 62nd Congress of the Japanese Society of Oral and Maxillofacial Surgeons 2017. 10 20-22. (Kyoto)
23. Y.Ito,F.Takatu,J.Hara:A case of late recurrence malignant melanoma of cervical lymph nodes triggered by colon cancer treatment:The 62nd General meeting of Japanese Oral & Maxillofacial surgery Society 2017.10.20-22. (Kyoto)
24. N.Ito, M.Maruko, Y.Yamasaki, K.Okamoto, S.Kitaguchi, Y.Yorita, H.Matsuura, M.Kaneko, M.Kitagawa, I.Ogawa, S.Toratani, T.Okamoto : A case of oral mucositis during the Nivolumab dosage : The 55th Annual Meeting of Japan Society of Clinical Oncology 2017.10.20-22 (Yokohama)
25. Yuki Oda, Chiaki Furutani, Chie Mantoku, Keita Yoshiada, Akari Mukai, Taiga Yosinaka, Aya Oda, Tomohiro Mukai, Atsuko Wakita, Taku Kanda, Fumiko Hayashi, Yasutaka Kaihara, Masahiro Irifune, Katsuyuki Kouzai : A Case report of Lesch-Nyhan syndrome that a self-harm act decreased with use of continuous mouse guard for 12 years : The 34<sup>th</sup> Annual Meeting Of the Japanese society for Disability and Oral Health. 2017.10.27-29 (Hakata)
26. Chiaki Furutani, Yuki Oda, Chie Mantoku, Yuuki Hayashi, Keita Yoshia, Tomohiro Mukai, Atsuko Wakita, Taku Kanda, Yasutaka Kaihara, Masahiro Irifune, Katsuyuki Kouzai : A case report - improved QOL by performing continuous dental treatment and oral hygiene instruction for a schizophrenia patient. : The 34<sup>th</sup> Annual Meeting Of the Japanese society for Disability and Oral Health. 2017.10.27-29 (Hakata)
27. Taeko Fukutani, Atsuko Hamada,Hirotaka Nakatao,Fumitaka Obayashi, Sachiko Yamasaki, Taku Kanda, Koichi Koizumi, Shigeaki Toratani, Tetsuji Okamoto : Research of Diagnosis and generation of specific iPSCs of Neurofibromatosis type I in serum-, and feeder-free condition : The 54<sup>th</sup> meeting of Japan Tissue Culture for Dental Research. 2017.11.3-4. (Morioka)
28. Mirai Higaki<sup>1</sup>, Tomoaki Shintani<sup>2</sup>, Atsuko Hamada<sup>1</sup>, S.N.Z. Rosli<sup>3</sup>, Emiko Usui<sup>3</sup>, Tetsuji Okamoto: Effect of VD derivative ED-71 on expression of HBp17 / FGFBP-1 and regulatory chemical messengers in oral squamous cell carcinoma cells : The 54<sup>th</sup> meeting of Japan Tissue Culture for Dental Research. 2017.11.3-4. (Morioka)
29. F. Obayashi, T. Sakaue, K.Koizumi, Y. Yoshioka, I. Ogawa, S. Toratani, T. Okamoto: A case of synchronous squamous cell carcinoma of the mandibula and primary Hodgkin's lymphoma of the neck: The 65<sup>th</sup> meeting of the Japanese Stomatological Society 2017.11.11. (Kochi)
30. F.Takatu,Y.Ito,J.Hara,T.Hamana,T.Kannda,K.Koizumi,M.Kobayashi,S.Toratani,T.Okamoto:Clinical Study of Recent 10 year Orthognathic Surgery in Dent-Oral-Maxillofacial Surgery at JA Onomichi General Hospital : The 65th The meeting of Japanese Stomatological Society 2017.11.10-11. (Kochi)

31. Taeko Fukutani, Shigeaki Toratani, Kensaku Matsui, Atsuko Hamada, Sachiko Yamasaki, Taku Kanda, Ikuko Ogawa, Tetsuji Okamoto.: Case report - Synovial chondromatosis with gene mutation of Gli1 : The 65th The meeting of Japanese Stomatological Society 2017.11.10-11. (Kochi)
32. Y Myoken, E Sakaue, Y Fujita, T Okamoto: Unilateral Cheek Swelling in an Infant: Case Report of an Unusual Presentation of Internal Bleeding due to Vitamin K Deficiency. The 65nd Regional Meeting of Japanese Stomatological Society 2017.11.11. (Kouchi)
33. N.Ito, K.Okamoto, I.Ogawa, S.Toratani, T.Okamoto : A case of oral mucositis during the Nivolumab dosage : The 65th Japanese Stomatological Society Chugoku, Shikoku district sectional meeting 2017.11.11. (Kochi)
34. Yuichi Arita, Akihiko Sakamoto, Ryouji Tani, Yukio Yoshioka, Koichi Koizumi, Tomoaki Shintani, Yasutaka Hayashido, Shigeaki Toratani, Tetsuji Okamoto : Determination of effects of medication / Cerebrospinal fluid tap test for patients with dementia with decreased ADL, parkinsonism and suspected of normal pressure hydrocephalus by swallowing function test. : The 65th Japanese Stomatological Society Chugoku, Shikoku district sectional meeting 2017.11.11. (Kochi)
35. N. Kimura, T. Sado, Y. Arita, Y. Yoshimura, S. Toratani, T. Okamoto: The Clinical statistical examination of first visit outpatients at dental and oral surgery in the Miyoshi municipal central hospital : The 65th Japanese Stomatological Society Chugoku, Shikoku district sectional meeting 2017.11.11. (Kochi)
36. Yuichi Arita, Akihiko Sakamoto, Yukihiko Kawamoto, Shinji Akagi, Ryo Ogami, Obuhiko Ichinose, Tomoyuki Mantani, Tetsuji Okamoto : Investigation of cases of effects of medication / Cerebrospinal fluid tap test for patients with decreased ADL with dementia, parkinsonism and possibility of normal pressure hydrocephalus by videofluoroscopic examination of swallowing.: The 15th Workshop of the Hiroshima NST. 2017.11.18. (Hiroshima)
37. S. Hirota, S. Matsumoto, A. Kikuchi: Identification and functional analysis of Wnt signal response cells in adult mouse salivary gland: The 40<sup>th</sup> Annual Meeting of the Molecular Biology Society of Japan (Kobe), 2017.12.6-9.

#### F) Other lectures

1. Y.Ito: The problem of Mouth in cancer patients. 2017. November regular meeting Onomichi dental association society, 2017.11.22. (Onomichi)
2. Yuichi Arita : The workshop of Dysphagia Rehabilitation of the Hiroshima Prefectural Dental Association. 2017.11.12. (Kure)

#### (4) Status of Receiving Grants-in Aid for Scientific Research, etc.

1. Grants-in aid for scientific research (B): Tetsuji Okamoto: Grant #15H05043
2. Grant-in-Aid for challenging Exploratory Research: Tetsuji Okamoto: #16K15823
3. Grants-in aid for scientific research (C): Toratani Shigeaki: #15K11251
4. Grants-in aid for scientific research (C): Yukio Yoshioka: #17K11838
5. Grants-in aid for scientific research (C): Tomoaki Shintani: #16K11723
6. Grants-in aid for scientific research (C): Taku Kanda: #16K11687
7. Grants-in aid for scientific research (C): Tomoaki Hamana: #17K11875
8. Grant-in-Aid for Young Scientists(B): Sachiko Yamasaki: #16K20580 1
9. Grant-in-Aid for Young Scientists(B): Taishi Sakaue: #17K17251
10. Grant-in-Aid for Young Scientists(B):Yuki Taguchi: #16K20539
11. Grant-in-Aid for Young Scientists(B):Atsuko Hamada: #17K17252
12. Program to supporting research activities of female researchers: Sachiko Yamasaki

#### (5) Academic Awards, etc.

1. H. Nakatao, E. Akagi, A. Hamada, S.Yamasaki, S.Toratani, T. Okamoto : Functional Analysis of rBC2LCN Lectin-recognizing Glycoprotein-positive Cells in Squamous Cell Carcinoma Cell Lines : The 71<sup>th</sup> Annual meeting of the Japanese Stomatological Society 2017.4.26-28. (Matsuyama).  
Poster award of the annual meeting Japanese stomatology society
2. Mirai Higaki<sup>1</sup>, Tomoaki Shintani<sup>2</sup>, Atsuko Hamada<sup>1</sup>, S.N.Z. Rosli<sup>3</sup>, Emiko Usui<sup>3</sup>, Tetsuji Okamoto: Effect of VD derivative ED-71 on expression of HBp17 / FGFBP-1 and regulatory chemical messengers in oral squamous cell carcinoma cells: The 54<sup>th</sup> meeting of Japan Tissue Culture for Dental Research. 2017.11.3-4. (Morioka).Best Presentation Award of the54<sup>th</sup> meeting of Japan Tissue Culture for Dental Research.
3. H. Nakatao: 2017 Incentive award of the Alumni association of Oral and maxillofacial surgery. 2017.11.18.(Hiroshima)

#### (6) Patents

Patent Application Number: 2016-210972

Title of invention: Improvement agents for cancer survival rate, Inventors: Tetsuji Okamoto, Ryouji Tani, Kohichiro Tokumaru, Applicants: Hiroshima Univ. and Nihon Kefir Co., Ltd, PCT/JP2017/038961

[Return to Contents](#)

- **Department of Advanced Prosthodontics**
- **Division of Preventive and Restorative Dentistry**  
**(Department of Oral Implant)**

(1) Staff and Students

Professor: Kazuhiro Tsuga

Associate Professor: Yasuhiko Abe, Mineka Yoshikawa, Takayasu Kubo

Associate Professor/Lecturer: Koh-ichi Kuremoto, Katsunori Koretake

Assistant Professor: Hiroshi Oue, Yohei Okazaki, Shinsuke Okada

Research Associate: Maho Takeuchi, Mariko Maruyama, Takahiro Mori, Aya Hiraoka, Kan Kato, Yosuke Takeda

Graduate Student: Azusa Kuroki, Miyuki Yokoi, Reiko Kobatake, Miwa Sasaki, Fumiko Nishio, Erika Asahara

Clinical Trainee: Toru Akutu, Daijirou Kubo

Administrative staff: Rinko Kurumi

(2) Main Research Activities

- 1 : Elucidation of the effect of prosthodontic treatments on the quality of life of elderly people.
- 2 : Removal prosthodontics and swallowing function of elderly people.
- 3 : Development and clinical application of functional oral rehabilitation utilizing tongue pressure measurement.
- 4 : Development and clinical application of new materials for oral implants.
- 5 : Development of "bio-hybrid" artificial bone made of interconnected porous hydroxyapatite and mesenchymal stem cells.
- 6 : Elucidation of the effect of FGF on bone formation surrounding oral implants.
- 7 : Biomechanics analysis of prostheses and their surrounding bone supported by implants.

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1 : A stability evaluation of a novel titanium dental implant/interconnected porous hydroxyapatite complex under functional loading conditions: Doi K, Kubo T, Kajihara S, Makihara Y, Oue H, Oki Y, Perrotti V, Piattelli A, Akagawa Y, Tsuga K: Dent Mater J, 36: 647-53, 2017.
- 2 : Application of interconnected porous hydroxyapatite ceramic block for onlay block bone grafting in

- implant treatment: A case report: Ohta K, Tada M, Ninomiya Y, Kato H, Ishida F, Abekura H, Tsuga K, Takechi M: *Exp Ther Med*, 14: 5564-5568, 2017.
- 3 : Change of Oral Conditions after Combined Use of a Tongue Brush and Toothbrush: A Pilot Study: Maruyama M, Yoshikawa M, Yoshida M, Mori T, Hiraoka A, Higa C, Tsuga K: *J Dent Oral Care*, 3: 1-4, 2017.
- 4 : Development of a candy-sucking test for evaluating oral function in elderly patients with dementia: A pilot study: Mori T, Yoshikawa M, Maruyama M, Hiraoka A, Nakamori M, Yoshida M, Tsuga K: *Geriatr Gerontol Int*, 17: 1977-1981, 2017.
- 5 : Effect of polymerization temperature on the properties of autopolymerizing resin: Morita K, Tsuka H, Kato K, Tsuga K: *J Prosthet Dent*, pii: S0022-3913(17), 30514-0, 2017. Epub ahead of print
- 6 : Effective UV/Ozone irradiation method for decontamination of hydroxyapatite surfaces: Yasuda K, Okazaki Y, Abe Y, Tsuga K: *Heliyon*, 3: e00372, 2017.
- 7 : Effects of intermittent continual administration of parathyroid hormone on implant stability in the presence of osteoporosis: an in vivo study using resonance frequency analysis in a rabbit model: Oki Y, Doi K, Makihara Y, Kobatake R, Kubo T, Tsuga K: *J Appl Oral Sci*, 25: 498-505, 2017.
- 8 : Enhanced osseointegration of a modified titanium implant with bound phospho-threonine, A preliminary in vivo study: Okazaki Y, Doi K, Oki Y, Kobatake R, Abe Y, Tsuga K: *J funct Biomater*, E16, 2017.
- 9 : Evaluation of shear bond strength between PEEK and resin-based luting material: Tsuka H, Morita K, Kato K, Kawano H, Abekura H, Tsuga K: *Journal of Oral Biosciences*, 59: 231-236, 2017.
- 1 0 : Investigation of effective modification treatments for thin titanium membranes: Kobatake R, Doi K, Oki Y, Umehara H, Kawano H, Kubo T, Tsuga K: *Appl Sci*, 7: 1022, 2017.
- 1 1 : Maximum tongue pressure is associated with swallowing dysfunction in ALS patients: Hiraoka A, Yoshikawa M, Nakamori M, Hosomi N, Nagasaki T, Mori T, Oda M, Maruyama H, Yoshida M, Izumi Y, Matsumoto M, Tsuga K: *Dysphagia*, 32: 542-547, 2017.
- 1 2 : Novel Development of Phosphate Treated Porous Hydroxyapatite: Doi K, Abe Y, Kobatake R, Okazaki Y, Oki Y, Naito Y, Prananingrum W, Tsuga K: *Materials*, E1405, 2017.
- 1 3 : Preoperative evaluation of bone quality for dental implantation using an ultrasound axial transmission device in an ex vivo model: Okada S, Kawano A, Oue H, Takeda Y, Yokoi M, Koretake R, Tsuga K: *Clinical and Experimental Dental Research*, 3: 81-86, 2017.
- 1 4 : Prevalence of Torus Mandibularis in Young Healthy Dentate Adults: Morita K, Tsuka H, Shintani T, Yoshida M, Kurihara H, Tsuga K: *J Oral Maxillofac Surg*, 75: 2593-2598, 2017.
- 1 5 : Runx1 mediates the development of the granular convoluted tubules in the submandibular glands: Ono Minagi H, Sarper SE, Kurosaka H, Kuremoto K, Taniuchi I, Sakai T, Yamashiro T: *PLoS One*, 12: e0184395, 2017.
- 1 6 : Stability of implants placed in bone reconstructed with block-type interconnected porous Hydroxyapatite: Makihara Y, Doi K, Oki Y, Kobatake R, Kubo T, Tsuga K: *J Hard Tissue Biol*, 26: 393-8, 2017.
- 1 7 : Stim1 Regulates Enamel Mineralization and Ameloblast Modulation: Urukawa Y, Haruyama N, Nikaïdo M, Nakanishi M, Ryu N, Oh-Hora M, Kuremoto K, Yoshizaki K, Takano Y, Takahashi I: *Dent Res*, 96: 1422-1429, 2017.
- 1 8 : The Association between Torus Palatinus Development and Oral/Occlusal States in a Group of Healthy Dentate Subjects: Morita K, Tsuka H, Kato K, Doi K, Kuremoto K, Yoshikawa M, Yoshida M, Tsuga K: *Oral Health Dent Manag*, 16: 1-5, 2017.
- 1 9 : Tips for Practical Application of Tongue Pressure Test : Morita K, Tsuga K: *Annals of Japan Prosthodontic Society*, 9: 181-185, 2017.

## B) Review

## C) Publications

## D) Other Publications

## E) Presentation at Scientific Meeting

- 1 : Evaluation of oral function by using tongue pressure measurement device: Yoshikawa M: The 49th Annual Scientific Meeting of the Japan Atherosclerosis Society (Hiroshima), 2017.
- 2 : A case of eating problem after the operation of oral floor cancer treated with implant-supported overdenture: Yoshikawa M: Scientific Meeting of Japan Prosthodontic Society Chugoku and Shikoku branch (Yamaguchi), 2017.
- 3 : A case of treatment based on examination for patients suspected of allergy by dental autopolymerizing resin: Kitagawa M, Kuremoto K, Shintani T, Ogawa I, Kurihara H: The 9th Annual Meeting of Japan Metal Free Dental Society (Tokyo), 2017.
- 4 : Association between buccal mucosa ridging and oral state/oral function: Morita K, Tsuka H, Kato K, Maruyama M, Hiraoka A, Higa C, Kuroki A, Mori T, Yoshikawa M, Dowaki I, Moriya N, Yoshida M, Tsuga K: Scientific Meeting of Japan Prosthodontic Society Chugoku and Shikoku branch (Yamaguchi), 2017.
- 5 : Association between buccal mucosa ridging and oral states or oral functions in elderly people: Morita K, Tsuka H, Kato K, Maruyama M, Kuroki A, Mori T, Yoshikawa M, Yoshida M, Tsuga K: The 56thThe Hiroshima University Dental Society (Hiroshima), 2017.
- 6 : Association between masticatory performance and oral function in elderly group: Morita K, Maruyama M, Mori T, Kuroki A, Yoshikawa M, Abe Y, Tsuga K: The 28th general meeting of Japanese Society for Mastication Science and Health Promotion (Tokyo), 2017.
- 7 : Bioactive surface modification of titanium membrane: Oki Y, Doi K, Kobatake R, Yokoi M, Kato K, Kubo T, Tsuga K: European association for osseointegration (Madrid), 2017.
- 8 : Development of novel porous titanium as bone reconstruction material: Kobatake R, Doi K, Makihara Y, Oki Y, Kubo T, Abekura H, Tsuga K: The 101th annual meeting of Hiroshima university dental society (Hiroshima), 2017.
- 9 : Development of novel porous titanium/implant complex: Kobatake R, Doi K, Morita K, Tsuka H, Kubo T, Tsuga K: The 69th of academic meeting of the Japanese society for dental materials and devices (Tokyo), 2017.
- 1 0 : Effect of FGFR2 signaling on dentin formation: Yokoi M, Kuremoto K, Hiyama S, Abe Y, Tsuga K: Annual Scientific meeting of Japan Prosthodontic Society Chugoku and Shikoku Branch (Yamaguchi), 2017.
- 1 1 : Effect of intermittent administration of parathyroid hormone on osseointegration in steroid

- induced osteoporosis model: Oki Y, Doi K, Makihara Y, Kubo T, Tsuga K: The 47th Annual Meeting of the Japanese Society of Oral Implantology (Sendai), 2017.
- 1 2 : Effect of polymerization temperature on the properties of autopolymerizing resin: Morita K, Tsuka H, Kobatake R, Doi K, Tsuga K: The 70nd General Session of the Japanese Society for Dental Materials and Devices (Niigata), 2017.
- 1 3 : Evaluation of laser pretreatment on bonding durability of adhesive resin cements to polyetheretherketone(PEEK): Tsuka H, Morita K, Doi K, Kobatake R, Abekura H, Tsuga K: The 70th Scientific Meeting of the Japan Society for Dental Materials and Devices (Niigata), 2017.
- 1 4 : Evaluation of laser pretreatment on Shear bond strength of adhesive resin cement to polyetheretherketone(PEEK): Tsuka H, Morita K, Doi K, Abe Y, Tsuga K: The 69th Scientific Meeting of the Japan Society for Dental Materials and Devices (Tokyo), 2017.
- 1 5 : Histological aspects of an implant in the bone reconstructed with porous titanium: Kobatake R, Kubo T, Doi K, Oki Y, Makihara Y, Tsuga K: The 37th annual meeting of the Chugoku/Shikoku branch of the Japanese society of oral implantology (Tokushima), 2017.
- 1 6 : Influence of surface modification for structural change of titanium thin membranes: Kobatake R, Doi K, Kubo T, Makihara Y, Oki Y, Tsuga K: The 47th Annual Meeting of the Japanese Society of Oral Implantology (Sendai), 2017.
- 1 7 : Influence of surface modification for structure of titanium thin membrane: Kobatake R, Doi K, Morita K, Tsuka H, Kubo T, Tsuga K: The 70th of academic meeting of the Japanese society for dental materials and devices (Niigata), 2017.
- 1 8 : Influence of surface modification on structure and mechanical strength of titanium thin membrane: Umehara H, Kubo T, Doi K, Kobatake R, Oki Y, Tsuga K: The 37th annual meeting of the Chugoku/Shikoku branch of the Japanese society of oral implantology (Tokushima), 2017.
- 1 9 : Investigation of effective modification treatments for titanium membranes: Kobatake R, Doi K, Oki Y, Kubo T, Tsuga K: The 7th Hiroshima conference (Hiroshima), 2017.
- 2 0 : Newly development of porous titanium structure for bone graft material: Kobatake R, Doi K, Oki Y, Makihara Y, Koretake K, Kubo T, Tsuga K: European association for osseointegration (Madrid), 2017.
- 2 1 : Novel development of bioactive porous hydroxyapatite: Doi K, Abe Y, Okazaki Y, Kobatake R, Morita K, Tsuka H, Tsuga K: The 70th of academic meeting of the Japanese society for dental materials and devices (Niigata), 2017.
- 2 2 : Novel porous titanium biomaterial with three demensional structure: Doi K: Hiroshima university-New technology presentation meetings (Hiroshima), 2017.
- 2 3 : Relationship between eating and swallowing function, protein intake and nutritional condition in elderly people requiring long-term care: Kuroki A, Mori T, Kawano H, Yoshikawa M, Tsuga K: The 58 th Scientific Meeting of the Japan Society of Stomatognathic Function (Tokushima),

2017.

- 2 4 : A Case on recovery of masticatory function in patient treated with oral implants: Okazaki Y: The annual meeting of the Japanese Prosthodontic Society Chugoku-Shikoku branch (Yamaguchi), 2017.
- 2 5 : Usages of denture adhesives based on the results of a web survey: Okazaki Y, Dainobu K, Iwaguro S, Takayama Y, Kato R, Yasuda K, Abe Y, Tsuga K: The 56th Scientific meeting of Hiroshima Prefecture Dental Association, The 101st Scientific Meeting of Hiroshima University Dental Association, The 12th Scientific Meeting of Japan Society of Dental Techniques Chugoku-Shikoku branch (Hiroshima), 2017.

#### F) Special lectures in academic meetings

- 1 : Oral Care and Rehabilitation for ALS patients: Yoshikawa M: Annual conference of Neromuscular diseases 2017 (Hiroshima), 2017.
- 2 : Oral Care Approach with Multidisciplinary Team: Yoshikawa M: Chijinkai Dementia Conference 2017 (Hiroshima), 2017.
- 3 : Dentist's point of view: Mori T: The 16th Hiroshima Rehabilitation Association (ingestion/swallow department)(Hiroshima), 2017.
- 4 : What is low tongue pressure?: Tsuga K: The 28th Science Meeting of Japanese Journal of Gerodontology (Nagoya), 2017.

#### (4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1 : MEXT Grant-in-Aid for Scientific Research (C): Kubo T: Establishment of implant treatment with acceleration of bone metabolism (Grant No. 16K1159560). ¥1,430,000
- 2 : MEXT Grant-in-Aid for Scientific Research (C): Yoshikawa M: Can the early detection and early improvement of oral frailty stop the frailty? (Grant No. 16K11887). ¥1,300,000
- 3 : MEXT Grant-in-Aid for Scientific Research (C): Kuremoto K: Development of innovative prevention care of peri-implantitis targeting sphingomyelin and lipid raft. (Grant No. 16K11592). ¥1,300,000
- 4 : MEXT Grant-in-Aid for Scientific Research (B): Okazaki Y: Development of a new mouth wash aiming at reducing the risk of ventilator-associated pneumonia. (Grant No. 17K17172). ¥1,820,000
- 5 : MEXT Grant-in- Aid for Young Scientists (B): Mori T: Development of new inspection of food crush performance to provide elderly persons needing long-term care with an appropriate dietary form. (Grant No. 17K17171). ¥1,400,000
- 6 : MEXT Grant-in-Aid for Scientific Research (Support for Starting Research Activities): Hiraoka A: Elucidation of the optimal period of PAP therapy aiming at oral ingestion by ALS patients. (Grant

No. 16H07002). ¥1,560,000

(5) Academic Awards, etc.

- 1 : Mori T: Development of a candy-sucking test for evaluating oral function in elderly patients with dementia: A pilot study: Encouragement Prize of Hiroshima university faculty of dentistry, alumni association, 2017.

(6) Patents

[Return to Contents](#)

- **Department of Advanced Prosthodontics**
- **Division of Preventive and Restorative Dentistry**  
**(Department of Prosthetic Dentistry)**

## (1) Staff and Students

Professor	: Kazuhiro Tsuga
Associate Professor	: Hitoshi Abekura, Mitsuyoshi Yoshida
Assistant Professor	: Kazuya Doi, Kouji Morita, Hiroki Tsuka, Yusuke Makihara
Resident	: Kazuko Kagawa, Chiaki Higa, Keisuke Yasuda, Yosifumi Oki, Hiromichi Kawano
Graduate Student	: Azusa Kuroki, Miyuki Yokoi, Reiko Kobatake, Miwa Sasaki, Fumiko Nishio, Hanako Umehara
Clinical Trainee	: Tomoharu Hori, Sachiko Takagi, Wataru Teshima
Administrative staff	: Michiko Miyagawa

## (2) Main Research Activities

- 1 : Covariance structure analysis of sleep, diurnal bruxism, sociopsychological and TMD
- 2 : Clinical assessment of CAD/CAM produced crown with hybrid resin (Sera Smart) for molar teeth
- 3 : Exploration of amelogenic stem/progenitor cells for tissue-engineered tooth.
- 4 : The roles of FGFR2b signaling in the regenerative capacity of tooth and bone.
- 5 : Study of occlusal-supporting ability of individual maxillary and mandibular teeth
- 6 : Relation between prosthetic treatment and general condition in elderly with dementia.
- 7 : Establishment of bone regeneration by using interconnected porous hydroxyapatite and biopolymeric material
- 8 : Study on the dental materials

## (3) Research Achievements

## A) Original Papers (including Case Reports)

- 1 : A stability evaluation of a novel titanium dental implant/interconnected porous hydroxyapatite complex under functional loading conditions: Doi K, Kubo T, Kajihara S, Makihara Y, Oue H, Oki Y, Perrotti V, Piattelli A, Akagawa Y, Tsuga K: Dent Mater J, 36: 647-53, 2017.
- 2 : Accelerating effects of cellulose in the removal of denture adhesives from acrylic denture bases:

- Harada-Hada K, Mimura S, Hong G, Hashida T, Abekura H, Murata H, Nishimura M, Nikawa H: *J Prosthodont Res*, 61: 185-192, 2017.
- 3 : Application of interconnected porous hydroxyapatite ceramic block for onlay block bone grafting in implant treatment: A case report: Ohta K, Tada M, Ninomiya Y, Kato H, Ishida F, Abekura H, Tsuga K, Takechi M: *Exp Ther Med*, 14: 5564-5568, 2017.
- 4 : Change of Oral Conditions after Combined Use of a Tongue Brush and Toothbrush: A Pilot Study: Maruyama M, Yoshikawa M, Yoshida M, Mori T, Hiraoka A, Higa C, Tsuga K: *J Dent Oral Care*, 3: 1-4, 2017.
- 5 : Development of a candy-sucking test for evaluating oral function in elderly patients with dementia: A pilot study: Mori T, Yoshikawa M, Maruyama M, Hiraoka A, Nakamori M, Yoshida M, Tsuga K: *Geriatr Gerontol Int*, 17: 1977-1981, 2017.
- 6 : Effect of polymerization temperature on the properties of autopolymerizing resin: Morita K, Tsuka H, Kato K, Tsuga K: *J Prosthet Dent*, pii: S0022-3913(17), 30514-0, 2017. Epub ahead of print
- 7 : Effective UV/Ozone irradiation method for decontamination of hydroxyapatite surfaces: Yasuda K, Okazaki Y, Abe Y, Tsuga K: *Heliyon*, 3: e00372, 2017.
- 8 : Effects of intermittent continual administration of parathyroid hormone on implant stability in the presence of osteoporosis: an in vivo study using resonance frequency analysis in a rabbit model: Oki Y, Doi K, Makihara Y, Kobatake R, Kubo T, Tsuga K: *J Appl Oral Sci*, 25: 498-505, 2017.
- 9 : Enhanced osseointegration of a modified titanium implant with bound phospho-threonine, A preliminary in vivo study: Okazaki Y, Doi K, Oki Y, Kobatake R, Abe Y, Tsuga K: *J funct Biomater*, E16, 2017.
- 1 0 : Evaluation of shear bond strength between PEEK and resin-based luting material: Tsuka H, Morita K, Kato K, Kawano H, Abekura H, Tsuga K: *Journal of Oral Biosciences*, 59: 231-236, 2017.
- 1 1 : Factors related to skeletal muscle mass in the frail elderly: Sagawa K, Kikutani T, Tamura F, Yoshida M: *Odontology*, 105: 91-95, 2017.
- 1 2 : Frequency of Fruit and Vegetable Consumption and the Oral Health-Related Quality of Life among Japanese Elderly: A Cross-Sectional Study from the Kyoto-Kameoka Study: Nanri H, Yamada Y, Itoi A, Yamagata E, Watanabe Y, Yoshida T, Miyake M, Date H, Ishikawa-Takata K, Yoshida M, Kikutani T, Kimura M: *Nutrients*, 9, pii: E1362. doi: 10.3390/nu9121362, 2017.
- 1 3 : Investigation of effective modification treatments for thin titanium membranes: Kobatake R, Doi K, Oki Y, Umehara H, Kawano H, Kubo T, Tsuga K: *Appl Sci*, 7: 1022, 2017.
- 1 4 : Maximum tongue pressure is associated with swallowing dysfunction in ALS patients: Hiraoka A, Yoshikawa M, Nakamori M, Hosomi N, Nagasaki T, Mori T, Oda M, Maruyama H, Yoshida M, Izumi Y, Matsumoto M, Tsuga K: *Dysphagia*, 32: 542-547, 2017.
- 1 5 : Multicentered epidemiological study of factors associated with total bacterial count in the saliva

- of older people requiring nursing care: Tohara T, Kikutani T, Tamura F, Yoshida M, Kuboki T: *Geriatr Gerontol Int*, 17: 219-225, 2017.
- 1 6 : Novel Development of Phosphate Treated Porous Hydroxyapatite: Doi K, Abe Y, Kobatake R, Okazaki Y, Oki Y, Naito Y, Prananingrum W, Tsuga K: *Materials*, E1405, 2017.
- 1 7 : Preoperative evaluation of bone quality for dental implantation using an ultrasound axial transmission device in an ex vivo model: Okada S, Kawano A, Oue H, Takeda Y, Yokoi M, Koretake R, Tsuga K: *Clinical and Experimental Dental Research*, 3: 81-86, 2017.
- 1 8 : Prevalence of Frailty Assessed by Fried and Kihon Checklist Indexes in a Prospective Cohort Study: Design and Demographics of the Kyoto-Kameoka Longitudinal Study: Yamada Y, Nanri H, Watanabe Y, Yoshida T, Yokoyama K, Itoi A, Date H, Yamaguchi M, RD, Miyake M, Yamagata E, Tamiya H, Nishimura M, Fujibayashi M, Ebine N, Yoshida M, Kikutani T, Yoshimura E, Ishikawa-Takata K, Yamada M, Nakaya T, Yoshinaka Y, Fujiwara Y, Arai H, Kimura M: *J Am Med Dir Assoc*, 18: 733.e7-733.e15, 2017.
- 1 9 : Prevalence of Torus Mandibularis in Young Healthy Dentate Adults: Morita K, Tsuka H, Shintani T, Yoshida M, Kurihara H, Tsuga K: *J Oral Maxillofac Surg*, 75: 2593-2598, 2017.
- 2 0 : Prevalence of Tracheotomy and Percutaneous Endoscopic Gastrostomy in Patients with Guillain-Barré Syndrome: Yoshida M, Ikeda J, Urikane Y, Kashiwada T, Kaseda Y, Kohriyama T: *Dysphagia*, 32: 236-240, 2017.
- 2 1 : Relationship between tongue strength and 1-year life expectancy in elderly people needing nursing care: Yajima Y, Kikutani T, Tamura F, Yoshida M: *Odontology*, 105: 477-483, 2017.
- 2 2 : Stability of implants placed in bone reconstructed with block-type interconnected porous Hydroxyapatite: Makihara Y, Doi K, Oki Y, Kobatake R, Kubo T, Tsuga K: *J Hard Tissue Biol*, 26: 393-8, 2017.
- 2 3 : The Association between Torus Palatinus Development and Oral/Occlusal States in a Group of Healthy Dentate Subjects: Morita K, Tsuka H, Kato K, Doi K, Kuremoto K, Yoshikawa M, Yoshida M, Tsuga K: *Oral Health Dent Manag*, 16: 1-5, 2017.
- 2 4 : Tips for Practical Application of Tongue Pressure Test : Morita K, Tsuga K: *Annals of Japan Prosthodontic Society*, 9: 181-185, 2017.

## B) Review d

## C) Publications

## D) Other Publications

- 1 : Novel porous titanium biomaterial with three dimensional structure: Doi K: PHARM STAGE, 17:41-7, 2017

#### E) Presentation at Scientific Meeting

- 1 : Effect of FGFR2 signaling on dentin formation: Yokoi M, Kuremoto K, Hiyama S, Abe Y, Tsuga K: Annual Scientific meeting of Japan Prosthodontic Society Chugoku-Shikoku Branch (Yamaguchi), 2017.
- 2 : Novel porous titanium biomaterial with three dimensional structure: Doi K: Hiroshima university-New technology presentation meetings (Hiroshima), 2017.
- 3 : Bioactive surface modification of titanium membrane: Oki Y, Doi K, Kobatake R, Yokoi M, Kato K, Kubo T, Tsuga K: European association for osseointegration (Madrid), 2017.
- 4 : Investigation of effective modification treatments for titanium membranes: Kobatake R, Doi K, Oki Y, Kubo T, Tsuga K: The 7th Hiroshima conference (Hiroshima), 2017.
- 5 : Newly development of porous titanium structure for bone graft material: Kobatake R, Doi K, Oki Y, Makihara Y, Koretake K, Kubo T, Tsuga K: European association for osseointegration (Madrid), 2017.
- 6 : Histological aspects of an implant in the bone reconstructed with porous titanium: Kobatake R, Kubo T, Doi K, Oki Y, Makihara Y, Tsuga K: The 37th annual meeting of the Chugoku-Shikoku branch of the Japanese society of oral implantology (Tokushima), 2017.
- 7 : Relationship between eating and swallowing function, protein intake and nutritional condition in elderly people requiring long-term care: Kuroki A, Mori T, Kawano H, Yoshikawa M, Tsuga K: The 58th Scientific Meeting of the Japan Society of Stomatognathic Function (Tokushima), 2017.
- 8 : Evaluation of laser pretreatment on Shear bond strength of adhesive resin cement to polyetheretherketone(PEEK): Tsuka H, Morita K, Doi K, Abe Y, Tsuga K: The 69th Scientific Meeting of the Japan Society for Dental Materials and Devices (Tokyo), 2017.
- 9 : Evaluation of laser pretreatment on bonding durability of adhesive resin cements to polyetheretherketone(PEEK): Tsuka H, Morita K, Doi K, Kobatake R, Abekura H, Tsuga K: The 70th Scientific Meeting of the Japan Society for Dental Materials and Devices (Niigata), 2017.
- 1 0 : Development of novel porous titanium as bone reconstruction material: Kobatake R, Doi K, Makihara Y, Oki Y, Kubo T, Abekura H, Tsuga K: The 101th annual meeting of Hiroshima university dental society (Hiroshima), 2017.
- 1 1 : Association between buccal mucosa ridging and oral states or oral functions in elderly people: Morita K, Tsuka H, Kato K, Maruyama M, Kuroki A, Mori T, Yoshikawa M, Yoshida M, Tsuga K: The 56th Hiroshima University Dental Society (Hiroshima), 2017.

- 1 2 : Association between buccal mucosa ridging and oral state/oral function: Morita K, Tsuka H, Kato K, Maruyama M, Hiraoka A, Higa C, Kuroki A, Mori T, Yoshikawa M, Dowaki I, Moriya N, Yoshida M, Tsuga K: Scientific Meeting of Japan Prosthodontic Society Chugoku-Shikoku branch (Yamaguchi), 2017.
- 1 3 : Association between masticatory performance and oral function in elderly group: Morita K, Maruyama M, Mori T, Kuroki A, Yoshikawa M, Abe Y, Tsuga K: The 28th general meeting of Japanese Society for Mastication Science and Health Promotion (Tokyo), 2017.
- 1 4 : Effect of polymerization temperature on the properties of autopolymerizing resin: Morita K, Tsuka H, Kobatake R, Doi K, Tsuga K: The 70nd General Session of the Japanese Society for Dental Materials and Devices (Niigata), 2017.
- 1 5 : Novel development of bioactive porous hydroxyapatite: Doi K, Abe Y, Okazaki Y, Kobatake R, Morita K, Tsuka H, Tsuga K: The 70th of academic meeting of the Japanese society for dental materials and devices (Niigata), 2017.
- 1 6 : Development of novel porous titanium/implant complex: Kobatake R, Doi K, Morita K, Tsuka H, Kubo T, Tsuga K: The 69th of academic meeting of the Japanese society for dental materials and devices (Tokyo), 2017.
- 1 7 : Influence of surface modification on structure and mechanical strength of titanium thin membrane: Umehara H, Kubo T, Doi K, Kobatake R, Oki Y, Tsuga K: The 37th annual meeting of the Chugoku-Shikoku branch of the Japanese society of oral implantology (Tokushima), 2017.
- 1 8 : Influence of surface modification for structure of titanium thin membrane: Kobatake R, Doi K, Morita K, Tsuka H, Kubo T, Tsuga K: The 70th of academic meeting of the Japanese society for dental materials and devices (Niigata), 2017.
- 1 9 : Influence of surface modification for structural change of titanium thin membranes: Kobatake R, Doi K, Kubo T, Makihara Y, Oki Y, Tsuga K: The 47th Annual Meeting of the Japanese Society of Oral Implantology (Sendai), 2017.
- 2 0 : Effect of intermittent administration of parathyroid hormone on osseointegration in steroid induced osteoporosis model: Oki Y, Doi K, Makihara Y, Kubo T, Tsuga K: The 47th Annual Meeting of the Japanese Society of Oral Implantology (Sendai), 2017.
- 2 1 : Usages of denture adhesives based on the results of a web survey: Okazaki Y, Dainobu K, Iwaguro S, Takayama Y, Kato R, Yasuda K, Abe Y, Tsuga K: The 56th Scientific meeting of Hiroshima Prefecture Dental Association, The 101st Scientific Meeting of Hiroshima University Dental Association, The 12th Scientific Meeting of Japan Society of Dental Techniques Chugoku-Shikoku branch (Hiroshima), 2017.

#### F) Special lectures in academic meetings

- 1 : What is low tongue pressure?: Tsuga K: The 28th Science Meeting of Japanese Journal of Gerodontology (Nagoya), 2017.
- 2 : Novel porous titanium biomaterial with three dimensional structure: Doi K: Bio tech 2017 Academic forum (Tokyo), 2017.

#### G) Others

##### (4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1 : MEXT Grant-in-Aid for Scientific Research (C): Doi K: Establishment of bone quality improvement therapy using intelligent artificial bone: (Grant No. 15K11160). ¥1,820,000
- 2 : MEXT Grant-in-Aid for Scientific Research (C): Morita K: Fabrication of porous titanium with honeycomb structure. (Grant No. 16K11594). ¥1,100,000
- 3 : MEXT Grant-in-Aid for Scientific Research (C): Kagawa K: Functional analysis of novel soluble FGFR receptor is derived from the bone and cartilage and application to regeneration. (Grant No. 17K11804). ¥1,400,000
- 4 : MEXT Grant-in-Aid for Scientific Research (C): Yoshikawa M, Tsuga K, Yoshida M, Kayashita J, Kimura H: Can the early detection and early improvement of oral frailty stop the frailty? (Grant No. 16K11887). ¥1,300,000
- 5 : MEXT Grant-in-Aid for Young Scientists (B): Makihara Y: Bone regeneration therapy with bone remodeling controlled artificial bone in diabetic conditions. (Grant No.16K20503). ¥1,950,000
- 6 : The 2017 Industry-academia collaborative young researcher support program: Doi K: New development of cell control functional micromesh titanium membrane. ¥200,000

##### (5) Academic Awards, etc.

- 1 : Kobatake R: Excellent student scholarship of Hiroshima university, 2017.

##### (6) Patents

- 1 : Doi K, Kobatake R: Bone reconstruction member: Japanese Unexamined Patent Application Publication, No. 2017-209328.

[Return to Contents](#)

- **Department of Orthodontics and Craniofacial Development Biology**
- **Division of Oral Health and Development (Department of Orthodontics)**

### (1) Staffs and Students

Professor	: Kotaro Tanimoto
Associate Professor	: Hiroshi Ueda, Masato Kaku
Lecture	: Ryo Kunimatsu
Assistant Professor	: Yuki Asakawa, Naoto Hirose, Yuki Yoshimi, Tetsuya Awada
Intern	: Yuji Tsuka, Hiromi Sumi, Tomomi Date, Kayo Horie, Takaharu Abe, Saki Okita, Hidemi Gunji, Yuko Nakao
Graduate Student	: Chikako Sumi, Cynthia Concepción Medina, Aya Kimura, Kengo Nakajima, Makoto Yanosita, Taeko Yamamoto, Kazuyo Ando, Kouji Iwai, Azusa Onishi, Isamu Kado, Mami Takano, Yuka Yahima, Sakura Yamada, Hiroki So, Yuka Yamauchi, Tomoka Hiraki, Jin Izumino, Shota Ito, Haruka Kagawa, Yuma Koizumi, Ayaka Nakatani, Ayana Nakano, Sayumi Miura, Shyuzo Sakata, Sayuri Nishiyama
Professor(part-time)	: Kazuo Tanne, Eiji Tanaka, Ichiro Takahashi
Registered Intern	: Kuniaki Tanaka, Kazunori Itatani, Eri Ohtani, Eri Fujii, Nanae Oki, Hirotaka Sugino, Yu Matsumura, Shoutoku Kojima
Dental Hygienist	: Miho Okada, Aya Tokui

### (2) Main Research Activities

1. Elucidation of pathogenic mechanism in malocclusion and management of oral maxillofacial skeletal growth
2. Optimization of tooth movement by orthodontic force
3. Establishment of a new orthodontic treatment based on the image and biochemical diagnosis of temporomandibular disorders (TMD)
4. Application of regeneration medicine to orthodontic treatment
5. Suppression of caries risk in orthodontic treatment
6. Evaluation of the contribution of various oral functions to general fitness
7. Development of new instruments and materials for orthodontic treatment

## (3) Research achievements

## A) Original Papers (including Case Reports)

1. Bovine lactoferrin reduces extra-territorial facial allodynia/hyperalgesia following a trigeminal nerve injury in the rat.: Horie K., Watanabe M., Chanbora C., Awada T., Kunimatsu R., Uchida T., Takata T., Tanimoto K.: *Brain Res.* Aug 15;1669:89-96 ,2017.
2. The C-terminus of amelogenin enhances osteogenic differentiation of human cementoblast lineage cells.: Kunimatsu R., Yoshimi Y., Hirose N., Awada T., Miyauchi M., Takata T., Wu L., Zhu L., Denbesten P., Tanne K., Tanimoto K.: *J of Perio Res.* 52(2): 218-224,2017.
3. Effects of C-terminal amelogenin peptides on the metabolism of osteoblasts.: Awada T., Kunimatsu R., Yoshimi Y., Hirose N., Mitsuyoshi T., Sumi K., Tanimoto K.: *Biochemical and Biophysical Research Communications* 482(4):1154-9, 2017.
4. Tongue-palatal contact changes in patients with skeletal mandibular prognathism after sagittal split ramus osteotomy: an electropalatography study.: Kojima S., Kaku M., Yamamoto I., Yasuhara Y., Sumi H., Yamamoto T., Yashima Y., Izumino J., Nakajima K., Nagano Y., Kono M., Yoshimura A., Ueasa M., Tanimoto K.: *J Oral Rehabil.* Sep;44(9):673-682, 2017.
5. RANKL and OPG expression: Jiggling force affects root resorption in rats.: Matsuda Y., Motokawa M., Kaku M., Sumi H., Tanne K., Tanimoto K.: *Angle Orthod.* 87(1):41-8,2017.
6. Hyaluronan enhances proteoglycan4 expression in synovial cells.: Asakawa-Tanne Y., Mitsuyoshi T., Kunimatsu R., Hirose N., Su S., Awada T., Tanne K., Tanimoto K.: *Med Res Arch* 5(2): ISSN 2375-1924, 2017.
7. Up-regulation of various cytokines in pulp tissues after experimental tooth movement in rats.: Sumi H., Kaku M., Kojima S-I., Matsuda Y., Motokawa M., Shikata H., Kojima S-H., Yamamoto T., Kawata T., Tanne K., Tanimoto K.: *Biomedical Res.* 28(6):2617-2623, 2017.
8. Influence of Oral Appliances for Mandibular Advancement on Dentitions Using a Strain Gauge Analysis: A Pilot Study.: Ueda H., Matsumura Y., Horihata A., Concepcion M C., Iwai K., Tanimoto K.: *Sleep Disord.* doi, 10.1155/2017/9097305. 2017 (3).
9. A Case of Sleep-Breathing Changes Achieved Using the Andresen Activator in a Child with Maxillary Protrusion.: Concepcion M C., Ueda H., Matsumura Y., Iwai K., Sumi K., Tanimoto K.: *J Sleep Dental Medicine.* 4(3):71-5, 2017.
10. Role of articular disc in cartilaginous growth of the mandible in rats.: Xiao F., Hayashi H., Fujita T., Shirakura M., Tsuka Y., Fujii E., Tanne K., Tanimoto K.: *APOS Trends in Orthodontics* 7(1): 29-34, 2017.

11. Statistical investigation of enamel hypoplasia in patients with cleft lip and / or palate: Gunji H, Kunimatsu R., Yoshimi Y., Mitsuyoshi T., Awada T., Oki N., Abe T., Okamoto Y., Kimura A., Tanimoto K.: *Orthod Waves Jpn Edit* 76(1):1-9, 2017.
12. A treatment of an adult crowding case with periodontal disease and temporomandibular disorders: Awada T., Kunimatsu R., Sumi K., Yoshimi Y., Tsuka Y., Sugino H., Abe T., Okita S., Nakajima K., Ando K., Kado I., Tanimoto K.: *J.Hiroshima Univ.Dent. Soc.* 49(1):16-22, 2017.
13. A case of mandibular retrusion with temporomandibular disorders treated by two-jaw surgery Asakawa Y., Mitsuyoshi T., Kunimatsu R., Date T., Nakao Y., Takano M., Koizumi K., Okamoto T., Tanimoto K.: *J.Hiroshima Univ.Dent. Soc.* 49(1):23-30, 2017.
14. A comprehensive therapy for a case of temporomandibular disorders with occlusal disharmony caused by an inappropriate use of sprint: Hirose N., Yanosita M., Sumi C., Onishi A., Yamauchi Y., Horie K., Ueda H., Tanimoto K.: *J.Hiroshima Univ.Dent. Soc.* 49(1):31-7, 2017.
15. A case of Orthodontic treatment for two continuous missing tooth by trauma: Koseki H., Kaku M., Kojima S., Tanimoto K.: *J.Hiroshima Univ.Dent. Soc.* 49(1):38-47, 2017.
16. An orthodontic treatment case of skeletal mandibular protrusion with impacted of maxillary left central incisor and midline deviation: Tsuka Y., Fujita T., Hirose N., Okita S., Tanimoto K.: *J.CHU-SHI Orthod.Soc.*29(1):59-66,2017
17. A 10-Year follow-up case of an anterior cross bite with an ankylosed upper first molar after transplantation of a third molar: Sasamoto T., Kaku M., Tanne K., Tanimoto K.: *J.Hiroshima Univ.Dent. Soc.* 49(2):164-170, 2017.

## B) Review

1. Tanimoto K: Comprehensive medical care for craniofacial anomalies– Role of Hiroshima University Hospital Cleft and Craniofacial Center -. *J. Hiroshima Dent. Asso.* 44(1), 9-14, 2017.

## C) Publications

## D) Other Publications

1. Tanimoto K: Greeting. Public relations magazine in Hiroshima University Hospital, 2017.
2. Tanimoto K: Treatment of cleft lip and/or palate for orthodontists – To widen the circle of smile-, bulletin of meeting of friends with cleft lip and/or palate, 2017.

## E) Presentation at Scientific Meeting

1. Application of a surgical guide for orthodontic anchor screw plantation: Yoshimi Y., Kihara T., Taji T., Nikawa H., Tanimoto K.: American association of orthodontists meeting (San Diego, USA), 2017.
2. Correction of mandibular deviation by functional appliance; A case report: Sumi H., Kaku M., Tanne K., Tanimoto K.: American association of orthodontists meeting (San Diego, USA), 2017.
3. Comparison of stem cells from human exfoliated deciduous teeth (SHED) and bone marrow stem cells (BMSCs) for bone regeneration in a calvarial bone defect of immunodeficiency mice: Nakajima K., Kunimatsu R., Abe T., Ando K., Tanimoto K.: The 50th Annual Meeting of the Hiroshima University Dental Society (Hiroshima), 2017.
4. Effect of loxoprofen sodium hydrate on the root resorption during experimental tooth movement: Yamamoto T., Kaku M., Sumi H., Yashima Y., Izumino J., Tanimoto K.: The 50th Annual Meeting of the Hiroshima University Dental Society (Hiroshima), 2017.
5. Single cell RNA-sequencing shows adipogenic potential in osteoblasts: Okita S., Yoshioka H., Minamizaki T., Tanimoto K., Yoshiko Y.: Joint meeting of the Australian and New Zealand Bone and Mineral Society and the International Federation of Musculoskeletal Research Societies (Brisbane, Australia), 2017.
6. Changes in hyoid bone position in skeletal Class II children post-functional appliance therapy: Ueda H., Concepción M. C., Matsumura Y., Iwai K., Tanimoto K.: The 60th CHU-SHIKOKU Orthodontic society (Tokushima), 2017.
7. A long-term treatment case of skeletal open bite with severe high angle mandible due to facial nerve paralysis: Horie K., Ueda H., Cynthia Concepcion, Tanimoto K.: The 30th TAO Annual Meeting (Kaohsiung), 2017.
8. Two case of mandibular prognathism with open bite by surgical correction with glossectomy: Date T., Nakao Y., Ueda H., Tanimoto K.: The 30th TAO Annual Meeting (Kaohsiung), 2017.
9. A case of severe skeletal open bite with suspected as acromegaly: Nakao Y., Date T., Ueda H., Tanimoto K.: The 30th TAO Annual Meeting (Kaohsiung), 2017.
10. Bone regeneration using stem cells from human exfoliated deciduous teeth: Nakajima K., Kunimatsu R., Awada T., Abe T., Ando K., Tsuka Y., Hiraki T., Kaku M., Tanimoto K.: The 41th Annual Meeting of the Japanese Cleft Palate Association (Tokyo), 2017.
11. Statistical survey of teeth abnormalities with cleft lip and / or palate in our department in 26 years.: Abe T., Kunimatsu R., Yoshimi Y., Awada T., Tsuka Y., Gunji H., Nakajima K., Tanimoto K.: The 41th Annual Meeting of the Japanese Cleft Palate Association (Tokyo), 2017.
12. Development of bone regeneration using a new amelogenin peptide and bone marrow derived MSCs: Awada T., Kunimatsu R., Yoshimi Y., Hirose N., Ando K., Asakawa Y., Tsuka Y., Hirata I.,

- Kato K., Tanne K., Tanimoto K.: The 41th Annual Meeting of the Japanese Cleft Palate Association (Tokyo), 2017.
13. A long-term treatment case of skeletal open bite with a severe steep mandibular plane angle due to facial nerve palsy: Horie K., Ueda H., Ono S., Takechi M., Tanimoto K.: The 27th Congress of the Japanese Society for Jaw Deformities (Tokyo), 2017.
  14. A case of severe skeletal open bite with suspected as acromegaly treated by orthognathic surgery: Date T., Nakao Y., Ueda H., Kanda T., Koizumi K., Tanimoto K.: The 27th Congress of the Japanese Society for Jaw Deformities (Tokyo), 2017.
  15. A case of orthognathic surgical treatment of maxillary protrusion with hypoplasia of the mandibular condyle: Ono S., Nakagawa T., Kaku M., Yamamoto T., Ohta K., Kubozono K., Uetsuki R., Tanimoto K., Takechi M.: The 27th Congress of the Japanese Society for Jaw Deformities (Tokyo), 2017.
  16. Statistical investigation of Cleft Lip and/or Palate patients at Department of Orthodontics Hiroshima University: Abe T., Yoshimi Y., Kunimatsu R., Oki N., Awada T., Hirose N., Nakajima K., Tanimoto K.: The 60th CHU-SHIKOKU Orthodontic society (Tokushima), 2017.
  17. Statistical investigation of enamel hypoplasia in patients with cleft lip and/or palate: Gunji H., Kunimatsu R., Yoshimi Y., Awada T., Abe T., Kimura A., Tanimoto K.: The 60th CHU-SHIKSDOKU Orthodontic society (Tokushima), 2017.
  18. Side effect of the oral appliance in an obstructive sleep apnea patient—A case of anterior crossbite by long-term use of the oral appliance—: Iwai K., Ueda H., Matsumura Y., Cynthia C., Tanimoto K.: The 60th CHU-SHIKOKU Orthodontic society (Tokushima), 2017.
  19. Development of an effective bracket against orthodontic treatment using hydrophilic polymer: Kunimatsu R, Tsuka Y, Sumi K, Yoshimi Y, Nakajima K, Tanimoto K. The 3rd Shin-sangyou souritsu Workshop (Hiroshima), 2017.
  20. Elucidation of the inflammation promoted by ANGPTL2 in excessive mechanical loading on chondrocytes: Takano M., Hirose N., Okamoto Y., Awada T., Sumi C., Yanoshita M., Asakawa Y., Tanimoto K.: The 30th Annual Meeting of the Japanese Society for the Temporomandibular Joint (Yokohama), 2017.
  21. Single cell RNA-sequencing shows transcriptional heterogeity in osteoblasts and their transdifferentiation potential into adipocytes: Okita S., Yoshioka H., Minamizaki T., Tanimoto K., Yoshiko Y.: The 35<sup>th</sup> annual meeting of the Japanese society for bone and mineral research (Fukuoka), 2017.
  22. Comparison of bone regeneration ability between stem cells from human exfoliated deciduous teeth and bone marrow mesenchymal stem cells: Nakajima K, Kunimatsu R., Abe T., Ando K., Tanimoto K.: Advanced dental school (Tokyo), 2017.

23. A case with maxillary multiple impacted teeth: Sumi H., Kaku M., Yamamoto T., Yashima Y., Izumino J., Tanimoto K.: The 76th Annual Meeting of the Japanese Orthodontic Society (Sapporo), 2017.
24. Effect of compression force in bone cells, MLO-Y4 cells and MC3T3-E1 cells: Yashima Y., Kaku M., Sumi H., Yamamoto T., Izumino J., Tanimoto K.: The 76th Annual Meeting of the Japanese Orthodontic Society (Sapporo), 2017.
25. New development of Amelogenin-based peptide and exploring the active site residues of amelogenin: Kunimatsu R, Yoshimi Y, Awada T, Ando K, Tanimoto K.: Hiroshima University Technical Briefing in 2017 (Hiroshima), 2017.
26. CT image evaluation on the morphological changes of pharyngeal airway space achieved after mandibular surgical set back: Iwai K., Ueda H., Matsumura Y., Cynthia C., Nagasaki S., Tanimoto K.: The 56th Hiroshima Prefecture Dental Association, The 101th Hiroshima University Dental Society (Hiroshima), 2017.
27. A case report of CHARGE syndrome with cleft palate and bimaxillary hypoplasia: Nakao Y., Koh M., Date T., Horie K., Takano M., Asakawa Y., Ueda H., Tanimoto K.: The 56th Hiroshima Prefecture Dental Association, The 101th Hiroshima University Dental Society (Hiroshima), 2017.
28. Toward the efficient induction of oral epithelial-like cells from mouse iPS cells: Onishi A., Aimi N., Tanimoto K., Kato K.: The 39th annual meeting of the Japanese society for biomaterials (Tokyo), 2017.

#### F) Special lectures in academic meetings

1. Tanimoto K: Temporomandibular Disorders and Orthodontic Treatment—Diagnosis and Systematic Approach—: Special lecture in Padjadjaran University (Bandung), 2017.
2. Tanimoto K: Management of High Caries Risk Patients - Restoration of Damaged Tooth Enamel by Biomineralization -: Dies Forum 2017 (Bandung), 2017.
3. Tanimoto K: Possibility of regeneration medicine in dental region: Sosokai in Tokushima University Department of Orthodontics, Tokushima, 2017.
4. Tanimoto K: History of Department of Orthodontics Hiroshima University and Hiroshima Orthodontic Colloquium: 500<sup>th</sup> Memorial lecture in Hiroshima Orthodontic Colloquium, 2017.
5. Tanimoto K: A benefit given from the orthodontic anchor screw and a new possibility: 9<sup>th</sup> WIOC, Kobe, 2017.
6. Tanimoto K: Treatment of cleft lip and/or palate for orthodontists —To widen the circle of smile—, 2017 regular meeting of friends with cleft lip and/or palate, Tokyo, 2017.
7. Tanimoto K: Correspondence to temporomandibular joint osteoarthritis—whether or not the orthodontic treatment should be initiated, Hiroshima Orthodontic Association, Hiroshima, 2017.

8. Kunimatsu R: Development of new diode laser and application of diode laser on the metabolism of periodontal tissue for orthodontic treatment: Business Model Forum (Hiroshima), 2017.
9. Kunimatsu R: Current Situation and Outlook of orthodontics dentists care to congenital disorders and osteoarthritis patients who is a goal of all human health care: The 60<sup>th</sup> Annual Meeting of the Chu-shikoku Orthodontic Society (Tokushima), 2017.
10. Kunimatsu R: Development of new diode laser and application of diode laser on the metabolism of periodontal tissue for orthodontic treatment: The 59<sup>th</sup> Annual Meeting of Japanese Association for Oral Biology (Matsumoto), 2017.
11. Kaku M: Tongue-palatal contact changes in patients with skeletal mandibular prognathism after SSRO an electropalatography study: The 4<sup>th</sup> EPG symposium (Tokyo), 2017.
12. Kojima S: Tongue-palatal contact changes in patients with skeletal mandibular deviation after SSRO an electropalatography study: The 4<sup>th</sup> EPG symposium (Tokyo), 2017.

#### (4) Status of Receiving Grants-in Aid for Scientific Research, etc.

1. Grant-in-aid for Scientific Research(C): Tanimoto K.: Modulations of stem cells from exfoliated deciduous teeth (SHED) activity by construction of microenvironment and its application to bone regeneration of jaw cleft.1300,000yen.
2. Grant-in-aid for Scientific Research(C): Kunimatsu R.: Application to root resorption prevention and elucidation of periodontal tissue metabolic activity mechanism by functionality amelogenin peptide and laser.1560,000yen.
3. Grant-in-aid for Scientific Research(C): Hirose N.: Elucidation of the mechanical stress receptive mechanism by integrins, and establishment of PCR prevention with a integrins inhibitor.1170,000yen.
4. Grant-in-aid for Scientific Research (B): Horie K.: Effects and mechanism of withaferin A on extra-territorial facial pathological pain following a trigeminal nerve injury.1950,000yen.
5. Grant-in-aid for Scientific Research (B): Date T.: Designed SDF-1chimeric protein for bone tissue regeneration.2470,000yen.
6. Grant-in-aid for Scientific Research(B): Yoshimi Y.: Application to prevent and treat root absorption using naturally derived flavonoids and amelogenin peptide drug discovery. 1690,000yen.
7. Grant-in-aid for Scientific Research(B): Tsuka Y.: Effect of periodontal tissue metabolic activity by laser irradiation during orthodontic teeth movement.2210,000yen.
8. Grant-in-aid for Scientific Research(B): Sumi H.: Effects of anti-inflammatory drugs on tooth movement and root resorption, and its application to periodontal absorption therapy.3120,000yen.

9. Grant-in-aid for Scientific Research(B): Sumi k.: Development of the treatment for patients with jaw cleft by bone regenerative technologies using mesenchymal stem cells derived different origins and semiconductor lasers. 2080,000yen.
10. Grant-in-aid for Scientific Research(B): Sugino H.: The construction of two kinds of different cartilage with bioengineering and application to temporomandibular joint restoration. 2080,000yen.
11. Grant-in-aid for Scientific Research(B): Awada T.: Application to periodontal tissue regeneration by a new amelogenin peptide combined with mesenchymal stem cells derived from dental pulp and adipose .1950,000yen.
12. Support fund for study from Hiroshima university: Hirose N.: The investigation of anti-inflammatory effect of resolvin on inflammation induced by mechanical stress in chondrocytes and the application to temporomandibular joint disorders treatment. 500,000yen.
13. Collaborative research with Kono Seisakusyo Co.,Ltd: Kunimatsu R.: Development of an effective bracket for orthodontic treatment using hydrophilic polymer. 330,000yen.
14. Grant-in-aid Shin-sangyosouritsu-kennyuukai: Kunimatsu R.: Development of an effective bracket for orthodontic treatment using hydrophilic polymer. 1000,000yen

(5) Academic Awards, etc.

1. Nakajima K: The 50th Annual Meeting of the Hiroshima University Dental Society, encouragement prize 2017.
2. Ono S: The 27th Congress of the Japanese society for jaw Deformities poster presentation award 2017.
3. Nakajima K: Hiroshima University, Excellent Student Scholarship 2017.
4. Yamamoto T: Hiroshima University, Excellent Student Scholarship 2017.

(6) Patents

[Return to Contents](#)

- **Department of Oral & Maxillofacial Radiology**
- **Division of Oral and Maxillofacial Surgery and Oral Medicine (Department of Oral and Maxillofacial Radiology)**

(1) Staff and Students

Professor	: Naoya Kakimoto
Associate Professor	: Minoru Fujita
Associate Professor/Lecturer	: Yoshikazu Suei, Takashi Nakamoto
Assistant Professor	: Toshikazu Nagasaki, Masahiko Ohtsuka, Masaru Konishi, Masahiko Sawajiri, Verdonschot R.G.

(2) Main Research Activities

- 1: Radiographic diagnosis of oral diseases
- 2: Radiographic study on mandibular osteomyelitis
- 3: Study of radiation dosimetry in X-ray region for diagnosis
- 4: Study on the videofluoroscopic examination of swallowing
- 5: Radiation effects of heavy ion particles on bone metabolism
- 6: Improvement of treatment results in the radiotherapy for oral cancers
- 7: Radiographic study to screen osteoporosis using panoramic radiographs of the jaw
- 8: Speech production in the human brain.

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Evaluation of the role of splinttherapy in the treatment of temporomandibular joint pain on the basis of MRI evidence of altered disc position: Hasegawa Y., Kakimoto N., Tomita S., Fujiwara M., Ishikura R., Kishimoto H., Honda K.: J Craniomaxillofac Surg, 45(4):455-460, 2017.
- 2: Stereoscopy in Dental Education: An Investigation: Murakami S., Verdonschot RG., Kreiborg S., Kakimoto N., Kawaguchi A.: J Dent Educ, 81(4):450-457, 2017
- 3: Clinical study of splint therapeutic efficacy for the relief of temporomandibular joint discomfort: Hasegawa Y., Kakimoto N., Tomita S., Fujiwara M., Ishikura R., Kishimoto H., Honda K.: J Craniomaxillofac Surg, 45(11):1772-1777. 2017.
- 4: Initial Report of the Attempt to Develop New Oral Assessment as Information Sharing with

- Multi-disciplinary – Oral Assessment of Chemotherapy Patients in Hiroshima University Hospital:-  
Nishi H., Konisi M., Yoshioka Y., Sugiyama M., Ohta K., Shigeishi H., Shimizu Y., Nagasaki S., Fukui  
A., Yamauchi Y., Hiraki T., Naruse T., Ohbayashi T., Kohara M., Kitagawa M., Yano K., Nakaoka M.,  
Nishimura R., Fukada R., Kakimoto N., Tsuga K., Irifune M., Kawaguchi H., Ohge H., Kurihara H.:  
The Journal of Hiroshima University Dental Society, 49(2):134-140, 2017.
- 5: Maximum Tongue Pressure is Associated with Swallowing Dysfunction in ALS Patients: Hiraoka A,  
Yoshikawa M, Nakamori M, Hosomi N, Nagasaki T, Mori T, Oda M, Maruyama H, Yoshida M,  
Izumi Y, Matsumoto M, Tsuga K: *Dysphagia* 32: 542-7, 2017
- 6: Radiographic changes of the mandible after proton beam radiotherapy for oral cancer: a case report :  
Konishi M., Sueti Y., Fujita M., Tanimoto K.: *Int J Case Rep Imag*, 8 (12), 787-791, 2017.
- 7: Scanning electron microscopy observations of rice cooked with non-ionic water-soluble iodine for  
videofluoroscopic swallowing study : Konishi M., Tanimoto K.: *Jpn J Compr Rehabil Sci*, 8, 66-70,  
2017.
- 8: Effects of irradiation on bone invasion of breast cancer cells: Srimawong P., Sawajiri M., Terato H.,  
Maruyama K., Tanimoto K.: *Journal of Thai Association of Radiation Oncology*, 23(2),23-33, 2017
- 9: A case of primordial odontogenic tumor: A new entity in the latest WHO classification (2017): Ando  
T., Shrestha M., Nakamoto T., Uchisako K., Yamasaki S., Koizumi K., Ogawa I., Miyauchi M., Takata  
T.: *Pathol Int*, 67, 365-369, 2017.

### C) Publications

- 1: Glossary of Temporomandibular and Related Disorders vol. 1 2017: The Japanese Society for  
Temporomandibular Joint ed.: Kakimoto N: Quintessence Publishing (Tokyo), 2017.

### D) Other Publications

- 1: Knowledge of the radiology that a pediatric dentist should know.: Kakimoto N., Konishi M.,  
Kitamori H., Murakami S.: *Japanese Journal of Clinical Dentistry for Children*, 22(5):64-71, 2017.
- 2: Aiming for professionals in oral and maxillofacial area -Oral and maxillofacial region imaging at our  
hospital-: Ohtsuka M.: *The Japanese meeting of radiological technologists in dental college and  
university dental hospital*, 27(2), 56-58, 2017.

### E) Presentation at Scientific Meeting

- 1: Correlations between T2-values and VAS scores in TMJ Disorder Patients: Kakimoto N., Shimamoto  
H.,

- Usami A., Senda Y., Konishi M., Murakami S.: 21st ICDMFR (Kaohsiung), 2017.
- 2: Brachytherapy with 198Au grains for oral cancer: an analysis of treatment results and complications: Konishi M., Fujita M., Kakimoto N.: 21st ICDMFR (Kaohsiung), 2017.
- 3: PROPELLER technique can reduce motion artifacts on MR images in the oral and maxillofacial regions: Shimamoto H., Tsujimoto T., Kakimoto N., Usami A., Senda Y., Murakami S.: 21st ICDMFR (Kaohsiung), 2017.
- 4: Usefulness of fat-suppressed MRI for diagnosis of oral cancer patients with the flap: Usami A., Sasai T., Kakimoto N., Nakatani A., Uchiyama U., Murakami S.: 21st ICDMFR (Kaohsiung), 2017.
- 5: Effect of PROPELLER technique on motion artifact reduction in the fat suppressed T2-weighted MR image of the oral and maxillofacial area.: Shimamoto H., Tsujimoto T., Kakimoto N., Majima M., Iwamoto Y., Senda Y., Okahata R., Marutani K., Usami A, Murakami S. : The 58th annual meeting of Japanese Society of Oral and Maxillofacial Radiology (Kagoshima).
- 6: Strategies of quality assurance committee by the many types of job cooperation of the Hiroshima University radiation therapy section: Masuda H., Nakashima T., Kawahara D., Miki K., Saitoh A., Nomura M., Ohno Y., Kakimoto N., Fujita M., Murakami Y., Nagata Y.: The 12th annual meeting of Japanese Society for Quality and Safety in Healthcare (Tokyo), 2017.
- 7: Lymph node metastasis after interstitial brachytherapy for oral tongue cancer patients: Sasai T., Iwamoto Y., Senda Y., Majima M., Marutani K., Chou T., Tsujimoto T., Shimamoto H., Nakatani A., Uchiyama Y., Kakimoto N., Abe N., Murakami S., Fuchihata H.: The 37<sup>th</sup> annual joint meeting of Kansai and Kyushu of Japan Society of Oral and Maxillofacial Radiology (Hiroshima), 2017.
- 8: Treatment results of external beam radiation therapy for oral cancer patients: Majima M., Uchiyama Y., Nakatani A., Tsujimoto T., Iwamoto Y., Chou T., Marutani R., Shimamoto H., Sasai T., Kakimoto N., Tomita S., Murakami S., Fuchihata H.: The 37<sup>th</sup> annual joint meeting of Kansai and Kyushu of Japan Society of Oral and Maxillofacial Radiology (Hiroshima), 2017.
- 9: A case of mucoepidermoid carcinoma treated with the mold technique of high dose rate interstitial brachytherapy: Tsujimoto T., Iwamoto Y., Senda Y., Majima M., Marutani K., Marutani R., Shimamoto H., Nakatani A., Uchiyama Y., Sasai T., Kakimoto N., Kataoka M., Murakami S., Fuchihata H.: The 37<sup>th</sup> annual joint meeting of Kansai and Kyushu of Japan Society of Oral and Maxillofacial Radiology (Hiroshima), 2017.
- 10: Investigation of patient incident dose between devices with different tube voltages - intraoral X-ray device -: Ohtsuka M., Yamaoka H., Kakimoto N.: Japanese society of radiological technology 45<sup>th</sup> autumn scientific congress (Hiroshima), 2017.
- 11: Investigation of the relationship between patients' videofluoroscopic examination and tongue pressure using balloon-type device in acute stroke: Nakamori M., Imamura E., Matsushima H., Maetani Y., Kushitani S., Wakabayashi S., Yoshikawa M., Tsuga K., Nagasaki T., Hosomi N., Maruyama H : The

joint meeting of 58<sup>th</sup> Annual Meeting of the Japanese Society of Neurology and XXIII World Congress of Neurology(Kyouto), 2017

- 12: Examination of airway from change in the mandibular setback surgery assessed with the multislice computed tomography: Iwai H., Ueda H., Murakami S., Cynthia C., Nagasaki T., Tanimoto K: The joint meeting of the 56<sup>th</sup> annual meeting of Hiroshima Prefectural Dental Association and The 101<sup>th</sup> annual meeting of Hiroshima University Dental Society (Hiroshima), 2017.
- 13: The effect of candy eating behavior to improve swallowing function in dementia: Kawano H., Mori T., Kuroki A., Maruyama M., Nagasaki T., Yoshikawa M., Yoshida M., Tsuga K: The joint meeting of The 56<sup>th</sup> annual meeting of Hiroshima Prefectural Dental Association and the 101<sup>th</sup> annual meeting of Hiroshima University Dental Society (Hiroshima), 2017.
- 14: Longitudinal study of oral conditions in elderly patients using panoramic radiographs : Konishi M., Kirisawa T., Yasuda S., Nishino R., Kakimoto N. : The 56th annual meeting of Japan Society of Oral and Maxillofacial Radiology (Kagoshima), 2017.

#### F) Special lectures in academic meetings

- 1: Revision points of TNM classification (the UICC eight edition) and the WHO (2017) From the situation of Oral radiology.: Kakimoto N.: The 46<sup>th</sup> annual meeting of Chugoku and Shikoku of Japanese Society of Oral and Maxillofacial Surgeons (Yamaguchi), 2017.
- 2: Head and Neck 1, Maxilla and Mandible lesions, Imaging of temporomandibular joint: Kakimoto N.: the 53<sup>rd</sup> Autumn Assembly of the Japan Radiological Society (Matsuyama), 2017.
- 3: Aiming for professionals in oral and maxillofacial area -Oral and maxillofacial region imaging at our hospital-: Ohtsuka M.: The Japanese meeting of radiological technologists in dental college and university dental hospital Heisei 29th general assembly · dental radiological technology workshop (Kitakyushu), 2017.

#### (6) Patents

- 1: Sawajiri M., Nomura Y., T Shimizu: AC electrolytic water apparatus and producing method, prevention of tumour growth using AC electrolytic water. (JP2017-205615) (Medical Environment Techno Co., Ltd., Mikasa Shoji Co., Ltd.)

[Return to Contents](#)

- **Department of Biological Endodontics**
- **Division of Preventive and Restorative Dentistry**  
**(Department of Endodontics and Operative Dentistry)**

## (1) Staff and Students

Professor	: Hideki Shiba
Associate Professor, Lecturer	: Shigeki Suzuki
Assistant Professor	: Naoyo Motoyama, Shintaro Nagayasu, Shizu Tsuchiya, Seiji Kobuke, Satoru Shindo
Resident	: Noriko Saito
Graduate Student	: Jun Nakanishi, Kazuma Yoshida

## (2) Main Research Activities

- 1: Studies on biological regeneration of dentin/pulp complex and periapical tissues
- 2: Studies on pulp regeneration by regulation of inflammation
- 3: Studies on biological obturation of root canals at apical areas
- 4: Studies on development of a new therapeutic agent for intractable pain

## (3) Research Achievements

## A) Original Papers (including Case Reports)

- 1: A novel gingival overgrowth mouse model induced by the combination of CsA and ligature-induced inflammation: Okanobu A., Matsuda S., Kajiya M., Fujita T., Kittaka M., Shiba H., Kurihara H.: J. Immunol. Methods., 445, 31-36, 2017.
- 2: Useful immunochromatographic assay of Calprotectin in gingival crevicular fluid for diagnosis of diseased sites in patients with periodontal diseases: Kido J., Murakami S., Kitamura M., Yanagita M., Tabeta K., Yamazaki K., Yoshie H., Watanabe H., Izumi Y., Suda R., Yamamoto M., Shiba H., Fujita T., Kurihara H., Mizuno M., Mishima A., Kawahara N., Hashimoto K., Naruishi K., Nagata T.: J. Periodontol., 6, 1-19, 2017.
- 3: A suspected case of allergic effects of the room temperature curing resin for dental use : Kitagawa M., Kuremoto K., Shintani T., Ogawa I., Shiba H. : Journal of Japanese Society for Evidence and the Dental Professional, 9, 17-21, 2017
- 4: A case report: Apical barrier formation at the apical area after extended-period application of calcium hydroxide : Nagahara T., Takeda K., Iwata T., Shiba H : The Journal of Japan Endodontic Association, 38, 171-180, 2017.

- 5: Effects of Polymer Encapsulated Glial Cell Line-Derived Neurotrophic Factor Secreting Cells on Odontoblast-like Cell Survival:Saito N., Washio A., Miyashita K., Wahlberg LU., Emerich DF., Morotomi T., Nishihara T., Kitamura C.: J Regen Med., vil:6, 2017
- 6: Gomisin N Decreases Inflammatory Cytokine Production in Human Periodontal Ligament Cells.: Hosokawa Y., Hosokawa I., Shindo S., Ozaki K., Matsuo T.: Inflammation. 40:360-365, 2017
- 7: IL-29 Enhances CXCL10 Production in TNF- $\alpha$ -stimulated Human Oral Epithelial Cells.Hosokawa Y., Hosokawa I., Shindo S., Ozaki K., Matsuo T.: Immunol Invest. 46:615-624, 2017

## B) Reviews

## C) Publications

- 1: Considerations for endodontic treatment of upper premolar and molar teeth: Saito N., Shiba H.: Hint for endodontics and leveling up its ability (edited by Kitamura K.): Dental Diamond Co (Tokyo), 22-23, 2017.
- 2: Biological Endodontics: Suzuki S., Shiba H.: Hint for endodontics and leveling up its ability (edited by Kitamura K.): Dental Diamond Co (Tokyo), 176-177, 2017.

## D) Other Publications

- 1: Selective etching (601): Suzuki S., Shiba H.: Glossary of Operative Dentistry 2017 (edited by The Japanese Society of Conservative Dentistry.): Dental Diamond Co (Tokyo), 22-23, 2017.

## E) Presentation at Scientific Meeting

- 1: Extracellular miRNA causes neuropathic pain via spinal TLR7 in peripheral nerve injury: Morita K, Motoyama N, Dohi T: The 90th Annual Meeting of the Japanese Phaimacological Society (Nagasaki), 2017
- 2: Effects of GDNF and VEGF secreted from cell-encapsulated devices on viability of odontoblast-like cells : Saito N., Morotomi T., Washio A., Wahlberg Lars, Emerich Dwaine, Kitamura C : The 146th Annual Meeting of the Japanese Society of Dental Preservation 2017 Spring Science Congress (Aomori), 2107.
- 3: Effects of MTI-II Peptide Anti-Inflammatory Drug (MPAID) on BMP-Smad Signaling : Hirata-Tsuchiya S., Okamoto K., Suzuki S., Motoyama N., Nagayasu S., Kobuke S., Shiba H., Kitamura C: The 146th Japanese Society of Conservative Dentistry (Aomori), 2017.

- 4: Oral bacteria and systemic conditions - Consideration based on examination on the relationship between oral bacteria , and especially cranial nerve diseases and their treatments- : Kitagawa M., Ogawa I., Shintani T., Nishi H., Ouhara K., Shiba H., Kurihara H. : The 20<sup>th</sup> Annual Congress of Japan Association of Neurosurgical Clinics (Hiroshima), July, 2017.
- 5: Endodontic treatment of the left mandibular first premolar with three root canals: A case report : Kobuke S., Nagayasu S., Suzuki S., Tsuchiya S., Motoyama N., Nakanishi J., Yoshida K., Shiba H. : The 38<sup>th</sup> Annual scientific meeting of Japan Endodontic Association (Tokyo) , July, 2017.
- 6: Non-surgical endodontic treatment of huge periapical lesion spreading to the mandibular canal : Nagahara T., Takeda K., Iwata T., Shiba H. : The 38<sup>th</sup> Annual scientific meeting of Japan Endodontic Association (Tokyo) , July, 2017.
- 7: A case report: Successful clinical outcome of invasive cervical resorption after the combination of endodontic and periodontal therapies : Nagahara T., Shiba H. : The 17<sup>th</sup> Annual scientific meeting of West Japan Endodontic Association (Osaka) , September, 2017.
- 8: Identification of the binding region of NF- $\kappa$ B p65 on Smad4 for enhance BMP-induced bone formation: Urata M., Matsubara T. Nakatomi C., Hirata-Tsuchiya S., Kokabu S., Chou B., Kitamura C., Jimi E. : The 59th Annual Meeting of Japanese Association for Oral Biology (Nagano), 2017.
- 9: Isolation of proinflammatory microvesicles from human dental pulp cells : Nagayasu S, Suzuki S, Nakanishi J, Yoshida K, Kobuke S, Motoyama N, Hirata-Tsuchiya S, Nishimura F, and Shiba H : The 147th Japanese Society of Conservative Dentistry Iwate 26,27 Oct 2017.
- 10: Development of the complex of glycosaminoglycan and LL37, which possesses the ability to reduce host cell cytotoxicity: Yoshida K, Suzuki S, Nakanishi J, Kobuke S, Motoyama N, Nagayasu S, Hirata-Tsuchiya S, and Shiba H: The 147th Japanese Society of Conservative Dentistry (Morioka), 2017.
- 11: Exploration of anti-inflammatory domain of Phosphophoryn : Nakanishi J, Suzuki S, Yoshida K, Kobuke S, Motoyama N, Nagayasu S, Hirata-Tsuchiya S, and Shiba H: The 147th Japanese Society of Conservative Dentistry (Morioka), 2017.
- 12: Chromatin-enriched DMP-1 gene mediates cellular proliferation: Suzuki S, Yoshida K, Nakanishi J, Hirata-Tsuchiya S, Kobuke S, Nagayasu S, Motoyama N, and Shiba H: The 147th Japanese Society of Conservative Dentistry (Morioka), 2017.
- 13: IL-35 suppressed IL-6 and CXCL10 productions in TNF- $\alpha$ -stimulated human periodontal ligament cells: Shindo S, Hosokawa Y, Hosokawa I, Ozaki K, Shiba H, Matsuo T: The 147th Japanese Society of Conservative Dentistry (Morioka), 2017.
- 14: Supportive action on dental treatments of HIV-infected patients by dental hygienists and its effects : Okada M., Matsui K., Iwata T., Shintani T., Kinoshita K., Miyahara A., Ikeda U., Saito S., Maruyama E., Hamamoto K., Yamasaki N., Fujii T., Shiba H. : The 31<sup>th</sup> Annual meeting of the

Japanese Society for AIDS research (Tokyo), November, 2017.

#### F) Special lectures in academic meetings

- 1: HIV infection and dental treatment: Shiba H.: Staff workshop in HIV/AIDS core base hospital, HIV/AIDS base hospital and HIV/AIDS cooperation medical institutions etc. (Izumo), 2017.
- 2: Basic research for development of biological endodontics: Shiba H.: Seminar of Tokyo Dental College Graduate School (Tokyo), 2017.
- 3: Support for dental treatment of HIV-positive patients in Hiroshima University Hospital: Shiba H.: HIV/AIDS-seminar among HIV/AIDS core hospitals organized by Asahikawa Medical College (Asahikawa), 2017.
- 4: The point of examination, diagnosis and the treatment of endodontic and periodontal disease: Shiba H.: The general meeting of Alumni association for Hiroshima University School of Dentistry (Yokohama), 2017.
- 5: Support for dental treatment of HIV-positive patients in Hiroshima University Hospital: Shiba H.: Dental ICT seminar of Kagoshima University Hospital (Kagoshima), 2017.
- 6: Information concerning performance of countermeasure for HIV infection in the Chugoku and Shikoku areas: Shiba H.: The first liaison council of AIDS treatment among HIV/AIDS core hospitals in the Chugoku and Shikoku areas (Yonago), 2017.
- 7: Infection control: Shiba H.: Clinical workshop of Japan Endodontic Association (Osaka), 2017.

#### (4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: 1: Grant-in-Aid for Scientific Research (B): Shiba H.: Usefulness of the complex of the three regenerative elements as a therapeutic agent for regeneration against endodontic diseases: No. 15H05022, ¥ 3,400,000
- 2: 2: Research grants: Grants for research received from Hiroshima Prefecture: Shiba H.: Study on network-construction of dental practice for HIV infection: ¥3,000,000
- 3: Grant-in-Aid for Scientific Research (C): Suzuki S.: Induction of cellular proliferation and differentiation of dental pulp cells by newly identified long non-coding RNA: No. 16K11551, ¥1,400,000
- 4: Grant-in-Aid for Scientific Research (C): Motoyama N.: Role of the novel Platelet-Activating factor (PAF) synthetase LPCAT2 on chronic pain: No.16K11550, ¥1,400,000
- 5: Grants-in-Aid for Scientific Research (C): Tsuchiya S.: Development of endodontic treatment through the NF- $\kappa$ B inhibition by the NSAID repositioning: No.17K11706, ¥1,200,000.
- 6: Grants-in-Aid for Young scientists (B): Nagayasu S.: Elucidation of the induction mechanism of TNF- $\alpha$  expression from macrophages by dental pulp cell specific factors: No.16K20456,

¥2,080,000.

- 7: Grants-in-Aid for Young scientists (B): Saito N.: Elucidation of the influence of sustained stimulation of GDNF on the survival and inflammatory response of odontoblasts and osteoblasts : No.16K20460, ¥1,170,000
- 8: Grants-in-Aid for Young scientists (B): Kobuke S.: Elucidation of the anti-inflammatory mechanism by Phosphophoryn: No.17K17135, 1,400,000
- 9: Grant-in-Aid for Research Activity start-up: Shindo S.: Elucidation of the inflammation control mechanism of IL-35 in apical periodontitis: ¥1,100,000
- 10: General foundation Ryokufukai The year of 2017 education and research prize for encouragement (Grant for young researcher grant): Yoshida K.: Antimicrobial effect of Heparin-LL37 hybrid: ¥500,000

(5) Academic Awards, etc.

(6) Patents

[Return to Contents](#)

• **Department of Dental Anesthesiology**  
 • **Division of Oral & Maxillofacial Surgery and Oral Medicine**  
**(Department of Dental Anesthesiology and Orofacial Pain Management)**

(1) Staff and Students

Professor	: Irifune Masahiro, D.D.S., Ph.D.
Lecturer	: Yoshida Mitsuhiro, D.D.S., Ph.D.
Research Associate	: Shimizu Yoshitaka, D.D.S., Ph.D., Doi Mitsuru, D.D.S., Mukai Akari, D.D.S., Ph.D., Yoshida Keita, D.D.S.
Resident	: Oue Kana, D.D.S., Ph.D., Yoshinaka Taiga, D.D.S., Ph.D., Ogawa Yuya, D.D.S., Ph.D.
Graduate Student	: Maetani Yuka, D.D.S., Kikuchi Yuka, D.D.S., Oda Aya, D.D.S., Mukai Tomohiro, D.D.S., Sasaki Utaka, D.D.S., Motoike-Imamura Serika D.D.S., Y, Kochi Takahiro, D.D.S.
Clinical Trainee	: Kawahara Michio, M.D., Ph.D., Katayama Sohtaro, D.D.S., Ph.D., Kawahara Toshiya, D.D.S., Yasusaka Masaki, D.D.S., Hama Yoko, D.D.S.

(2) Main Research Activities

- 1: Study on mechanisms of general anesthetic action
- 2: Development of a novel general anesthetic method applying enhancement of descending pain suppression system
- 3: Study on role of each neuron in an intravenous anesthetic agent-induced anesthetic factor
- 4: Study on a stage of delirium in general anesthesia
- 5: Study on involvement of dopamine neurons in awakening from general anesthesia
- 6: Study on antianxiety effects of sedative drugs
- 7: Study on effects of nitrous oxide on cardiovascular system
- 8: Study on chronic pain
- 9: Study on efficacy of chest compressions in cardiopulmonary resuscitation
- 10: Study on medical emergency during dental treatments

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: General anesthetic actions on GABA<sub>A</sub> receptors in vivo are reduced in phospholipase C-related catalytically inactive protein knockout mice.: Hayashiuchi M, Kitayama T, Morita K, Yamawaki Y, Oue K, Yoshinaka T, Asano S, Harada K, Kang Y, Hirata M, Irifune M, Okada M, Kanematsu T: *J Anesth*. 31(4), 531-538, 2017.
- 2: Phospholipase C-related catalytically inactive protein-knockout mice exhibit uncoupling protein 1 upregulation in adipose tissues following chronic cold exposure: Oue K, Yamawaki Y, Asano S, Mizokami A, Hirata M, Irifune M, Kanematsu T: *J Oral Biosci* 59(2), 108-112, 2017.
- 3: A case with deteriorating palmoplantar pustulosis and hyperthyroidism after simultaneous bimaxillary orthognathic surgery: Oda A, Yoshida K, Uno T, Yoshinaka T, Mukai A, Irifune M: *Anesth Prog* 64(3), 173-174, 2017.
- 4: Research on longitudinal changes and analysis of outpatient satisfaction at special care dental clinic of Hiroshima University Hospital (the third report): Oda Y, Furutani C, Matsumoto K, Hayashi F, Yoshida K, Ohue K, Takahashi T, Yoshinaka T, Mukai A, Oda A, Mukai T, Wakita A, Mizota Y, Kaihara Y, Irifune M, Kozai K: *Journal of Hiroshima University Dental Society* 49 (1), 8-15, 2017.
- 5: Initial report of the attempt to develop new oral assessment as information sharing with multi-disciplinary –Oral assessment of chemotherapy patients in Hiroshima University Hospital-: Nishi H, Konishi M, Yoshioka Y, Sugiyama M, Ohta K, Shigeishi H, Shimizu Y, Nagasaki T, Fukui A, Yamauchi Y, Hiraki T, Naruse T, Obayashi T, Ohara M, Kitagawa M, Yana K, Nakaoka M, Nishimura R, Fukada E, Kakimoto N, Tsuga K, Irifune M, Kawaguchi H, Ohge H, Kurihara H: *Journal of Hiroshima University Dental Society* 49 (2), 134-140, 2017.
- 6: A case of an MRI examination performed on an obese, intellectually disabled patient under intravenous sedation and physical restraint: Oda A, Yoshida K, Mukai T, Takahashi T, Yoshinaka T, Ohue K, Mukai A, Kanda T, Oda Y, Irifune M: *Journal of the Japanese Society for Disability and Oral Health*, 38 (1), 47-52, 2017.
- 7: A case of intravenous sedation in a patient with a resected left lung undergoing the removal of mandibular metal plates: Sasaki U, Yoshida K, Motoike S, Mukai T, Oda A, Oue K, Mukai A, Shimizu Y, Irifune M: *Journal of Japanese Dental Society of Anesthesiology*, 45 (5), 657-659, 2017.
- 8: A case with schizophrenia who has consented to continuous dental treatment and oral hygiene instruction: Furutani C, Oda Y, Hayashi F, Yoshida K, Yoshinaka T, Mukai A, Oda A, Mukai T, Wakita A, Mizota Y, Watari M, Kaihara Y, Irifune M, Kozai K: *Journal of Hiroshima University Dental Society* 49 (2), 158-163, 2017.

## B) Review

## C) Publications

## D) Other Publications

## E) Presentation at Scientific Meeting

- 1: Overexpression of PRIP in MCF-7 cells, a breast cancer cell line, enhances cisplatin-induced apoptosis: Maetani Y, Asano S, Irifune M, Kanematsu T: The 50th Scientific Meeting of Hiroshima University Dental Society (Hiroshima), 2017.
- 2: A case of oral surgery under general anesthesia for a patient with multiple organ damage due to traffic injuries: Kochi T, Yoshida M, Ogawa Y, Mukai A, Motoike, S, Sasaki U, Oda A, Oue K, Yoshida K, Doi M, Shimizu Y, Irifune M: The 31th Scientific Meeting of Dental Anesthesiology in Chugoku and Shikoku Branch (Tokushima), 2017.
- 3: Effects of intravenous anesthetics on Substance P release from dorsal horn of the spinal cord in rats: Mukai T, Ogawa Y, Irifune M: The 31th Scientific Meeting of Dental Anesthesiology in Chugoku and Shikoku Branch (Tokushima), 2017.
- 4: Carrageenan-induced chronic masseter muscle pain model rats: Yoshida M, Mukai A, Yoshida K, Doi M, Shimizu Y, Irifune M: The 31th Scientific Meeting of Dental Anesthesiology in Chugoku and Shikoku Branch (Tokushima), 2017.
- 5: A case of difficult intubation in a pediatric patient arising from a huge thyroglossal duct cyst in oral floor: Oue K, Sasaki U, Motoike S, Kochi T, Yoshida K, Shimizu Y, Yoshida M, Irifune M: The 45th Annual Meeting of Japanese Dental Society of Anesthesiology (Matsumoto), 2017.
- 6: A case of perioperative general anesthesia management during tooth extraction in a patient with severe mental retardation who was implanted in vagus nerve stimulator for intractable epilepsy: Mukai A, Takahashi T, Yoshinaka T, Oda A, Mukai T, Oue K, Yoshida K, Yoshida M, Irifune M: The 34th Annual Meeting of the Japanese Society for Disability and Oral Health (Fukuoka), 2017.
- 7: Case report of Lesch-Nyhan syndrome patient whose self-injury behavior has decreased by continued use of mouth guards: Oda Y, Furutani C, Mantoku C, Yoshida K, Mukai A, Yoshinaka T, Oda A, Mukai T, Wakida A, Kanda T, Hayashi F, Kaihara Y, Irifune M, Kozai K: The 34th Annual Meeting of the Japanese Society for Disability and Oral Health (Fukuoka), 2017.
- 8: Improved QOL of schizophrenic patient by continuous dental treatment and oral hygiene instruction: a case report: Furutani C, Oda Y, Mantoku C, Hayashiuchi Y, Yoshida K, Mukai T, Wakida A, Kanda T, Kaihara Y, Irifune M, Kozai K: The 34th Annual Meeting of the Japanese Society for Disability and Oral Health (Fukuoka), 2017.
- 9: A case of intravenous sedation instead of general anesthesia for a patient with intellectual disability and severe chronic renal failure: Mukai T, Yoshida K, Furutani C, Oda A, Takahashi T, Yoshinaka T, Mukai A, Oda Y, Irifune M: The 34th Annual Meeting of the Japanese Society for Disability and Oral Health (Fukuoka), 2017.
- 10: A case of dental treatment performed on a patient with Cornelia Lange syndrome under intravenous sedation: Oda A, Yoshida K, Mukai T, Takahashi T, Mukai A, Furutani C, Oda Y, Irifune M: The

34th Annual Meeting of the Japanese Society for Disability and Oral Health (Fukuoka), 2017.

F) Special lectures in academic meetings

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1: Grant-in-Aid No. 15K11313 for Scientific Research (C) from the Ministry of Education, Culture, Sports, Science, and Technology of Japan (Continued): Irifune M: Development of a novel general anesthetic method applying enhancement of descending pain inhibitory system: application of 5-HT receptor ligands. ¥350,000.
- 2: Grant-in-Aid No. 17K17254 for Young Scientists (B) from the Ministry of Education, Culture, Sports, Science, and Technology of Japan (New): Oue K: Study on brown adipocytes molecules mechanism for obesity control. ¥1,700,000.
- 3: Grant-in-Aid No. 17K11908 for Scientific Research (C) from the Ministry of Education, Culture, Sports, Science, and Technology of Japan (Continued): Doi M: Functional brain imaging evaluation of treatment effect of cognitive behavioral therapy and antidepressant drugs on glossodynia. ¥1,600,000.

(5) Academic Awards, etc.

(6) Patents

[Return to Contents](#)

## Department of Public Oral Health

### (1) Staffs and Students

Professor : Masaru Sugiyama  
 Associate Professor : Maki Nosou, Atsushi Shimazu (Department), Hideo Shigeishi  
 Assistant Professor : Eri Fukada, Yuko Kurawaki  
 Graduate Student : Tomoko Kawano, Yuka Wakabayashi, Maruyama rika, Sanae Miyoshi, Yukiko Nagashima, Yuumi Endo, Yoshino Kaneyasu(M2), Ayaka Takahashi(M1)  
 Undergraduate Student: Mari Matsumura, Kanako Oda, Mika Motoshige, Kaede Takeuti, Mariko Nakamura, Hinano Takada (4<sup>th</sup> grade student), Amane Oshima, Misaki Morooka, Mai Okawa, Ayaka Kimura, Moe Kawata, Miho Ikeda, Mikiho Ise, Asuka Takemoto, Ayana Shinozaki, Mayu Etsuki, Shoko Kimura, Suzuko Ishikawa(3<sup>rd</sup> grade student)

### (2) Main Research Activities

- 1 : Study on oral care
- 2 : Study on oral functions in the elderly
- 3 : Study on human papillomavirus in oral squamous cell carcinoma
- 4 : Study on the activities of oral health at school

### (3) Research Achievements

#### A) Original Papers (including Case Reports)

- 1 : TNF- $\alpha$ -induced IL-6 and MMP-9 expression in immortalized ameloblastoma cell line established by hTERT: Ohta K, Naruse T, Ishida Y, Shigeishi H, Nakagawa T, Fukui A, Nishi H, Sasaki K, Ogawa I, Takechi M. : Oral Dis. 23(2): 199-209, 2017.
- 2 : Differential regulation by IFN- $\gamma$  on TNF- $\alpha$ -induced chemokine expression in synovial fibroblasts from temporomandibular joint : Ohta K, Naruse T, Kato H, Ishida Y, Nakagawa T, Ono S, Shigeishi H, Takechi M. Mol Med Rep. 16(5) , 6850-6857, 2017.
- 3 : A case of multiple supernumerary teeth in the bilateral impacted wisdom teeth regions of maxilla : Sasaki K, Ono S, Tada M, Shigeishi H, Ohta K, Higashikawa K, Takechi M. : The Journal of Hiroshima University Dental Society. 49(2) , 175-179 , 2017.
- 4 : Clinical studies of dentigerous cysts during past 10 years in our department : Kubozono K, Ono S, Ohta K, Higashikawa K, Shigeishi H, Ogawa I, Takechi M. : Journal of Hiroshima University Dental

Society. 49(2), 153-157, 2017.

- 5 : Initial Report of the attempt to develop new oral assessment as information sharing with multi-disciplinary-oral assessment of chemotherapy patients in Hiroshima University Hospital- : Nishi H, Konishi M, Yoshioka Y, Sugiyama M, Ohta K, Shigeishi H, Shimizu Y, Nagasaki T, Fukui A, Yamauchi U, Hiraki T, Naruse T, Obayashi T, Ohara M, Kitagawa M, Yano K, Nakaoka M, Nishimura R, Fukada E, Kakimoto N, Tsuga K, Irifune M, Kawaguchi H, Ohge H, Kurihara H. : Journal of Hiroshima University Dental Society. 49(2), 134-140, 2017.
- 6 : Consideration of teaching effectiveness learning practical training of clinical medicine in training course of yogo teacher : Nosou M, Shimazu A, Naitou A, Fukada E, Nishimura R, Matsumoto A Niitani Y, Takemoto T, Maehara T, Amano H, Sugiyama M : Journal of Hiroshima University Dental Society. 49(1) , 1-7, 2017.
- 7 : The relationship between lip-closing strength and the related factors in a cross-sectional study : Saitoh I, Inada E, Kaihara Y, Nogami N, Murakami D, Ishitani N, Sawami T, Iwase Y, Nakajima T, Kubota N, Sakurai K, Tsujii T, Shirazawa Y, Hanasaki M, Kurosawa M, Goto M, Nosou M, Kozai K, Yamasaki Y, Hayasaki H : Pediatric Dental Journal , 27(3), 115-120, 2017.
- 8 : Consideration of the maximum intra oral pressure in sucking action in adult : Fukada E, Nishimura R, Sugiyama M, Amano H : J. Hiroshima Univ. Dent. Soc., 49(2), 87-96, 2017.
- 9 : Results of a questionnaire survey for yogo-teachers graduated from Hiroshima University School of Dentistry : Orisige N, Fukada E, Nosou M, Shimazu A, Matsumoto A, Niitani Y, Nishimura R, Iwamoto A, Kurawaki Y, Maehara T, Takemoto T, Amano H, Sugiyama M : J. Hiroshima Univ. Dent. Soc., 49(2), 97-105, 2017.

## B) Review

- 1 : Association of human papillomavirus (HPV) infection with oral cancer- review of recent research : Shigeishi H. and Sugiyama M. : J Dental Hlth 2017; 67: 149-159.

## C) Publications

- 1 : Oral surgery (second edition). Salivary gland disease. Shigeishi H, Sugiyama M : Nagasue Bookstore. (Kyoto), p166-179, 2017.
- 2 : Oral surgery (second edition). Salivary calculus extraction surgery. Sugiyama M, Shigeishi H : Nagasue Bookstore.(Kyoto), p255-258, 2017.
- 3 : Oral medicine for dental hygienist. IV. Dental treatment during perinatal period. Shigeishi H, Sugiyama M : Ishiyaku Publishers (Tokyo), in press.

#### D) Other Publications

- 1 : Education for Dental Hygienists and Dental Technicians in Hiroshima University : Sugiyama M, Nishimura R, Fukada E, Tamamoto M, Taji T, Shimoe S, Matsumoto A, Niitani Y, Sasahara H, Shimazu A, Kihara T, Syutou T, Mimura S, Taguchi K, Iwamoto A, Kurawaki Y, Kawahara K, Tsuruda K, Nosou M, Amano H, Takemoto T, Nikawa H, Murayama T, Satoda T : Journal of Hyogo Dental Association, 792, 1-9, 2017.

#### E) Presentation at Scientific Meeting

- 1 : Education in program of Oral Health Sciences, School of Dentistry and Oral Health Sciences Major, Graduate School of Biomedical & Health Sciences, Hiroshima University and its achievements :Sugiyama M, Nishimura R, Fukada E, Tamamoto M, Taji T, Shimoe S, Matsumoto A, Niitani Y, Sasahara H, Shimazu A, Syutou T, Mimura S, Taguchi K, Iwamoto A, Kurawaki Y, Kawahara K, Tsuruda K, Nosou M, Amano H, Takemoto T, Nikawa H, Murayama T, Satoda T : 50th Hiroshima University Dental Association(Hiroshima), 2017.
- 2 : Recognition of Child's Health Examination Results in Parents of Elementary School Children and Their Relationship to Dental Consciousness and Patient Attendance : Shimazu A, Sugiyama M : The 66th General Meeting of Japanese Society for Oral Health (Yamagata), 2017.
- 3 : Expression of semaphorin 3A and its receptors in pulp tissue : Takahashi A, Shimazu A, Fujimoto C, Yoshimura R, Nishimura R, Sugiyama M : 50th Hiroshima University Dental Association(Hiroshima), 2017.
- 4 :Relation between the oral health condition of elementary school students and the opportunity of dental examination and consciousness of parents : Shimazu A, Matsushige A, Takahashi A, Nishimura R, Naito M, Watanabe T, Taniguchi N, Hanioka T, Sugiyama M : The 39th Annual Meeting of the Society for Kyushu Oral Health (Saga), 2017.
- 5 : Web content development of WHO dental simple tobacco intervention method -5R and simple motivation interview : Hanioka T, Taniguchi N, Watanabe T, Shimazu A, Naito M, Ojima M : The 39th Annual Meeting of the Society for Kyushu Oral Health (Saga), 2017.
- 6 : Relationship between dentist's attitude to emphasize medical science and employment satisfaction : Watanabe T, Hanioka T, Taniguchi N, Shimazu A, Naito M ; The 39th Annual Meeting of the Society for Kyushu Oral Health (Saga), 2017.
- 7 : Survey on oral hygiene management for cancer chemotherapy patients : Ogura S, Sugiura Y, Miura R, Shimazu A, Tsubouchi T, Sasaki A, Iida E ; The12th Academic Conference of the Japanese Dental Hygiene Association (Tokyo), 2017.
- 8 : Educational effect of clinical training on perioperative oral function management at university

- hospital : Kosaka Y, Miura R, Shimazu A, Iida E : The 12th Academic Conference of the Japanese Dental Hygiene Association (Tokyo), 2017.
- 9 : Prevalence and risk factors for oral HPV infection: Shigeishi H, Sugiyama M. : The 66th General Meeting of Japanese Society for Oral Health (Yamagata), 2017.
- 10 : Risk factors for oral HPV infection and clinicopathological features of HPV DNA positive oral cancers: From recent researches : Shigeishi H, Sugiyama M, Ohta K, Higashikawa K, Takechi M. , The 62nd Congress of the Japanese Society of Oral and Maxillofacial Surgeons (Kyoto), 2017.
- 11 : Risk factors for oral HPV infection and clinicopathological features of HPV DNA positive oral cancers. : Shigeishi H, Sugiyama M. : The 26th Annual Meeting of Japanese Association for Oral Infectious Disease (Toyohashi), 2017.
- 12 : A program to cultivate advanced medical personnel : "Cultivation of dental personnel contributing healthy longevity in a specialist team": Nishimura R, Matsumoto A, Taji T, Fukada E, Niitani Y, Mimura S, Kihara T, Nikawa H, Sugiyama M : 50th Hiroshima University Dental Association(Hiroshima), 2017.
- 13 : Consideration of viscosity of beverage prepared by thickener for dysphagia diets on the market:Ikuta E, Nishimura R, Fukada E, Amano H:12th Academic Conference of the Japanese Dental Hygiene Association (Tokyo), 2017.
- 14 : A program to cultivate advanced medical personnel:"Cultivation of dental personnel contributing healthy longevity in a specialist team" -The program at University Hospital and seniors day care center- : Nishimura R, Fukada E, Niitani Y, Matsumoto A, Sugiyama M : 28th Annual Meeting of the Society for Kinki-Chugoku-Shikoku Oral Health (Hiroshima), 2017.
- 15 : The Career after graduation from Oral Health Sciences, School of Dentistry and Oral Health Sciences Major, Graduate School of Biomedical & Health Sciences, Hiroshima University: Fukada E, Matsumoto A, Nishimura R, Nosou M, Niitani Y, Tsuruda K, Amano H, Takemoto T, Sugiyama M: 28th Annual Meeting of the Society for Kinki-Chugoku-Shikoku Oral Health (Hiroshima), 2017.
- 16 : The number of students taking the program to acquire the license for Yogo teachers and rate of employment : Nosou M, Fukada E, Nishimura R, Matsumoto A, Niitani Y, Takemoto T, Maehara T, Amano H, Sugiyama M : 28th Annual Meeting of the Society for Kinki-Chugoku-Shikoku Oral Health (Hiroshima), 2017.
- 17 : Examination of saliva test with quickness and convenience targeting *S.mutans* : Takahashi A, Shimazu A, Nakamura M, Fukada E, Nishimura R, Sugiyama M : 28th Annual Meeting of the Society for Kinki-Chugoku-Shikoku Oral Health (Hiroshima), 2017.
- 18 : The usefulness of dental checkup including simple saliva occult blood test at business establishments : Kamikawa K, Yamasaki K, Fukada E, Sugiyama M, Arakawa S : 28th Annual Meeting of the Society for Kinki-Chugoku-Shikoku Oral Health (Hiroshima), 2017.
- 19 : Examination of the oral function related to splash distance of bean on the Splash Bean Test : Higashi

- M, Nishimura R, Fukada E, Hama S, Kanehisa Y, Hara K : The 6th Kobe Tokiwa University academic forum(Kobe),2017.
- 20 : Examination of oral function related to jaw-opening force : Kanehisa Y, Higashi M, Hama S, Hara K, Nishimura R, Fukada E : The 6th Kobe Tokiwa University academic forum(Kobe),2017.
- 21 : A program to cultivate advanced medical personnel:"Cultivation of dental personnel contributing healthy longevity in a specialist team" : Team medical program in the nursing facility:Nishimura R, Taji T, Fukada E, Matsumoto A, Nikawa H, Sugiyama M : 101th Hiroshima University Dental Association jointly-sponsored 56th Hiroshima Prefecture Dental association society (Hiroshima), 2017.
- 22 : A program to cultivate advanced medical personnel:"Cultivation of dental personnel contributing healthy longevity in a specialist team": Operation support program by the dental technician : Taji T, Nishimura R, Fukada E, Matsumoto A, Sugiyama M, Nikawa H : 101th Hiroshima University Dental Association jointly-sponsored 56th Hiroshima Prefecture Dental association society (Hiroshima), 2017.
- 23 : A case of a foreign body in the mandible considered as a broken piece of a dental treatment instrument: Sawai N., Hashitani S., Fujiwara M., Tomita S., Kawano T., Yanagisawa T. : 48th (public corporation) Japanese Society of Oral and Maxillofacial Surgeons Kinki Branch arts and sciences meeting, (Osaka) 2017.
- 24 : On the results of management of oral function after laparotomy or laparoscopic surgery of patients with cancer and colorectal cancer : Kawano T, Kasuga K, Kanemura K, Yuasa M, Hiranaka E, Hashitani S, Yanagisawa T, Kuroda Y, Fukada E, Sugiyama M : 12th 12th Annual Meeting of the Japan Society for Dental Hygiene Association (Tokyo), 2017.
- 25 : Association of oral function with long-term participation in community-based exercise programs: Miyoshi S, Fukada E, Sugiyama M : the 28th Annual Meeting of the Society for Kinki-Chugoku-Shikoku Oral Health (Hiroshima), 2017.

#### F) Symposium of academic conference, special lecture

#### G) Contribution to Community

- 1 : Sugiyama M: a member of Hiroshima Prefectural Dental Hygiene Council.
- 2 : Fukada E : Assessment of oral function at special nursing home "Kosei-En" ,2017.
- 3 : Fukada E : Refresher course for dental hygienists : Hiroshima University (Hiroshima),2017.7.20.
- 4 : Fukada E : Program for high school students: Hiroshima University Faculty of Dentistry: Hiroshima University (Hiroshima) 2017.8.1.
- 5 : Fukada E : Program for junior high-school student: Hiroshima University Faculty of Dentistry:

- Hiroshima University (Hiroshima), 2017.8.17.
- 6 : Fukada E : Program for kids from elementary schools, Dental Kids, "Let's Be a Dentist!":  
Hiroshima University Faculty of Dentistry: Hiroshima University (Hiroshima) , 2017.8.18.
- 7 : Fukada E : Refresher course for dental Hygienists : Hiroshima University (Hiroshima),2017.8.31.
- 8 : Fukada E : "Lecture of the oral health in Minami-ku" : Hiroshima,2017.9.1.
- 9 : Fukada E : Lecture for the class for diabetics : Hiroshima Teishin Hospital (Hiroshima),2017.10.19.
- 10 : Fukada E : The services to improve oral function are provided in Hiroshima prefecture "Lecture of the oral health" : Motomachi central meeting place (Hiroshima),2017.10.20.
- 11 : Nosou M, Fukada E : Dental health activity in special needs schools of Hiroshima city, Hiroshima, 2017.
- 12 : Nosou M, Fukada E : Dental health activity in junior high schools of Hiroshima city, Hiroshima, 2017.
- 13 : Nosou M, Fukada E : Dental health activity in elementary schools of Hiroshima city, Hiroshima, 2017.
- 14 : Nosou M, : Secretary at Hiroshima Branch of Children's Cancer Association of Japan, Hiroshima, 2016.
- 15 : Kawano T : Hyogo Dental Hygiene Society Hanshin North branch workshop "Collaboration of dental hygienists within clinical path operation area in Hanshin North Medical Zone" (Hyogo) 2017.
- 16 : Kawano T : Dental Hygienist Workshop in the Hanshin North Area "What is the Regional Comprehensive Care System Which I often hear frequently" Hyogo Prefecture Hanshin North Prefectural Bureau Takarazuka Health and Welfare Office (Takarazuka Public Health Center) 2017.
- 17 : Kawano T : A workshop for medical and nursing care workshops "Physical health is from your mouth" (Hyogo) 2017.
- 18 : Nagashima Y : Hyogo Prefecture Dental Hygienist Association: Lecture "Postgraduate compulsory program"2017.
- 19 : Nagashima Y : Hyogo Prefecture Dental Hygienist Association: Lecture "Dental hygiene process"2017.
- 20 : Miyoshi S:Hiroshima prefecture regional rehabilitation specialist job dispatch support project: "Project of care prevention tackling with dental hygienist, public health nurse and administrative nutritionist", (Hiroshima), 2017.2.5, 3.5.
- 21 : Miyoshi S : Lecture of oral health care at special nursing home "Hartful Takehara-chuo". (Hiroshima) 2017.6.26
- 22 : Miyoshi S : Oral Health Activities in Mihara city. Project of care prevention, basic course. : Lecture "The sign of aging is in your mouth" (Hiroshima), 2017. 6.26, 10.24.
- 23 : Miyoshi S : Lifestyle disease prevention lecture (Takehara one-two health course): Lecture "Health is from the mouth" (Hiroshima) , 2017.7.28.
- 24 : Miyoshi S : Hiroshima prefecture home health welfare activist meeting, Workshop on Palliative Care Special Committee.: Lecture " Collaboration with multi-occupational activities in the community"

(Hiroshima), 2017.9.1.

- 25 : Miyoshi S : Oral Health Activities in Kure city. Project of care prevention. : Lecture "The sign of aging is in your mouth" (Hiroshima), 2017.12.7.
- 26 : Miyoshi S : Support of fluoride mouthwash at Takehara Children's garden. (Hiroshima), 2017.
- 27 : Miyoshi S : Oral Health Activities in Takehara city. Project of care prevention. (Hiroshima) 2017.
- 28 : Miyoshi S : Hiroshima Central Region Health Council: Committee for Promotion of Home Nutrition and Oral Care Collaboration.
- 29 : Miyoshi S : Takehara · Toyota Dental Hygiene Liaison Committee Secretary.
- 30 : Takahashi A : Assessment of oral function at special nursing home "Kosei-En" ,2017.
- 31 : Takahashi A : Program for high school students: Hiroshima University Faculty of Dentistry: Hiroshima University (Hiroshima) 2017.8.1.
- 32 : Takahashi A : Program for junior high-school student: Hiroshima University Faculty of Dentistry: Hiroshima University (Hiroshima), 2017.8.17.
- 33 : Takahashi A : Program for kids from elementary schools, Dental Kids, "Let's Be a Dentist!": Hiroshima University Faculty of Dentistry: Hiroshima University (Hiroshima) , 2017.8.18.

#### (4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1 : Grants-in-Aid for Scientific Research (Scientific Research (C)) : Shigeishi H : Study on the mechanisms of regulation of cancer stem cell properties via mechanical stress in oral squamous cell carcinomas. (No. 17K11837). ¥1,100,000.
- 2 . Grants-in-Aid for Scientific Research (Scientific Research (C)) : Sugiyama M : Study on the mechanisms of acquisition of stem cell characters in cancer cells related to HPV-16 E6. (No. 15K11290).
- 3 : Grant-in-Aid for Young Scientists (B) : Fukada E : Establishment of diagnostic system for sucking and swallowing using intraoral pressure measurement.(No. 16K20502).¥1,300,000.

#### (5) Academic Awards, etc.

- 1 : Fukada E : Best Poster Award : The12th Academic Conference of the Japanese Dental Hygiene Association (Tokyo), 2017.
- 2 : Miyoshi S : Best Poster of Regional Oral Health Award : the 28th Annual Meeting of the Society for Kinki-Chugoku-Shikoku Oral Health (Hiroshima), 2017.

#### (6) Patents

[Return to Contents](#)

## Department of Maxillofacial Functional Development

### (1) Staff and Students

Professor : AMANO Hideaki

Research Associate : TSURUDA Keiko

NISHIMURA Rumi

Graduate Student : MAEHARA Tomoko

HIGASHI Mayuka

MATSUDA Saki

CHOU JAN

### (2) Main Research Activities

- 1: Clinical research of the growth and development of dento-maxillofacial complex in children
- 2: Study on the Dentistry for children and disabilities
- 3: Study on the School dental health
- 4: Study on the activation of the function of salivary glands
- 5: Study on the methods for Oral health care
- 6: Study on the education program for Oral health
- 7: Study on the development of oral function
- 8: Study on the intra-oral pressure for swallowing
- 9: Study on education program for graduate dental hygienists
- 10: Study on the Mechanism of Aggregatibacter actinomycetemcomitans-CDT complex formation and secretion

### (3) Achievements

#### A) Original Papers (including Case Reports)

- 1 : Consideration of teaching Effectiveness learning Practical Training of Clinical Medicine in Training Course of Yogo Teacher : Maki Nosou, Atsushi Shimazu, Akemi Naitou, Eri Fukada, Rumi Nishimura, Atsue Matsumoto, Yoshie Niitani, Toshinobu Takemoto, Tomoko Maehara, Hideaki Amano and Masaru Sugiyama : J. Hiroshima Univ. Dent. Soc., 49, 1-7, 2017.
- 2 : Consideration of Maximum Intra Oral Pressure in Sucking Action in Adult : Eri Fukada, Rumi Nishimura, Masaru Sugiyama and Hideaki Amano : J. Hiroshima Univ. Dent. Soc., 49, 87-96, 2017.
- 3 : Results of a Questionnaire Survey for Yogo-Teachers Graduated from Hiroshima University School of

Dentistry –About Their Working Conditions and Their Studies at School— : Natsuki Orishige, Eri Fukada, Maki Nosou, Atsushi Shimazu, Atsue Matsumoto, Yoshie Niitani, Rumi Nishimura, Akiko Iwamoto, Yuko Kurawaki, Tomoko Maehara, Toshinobu Takemoto, Hideaki Amano and Masaru Sugiyama : J. Hiroshima Univ. Dent. Soc., 49, 97-105, 2017.

4 : A Survey on the Actual Situation of Behavioral Management Methods and Assessment Criteria Involved with that Choice in Dental Facilities for the Disabilities : Tomoko Maehara, Toshinobu Takemoto, Masaru Sugiyama and Hideaki Amano : J. Hiroshima Univ. Dent. Soc., 49, 106-133, 2017.

5 : Initial Report of the Attempt to Develop New Oral Assessment as Information Sharing with Multi-disciplinary —Oral Assessment of Chemotherapy Patients in Hiroshima University Hospital — : Hiromi Nishi, Masaru Konishi, Yukio Yoshioka, Masaru Sugiyama, Kouji Ohta, Hideo Shigeishi, Yoshitaka Shimazu, Toshikazu Nagasaki, Akiko Fukui, Yuka Yamauchi, Tomoka Hiraki, Takako Naruse, Taiji Obayashi, Masaru Ohara, Masae Kitagawa, Kanako Yano, Miyuki Nakaoka, Rumi Nishimura, Eri Fukada, Naoya Kakimoto, Kazuhiro Tsuga, Masahiro Irifune, Hiroyuki Kawaguchi, Hiroki Ohge and Hidemi Kurihara : J. Hiroshima Univ. Dent. Soc., 49, 134-140, 2017.

6 : Significant increase of oral bacteria in the early pregnancy period in Japanese women : Fujiwara N, Tsuruda K, Iwamoto Y, Kato F, Odaki T, Yamane N, Hori Y, Harashima Y, Sakoda A, Komatsuzawa H, Sugai M, Noguchi M : J Invest Clin Dentistry, 2017, 8 (1): e12189.

#### B) Review

#### C) Publications

#### D) Other Publications

1 : Chapter 8 Caries activity tests : Prophylactic Treatment of Dental Caries for Dental Hygienists 2<sup>nd</sup> ed : Niitani Y, Nishimura R(ed. By Nakagaki H, Katou K, Ishitobi K and Kousaka T) : Ishiyaku Publishers, Inc (Tokyo) : p.126-130, 2017.

2 : Efforts of Hiroshima University, Faculty of Dentistry, School of Oral Health Sciences : Masaru Sugiyama, Rumi Nishimura, Eri Fukada, Mitsuhiro Tamamoto, Tsuyoshi Taji, Saiji Shimoe, Atsue Matsumoto, Yoshie Niitani, Hisako Sasahara, Atsushi Shimazu, Takahiro Syutou, Sumiyo Mimura,

Kaori Taguchi, Akiko Iwamoto, Yuko Kurawaki, Kazuko Kawahara, Keiko Tsuruda, Maki Nosou, Hideaki Amano, Toshinobu Takemoto, Hiroki Nikawa, Takeshi Murayama and Takahiro Satoda :  
Journal of Hyogo Dental Association, 792, 1-9, 2017.

#### E) Presentation at Scientific Meeting

- 1 : Identification of enzymes involved in *Aggregatibacter actinomycetemcomitans*-CDT holotoxin : Keiko Tsuruda : The 66th general meeting of Japanese Society for Oral Health (Yamagata), 2017.
- 2 : A study on relationship between self-esteem and credit earning : Yukie Hama, Mayuka Higashi, Sayaka Hama, Kumiko Hara : The 24th Annual Conference of the Japanese Dental Welfare (Gihu) ,2017.
- 3 : A study on the timing to eject saliva from mouth in tooth brushing : Sayaka Hama, Mayuka Higashi, Yayoi Kanehisa, Kumiko Hara : The 28th Annual Conference of the Japanese gerodontology (Aichi) ,2017.
- 4 : Education in program of Oral Health Sciences, School of Dentistry and Oral Health Sciences Major, Graduate School of Biomedical & Health Sciences, Hiroshima University and its achievements : Masaru Sugiyama, Rumi Nishimura, Eri Fukada, Mitsuhiko Tamamoto, Tsuyoshi Taji, Saiji Shimoe, Atsue Matsumoto, Yoshie Niitani, Hisako Sasahara, Atsushi Shimazu, Takahiro Syutou, Sumiyu Mimura, Kaori Taguchi, Akiko Iwamoto, Yuko Kurawaki, Kazuko Kawahara, Keiko Tsuruda, Maki Nosou, Hideaki Amano, Toshinobu Takemoto, Hiroki Nikawa, Takeshi Murayama, Takahiro Satoda : The 50th Annual Meeting of Hiroshima University Dental Society (Hiroshima), 2017.
- 5 : A program to cultivate advanced medical personnel : "Cultivation of dental personnel contributing healthy longevity in a specialist team" : Rumi Nishimura, Atsue Matsumoto, Tsuyoshi Taji, Eri Fukada, Yoshie Niitani, Sumiyu Mimura, Takuya Kihara, Hiroki Nikawa, Masaru Sugiyama : The 50th Annual Meeting of Hiroshima University Dental Society (Hiroshima), 2017.
- 6 : Expression of semaphorin 3A and its receptors in pulp tissue : Ayaka Takahashi, Atsushi Shimazu, Chise Fujimoto, Riko Yoshimura, Rumi Nishimura, Masaru Sugiyama : The 50th Annual Meeting of Hiroshima University Dental Society (Hiroshima), 2017.
- 7 : Relationship between oral health condition and opportunity for dental examination of primary school student and parent's conscious dentistry : Atsushi Shimazu, Ai Matsushige, Ayaka Takahashi, Rumi Nishimura, Marie Naitou, Takeru Watanabe, Mao Taniguthi, Takashi Ueoka, Masaru Sugiyama : The 39th general meeting of Kyusyu Society for Oral Health (Saga), 2017.
- 8 : Establishment of Ranges of Objective Viscosity Measurement and Line Spread Test Value Equivalent to Sensory Evaluation for Thickness : Eri Ikuta, Rumi Nishimura, Eri Fukada, Hideaki Amano : The 12th Annual Meeting of the Japan Society for Dental Hygiene (Tokyo), 2017.
- 9 : Problem-Solving Oriented Training Program for Advanced Medical Personnel: Team medical program in the nursing facility: Rumi Nishimura, Eri Fukada, Yoshie Niitani, Atsue Matsumoto, Masaru Sugiyama : The 28th general meeting of Kinki, Chugoku, Shikoku Society for Oral Health

- (Hiroshima), 2017.
- 10 : A Survey of Graduates from Hiroshima University, Faculty of Dentistry, School of Oral Health Science, Course of Oral Science : Eri Fukada, Atsue Matsumoto, Rumi Nishimura, Maki Nosou, Yoshie Niitani, Keiko Tsuruda, Hideaki Amano, Toshinobu Takemoto and Masaru Sugiyama : The 28th general meeting of Kinki, Chugoku, Shikoku Society for Oral Health (Hiroshima), 2017.
- 11 : The Survey of training course of Yogo Teacher, Hiroshima University School of Dentistry : Maki Nosou, Eri Fukada, Rumi Nishimura, Atsue Matsumoto, Yoshie Niitani, Toshinobu Takemoto, Tomoko Maehara, Hideaki Amano and Masaru Sugiyama : The 28th general meeting of Kinki, Chugoku, Shikoku Society for Oral Health (Hiroshima), 2017.
- 12 : Examination for saliva which assumed a Mutans Strptococci target : Ayaka Takahashi, Atsushi Shimazu, Mariko Nakamura, Eri Fukada, Rumi Nishimura, Masaru Sugiyama : The 28th general meeting of Kinki, Chugoku, Shikoku Society for Oral Health (Hiroshima), 2017.
- 13 : Examination of the possibility of the Splash Bean Test as the screening method of the oral function : Mayuka Higashi, Rumi Nishimura, Rei Fukada, Sayaka Hama, Yayoi Kanehisa, Kumiko Hara : The 6th Kobe Tokiwa Academic Forum(Hyogo), 2017.
- 14 : Investigation of the oral cavity function related to power to open the mouth wide : Yayoi Kanehisa, Sayaka Hama, Mayuka Higashi, Rumi Nishimura, Eri Fukada, Kumiko Hara : The 6th Kobe Tokiwa Academic Forum (Hyogo), 2017.
- 15 : Changes of oral function related to feeding and swallowing with aging : Rumi Nishimura, Masaru Sugiyama : The 62<sup>nd</sup> Congress of the Japanese Society of Oral and Maxillofacial Surgeons(Kyoto), 2017.
- 16 : Problem-Solving Oriented Training Program for Advanced Medical Personnel : Team medical program in the nursing facility: Rumi Nishimura, Tsuyoshi Taji, Eri Fukada, Yoshie Niitani, Atsue Matsumoto, Hiroki Nikawa, Masaru Sugiyama : The 101th Regular Meeting of Hiroshima University Dental Society (Hiroshima), 2017.
- 17 : Problem-Solving Oriented Training Program for Advanced Medical Personnel: Operation support program by the dental technician: Tsuyoshi Taji, Rumi Nishimura, Eri Fukada, Atsue Matsumoto, Masaru Sugiyama, Hiroki Nikawa: The 101th Regular Meeting of Hiroshima University Dental Society (Hiroshima), 2017.
- 18 : Effect of the joint training for dental health guidance : Rumi Nishimura, Yoshie Niitani, Eri Fukada, Atsue Matsumoto, Hideaki Amano : The 8th Annual Meeting of the Japan Society for Dental Hygiene Education (Osaka), 2017.
- 19 : Study on classes about the mouthwash solution to the dental hygienist students : Kumiko Hara, Mayuka Higashi, Yayoi Kanehisa : The 8th Annual Meeting of the Japan Society for Dental Hygiene Education (Osaka), 2017.

## F) Lectures

- 1 : Tomoko Maehara : A citizen open lecture at the Health and food education fair in Tamana city : “The secret of the oral health” Yokoshima public hall(Kumamoto) ,2017.
- 2 : Rumi Nishimura : Debrief session : ”Project for Developing a Program for Cultivating Global Dental Care Professionals : Refresher course for dental hygienists” (Hiroshima) ,2017.
- 3 : Rumi Nishimura : Refresher course for dental hygienists : ”Problem-Solving Oriented Training Program for Advanced Medical Personnel” (Hiroshima) ,2017.
- 4 : Rumi Nishimura : Hiroshima Prefecture Dental Hygienist Education Study Group : ”Education in program of Oral Health Sciences, School of Dentistry and Oral Health Sciences Major, Graduate School of Biomedical & Health Sciences, Hiroshima University and its achievements” (Hiroshima) , 2017.
- 5 : Rumi Nishimura : The meeting of Dental Hygienist Education : ”IPE on Hiroshima University” (Hiroshima) ,2017.
- 6 : Rumi Nishimura : Problem-Solving Oriented Training Program for Advanced Medical Personnel: The “Cultivating Practical Medical Personnel Team Contributing Healthy Longevity” Initiative. The 2<sup>nd</sup> summer program : ”Efforts of Hiroshima University, Faculty of Dentistry, School of Oral Health Sciences” (Hiroshima) ,2017.
- 7 : Rumi Nishimura : Lecture for the class for diabetics : Hiroshima Teishin Hospital(Hiroshima) ,2017.
- 8 : Rumi Nishimura : Refresher course for dental hygienists : ” Oral management of patients with hypertension and kidney dialysis patients” (Hiroshima) ,2017.
- 9 : Rumi Nishimura : The services to improve oral function are provided in Ujina city(Hiroshima) ,2017.

## G) Social Contributions

- 1 : Keiko Tsuruda, Rumi Nishimura : Program for high school students: Hiroshima University Faculty of Dentistry : Hiroshima University(Hiroshima) ,2017.08.01.
- 2 : Hideaki Amano : Program of Teacher's license update class: Hiroshima University (Hiroshima), 2017.08.04.
- 3 : Keiko Tsuruda, Rumi Nishimura : Program for junior high-school student : Hiroshima University Faculty of Dentistry: Hiroshima University(Hiroshima),2017.08.18.
- 4 : Keiko Tsuruda, Rumi Nishimura: Program for kids from elementary schools, Dental Kids : Hiroshima University Faculty of Dentistry : Hiroshima University (Hiroshima), 2017.08.19.
- 5 : Tomoko Maehara : Food education promotion cooperation meeting chairperson in Tamana city(Kumamoto), 2017.
- 6 : Tomoko Maehara : Assessment of oral function for citizens at the health and food education fair in

Tamana city(Kumamoto), 2017.11.26.

7 : Rumi Nishimura: Assessment of oral function at special nursing home “Kosei-En”(Hiroshima), 2017.

8 : Rumi Nishimura: The oral care of persons requiring nursing care at Hiroshima University Hospital, 2017.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

1 : Research grant(FUTOKU foundation) : Rumi Nishimura : Effect of the joint training for dental health guidance : ¥300,000

2 : Collaborative research : Rumi Nishimura : Association between oral function and eating habits of the university student : Kobe Tokiwa University

3 : Collaborative research : Rumi Nishimura : Examination of the possibility of the Splash Bean Test as the screening method of the oral function : Kobe Tokiwa University

(5) Academic Awards, etc.

(6) Patents

[Return to Contents](#)

## Department of Anatomy and Functional Restorations

### (1) Staff and Students

Professor : Takahiro Satoda

Associate Professor : Saiji Shimoe

Graduate Students : Tzu-Yu Peng(Taiwan), Miyu Taniguchi, Haruki Syouga

Undergraduate Student : Risa Ito, Miyu Takaki, Yuki Kuronotsubo, Yousuke Imaizumi,  
Yuki Wakabayashi, Kana Kobayashi, Hiroto Takenaka  
Mio Matsumura, Kouhei Matsusima, Rinka Takahasi, Kanako Fujita,  
Nana Sunahata, Yumi Yasuyoshi, Saki Okamoto, Ryouhei Yamamoto,  
Teruo Kobayashi

Research Student : Shogo Iwaguro

### (2) Main Research Activities

- 1 : Development of Effective model for anatomy education
- 2 : Morphological Research on masticatory neuronal network
- 3 : Study on dental materials for esthetic
- 4 : Study on new clinical application using novel dental ceramic
- 5 : Study on objective evaluation using the three-dimensional image

### (3) Research Achievements

#### A) Original Papers (including Case Reports)

- 1 : Effect of different surface treatment containing MDP monomer on bonding between zirconia and dental resin : Midori Kawamura, Saiji Shimoe, Mai Otaku, Shogo Iwaguro, Takahiro Satoda, Journal of Nippon Academy of Dental Technology, Vol.38, (2), pp.163–173, 2017.
- 2 : A study of manufacturing surgery support solid model in Hiroshima University Hospital central-dental-laboratory : Yukihiro Takayama, Saiji Shimoe, Shogo Iwaguro, Takeshi Murayama, Ryouji Katou, Hiroki Nikawa, Journal of Nippon Academy of Dental Technology, Vol.38, (2), pp.174–181, 2017

#### B) Review

### C) Publications

- 1 : The newest series of textbooks for dental technologist-Oral and Maxillofacial Anatomy : 112-160, II Oral Anatomy, Takahiro Satoda, Ishiyaku Publishers, Inc, Tokyo, 2016~
- 2 : The newest series of textbooks for dental technologist-Dental Materials Science: Takayuki Yoneyama, Nikawa Hiroki, Saiji Shimoe, Hideo Matsumura, Hideyuki Imai et al, Ishiyaku Publishers, Inc (Tokyo), 201, 2016~.
- 3 : The newest series of textbooks for dental technologist-Dental Technology for Fixed Dental Prostheses and Restoration: Hideo Matsumura, Yasushi Kumono, Saiji Shimoe, Kazuhiko Suese et al, Ishiyaku Publishers, Inc (Tokyo), 181, 2017~.
- 4 : The newest series of textbooks for dental technologist-Practice of Dental Technology: Tateo Ozaki, Masahiro Kuwata, Saiji Shimoe, Hiroyuki Miura, Takeshi Murayama et al, Ishiyaku Publishers, Inc (Tokyo), 215, 2017~.

### D) Other Publications

### E) Presentation at Scientific Meeting

- 1 : Functional model of Swallowing: Takahiro Satoda, Honoka Igawa, Saiji Shimoe, The 122<sup>nd</sup> Annual Meeting of the Japanese Association of Anatomists (Nagasaki), 2017. 3.28-30
- 2 : Effects of Disinfection of Agar-Alginate combined Impressions to Stone Models : Kana Kobayashi<sup>1</sup>, Saiji Simoe, Takuya Kihara, Ayaka Kihara, Haruki Syoga, Toshinobu Takemoto, Takahiro Satoda, The 6th International Congress of Dental Technology, The 39th the meeting of the Nippon Academy of Dental Technology (Taiwan), 2017.5.27,28.
- 3 : Fatigue Resistance of Y-TZP Clasps for Removable Partial Dentures : Tzu-Yu Peng<sup>1</sup>, Saiji Shimoe, Tetsuya Matsui, Naomi Tanoue, Hiroyuki Akebono, Takeshi Murayama, Takahiro Satoda, The 6th International Congress of Dental Technology, The 39th the meeting of the Nippon Academy of Dental Technology (Taiwan), 2017.5.27,28.
- 4 : Influence of Different Surface Treatments of Lithium Silicate Glass Ceramics on Bond Strength to a Resin Cement : Risa Ito, Saiji Shimoe, Tetsuya Matsui, Mai Otaku, Takahiro Satoda, The 6th International Congress of Dental Technology, The 39th the meeting of the Nippon Academy of Dental Technology (Taiwan), 2017.5.27,28.
- 5 : Effectiveness of Micro Mechanical Retention with Diode Laser Beam on Bonding between Zirconia and Indirect Composite : Hiroto Takenaka, Saiji Simoe, Shogo Iwaguro, Isao Hirata, Takeshi Murayama, Takahiro Satoda, The 6th International Congress of Dental Technology, The 39th the meeting of the Nippon Academy of Dental Technology (Taiwan), 2017.5.27,28.
- 6 : Influence of Micro Retention with Diode Three-Dimensional Laser Beam : Yuki Wakabayashi, Saiji Shimoe, Shogo Iwaguro, Isao Hirata, Takeshi Murayama, Takahiro Satoda, The 6th International Congress of Dental Technology, The 39th the meeting of the Nippon Academy of Dental Technology (Taiwan), 2017.5.27,28.
- 7 : Effect of Micro Slit on the Bond Strength of Veneering Porcelain to Zirconia : Shogo Iwaguro<sup>1</sup>, Saiji

Shimoe, Isao Hirata, Takeshi Murayama, Takahiro Satoda, The 6th International Congress of Dental Technology, The 39th the meeting of the Nippon Academy of Dental Technology (Taiwan), 2017.5.27,28.

- 8 : Investigation of Manufacturing Surgery Support Solid Model (3D model) made in Central-Dental-Laboratory of Hiroshima University Hospital : Yukihiro Takayama1, Saiji Shimoe, Shogo Iwaguro, Takeshi Murayama, Ryoji Katou1, Hiroki Nikawa, The 6th International Congress of Dental Technology, The 39th the meeting of the Nippon Academy of Dental Technology (Taiwan), 2017.5.27,28.
- 9 : Examination of Casting Method to Prevention of Casting Porosity – Part.2: The Influence of Wax Incineration and Sprue Line on Occlusal Side – : Yosuke Imaizumi, Saiji Shimoe, Aya Sakai, Miyu Taniguchi, Takahiro Satoda, The 6th International Congress of Dental Technology, The 39th the meeting of the Nippon Academy of Dental Technology (Taiwan), 2017.5.27,28.
- 10 : Functional model of Vocal cords: Miyu Takaki, Yuki Kuronotubo, Saiji Shimoe, Takahiro Satoda, The 72nd Annual Meeting of Japanese Association of Anatomist, Cyugoku-Shikoku regional meeting (Hiroshima), 2017.10.28
- 11 : The educational model for molar teeth carving : Yuki Kuronotubo, Miyu Takaki, Saiji Shimoe, Takahiro Satoda, Scientific Meeting of Hiroshima Prefecture Dental Association, Hiroshima University Dental Society, Nippon Academy of Dental Technology Chugoku and Shikoku branch, 2017.10.29.

#### (4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1 : Grant-in-Aid for Scientific Research(C): (representative) Saiji Shimoe, (member) Takahiro Satoda, Isao Hirata: Development of the new micro-retention for expansion of clinical application of zirconia. (No.16K11593), ¥1,300,000

#### (5) Academic Awards, etc.

- 1 : Hiroto Takenaka : The 19<sup>th</sup> Student's Carving Contest, Gold Award, 2017.3.23
- 2 : Yuki Wakabayashi : The 19<sup>th</sup> Student's Carving Contest, Silver Award, 2017.3.23
- 3 : Risa Ito : The 19<sup>th</sup> Student's Carving Contest, Bronze Award, 2017.3.23
- 4 : Kana Kobayashi : The 19<sup>th</sup> Student's Carving Contest, Fighting-spirit Award, 2017.3.23

#### (6) Patents

[Return to Contents](#)

## Department of Medical System and Biomaterial Engineering

### (1) Staff and Students

Professor	: Takeshi Murayama
Associate Professor	: Mitsuhiro Tamamoto
Graduate Student	: Memori Minoda, Yuuta Masuhara, Moe Matsuo, Shunsuke Suzuki, Hiroki Yanase
Graduation Research Students	: Shota Imai, Marina Gurita, Momoko Kawada, Kousei Tabira, Kentaro Nakamura, Riho Kawaguchi, Fuka Saibara, Rikuto Yamada

### (2) Main Research Activities

- 1: Application of manufacturing system technologies (e. g., CAD/CAM, 3-d printing) to dentistry
- 2: Application of artificial intelligence to dentistry
- 3: 3-d modeling and computer simulation in dentistry
- 4: Simulation-based analysis of work processes in dental technology
- 5: Development and clinical applications of oral appliances for treatment and protection
- 6: Study on esthetic dentistry
- 7: Study on dental education
- 8: Study on sports dentistry (mouthguards)

### (3) Research Achievements

#### A) Original Papers (including Case Reports)

- 1: Investigation of Manufacturing Surgery Support Solid Model (3D model) made in Central-Dental-Laboratory of Hiroshima University Hospital: Takayama Y., Shimoe S., Iwaguro S., Murayama T., Katou R., Nikawa H.: Journal of Nippon Academy of Dental Technology, 38(2), 174-181, 2017.
- 2: Job shop scheduling for meeting due dates and minimizing overtime —Performance improvement using optimization for each shift—: Eguchi T., Ohama K., Murayama T.: Proceedings of iDECON/MS 2017, 40, 1-5, 2017.
- 3: Job shop scheduling for meeting due dates and minimizing overtime with the constraint of the number of operators: Eguchi T., Ohama K., Daido T., Murayama T.: Proceedings of the 9th International

Conference on Leading Edge Manufacturing in 21st Century (LEM21), C03, 1-5, 2017.

- 4: Job shop scheduling with capacity adjustment with consideration to the constraint of the number of operators- Application of shift divided optimization-: Ohama K., Eguchi T., Murayama T.: Proceedings of 2017 Annual Congress of The Japan Society of Mechanical Engineers, 17(1), 1-5, 2017.

## B) Review

## C) Publications

- 1: The newest series of textbooks for dental technologist -practice of dental technology-: Murayama T., et al.: Ishiyaku Publishers, 2017.
- 2: Textbook of CAD/CAM technology: Murayama T., et al.: Ishiyaku Publishers, 2017.

## D) Other Publications

- 1: An efficient search method for active schedule in job shop scheduling: Eguchi T., Iio T., Murayama T.: ACTIVITY REPORT 2016 of Technical Committee on Integrated Manufacturing Systems, The Japan Society of Precision Engineering, 1-7, 2017

## E) Presentation at Scientific Meeting

- 1: Application of Dispatching Rules to Dental Technical Work and its Evaluation by Discrete-event Simulation: Yanase H., Murayama T., Eguchi T., Tamamoto M.: 6th International Congress of Dental Technology (Taipei), 2017.
- 2: Fatigue Resistance of Y-TZP Zirconia Clasps for Removable Partial Dentures: Peng T.Y., Shimoe S., Matsui T., Tanoue N., Sugeta A., Murayama T., Satoda T.: 6th International Congress of Dental Technology (Taipei), 2017.
- 3: Effect of Micro Slit on the Bond Strength of Veneering Porcelain to Zirconia: Iwaguro S., Shimoe S., Hirata I., Murayama T., Satoda T.: 6th International Congress of Dental Technology (Taipei), 2017.
- 4: Effectiveness of Micro Mechanical Retention with Diode Laser Beam on Bonding between Zirconia and Indirect Composite Resin: Takenaka H., Simoe S., Iwaguro S., Hirata I., Murayama T., Satoda T.: 6th International Congress of Dental Technology (Taipei), 2017.
- 5: Influence of Micro Retention with Diode Three-Dimensional Laser Beam Machine on the Bond Strength of Acrylic Resin cured to Zirconia: Wakabayashi Y., Shimoe S., Iwaguro S., Hirata I., Murayama T., Satoda T.: 6th International Congress of Dental Technology (Taipei), 2017.
- 6: Investigation of Manufacturing Surgery Support Solid Model (3D model) made in Central-Dental-Laboratory of Hiroshima University Hospital: Takayama Y., Shimoe S., Iwaguro S., Murayama T., Katou R., Nikawa H.: 6th International Congress of Dental Technology (Taipei), 2017.
- 7: Work Flow Simulation of Dental Laboratories: Yanase H., Murayama T., Eguchi T., Tamamoto M.: The 50th general meeting of Hiroshima University Dental Society(Hiroshima), 2017.
- 8: Education in program of Oral Health Sciences, School of Dentistry and Oral Health Sciences Major,

- Graduate School of Biomedical & Health Sciences, Hiroshima University and its achievements: Sugiyama M., Nishimura R., Fukada E., Tamamoto M., Taji T., Shimoe S., Matsumoto A., Niitani Y., Sasahara H., Shimazu A., Syutou T., Mimura S., Taguchi K., Iwamoto A., Kurawaki Y., Kawahara K., Tsuruda K., Nosou M., Amano H., Takemoto T., Nikawa H., Murayama T., Satoda T.: The 50th general meeting of Hiroshima University Dental Society(Hiroshima), 2017.
- 9: Fatigue Resistance of Y-TZP Zirconia Clasps for Removable Partial Dentures: Peng T.Y., Shimoe S., Matsui T., Tanoue N., Akebono H., Murayama T., Satoda T.: The 50th general meeting of Hiroshima University Dental Society(Hiroshima), 2017.
- 10: Effectiveness of Micro Mechanical Retention with Diode Laser Beam on Bonding between Zirconia and Indirect Composite Resin: Takenaka H., Shimoe S., Iwaguro S., Hirata I., Murayama T., Satoda T.: The 50th general meeting of Hiroshima University Dental Society(Hiroshima), 2017.
- 11: Job shop scheduling with capacity adjustment with consideration to the constraint of the number of operators- Application of shift divided optimization-: Ohama K., Eguchi T., Murayama T.: 2017 Annual Congress of The Japan Society of Mechanical Engineers (Saitama), 2017.
- 12: Job shop scheduling for meeting due dates and minimizing overtime —Performance improvement using optimization for each shift— : Eguchi T., Ohama K., Murayama T.: iDECON/MS 2017(International Conference on Design and Concurrent Engineering 2017 & Manufacturing Systems Conference 2017) (Osaka), 2017.
- 13: Job shop scheduling for meeting due dates and minimizing overtime with the constraint of the number of operators: Eguchi T., Ohama K., Daido T., Murayama T., 9th International Conference on Leading Edge Manufacturing in 21st Century (LEM21) (Hiroshima), 2017.
- 14: Orthodontic evaluation of the long-term stability cases in which orthodontic treatment and implant prosthesis treatment were given to the patients with a lot of teeth lacks: Eguchi T., Ono S., Ichiden E., Tamamoto M., Nomoto K., Shibasaki R.: The 76th Annual Meeting of the Japanese Orthodontic Society (Sapporo), 2017.

#### F) Special Lectures in Academic Meetings

- 1: Murayama T.: Fundamentals of dental CAD/CAM systems (2017 Workshop on Dental Technique Practices for Trainers, Japan Society for Education of Dental Technology) (Osaka), 2017.

#### (4) Status of Receiving Grants-in Aid for Scientific Research, etc.

#### (5) Academic Awards, etc.

- 1: Takayama Y., Shimoe S., Iwaguro S., Murayama T., Katou R., Nikawa H.: 6th International Congress of Dental Technology The best presentation award, 2017.

#### (6) Patents

[Return to Contents](#)

## Department of Oral Biology & Engineering

### (1) Staff and Students

Professor : Hiroki Nikawa

Associate Professor : Tsuyoshi Taji

Lecturer : Hisako Sasahara

Assistant Professor : Sumiyo Mimura

(Special Appointment)

Education and Research Support Staff : Kaori Taguchi, Marika Kanda ,

Research Student : Kazuko Kawahara

Graduate Student : Yukihiro Takayama, Satoshi Miyauchi, Natsumi Saizaki, Konomi Hirota, Ai Fujii,  
Keisuke Fujita, Sakura Omori, Marika Kanda, Riona Doi, Nishiki Arimoto

Undergraduate Student : Tomoya Suehiro, Kazuki Sanetoshi, Yurina Akita, Rei Ito, Kimika Endo,  
Mina Ishida, Mako Shinoda, Yuki Kono, Honami Oki, Akari Kumagai, Ouchi  
Noriko, Sumire Miyawaki, Atsushi Takata

### (2) Main Research Activities

- 1 : Study on candidal biofilms and denture plaque
- 2 : Study on dental caries and probiotics
- 3 : Design for cationic antimicrobial peptides
- 4 : Study on mechanisms of the alveolar bone resorption
- 5 : Development of bone-resorption inhibitors
- 6 : Study on dental implant materials
- 7 : Collaborative research about allergy
- 8 : Study on digital dentistry
- 9 : Collaborative research about aortic aneurysm
- 10 : Development of oral function devices
- 11 : Analysis of food texture

### (3) Research Achievements

#### A) Original Papers (including Case Reports)

- 1: Accelerating effects of cellulase in the removal of denture adhesives from acrylic denture

bases :Harada-Hada K, Mimura S, Hong G, Hashida T, Abekura H, Murata H, Nishimura M, Nikawa H.:Journal of Prosthodontic Research.,61(2): 185-192,2017

- 2: Three-dimensional longitudinal changes of maxilla and mandible morphology during the pre dental period :Kihara T, Kaihara Y, Iwamae S, Niizato N, Gion S, Taji T, Kozai K, Nikawa H.: European Journal of Paediatric Dentistry.,18(2):139-144.,2017
- 3: Relationship between Smoking History and Annual Medical Checkup Attendance in Undergraduates: Hisako Sasahara, Atsushi Shimazu, Kenryo Hiramoto, Kazumasa Yanagawa, Hiroki Nikawa: Asian Pacific Journal of Disease Management, 8(3-4),45-53,2017.

#### B) Review

#### C) Publications

#### D) Other Publications

#### E) Presentation at Scientific Meeting

- 1 : Gene Expression of Candida albicans during Biofilm Formation ;Kazuki Sanetoshi, Tatsumi Hashida, Sumiyo Mimura, Tsuyoshi Taji, Hiroki Nikawa: The 6th International Congress of Dental Technology / The 39th Meeting of the Nippon Academy of Dental Technology(Taipei) ,2017
- 2 : Flow Analysis with an Aortic Aneurysm Silicone Model through Collaboration with Medicine :Yurina Akita, Takuya Kihara, Tatsuya Kurosaki, Shinji Ninomiya, Tsuyoshi Taji, Taijirou Sueda, Hiroki Nikawa:The 6th International Congress of Dental Technology / The 39th Meeting of the Nippon Academy of Dental Technology (Taipei) ,2017
- 3 : Investigation of Manufacturing Surgery Support Solid Model (3D model) made in Central-Dental-Laboratory of Hiroshima University Hospital :Yukihiro Takayama, Saiji Shimoe, Shogo Iwaguro, Takeshi Murayama, Ryoji Kato, Hiroki Nikawa: The 6th International Congress of Dental Technology / The 39th Meeting of the Nippon Academy of Dental Technology (Taipei) ,2017

#### F) Symposium and special lecture

- 1: A novel product for the general or oral health derived from biofilm study : Hiroki NIKAWA : 8th Internet of Things Expo, Santa Clara Convention Center 1st Floor 「Hall A」 ( California the US),2017

#### (4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1 : Grants-in-Aid for Scientific Research (Scientific Research (B)) : Hiroki Nikawa (Head), Tsuyoshi Taji (Co-investigators), Research Project Number: 15H05027. ¥2,800,000
- 2 : Donation from JEX CO.,Ltd to Hiroki Nikawa. ¥300,000
- 3 : Donation from ROHTO Pharmaceutical Co., Ltd. to Hiroki Nikawa. ¥300,000
- 4 : Donation from Shikoku nyugyou corporation to Hiroki Nikawa. ¥300,000
- 5 : Donation from Bizen Chemical Co.,Ltd to Hiroki Nikawa. ¥300,000
- 6 : Collaborative Research budget from Mikakuto Co.,Ltd to Hiroki Nikawa. ¥900,000

(5) Academic Awards, etc.

(6) Patents

- 1 : Hiroki Nikawa : (US Patent) ANTIBACTERIAL AGENT COMPOSITION AND ANTIVIRAL AGENT COMPOSITION COMPRISING SILICON – CONTAINING COMPOUND; ANTIBACTERIALIZING METHOD, CLEANING/MOUTH RINSING METHOD; METHOD FOR FIXING ANTIBACTERIAL AGENT AND ANTIVIRAL AGENT (NO.9609872) (Hiroshima University)
- 2 : Hiroki Nikawa : (EPC Patent) Prophylactic, Ameliorating Or Therapeutic Agent For Oral Diseases (NO. 2455095) (Hiroshima University)

[Return to Contents](#)

## Central Research Laboratory

### (1) Staff and Students

Director : Chisa Syukunami (by-work)

Assistant Professor : Ikue Hayashi

### (2) Main Research Activities

- 1 : Proteomic analysis using mass spectrometry
- 2 : Structural analysis of biologically active substances

### (3) Research Achievements

#### A) Original Papers (including Case Reports)

- 1: A Novel Repressor of the *ica* Locus Discovered in Clinically Isolated Super-Biofilm-Elaborating *Staphylococcus aureus* : Yu L, Hisatsune J, Hayashi I, Tatsukawa N, Sato'o Y., Mizumachi E, Kato F, Hirakawa H, Pier G. B, Sugai M. : mBio, 8, e02282-16 (2017).
- 2 : Comparative proteome analysis of wild-type and klotho-knockout mouse kidneys using a combination of MALDI-IMS and LC-MS/MS : Fujino Y, Minamizaki T, Hayashi I, Kawakami A, Miyaji T, Sakurai K, Yoshioka H, Kozai K, Okada M, Yoshiko Y : Proteomics Clin Appl.11, 7-8, 1600095 (2017)
- 3 : Removal of mutans streptococci from saliva to establish non-cariogenic oral flora. – A first step on exploring a new method using flow cytometry and cell sorting- : Ohara M, Hayashi I, Oda Y, Furutani C, Nishi H, Kawaguchi H : Int J Eng Sci. 5, 41—54 (2017)

#### C) Publications

#### D) Other Publications

#### E) Presentation at Scientific Meeting

- 1 : Longitudinal study of effects of radiation exposure on leukocyte telomere lengths among atomic-bomb survivors : Hayashi T, Lustig A, Shterev I, Geyer S, Shi A, Hu Y, Morishita Y, Nagamura H Hayashi I, Yoshida K, Kyoizumi S, Kusunoki Y, Ohishi W, Nakachi ., Weng N-P : 63<sup>rd</sup> Annual Meeting of the Radiation Research Society (Cancun) 2017.

- 2 : Characterization of EPS produced by a fruit-derived lactic acid bacterium : Noda M, Danshiitoodol N, Yamano S, Higashikawa F, Hayashi I, Fukamachi M, Sugiyama M: Annual meeting for Lactic Acid Bacteria (Munakata) 2017.
- 3 : CHEK2 gene polymorphisms associated with colon cancer risk among A-bomb survivors : Morishita Y, Maki M, Sasaki K, Nagamura H, Yoshida K, Hayashi I, Ohishi W, Hida A, Kyoizumi S, Yasunami M, Tokunaga K, Hayashi T : Scientific Meeting for Cancer Prevention (Osaka) (2017).
- 4 : Influenza vaccine response among Hiroshima atomic-bomb survivors: Hayashi T, Lynch HE, Geyer SM, French B, Yoshida K, Furudoi K, Sasaki K, Morishita Y, Nagamura H, Maki M, Hu Y, Hayashi I, Kyoizumi S, Kusunoki Y, Ohishi W, Fujiwara S, Shterev I, Nikolich-Zugich J, Murasko D, Sempowski GD, Nakachi K, 58th Late A-bomb Effects Research Meeting : (Hiroshima) 2017.
- 5 : One case of the infective endocarditis, simultaneously detected *R. dentocariosa* and *R. musilaginosa* by MALDI mass spectrometry and gene analysis: Hisatsune J, Hayashi I, Obama K, Sugai M: The 42nd Hiroshima Association for Infection Disease (Hiroshima) 2017

#### (4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1 : Research project, Grant-in-Aid for Scientific Research (C): Hayashi I: Functional analysis of novel acetyltransferase derived from cariogenic bacteria and application to the caries prevention: (No. 15K110110A) 1,100,000JPY
- 2 : Research project, Grant-in-Aid for Scientific Research (B): Hayashi I (share holder): Elucidation of the restoration control structure of the radiation-induced DNA damage through the chromatin remodeling :(No.15H0281901) 200,000JPY.

#### (5) Academic Awards, etc.

#### (6) Patents

[Return to Contents](#)

## Division of General Dentistry

### Department of General Dentistry

#### (1) Staff and Students

Professor : Hiroyuki Kawaguchi

Assistant Professor : Hiromi Nishi, Taiji Obayashi, Masaru Ohara

Graduate Student : Nami Kikushige

#### (2) Main Research Activities

1. Research in patient-centered dentistry based on narrative approach
2. Research in general dentistry
3. Examination of postgraduate dental training program
4. Research in health communication strategy
5. Research in clinical education
6. Research in assessment of clinical skills
7. Research in development and standardization of simulated patients
8. Research in taste disorder of patients receiving chemotherapy

#### (3) Research Achievements

##### A) Original Papers (including Case Reports)

1. Dental hygienists' perceptions of professionalism are multidimensional and context-dependent: a qualitative study in Japan. Nagatani Y, Imafuku R, Takemoto T, Waki T, Obayashi T, Ogawa T. *BMC Med Educ.* 17(1):267. 2017
2. Analysis of the professionalism of dental trainees in Japan. Oto T, Obayashi T, Nagatani Y, Taguchi N. *Eur J Dent Educ.* 21(1):13-16.2017
3. Removal of mutans Streptococci from saliva to establish non-cariogenic oral flora. -A first step on exploring a new method using flow cytometry and cell sorting: Masaru Ohara, Ikue Hayashi, Yuki Oda, Chiaki Furutani, Taiji Obayashi, Hiromi Nishi, Hiroyuki Kawaguchi. : *International Journal of Research in Engineering and Science (IJRES)*, vol 5 (12), p41-54, 2017
4. Modified comparative genomics on teeth development between cartilaginous fish and human.: Masaru Ohara, Taiji Obayashi, Hiromi Nish, Tetsuji Ogawa, Hiroyuki Kawaguchi, Hiroki Nikawa: *J Hiroshima Univ. Dent.*: 49(1):1-6. 2017
5. TNF- $\alpha$ -induced IL-6 and MMP-9 expressions in immortalized ameloblastoma cell line established by hTERT. Ohta K, Naruse T, Ishida Y, Shigeishi H, Nakagawa T, Fukui A, Nishi H, Sasaki K, Ogawa I, Takechi M. *Oral Disease.* 23(2):199-209. 2017

6. The effect of mouth opening exercise for a patient treated with trimodal combination therapy in carcinoma of maxillary gingiva: a case report.: Kuramoto Y, Nishi H, Yano K, Naruse T, Ohta K, Nakaoka M, Kawaguchi H, Takechi M, Kurihara H: *J Hiroshima Univ. Dent.*: 45(1):1-6. 2017
7. Oral Assessment of chemotherapy patients in Hiroshima University hospital. ~ Oral care support team activity report : Toward standardization of oral management protocol~. : Nishi H, Konishi M, Yoshioka Y, Sugiyama M, Ohta K, Shigeishi H, Shimizu Y, Nagasaki T, Fukui A, Yamauchi Y, Hiraki T, Naruse T, Obayashi T, Ohara M, Kitagawa M, Yano K, Nakaoka M, Nishimura R, Fukada E, Kakimoto N, Tsuga K, Irihune M, Kawaguchi H, Ohge H, Kurihara H. *J Hiroshima Univ. Dent.*: 45(1):1-6. 2017

## B) Review

## C) Publications

1. 【Care and prevention of pneumonia】 What is good oral care? Let's catch 7 points and do oral care safely and effectively. *Respiratory Care*. MC Medica Publishing. 2017/04 vol.15 no.4 p.418-21.
2. 【The benefit of infection control by oral care is more than imagined】 How does oral care benefit health care. *Infection Control ICT Journal*. VanMedical Publishing Co.,Ltd. 2017 vol.12 no.2 p.107-112.

## D) Other Publications

## E) Presentation at Scientific Meeting Original Papers (including Case Reports)

1. The effect of mouth opening exercise for a patient treated with trimodal combination therapy in carcinoma of maxillary gingiva: a case report. : ○Kuramoto Y, Nishi H, Yano K, Naruse T, Ohta K, Nakaoka M, Kawaguchi H, Takechi M, Kurihara H: The 14<sup>th</sup> Congress of the Japanese Society of Oral care. (Okinawa), 2017/04/22.
2. Questionnaire survey on oral environment communication sheet ~collaboration between medical and dental providers~. : ○Yano K, Nishi H, Kuramoto Y, Ihboshi R, Ototani J, Okamoto M, Okazaki K, Miura M, Morishita T, Kirishima M, Kwabori M, Nakaoka M, Kurihara H: The 14<sup>th</sup> Congress of the Japanese Society of Oral care. (Okinawa), 2017/04/22.
3. Helicobacter pylori as a risk factor for acute exacerbation in idiopathic pulmonary fibrosis. : ○ Ohshimo S, Nishi H, Horimasu Y, Iwamoto H, Mamada H, Hattori N, Kohno N, Bonella F, Guzman J, Costabel U, Shime N: American Thoracic Society International Conference. (*Washington D.C.* ), 2017/05/19-24.

4. Oral bacteria and systemic pathology - Examination based on examination in cranial nerve disease and its treatment. : ○Kitagawa M, Ogawa I, Shintani T, Nishi H, Ouhara K, Shiba H, Kurihara H :The 20<sup>th</sup> Annual Congress of Japan Association of Neurosurgical Clinics.(Hiroshima), 2017/07/15.
5. Collaboration between medical and dental fields. ~How do you diagnose and educate? ~ : ○ Nishi H, Obayashi T, Ohara M, Kurihara H, Kawaguchi. : The Japanese Society of General Dentistry 10th annual meeting.(Niigata), 2017/11/4.
6. Investigation of the depth of reflection in experience of dental trainees at Hiroshima University hospital.: ○Obayashi T, Nishi H, Ohara M, Kawaguchi H.: The Japanese Society of General Dentistry 10th annual meeting.(Niigata), 2017/11/4.

#### F) Implementation of Seminars / Workshops

#### G)Lecturer • Symposiast

1. Lecturer: Kawaguchi H. Workshop of human resource development of regional inclusive care. (Hiroshima) 2017/1/23.
2. Lecturer : Nishi H. Regional alliances.~ Points requiring attention in systemic disease ~. Hiroshima Dental Association. (Hiroshima), 2017/01/29.
3. Symposiast : Nishi H. Oral assessment for standardization of oral care. The 32nd Annual Meeting of Japanese Society for Infection Prevention and Control. (Kyoto), 2017/02/24.
4. Lecturer : Nishi H. Oral complications of malignant tumors in Hiroshima University Hospital – Useful oral management for prevention and treatment- Hiroshima University Hospital Oncology Meeting. (Hiroshima), 2017/06/21.
5. Symposiast : Nishi H. Effective oral care for treatment support ~Toward standardization of oral management protocol ~. The 49<sup>th</sup> Annual Scientific Meeting of the Japan Atherosclerosis Society. (Hiroshima), 2017/07/06.
6. Lecturer : Nishi H. Future perspective of oral care required for dental hygienists. The 60<sup>th</sup> Diamond Anniversary Meeting of Japanese Society of periodontology. (Kyoto), 2017/12/16.

#### H) Attending of Lectures, Seminars, and Workshops

1. Nishi H.: 2017-2018 The 1st Shared Experimental in Dentistry OSCE External Evaluator Training Workshop II (Medical interview) : Organized by Medical College Common Examination Implementation Evaluation Organization (Fukushima), 2017/6/24-25.
2. Nishi H.: Introduction to medical statistics. ~You can take the first step smoothly!~ The Information Technology Co. Ltd. (Tokyo), 2017/8/22-23.
3. Nishi H.: JMP training seminar.: Pharmaceutical statistics basic course~JMP practical training~ The Information Technology Co. Ltd. (Tokyo), 2017/11/15-16.

4. Obayashi T, Kawaguchi H.: Approach to Ethics and Professionalism Education : The Japanese Society of General Dentistry 10th annual meeting.(Matsumoto), 2017/7/28-29.
5. Kawaguchi H.:8<sup>th</sup> Workshop for dental educator: The Japanese Association of Dental Education, 2017/12/5-9

D) Implementation of OSCE, CSA

1. 2<sup>nd</sup> Advanced OSCE for Postgraduate Trainees 2016-2017
2. 1<sup>st</sup> Advanced OSCE for Postgraduate Trainees 2017-2018

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

1. Nishi H. Grant-in-Aid Scientific Research, Scientific Research (C). 4,420,000Yen.  
「Inflammatory mechanisms in oral mucous membrane by *H. pylori* cells and oral flora change in gastric cancer patients」
2. Nishi H. Grant-in-Aid Scientific Research, Scientific Research (Joint research with Sunstar Japan Inc). 1,754,000Yen.  
「A study on the usefulness of oral management in systemic diseases involving periodontal pathogenic bacteria」

(5) Academic Awards, etc.

(6) Patents

[Return to Contents](#)

## **Division of Oral Health and Development Department of Oral Health**

### (1) Staff and Students

Professor: Hideaki Amano, Masaru Sugiyama, Toshinobu Takemoto, Hiroki Nikawa

(\*) Chief: Masaru Sugiyama (by-work)

Associate Professor: Tsuyoshi Taji, Mitsuhiro Tamamoto

Associate Professor/Lecturer: Hisako Sasahara, Hideo Shigeishi, Atsue Matsumoto, Atsushi Shimazu

(Department)

Assistant Professor: Yoshie Niitani, Rumi Nishimura, Eri Fukada

Education and Research Support Staff: Minako Ogawa, Naomi Nakashima, Sanae Miyoshi, Yuko Kurawaki

Please refer to the research achievements of the following each department.

- Department of Public Oral Health: Masaru Sugiyama, Atshi Shimazu, Eri Fukada
- Department of Maxillofacial Functional Development: Hideaki Amano, Rumi Nishimura,  
Minako Ogawa, Naomi Nakashima,  
Sanae Miyoshi, Yuko Kurawaki
- Department of Oral Health Management: Toshinobu Takemoto, Atsue Matsumoto, Yoshie Niitani
- Department of Medical System and Biomaterial Engineering: Mitsuhiro Tamamoto
- Department of Oral Biology & Engineering: Hiroki Nikawa, Tsuyoshi Taji, Hisako Sasahara

### (2) Main Research Activities

### (3) Research Achievements

A) Original Papers (including Case Reports)

B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

F) Special lectures in academic meetings

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

(5) Academic Awards, etc.

(6) Patents

[Return to Contents](#)

## Division of Oral Health and Development, Department of Special Care Dentistry

### (1) Staffs and Students

Professor : Katsuyuki Kozai (※) Chief: Katsuyuki Kozai (by-work)  
 Associate Professor/Lecturer : Yuki Oda (lecturer in Hospital)  
 Clinical Staff : Chiaki Furutani  
 Research Student : Chiaki Furutani  
 Clinical Trainee : Chisato Morimoto, Fumiko Hayashi, Masaki Hayashiuchi, Koichiro Matsumoto,  
 Hiroshi Ootsubo

### (2) Main Research Activities

- 1: A study on caries risk of patients with disabled
- 2: A study on risk of periodontal disease of patients with disabled
- 3: A study on dental problems of patients with disabled
- 4: A study on PBL task for dental problem of patients with mental retardation
- 5: A study on periodontal diseases of patients with disabled
- 6: A study about the influence of *Lactobacillus Rhamnosus* on patients caries risk with disabled
- 7: A study about the influence of *Lactobacillus Rhamnosus* on patients periodontal risk with disabled

### (3) Research Achievements

#### A) Original Papers (including Case Reports)

- 1: Five-year longitudinal study of dental caries risk associated with *Streptococcus mutans* and *Streptococcus sobrinus* in individuals with intellectual disabilities. : Oda Y, Hayashi F, Wakita A, Nagatani Y, Okada M.: J Oral Sci. doi: 10.2334/josnused.16-0325. 2017.
- 2: General anesthetic actions on GABA<sub>A</sub> receptors in vivo are reduced in phospholipase C-related catalytically inactive protein knockout mice. : Masaki Hayashiuchi, Tomoya Kitayama, Katsuya Morita, Yosuke Yamawaki, Kana Oue, Taiga Yoshinaka, Satoshi Asano, Kae Harada, Youngnam Kang, Masato Hirata, Masahiro Irifune, Mitsugi Okada, Takashi Kanematsu.: J Anesth. 31:531-538, 2017.
- 3: Comparative promote analysis of wild-type and klotho-knockout mouse kidneys using a combination of MALDI-IMS and LC-MS/MS. : Yoko Fujino, Tomoko Minamizaki, Asako Kawakami, Takaaki Miyaji, Kaoru Sakurai, Hirotaka Yoshida, Katsuyuki Kozai, Mitsugi Okada and Yuji Yoshiko.: Proteomics Clin. Appl. (11): 7-8, 2017.
- 4: Removal of mutans Streptococci from saliva to establish non-cariogenic oral floraA first step on exploring a new method using flow cytometry and cell sorting. : Masaru Ohara, Ikue Hayashi, Yuki

- Oda, Chiaki Furutani, Taiji Ohbayashi, Hiromi Nishi, Hiroyuki Kawaguchi.: International Journal of Research in Engineering and science. (5): 41-54, 2017.
- 5: Research on longitudinal changes and analysis of outpatients satisfaction at Special Care Dental Clinic of Hiroshima University Hospital ( the third report) : Oda Y, Furutani C, Matsumoto K, Hayashi F, Yoshida K, Ohue K, Takahashi T, Yoshinaka T, Mukai A, Oda A, Mukai T, Wakita A, Mizota Y, Kaihara Y, Irifune M, Kozai K.: The Journal of Hiroshima University Dental Society; 49(1): 8-15. 2017.
- 6: A case report with schizophrenia who has consented to continuous dental treatment and oral hygiene instruction : Furutani C, Oda Y, Hayashi F, Yoshida K, Yoshinaka T, Mukai A, Oda A, Mukai T, Irifune M, Kozai K.: The Journal of Hiroshima University Dental Society; 49(2): 158-163. 2017.
- 7: A case of an MRI examination performed on an obese, intellectually disabled patient under intravenous sedation and physical restraint : Oda A, Yoshida K, Mukai T, Takahashi T, Yoshinaka T, Ohue K, Mukai A, Kanda T, Oda Y, Irifune M.: Journal of the Japanese Society for Disability and Oral Health; 38(1): 47-52. 2017.

## B) Review

## C) Publications

## D) Other Publications

## E) Presentation at Scientific Meeting

1. Custom-made tooth brushing instruction using visual support: Wakita A, Nakaoka M, Hada Y, Hirai Y, Fujita T, Oda Y, Kozai K: The 14 Annual Meeting of The Japanese Society of Oral Care (NAHA), 2017.
2. Survey of patients at our department of dentistry for the disabled: Morimoto C, Oda Y, Furutani C, Hayashiuchi M, Wakita A, Kozai K: The 34st Japanese Society for Disability and Oral Health (Fukuoka), 2017.
3. Case report of Lesch-Nyhan syndrome patient whose self-injury behavior has decreased by continued use of mouth guards: Oda Y, Furutani C, Morimoto C, Yoshida K, Mukai A, Yoshinaka T, Oda A, Mukai T, Wakita A, Kanda T, Hayashi,F, Kaihara Y, Irifune M, Kozai K: The 34st Japanese Society for Disability and Oral Health (FUKUOKA), 2017.
4. Improved QOL of schizophrenic patient by continuous dental treatment and oral hygiene instruction, a case report: Furutani C, Oda Y, Morimoto C, Hayashiuchi M, Yoshida K, Mukai T, Wakita A, Kanda T, Kaihara Y, Irifune M, Kozai K: The 34st Japanese Society for Disability and Oral Health (FUKUOKA), 2017.

5. A case of intravenous sedation instead of general anesthesia for a patient with intellectual disability and severe chronic renal failure: Mukai T, Yoshida K, Furutani C, Oda A, Takahashi T, Yoshinaka T, Mukai A, Oda Y, Irifune M: The 34st Japanese Society for Disability and Oral Health (FUKUOKA), 2017.
6. A case of a patient with intellectual disability and obesity performed MRI examination under intravenous sedation: Oda A, Yoshida K, Mukai T, Takahashi T, Mukai A, Furutani C, Oda Y, Irifune M: The 34st Japanese Society for Disability and Oral Health (FUKUOKA), 2017.

E) Special lectures in academic meetings

1. Management of Anxious and Special Needs Patients-consistency from Children to Adults-: Yuki Oda: The 10th National Scientific Meeting in Pediatric Dentistry (Jakarta), 2017.
2. Our Action in Special Care Dentistry-Hiroshima University Hospital-: Yuki Oda: The 44th Asia Pacific Advanced Network Meeting (Dalian), 2017.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

1. Hiroshima University Research Encouragement Award for Female Researchers 2018: Yuki Oda, Effect of bovine milk fermented with *Lactobacillus rhamnosus* L8020 on periodontal disease in individuals with an intellectual disability. 600 thousand yen.

(5) Academic Awards, etc.

1. Yuki Oda: Hiroshima University Research Encouragement Award for Female Researchers 2018

(6) Patents

## Central Clinical Divisions

### Special Dental Clinic Section

#### (1) Staff and Students

Chief Professor : Kotaro Tanimoto

Assistant Professor : Yukimi Yasuhara

#### (2) Main Research Activities

- 1: Perceptual Evaluation of Cleft Palate Speech
- 2: Clinical Application of Electropalatography
- 3: Research for improvement in articulation problem
- 4: Research for relation between lingual pressure and the function of speech/swallowing

#### (3) Research Achievements

A) Original Papers (including Case Reports)

B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

F) Special lectures in academic meetings

#### Lecture

- 1: Assessment and actuality of Dysphagia Rehabilitation: Yasuhara Y.: Hiroshima pref. community-based health care and nursing mutual security project: Workshop of the swallowing functional training (Hiroshima) 2017.
- 2: Assessment and actuality of Dysphagia Rehabilitation: Yasuhara Y.: Hiroshima pref. community-based health care and nursing mutual security project: Workshop of the swallowing functional training (Kure) 2017.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

(5) Academic Awards, etc.

(6) Patents

[Return to Contents](#)

## Central Clinical Divisions

### Center of Oral Clinical Examination

#### (1) Staffs and Students

Director: Hidemi Kurihara  
Associate Professor: Ikuko Ogawa (Clinic)  
Lecturer: Masae Kitagawa (Clinic)  
Research Associate: Tomoaki Shintani  
Technician: Rie Miyata

#### (2) Main Research Activities

- 1 : Diagnostic pathological study on head and neck lesions.
- 2 : Study on test and treatment in metal allergy and dry mouth.
- 3 : Molecular pathological study on development and progression of oral squamous cell carcinoma.
- 4 : Study on molecular target therapy to oral cancer targeted with HBp17/FGFBP.

#### (3) Research Achievements

##### A) Original Papers (including Case Reports)

- 1 : Eldecalcitol (ED-71), an analog of  $1\alpha,25(\text{OH})_2\text{D}_3$ , inhibits the growth of squamous cell carcinoma (SCC) cells in vitro and in vivo by down-regulating expression of heparin-binding protein 17/fibroblast growth factor-binding protein-1 (HBp17/FGFBP-1) and FGF-2: Shintani T., Takatsu F., Rosli S.N.Z., Usui E., Hamada A., Sumi K., Hayashido Y., Toratani S., Okamoto T.: *In Vitro Cellular & Developmental Biology – Animal*. 53(9):810-817. 2017.
- 2 : N-terminal region of human ameloblastin synthetic peptide promotes bone formation. Kitagawa M., Ando T., Subarnbhesaj A., Uchida T., Miyauchi M., Takata T.: *Odontology*. 105(1):116-121, 2017.
- 3 : Prevalence of Torus Mandibularis in Young Healthy Dentate Adults: Morita K., Tsuka H., Shintani T., Yoshida M., Kurihara H., Tsuga K.: *Journal of Oral and Maxillofacial Surgery*. 75(12):2593-2598. 2017.
- 4 : A case of primordial odontogenic tumor: A new entity in the latest WHO classification (2017): Ando T., Shrestha M., Nakamoto T., Uchisako K., Yamasaki S., Koizumi K., Ogawa I., Miyauchi M., Takata T.: *Pathol Int*, 67(7),365-9. 2017.
- 5 : Ameloblastin induces tumor suppressive phenotype and enhances chemosensitivity to doxorubicin

- via Src-Stat3 inactivation in osteosarcoma.: Ando T., Kudo Y., Iizuka S., Tsunematsu T., Umehara H., Shrestha M., Matsuo T., Kubo T., Shimose S., Arihiro K., Ogawa I., Ochi M., Takata T.: *Sci Rep*, Jan 5;7:40187. 2017.
- 6 : Tissue inhibitor of metalloproteinase-1 promotes cell proliferation through YAP/TAZ activation in cancer.: Ando T., Charindra D., Shrestha M., Umehara H., Ogawa I., Miyauchi M., Takata T.: *Oncogene*, 2017 Sep 18. doi:10.1038/onc.2017.321.
- 7 : TNF- $\alpha$ -induced IL-6 and MMP-9 expression in immortalized ameloblastoma cell line established by hTERT: Ohta K., Naruse T., Ishida Y., Shigeishi H., Nakagawa T., Fukui A., Nishi H., Sasaki K., Ogawa I., Takechi M.: *Oral Dis*, 23(2):199-209, 2017.
- 8 : Central mucoepidermoid carcinoma arising from glandular odontogenic cyst confirmed by analysis of MAML2 rearrangement.: A case report: Nagasaki A., Ogawa I., Sato Y., Takeuchi K., Kitagawa M., Ando T., Sakamoto S., Shrestha M., Uchisako K., Koizumi K., Toratani S., Konishi M., Takata T.: *Pathol Int*, 2017. (in press)
- 9 : A case of myoepithelioma of upper lip: Kimura N., Yoshioka Y., Koizumi K., Hamada M., Nakatao H., Sumi K., Ogawa I., Toratani S., Okamoto T.: *J Hiroshima Univ Dent Soc*, 49(1):48-52, 2017.
- 10 : Clinical statistics of patients with dentigerous cyst: Kobozono K., Ono S., Ohta K., Higashikawa K., Shigeishi H., Ogawa I., Takechi M.: *J Hiroshima Univ Dent Soc*, 49(2):153-7, 2017.
- 11 : Clinical analysis of 130 cases of oral lichen planus: : Ohta K., Naruse T., Shimasue H., Ono S., Mizuta K., Kato D., Higashikawa K., Furusho H., Ogawa I., Takechi M.: *Jpn J Oral Diag./Oral Med*, 30(2):151-6, 2017.

## B) Review

- 1 : What dentists and dental hygienists should know about saliva and dry mouth: Ogawa I., Kitagawa M.: *JJADS*, 70(9):739-47, 2017.

## C) Publications

- 1 : Power of saliva QA: Ogawa I., Kitagawa M.: *Dental Diamond Co.* (Tokyo), 2017.

## D) Other Publications

- 1 : Let's study saliva (10): Ogawa I.: *DHstyle*, 11(1),76-80, 2017.
- 2 : Let's study saliva (10): Kitagawa M.: *DHstyle*, 11(2),46-49, 2017.
- 3 : Let's study saliva (11): Ogawa I.: *DHstyle*, 11(3),48-52, 2017.

## E) Presentation at Scientific Meeting

- 1 : Current status of dental metal allergy patients: Kitagawa M., Murakami S., Akahi Y., Shintani T., Ogawa I., Inoue T., Kurihara H.: The 10th Annual Meeting of Japanese Society for Evidence and the Dental Professional (Niigata), 2017.
- 2 : Oral bacteria and systemic pathology- Research on cranial nerve disease and its treatment using oral bacterial examination: Kitagawa M., Ogawa I., Sintani T., Nishi H., Shiba H., Kurihara H.: The 20th Annual Meeting of Japanese Society of Neurosurgery (Hiroshima), 2017.
- 3 : A case of treatment based on examination for patients suspected of allergy by dental autopolymerizing resin: Kitagawa M., Kuremoto K., Shintani T., Ogawa I., Kurihara H.: The 9th Annual Meeting of Japan Metal Free Dental Society (Tokyo), 2017.
- 4 : Growth regulation by ED-71 of human squamous cell carcinoma cell lines through exosomal microRNA production in serum-free culture: Higaki M., Shintani T., Hamada A., Rosli S.N.Z., Usui E., Okamoto T.: The 54th Annual Meeting of Japan Tissue Culture Society for Dental Research (Morioka), 2017.
- 5 : Dental hygienist's activities and the effects in dental clinical support for HIV-infected patients: Okada M., Matsui K., Iwata T., Sintani T., Kinoshita K., Miyahara A., Ikeda Y., Saitou S., Maruyama E., Hamamoto K. Yamasaki N., Fujii T., Shiba H. : The 31th Annual Meeting of the Japanese Society for AIDS Research (Tokyo), 2017.
- 6 : The transition of tissue inhibitor of metalloproteinase-1 and -4 expressions induces aggressive behavior and poor patient survival in dedifferentiated liposarcoma via YAP/TAZ activation: Shrestha M., Ando T., Ogawa I., Miyauchi M., Takata T.: 50th Annual Meeting of the Hiroshima University Dental Society (Hiroshima), 2017.
- 7 : Large-scale common research about the reality of odontogenic tumor in Asia: Takata T., Senba I., Maeda H., Takeda Y., Kumamoto H., Kuyama K., Toyosawa S., Nagatsuka J., Miyauchi M., Ogawa I.: 106th Annual Meeting of the Japanese Society of Pathology (Tokyo), 2017.
- 8 : Soft palate tumor (Desmoid-type fibromatosis):Furusho H., Oobayashi M., Ogawa I., Fujita Y., Sugata T., FujiharaK., Takata T.: 28th Annual Meeting of Japanese Society of Oral Pathology (Kawagoe), 2017.
- 9 : The transition of tissue inhibitor of metalloproteinase-1 and -4 expressions induces aggressive behavior and poor patient survival in dedifferentiated liposarcoma via YAP/TAZ activation: Shrestha M., Ando T., Ogawa I., Miyauchi M., Takata T.: 28th Annual Meeting of Japanese Society of Oral Pathology (Kawagoe), 2017.
- 10 : A case of recurrent pleomorphic adenoma with infiltrative growth of the palate: Ogawa I., Miyasaka C., Ishida M., Fujisawa T., Ihara H., Nagao T., Takata T.: 62nd Annual Meeting of the Japan Salivary Gland Society (Tokyo), 2017.

- 11 : A case of non-invasive adenoid cystic carcinoma confirmed by MYB rearrangement analysis: Yada N., Ogawa I., Sato Y., Takeuchi K., Sakaguchi O., Matsuo H.: 62nd Annual Meeting of the Japan Salivary Gland Society (Tokyo), 2017.
- 12 : Parotid gland lesion (Sclerosing polycystic adenosis) : Ogawa I., Takata T.: 123rd Academic Meeting of Chugoku-Shikoku Branch of the Japanese Society of Pathology (Kurashiki), 2017.
- 13 : Buccal tumor (Carcinoma ex pleomorphic adenoma, widely invasive): Sakamoto S., Ogawa I., Ohta K., Shigeishi H., Nakamoto T., Takata T.: 68th Meeting of Hiroshima Pathological Conference (Hiroshima), 2017.

#### F) Special lectures in academic meetings (Symposium)

- 1 : Serum antibody titer of periodontal bacteria against Pg (*Porphyromonas gingivalis*) infection: Shintani T.: The 10th Annual Meeting of Japanese Society for Evidence and the Dental Professional (Niigata), 2017.
- 2 : Current status of dental material allergy and future of dental treatment: Kitagawa M.: The 9th Annual Meeting of Japan Metal Free Dental Society (Tokyo), 2017.
- 3 : Selection and specificity of myoepithelial/basal cell markers in pathological diagnoses of salivary gland tumors.
- 4 : Companion meeting “Review of significance of immunohistochemistry in practical pathologic diagnosis of salivary gland tumors.”: Ogawa I., Takata T.: 106th Annual Meeting of the Japanese Society of Pathology (Tokyo), 2017.
- 5 : Pathological diagnosis of Oral epithelial dysplasia. Workshop “For the cytodiagnosis of SIL” : Ogawa I.:56th Annual Autumn Meeting of the Japanese Society of Clinical Cytology (Hakata), 2017.
- 6 : Pathological diagnosis based on WHO(2017) - Changes from WHO (2005) and differences from adjacent areas -. Symposium “Oral Potential Malignant Disorders and Oral Epithelial Dysplasia”: Ogawa I.: 62nd Annual Meeting of the Japanese Society of Oral and Maxillofacial Surgery (Kyoto), 2017.

#### (4) Status of Receiving Grants-in Aid for Scientific Research, etc.

- 1 : Grants-in-Aid for Scientific Research (C): Shintani T.: Developmental study on treatment for oral cancer treated with ED-71, vitamin D analog, which is a therapeutic agent for osteoporosis. 16K11723, 700,000 yen
- 2 : Grants-in-Aid for Scientific Research (C): Ogawa I.: Pathological and Molecular diagnosis of salivary gland and odontogenic tumors. 17K11614, 1,300, 000 yen.

#### (5) Academic Awards, etc.

- 1 : Kitagawa M. : The 9th Annual Meeting of Japan Metal Free Dental Society (Tokyo), 2017. Excellent poster award.

[Return to Contents](#)

## Central Clinical Divisions

### Dental Technicians Section

#### (1) Staff and Students

Director of Dental Technicians Section : Hiroki Nikawa (Prof.)  
 Assistant Chief Dental Technician : Ryoji Kato  
 Supervisor Dental Technician : Yoshihiro Otani  
 Dental Technician : Eisaku Habu, Shogo Iwaguro, Yukihiro Takayama,  
 Meiji Yamamoto, Mai Otaku

#### (2) Main Research Activities

- 1 : Management of the patients' information by the use of implanted devices in the denture.
- 2 : Radioprotective prostheses for irradiation therapies
- 3 : Clinical analysis of superstructure of implant.
- 4 : Esthetic dentistry
- 5 : Accuracy of castings
- 6 : Information processing in the dental laboratory
- 7 : Study on dental composite materials for esthetic

#### (3) Research Achievements

##### A) Original Papers (including Case Reports)

- 4 : Effect of different surface treatment containing MDP monomer on bonding between zirconia and dental resin : Midori Kawamura, Saiji Shimoe, Mai Otaku, Shogo Iwaguro, Takahiro Satoda, Journal of Nippon Academy of Dental Technology, Vol.38, (2), pp.163–173, 2017.
- 5 : A study of manufacturing surgery support solid model in Hiroshima University Hospital central-dental-laboratory : Yukihiro Takayama, Saiji Shimoe, Shogo Iwaguro, Takeshi Murayama, Ryouji Katou, Hiroki Nikawa, Journal of Nippon Academy of Dental Technology, Vol.38, (2), pp.174–181, 2017.

##### B) Review

##### C) Publications

##### D) Other Publications

##### E) Presentation at Scientific Meeting

- 1: Effect of micro slit on the bond strength of veneering porcelain to zirconia : Iwaguro S, Shimoe S, Hirata I, Murayama T, Satoda T : The 6th International Congress of Dental Technology, The 39th the meeting of the Nippon Academy of Dental Technology (Taiwan), 2017,
- 2: Investigation of Manufacturing Surgery Support Solid Model (3D model) made in Central-Dental-Laboratory of Hiroshima University Hospital : Takayama Y, Shimoe S, Iwaguro S,

- Murayama T, Katou R, Nikawa H : The 6th International Congress of Dental Technology, The 39th the meeting of the Nippon Academy of Dental Technology (Taiwan), 2017.
- 3: Influence of Micro Retention with Diode Three-Dimensional Laser Beam : Yuki Wakabayashi, Saiji Shimoe, Shogo Iwaguro, Isao Hirata, Takeshi Murayama, Takahiro Satoda, The 6th International Congress of Dental Technology, The 39th the meeting of the Nippon Academy of Dental Technology (Taiwan), 2017.
  - 4: Effectiveness of Micro Mechanical Retention with Diode Laser Beam on Bonding between Zirconia and Indirect Composite : Hiroto Takenaka, Saiji Shimoe, Shogo Iwaguro, Isao Hirata, Takeshi Murayama, Takahiro Satoda, The 6th International Congress of Dental Technology, The 39th the meeting of the Nippon Academy of Dental Technology (Taiwan), 2017.
  - 5: Influence of Different Surface Treatments of Lithium Silicate Glass Ceramics on Bond Strength to a Resin Cement : Risa Ito, Saiji Shimoe, Tetsuya Matsui, Mai Otaku, Takahiro Satoda, The 6th International Congress of Dental Technology, The 39th the meeting of the Nippon Academy of Dental Technology (Taiwan), 2017.
  - 6: The usefulness of personalized 3d printed model of the kidney for preoperative education in patients who underwent robot-assisted partial nephrectomy : Jun Teishima, YukihiroTakayama, Shogo Iwaguro, Tetsutaro Hayashi, Shogo Inoue, Keisuke Hieda, Shunsuke Shinmei, Kouji Mita, Ryoji Kato, Akio Matsubara, The 69th Annual Meeting of West Japan Urological Association (Oita), 2017.
  - 7: The usefulness of personalized 3d printed model of the kidney for preoperative education in patients who underwent robot-assisted partial nephrectomy : Jun Teishima, YukihiroTakayama, Shogo Iwaguro, Tetsutaro Hayashi, Shogo Inoue, Keisuke Hieda, Shunsuke Shinmei, Kouji Mita, Ryoji Kato, Akio Matsubara, The 30th Annual Meeting of the Japan Society for Endoscopic Surgery (Kyoto), 2017.

#### (4) Status of Receiving Grants-in Aid for Scientific Research, etc.

#### (5) Academic Awards, etc.

1. Yukihiro Takayama : The 39th Meeting of the Nippon Academy of Dental Technology outstanding performance award in poster presentation  
「Investigation of Manufacturing Surgery Support Solid Model (3D model) made in Central-Dental-Laboratory of Hiroshima University Hospital」
2. Midori Kawamura, Saiji Shimoe, Mai Otaku, Shogo Iwaguro, Takahiro Satoda : Journal of Nippon Academy of Dental Technology Young Researcher Best Paper Award.  
「Effect of different surface treatment containing MDP monomer on bonding between zirconia and dental resin」

#### (6) Patents

[Return to Contents](#)

## Central Clinical Divisions

### Dental Hygiene Section

#### (1) Staff and Students

Director of Dental Hygiene Section : Hidemi Kurihara

Chief Dental Hygienist : Miyuki Nakaoka

Dental Hygienists : Yoriko Iwasaki, Atsuko Wakita, Yukiko Nagatani, Kanako Yano, Tomoko Tokikazu, Miho Okada, Kana Dainobu, Chieko Kawai(Till March), Yurie Nakano, Maiko Kawagoe, Chika Kozono, Yuri Kuramoto, Eri Takano, Yuki Emura, Yuka Wakabayashi, Fumi Tokui, Natsumi Ino, Miku Ishikawa, Yuika Mizota, Ayaka Kai, Mayuko Watari(From April), Momoko Okizono(From April), Ayaka Yoshimoto(From June)

Dental Assistants : Yuka Tamamoto, Keiko Kodani, Yuko Matsuda, Saori Nagamine(From September)

#### (2) Main Research Activities

#### (3) Research Achievements

##### A) Original Papers (including Case Reports)

- 1 : The effect of mouth opening exercise for a patient treated with trimodal combination therapy in carcinoma of maxillary gingiva: a case report: Kuramoto Y., Nishi H., Yano K., Naruse T., Ohta K., Nakaoka M., Kawaguchi H., Takechi M., Kurihara H. :The Journal of Hiroshima University Dental Society,49(2),171-174,2017.
- 2 : Five-year longitudinal study of dental caries risk associated with Streptococcus mutans and Streptococcus sobrinus in individuals with intellectual disabilities : Oda Y., Hayashi F., Wakita A., Nagatani Y., Okada M. : J Oral Sci. doi: 10.2334/josnused.16-0325,2017.
- 3 : Research on Longitudinal Changes and Analysis of Outpatients Satisfaction at Special Care Dental Clinic of Hiroshima University Hospital (The Third Report) : Oda Y., Furutani C., Matsumoto K., Hayashi F., Yoshida K., Ohue K., Takahashi T., Yoshinaka T., Mukai A., Oda A., Mukai T., Wakita A., Mizota Y., Kaihara Y., Irifune M., Kozai K.: The Journal of Hiroshima University Dental Society, 49 (1),8-15,2017.
- 4 : A Case with Schizophrenia Who Has Consented to Continuous Dental Treatment and Oral Hygiene Instruction: Furutani C., Oda Y., Hayashi F., Yoshida K., Yoshinaka T., Mukai A., Oda A., Mukai T., Wakita A., Mizota Y., Watari M., Kaihara Y., Irifune M., Kozai K.: The Journal of Hiroshima University Dental Society,49 (2),158-163,2017.

- 5 : Survey on tooth shade-matching of dental residents-Comparison between visual color matching and dental spectrophotometer-: Yano K., Mineoka A., Kuramoto Y., Iwaizumi J., Shirai K.: The Journal of Hiroshima University Dental Society,49(2),147-152,2017.
- 6 : Initial Report of the Attempt to Develop New Oral Assessment as Information Sharing with Multi disciplinary-Oral Assessment of Chemotherapy Patients in Hiroshima University Hospital-: Nishi H., Konishi M., Yoshioka Y., Sugiyama M., Ota K., Shigeishi H., Shimizu Y., Nagasaki S., Fukui A., Yamauti Y., Hiraki T., Naruse T., Obayashi T., Ohara M., Kitagawa M., Yano K., Nakaoka M., Nishimura R., Fukada E., Kakimoto N., Tsuga K., Irifune M., Kawaguti H., Oge H., Kurihara H.: The Journal of Hiroshima University Dental Society,49(2),134-140,2017.
- 7 : Dental hygienists' perceptions of professionalism are multidimensional and context-dependent: a qualitative study in Japan: Nagatani Y., Imafuku R., Takemoto T., Waki T., Obayashi T., Ogawa T.: BMC Medical Education, 17:267, 2017.

#### B) Review

#### C) Publications

#### D) Other Publications

#### E) Presentation at Scientific Meeting

- 1 : Custom-made tooth brushing instruction using visual support : Wakita A., Nakaoka M., Arima T., Hada Y., Hirai Y., Fuzita T., Ueda Y., Okada M., Oda Y., Komatsu T., Noumi K., Ueda Y., Kawahara M., Doe K., Oda Y., Kozai K.: The 14th Annual Meeting of the Japanese Society of Oral Care (Okinawa), 2017.
- 2 : Efforts of Medical and Dental Collaboration-Questionnaire survey on 「Tool to express oral」 -: Yano K., Nishi H., Kuramoto Y., Iiboshi R., Ototani J., Okamoto M., Okazaki K., Miura M., Morishita T., Kirishima A., Kawahori M., Nakaoka M., Kurihara H.: The 14th Annual Meeting of The Japanese Society of Oral Care (Okinawa), 2017.
- 3 : The effect of mouth opening exercise by a Dental Hygienist to for a patient treated with trimodal combination therapy in carcinoma of maxillary gingiva: a case report: Kuramoto Y., Nishi H., Yano K., Naruse T., Ohta K., Nakaoka M., Kurihara H.:The 14th Annual Meeting of The Japanese Society of Oral Care (Okinawa), 2017.
- 4 : Survey on tooth shade-matching of dental residents-Comparison between visual color matching and dental spectrophotometer - : Yano K., Kuramoto Y., Kunimatsu R. :The 10th International Federation of Esthetic Dentistry (Toyama), 2017.

- 5 : Dental hygienist's activities and the effects in dental clinical support for HIV-infected patients: Okada M., Matsui K., Iwata T., Sintani T., Kinoshita K., Miyahara A., Ikeda Y., Saitou S., Maruyama E., Hamamoto K., Yamasaki N., Hujii T., Shiba H.: The 31th Annual Meeting of the Japanese Society for AIDS Research (Tokyo), 2017.
- 6 : A Case report of periodontal therapy for elderly patient with necrotizing ulcerative periodontitis: Nagatani Y., Matsuda S., Nakaoka M., Kurihara H.: The Japanese Society of Periodontology Diamond Anniversary Meeting in Kyoto (Kyoto), 2017.
- 7 : A case report of chronic periodontitis patient with diabetes and smoking habits: Kozono C., Kjiya M., Nagatani Y., Nakaoka M., Kurihara H.: The Japanese Society Of Periodontology Diamond Anniversary Meeting in Kyoto(Kyoto), 2017.
- 8 : Cooperation of periodontal medicine and diabetic medicine on Hiroshima University Hospital: Takeda E., Nagatani Y., Ishikawa M., Kawai C., Kozono C., Nakaoka M., Fujita T., Kurihara H.: The Japanese society of periodontology Diamond Anniversary Meeting in Kyoto(Kyoto), 2017.
- 9 : Survey of patients at our department of dentistry for the disabled: Morimoto C., Oda Y., Furutani C., Hayasiuchi M., Matsumoto K., Wakita A., Kozai K.: The 34st Japanese Society for Disability and Oral Health (Fukuoka), 2017 .
- 1 0 : Case report of Lesch-Nyhan syndrome patient whose self-injury behavior has decreased by continued use Of mouth guards : Oda Y., Furutani C., Mantoku C., Yoshida K., Mukai A., Yoshinaka T., Oda A., Mukai T., Wakita A., Kanda T., Hayashi F., Kaihara Y., Irifune M., Kozai K.: The 34st Japanese Society for Disability and Oral Health (Fukuoka), 2017.
- 1 1 : Improved QOL of schizophrenic patient by continuous dental treatment and oral hygiene instruction a case report: Furutani C., Oda Y., Mantoku C., Hayashiuti M., Yoshida K., Mukai T., Wakita A., Kanda T., Irifune M., Kozai K.: The 34th Japanese Society for Disability and Oral Health (Fukuoka), 2017.

## F) Lecture

- 1 : Introduction to professionalism research: Nagatani Y.: The 36th General and Scientific Meeting of Japanese Dental Education Association WS [Approach to Ethics / Professionalism Education Practice], (Nagano), 2017.
- 2 : Oral care in Special care dentistry: Yano K.: Hiroshima prefecture regional medical care nursing comprehensive securing business Education at Hiroshima Oral Health Center· Research function development project Hiroshima prefecture dental health care service provision difficult person consultation physician training workshop (Hiroshima), 2017.
- 3 : The Current Status of Whitening in Japan: Yano K.: The 20th Taiwan Orthodontic Society(Taipei), 2017.
- 4 : Oral care: Yano K.: NST Education Certified Facility Training(Hiroshima), 2017.
- 5 : Tooth brushing has health benefits: Yano K.: KAO Women's Forum(Hiroshima), 2017.
- 6 : The role of a dental hygienist in dental clinical support for HIV-infected patients: Okada M.: The 14th Japanese Society of Oral Care (Okinawa), 2017.
- 7 : Infection control in Dental clinical site: Nakaoka M.: The 23th Hiroshima infection prevention and

sterilization work study group, (Hiroshima), 2017.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

(5) Academic Awards, etc.

(6) Patents

B) Review

[Return to Contents](#)

## Dental Clinic

### (1) Staff and Students

Director : Takamune Hino

Assistant Professor : Masaru Ohara

### (2) Main Research Activities

- 1 : Pathogenesis of the periodontal diseases
- 2 : A study on the drug-resistant bacteria from nosocomial infection

### (3) Research Achievements

#### A) Original Papers (including Case Reports)

1. The report on the oral cavity-related trouble judging from the dental consultation for university students. Takamune Hino, Yuka Tamamoto, Yoriko Iwasaki, Masaru Ohara, Toru Hiyama, Masaharu Yoshihara, *Bulletin of General Health Research*, volume 33, pages 77-82, 2017

#### C) Publications

#### D) Other Publications

#### E) Presentation at Scientific Meeting

1. Collaboration between medical and dental fields. Nishi H., Obayashi T., Ohara M., Kurihara H., Kawaguti H. *The 10th Research Seminar in General Dental Medicine*. (Niigata), Nov. 2017.
2. Investigation of the depth of reflection in experience of dental trainees at Hiroshima University hospital. Obayashi T., Nishi H., Ohara M., Kawaguchi H. *The 10th Research Seminar in General Dental Medicine*. (Niigata), Nov. 2017.

F) Seminar, Workshop, etc.

1. Advanced OSCE for residents: 1 and 8 (Wed)/2/2017

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

(5) Academic Awards, etc.

(6) Patents

1. Utility Model Registration: RN:3182420, Masaru Ohara, Takamune Hino

[Return to Contents](#)

## Dental Medical Information Section

### (1) Staff and Students

Director : Katsuyuki Kozai(Co.)  
Professor : Hideaki Amano (Co.)  
Assistant Professor : Masahiko Ohtsuka (Co.), Koh-ichi Kuremoto (Co.), Takeshi Tanaka  
Technician : Tokue Yanagida (Co.)

### (2) Main Research Activities

1 : Research on development and management of healthcare and welfare information system.  
2 : Research on Medical Informatics.

### (3) Research Achievements

#### A) Original Papers (including Case Reports)

- 1 : Tanaka T et al: A Test Production of a Medical Institution Webpage Using a Grid-Layout Taking Web Accessibility of Persons with Disabilities into Account: Japan Journal of Medical Informatics, 37 (Suppl.): 1225-1229, 2017.
- 2 : Tsukuma H et al: Trial Production of Management Model to Improve the Quality of Data Accumulated in Hospital Information System: Japan Journal of Medical Informatics, 37 (Suppl.): 337-342, 2017.
- 3 : Tsukuma H et al: Significance of Classifying and Analyzing Inquiries to Helpdesk from the Viewpoint of User Behavior: Japan Journal of Medical Informatics, 37 (Suppl.): 1104-1109, 2017.
- 4 : Shimakawa T et al: Examining the utility of BI of medical application Semantic Data Model which points on the reference model of DWH: Japan Journal of Medical Informatics 37 (Suppl.): 554-557, 2017.
- 5 : Imai K et al: How Many Medical Institutions Adhere Closely to “The Revised Agreement in Treating DICOM Data for Medical Referral” in Receiving the Data? - Survey and Analysis in Hiroshima Prefecture: Japan Journal of Medical Informatics 37 (Suppl.): 879-883, 2017.

#### B) Review

None.

C) Publications

None.

D) Other Publications

None.

E) Presentation at Scientific Meeting

1 : Tanaka T et al: A Test Production of a Medical Institution Webpage Using a Grid-Layout Taking Web Accessibility of Persons with Disabilities into Account: The 37th Joint Conference on Medical Informatics (Osaka, Japan), 2017.

2 : Tsukuma H et al: Trial Production of Management Model to Improve the Quality of Data Accumulated in Hospital Information System: The 37th Joint Conference on Medical Informatics (Osaka, Japan), 2017.

3 : Tsukuma H et al: Significance of Classifying and Analyzing Inquiries to Helpdesk from the Viewpoint of User Behavior: The 37th Joint Conference on Medical Informatics (Osaka, Japan), 2017.

4 : Shimakawa T et al: Examining the utility of BI of medical application Semantic Data Model which points on the reference model of DWH: The 37th Joint Conference on Medical Informatics (Osaka, Japan), 2017.

5 : Imai K et al: How Many Medical Institutions Adhere Closely to “The Revised Agreement in Treating DICOM Data for Medical Referral” in Receiving the Data? - Survey and Analysis in Hiroshima Prefecture-: The 37th Joint Conference on Medical Informatics (Osaka, Japan), 2017.

F) Special lectures in academic meetings

None.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

1 : MEXT KAKENHI Grant-in-aid for Scientific Research(C), No. 15K004380. 550 thousand JPY.

2 : MEXT KAKENHI Grant-in-aid for Scientific Research(C), No. 16K004610. 100 thousand JPY.

(5) Academic Awards, etc.

None.

(6) Patents

None.

[Return to Contents](#)