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Graduate School of Biomedical Sciences**

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## **Programs for Biomedical Research, Division of Molecular Medical Science (Department of Biomaterials Science)**

### (1) Staff and Students

Professor: Masayuki Okazaki  
Associate Professor: Kunio Wakasa  
Research Associate: Yuji Nomura, Isao Hirata  
Graduate Student: Tomomi Hayashida  
Researcher: Ryo Nishikiori

### (2) Main Research Activities

- 1: Development of functional biomaterials with adhesion molecules
- 2: Biocompatibility of apatite-collagen composites
- 3: Interaction between living system and biomaterials with self-assembled monolayers
- 4: Dynamics of dentine adhesion interface
- 5: Mechanical properties of visible light-cured resin fillers
- 6: Bioassay of endocrine disruptor chemicals
- 7: Mechanism of molecular-level tooth adhesion
- 8: Improvement of implant surface
- 9: Synthesis and polymerization of multi-functional monomers
- 10: Casting of glass ceramics

### (3) Research Achievements

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

- 1: Matsuura A., Kubo T., Doi K., Hayashi K., Morita K., Yokota R., Hayashi H., Hirata I., Okazaki M., Akagawa. Y.: Bone formation ability of carbonate apatite-collagen scaffolds with different carbonate contents. *Dent Mater J*, 28: 234-242, 2009.
- 2: Miake Y., Yamazaki T., Sakae T., Suwa T., Okazaki M.: Morphological and Crystallographic Properties of Tooth Enameloid of Medaka (*Oryzias latipes*). *J Hard Tissue Biol* 18: 111-115, 2009.

#### B) Review

- 1: Importance of nutritive mineral against adult disease.- Calcium (Ca) -: Okazaki M.: JJS MUFF 5, 403-408, 2009 (in Japanese)

ReCe ts

**Programs for Biomedical Research,  
Division of Molecular Medical Science  
(Department of Dental and Medical Biochemistry)**

(1) Staff and Students

|                        |                                     |
|------------------------|-------------------------------------|
| Professor:             | Yukio Kato                          |
| Associate Professor:   | Mitsuhide Noshiro                   |
| Research Associate:    | Takeshi Kawamoto , Katsumi Fujimoto |
| International Student: | Tania Saskianti                     |
| Secretary:             | Misano Kuramoto                     |

Liu Y, Suzuki

T, Kondo J, Morohashi S, Imaizumi T, Kato Y, Kijima H. :J Biochem. 2009 Dec;146(6):833-8.

- 4: The Basic Helix-loop-helix Proteins DEC1 and DEC2 Function as Corepressors of Retinoid X Receptors.: Cho Y, Noshiro M, Choi M, Morita K, Kawamoto T, Fujimoto K, Kato Y, Makishima M. :Molecular Pharmacology, 2009 Dec;76(6):1360-9.

B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

- 1: Identification of Mesenchymal Stem Cell (MSC)-Transcription Factors by Microarray and Knockdown Analyses, and Signature Molecule-marked MSC in Bone Marrow by Immunohistochemistry. Yukio Kato International Workshop on BioDental Education & Research 2.7-8, 2009, Hiroshima City
- 2: Biological Significance of Serum-Free Cultures for Adult Stem Cells Y. Kato and J. Shao 3<sup>rd</sup> Hiroshima Conference11.7-8,2009, Hiroshima City

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

(5) Academic Awards, etc.

(6) Patents

Program for Biomedical Research,  
Division of Molecular Medical Science  
(Department of Oral Biology)

(1) Staff and Students

Takashi Uchida

Shinji Hiyama Mineo Watanabe

(2) Main Research Activities

Morphological and molecular biological studies of the amelogenesis

Molecular biological and morphological studies of the mechanism of bone metabolism

Referred pain involved with inflammatory cytokines on orofacial regions

(3) Research Achievements

A) Original Papers (including Case Reports)

Evidence for the expression of estrogen receptors in osteogenic cells isolated from hen medullary bone.: Hiyama, S., Sugiyama, T., Kusuhara, S., Uchida, T.: Acta Histochem. 2009;111(6):501-507.

B) Review

C) Publications

1 The endocrine gland Oral Anatomy Ide, Y., Maeda, T., Amano, O. eds. Uchida, T. Ishiyaku Pub.Inc. Tokyo pp136-138,2009.

D) Other Publications

E) Presentation at Scientific Meeting

9Y9a The regulation of osteoclast differentiation from bone marrow cells during medullary bone formation in estrogen-treated male Japanese quails.: Hiyama, S., Watanabe, M., Uchida, T.: The 31<sup>st</sup> Annual meeting of American Society for Bone and Mineral Research (Denver), 2009.

The role of P2X<sub>7</sub> receptor in neuropathic pain.: Ito, G., Watanabe, M., Suekawa,



hormone and its target factors. NO.21791787. 2,600,000yen

Grant-in-aid for Scientific Research from the Japanese Society for the Promotion of Science (C) Uchida, T., Function of matrix proteins on the regulation of differentiation and function of hard tissue forming cells, and calcification during tooth development.No.21592329. 1,300,000yen

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**Programs for Biomedical Research,  
Division of Integrated Medical Science  
(Department of Oral Physiology)**

(1) Staff and Graduate Students

Professor SHIBA, Yoshiki

Associate Professor HIRONO, Chikara

Assistant Professor SUGITA, Makoto

Assistant IWASA, Yoshiko

Graduate Students MARUYAMA, Takane, INOUE, Machiko

(2) Current Subjects in Scientific Activity

- 1: Study on function and regulation of taste organs and salivary glands
- 2: Molecular physiological study on function of ion channels and ion transporters
- 3: Study on the mechanism of taste perception
- 4: Study on the role of cell communication in proliferation and differentiation of oral mucosa.
- 5: Study on mastication and swallowing

(3) Academic Achievements

A) Original Papers (including Case Reports)

B) Review

C) Publications

D) Other publication

E) Presentation in academic meetings

- 1: Cl<sup>-</sup> secretion induced by the Ca<sup>2+</sup> ionophore, A23187, in rat submandibular acinar cells Hirono C., Sugita M., Iwasa Y., Shiba Y.: 51st Annual Meeting of Japanese Association for Oral Biology (Niigata), 2009.

- 2: Anion secretory functions of acinar and intralobular duct cells in the rat parotid gland: Hirono C., Sugita M., Iwasa Y., Shiba Y.: The 11th International Symposium on Exocrine Secretion (Tokushima), 2009.
- 3: Genetic tracing and characterization of the neurons in the nucleus of the solitary tract, receiving specific taste input.: Sugita M., Shiba Y.: The XXXVI International Congress of Physiological Sciences (Kyoto), 2009.
- 4: Two phase anion secretion revealed by confocal laser scanning microscopy and gramicidin-perforated patch recording in parotid ducts.: Hirono C., Ohshima K., Sugita M., Iwasa Y., Shintani H., Shiba Y.: The XXXVI International Congress of Physiological Sciences (Kyoto), 2009.

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

- 1: JST (PRESTO): Sugita, M., The neuronal mechanisms underlying the taste-evoked behavioral and emotional responses, ¥7,000,000.
- 2: Grant-in-Aid for Scientific Research (C): Sugita, M., The neuronal mechanisms underlying the taste recognition revealed by genetic tracing, ¥700,000.

(5) Academic Awards, etc.

(6) Patents

## Programs for Biomedical Research, Division of Integrated Medical Science (Department of Dental Pharmacology)

### 1 Staff and Students

Professor: Takashi Kanematsu

Associate professor: Katsuya Morita

Assistant professor: Tomoya Kitayama, Kae Harada

Graduate student: Koki Kifune, Toshiya Okumura, Hiroto Tanaka

Undergraduate student (Advanced Dental Research course): Ryuichi Tsuruta (5th), Yuya Ogawa(4th),  
Nami Kikushige (4th), Nozomi Hinada (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 molecular mechanisms controlling insulin secretion
- 3: Studies on the regulatory mechanisms of food intake and energy metabolism
- 4: Studies on the roles of a new autophagy-related molecule in autophagy pathway
- 5: Physiological and pathophysiological roles of neurotransmitter transporters and nucleoside transporters.
- 6: Studies on the mechanisms for neuropathic pain and the development of novel medicaments.

### 3 Research Achievements

#### A Original Papers

- 1: Binding of phospholipase C-related but catalytically inactive protein to phosphatidylinositol 4,5-bisphosphate via the PH domain: J. Gao, H. Takeuchi, Z. Zhang, M. Fujii, T. Kanematsu and M. Hirata: *Cell Signal.*, 21, 1180-1186, 2009
- 2: Involvement of phospholipase C-related inactive protein in the mouse reproductive system through the regulation of gonadotropin levels: *Biol. Reprod.*, 81, 681-689, 2009
- 3: Phospholipase C-related but catalytically inactive protein is required for insulin-induced cell surface expression of gamma-aminobutyric acid type A receptors: M. Fujii, T. Kanematsu, H. Ishibashi, K. Fukami, K.I. Nakayama, S.J. Moss, J. Nabekura and M. Hirata: *J. Biol. Chem.*, 285, 4837-4846, 2009

**B Reviews**

1: Glycine transporter

- 7: Anti-allodynia effects of Glycine transporter (GlyT) inhibitors on mechanical allodynia in neuropathic pain model induced by streptozotocine: T. Kitayama, N. Motoyama, H. Nishimura, T. Kanematsu, K. Morita and T. Dohi: The 115<sup>th</sup> Kinki Branch Meeting (Kanazawa), 2009.
- 8: Tonic GABAergic transmission is suppressed in PRIP-1 KO mice with epileptic phenotype: S. Ueno, J. Yamada, K. Migita, G. Zhu, S. Yoshida, T. Kanematsu, M. Hirata, M. Okada and S. Kaneko: The 28<sup>th</sup> International Epilepsy Congress , Budapest, Hungary, 2009.
- 9: Anti-allodynia action of glycine transporter inhibitors in diabetic neuropathy model in mice: N. Motoyama, T. Kitayama, Y. Jinnin, F. Nishimura, T. Kanematsu, K. Morita and T. Dohi: The 51<sup>st</sup> Annual Meeting of Japanese Association for Oral Biology (Nigata), 2009.
- 10: Platelet-activation factor (PAF) receptor inhibitor as a potential therapeutic strategy for chronic pain: K. Kifune, N. Motoyama, T. Kitayama, F. Nishimura, T. Kanematsu, K. Morita and T. Dohi: The 51<sup>st</sup> Annual Meeting of Japanese Association for Oral Biology (Nigata), 2009.
- 11: Masticatory muscle activity in a rat model of Parkinson disease: S. Nakamura, N. Kawai, T. Kitayama, M. Watanabe, K. Tanne and E. Tanaka: The 2<sup>nd</sup> Meeting of the IADR PAPF, 1<sup>st</sup>

- The 51<sup>st</sup> Annual Meeting of Japanese Association for Oral Biology, Nigata, 2009.
- 20: *Staphylococcus aureus* infection-induced autophagy in phospholipase C-related inactive protein knockout cells: K. Harada and T. Kanematsu: The 6<sup>th</sup> Japan-Korea Conference on Cellular Signaling for Young Scientists, Sasebo, 2009.
- 21: Phospholipase C-related inactive protein (PRIP) binds GEC1, a kappa opioid receptor binding protein: T. Okumura, K. Harada, N. Kamata and T. Kanematsu: The 6<sup>th</sup> Japan-Korea Conference on Cellular Signaling for Young Scientists, Sasebo, 2009.
- 22: GABA<sub>A</sub> receptor subunit alteration-dependent diazepam insensitivity in the cerebellum of PRIP knockout mice: H. Tanaka, A. Mizokami, M. Hirata and T. Kanematsu: The 6<sup>th</sup> Japan-Korea Conference on Cellular Signaling for Young Scientists, Sasebo, 2009.
- 23: Glycine receptor  $\beta$  (GlyR  $\beta$ ) mediation of tactile allodynia induced by platelet-activating factor (PAF) through cGMP signaling in spinal cord in mice: N. Motoyama, K. Morita, T. Kitayama, F. Nishimura and T. Dohi: The Japanese Society of Conservative Dentistry, Spring Meeting in 2009 (the 130<sup>th</sup>), Sapporo, 2009.
- 24: PRIP regulates insulin-induced cell surface expression of GABA<sub>A</sub> receptors through the ternary complex formation among GABA<sub>A</sub> receptor, PRIP and Akt: M. Fujii, T. Kanematsu and M. Hirata: The 6<sup>th</sup> Japan-Korea Conference on Cellular signaling for Young Scientists, Sasebo, 2009.

## F Special lectures in academic meeting

- 1: Mechanisms of GABA<sub>A</sub> receptor trafficking and their regulating proteins: T. Kanematsu and M. Hirata: The 82<sup>nd</sup> Annual Meeting of The Japanese Pharmacological Society, Yokohama, 2009.
- 2: The roles of new molecule PRIP in insulin secretion: T. Kanematsu: Kyushu Branch Meeting 2009 of The Japanese Biological Society, Fukuoka, 2009.
- 3: Molecular mechanisms of GABA<sub>A</sub> receptor cell surface expression and the implication in regulation of stomatofnathic function: T. Kanematsu and M. Hirata: The 51<sup>st</sup> Annual Meeting of Japanese Association for Oral Biology, Nigata, 2009.

## (4) Grants

- 1: Grant-in-Aid for Scientific Research (B)

- 3: Grant-in-Aid for Young Scientists (B): Kae Harada, A research and development of novel low-cytotoxic oral self-care methods for the patients who use denture Adhesives. Project number 21791898. Amount 2,340,000.
- 4: Japan Diabetes Foundation: Kanematsu T., Analysis of the molecular mechanisms of insulin secretion via PRIP molecule. Amount 1,000,000.
- 5: The Pharmacological Research Foundation, Tokyo: Kanematsu T., Developmental studies for the new approaches to the pharmacotherapy of neuropathic pain. Amount 1,000,000.
- 6: Cooperative Study Program of National Institute for Physiological Sciences: Kanematsu T., Analysis of the molecular basis of PRIP-mediated insulin secretion using two-photon excitation microscopy. Project number 237. Amount 200,000.



**Programs for Biomedical Research, Division of Frontier  
Medical Science (Department of Oral and Maxillofacial  
Pathobiology)**

- Maruyama T, Yamamoto T, Watanabe T, Miyauchi M, Takata T.: *Acta Odontologica Scandinavica*, 2009;67:200-205.
3. RUNX3 has an oncogenic role in head and neck cancer: Tsunematsu T, Kudo Y, Iizuka S, Ogawa I, Fujita T, Kurihara H, Abiko Y, Takata T.: *PLoS ONE*, 2009;4:e5892.
  4. Oncogenic role of nuclear accumulated Aurora-A: Tatsuka M, Sato S, Kanda A, Miki T, Kamata N, Kitajima S, Kudo Y, Takata T.: *Mol Carcinogen*, 2009;48:810-820.
  5. Aberrant beta-catenin expression and adenomatous polyposis coli gene mutation in ameloblastoma and odontogenic carcinoma: Siriwardena BS, Kudo Y, Ogawa I, Tilakaratne WM, Takata T.: *Oral Oncol*, 2009;45:103-108.
  6. Intracellular localization of surviving determines biological behavior in colorectal cancer: Qi G, Tuncel H, Aoki E, Tanaka S, Oka S, Kaneko I, Okamoto M, Tatsuka M, Nakai S, Shimamoto F: *Oncol Rep*, 2009;22:557-562.
  7. Central giant cell granuloma of the mandible: presentation of a rare case with prominent osteoblastic differentiation mimicking osteosarcoma: Deraz EM, Ogawa I, Miyauchi M, Kudo Y, Nakamoto T, Tani R, Takata T: *Oral Medicine & Pathology* 2009;14:117-120.
  8. Inhibitory effect of oral exposure to liposome lactoferrin by soy lecithin for LPS induced destruction of periodontal tissue: Kawazoe A, Miyauchi M, Yamano E, Tanaka E, Makino T, Inubushi T, Rego EB, Tanne K, Takata T.: *Lactoferrin* 2009:79-83 (Japanese).
  9. Inhibitory effect of liposome lactoferrin to oral administering for LPS induced destruction of periodontal tissue - Inhibitory effect of lactoferrin on osteoclast formation by osteoblast: Yamano E, Miyauchi M, Kawazoe A, Tanaka E, Tanne K, Takata T.: *Lactoferrin* 2009:84-89 (Japanese).
  10. A case of lower gingival polypoid mass with pseudomalignant change: Yoshioka Y, Ogawa I, Hayashido Y, Toratani S, Takata T, Okamoto T.: *Journal of the Japanese Stomatological Society* (in press) (Japanese).

## B) Publications

1. Chapter 1. Basic knowledge to correctly understand periodontal disease; Part 3. Pathological features of periodontal diseases: Miyauchi M, Takata T: *The Periodontology -First edition-*: Izumi Y, Kinoshita N, Yamamoto M, Kinoshita A, ed., Suenaga-Shoten (Japanese).
2. Chapter 7, Part 2. Odontogenic tumor: Ogawa I, Takata T, Mori M: *Oral Surgery -Third edition-*: Shirasuna K, Miyazaki M. ed., Ishiyaku-Shuppan (Japanese).
- 3.

(Japanese).

5. Close up of Oral disease: Takata T et al: Takata T, Ogawa I, ed., Dental Diamond, 2009 (Japanese).

### C) Other Publications

1. Close up of Oral disease: Black hairy tongue arising center part of dorsum: Takagi N, Takahashi M, Ogawa I, Takata T: Dhstyle 3(27):12-14, 2009.

2. Close up of Oral disease: Ranula arising right oral floor: Fujikake F, Yuasa Y, Midorikawa S,

3. Close up of Oral disease: Epithelioid odontogenic cyst arising right upper lip: Kikuta M, Kouhara G, Miyouchi M, Takata T: DHstyle 3(29): 12-14 2009

4. Close up of Oral disease: Papilloma arising at interdental papilla: Kikuta M, Kouhara G, Kitagawa M, Takata T: DHstyle 3 (29): 12-14 2009

5. Close up of Oral disease: Radiolucent region of mandible body (Ameloblastoma): Sato A, Umemoto J, Kudo Y, Takata T: DHstyle 3(31): 12-14 2009

6. Close up of Oral disease: lymphangioma arising at center of dorsum: Kikuta M, Kohara G, Kitagawa M, Takata T: DHstyle 3 (31): 12-14 2009

7. Close up of Oral disease: Radiolucent region of mandible body (Ameloblastoma): Sato A, Umemoto J, Kudo Y, Takata T: DHstyle 3(31): 12-14 2009

8. Close up of Oral disease: lymphangioma arising at center of dorsum: Kikuta M, Kohara G, Kitagawa M, Takata T: DHstyle 3 (31): 12-14 2009

9. Close up of Oral disease: Radiolucent region of mandible body (Ameloblastoma): Sato A, Umemoto J, Kudo Y, Takata T: DHstyle 3(31): 12-14 2009

10. Close up of Oral disease: lymphangioma arising at center of dorsum: Kikuta M, Kohara G, Kitagawa M, Takata T: DHstyle 3 (31): 12-14 2009

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14. Close up of Oral disease: lymphangioma arising at center of dorsum: Kikuta M, Kohara G, Kitagawa M, Takata T: DHstyle 3 (31): 12-14 2009

15. Close up of Oral disease: Radiolucent region of mandible body (Ameloblastoma): Sato A, Umemoto J, Kudo Y, Takata T: DHstyle 3(31): 12-14 2009

16. Close up of Oral disease: lymphangioma arising at center of dorsum: Kikuta M, Kohara G, Kitagawa M, Takata T: DHstyle 3 (31): 12-14 2009

17. Close up of Oral disease: Radiolucent region of mandible body (Ameloblastoma): Sato A, Umemoto J, Kudo Y, Takata T: DHstyle 3(31): 12-14 2009

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20. Close up of Oral disease: lymphangioma arising at center of dorsum: Kikuta M, Kohara G, Kitagawa M, Takata T: DHstyle 3 (31): 12-14 2009

21. Close up of Oral disease: Radiolucent region of mandible body (Ameloblastoma): Sato A, Umemoto J, Kudo Y, Takata T: DHstyle 3(31): 12-14 2009

22. Close up of Oral disease: lymphangioma arising at center of dorsum: Kikuta M, Kohara G, Kitagawa M, Takata T: DHstyle 3 (31): 12-14 2009

23. Close up of Oral disease: Radiolucent region of mandible body (Ameloblastoma): Sato A, Umemoto J, Kudo Y, Takata T: DHstyle 3(31): 12-14 2009

24. Close up of Oral disease: lymphangioma arising at center of dorsum: Kikuta M, Kohara G, Kitagawa M, Takata T: DHstyle 3 (31): 12-14 2009

25. Close up of Oral disease: Radiolucent region of mandible body (Ameloblastoma): Sato A, Umemoto J, Kudo Y, Takata T: DHstyle 3(31): 12-14 2009

26. Close up of Oral disease: lymphangioma arising at center of dorsum: Kikuta M, Kohara G, Kitagawa M, Takata T: DHstyle 3 (31): 12-14 2009

27. Close up of Oral disease: Radiolucent region of mandible body (Ameloblastoma): Sato A, Umemoto J, Kudo Y, Takata T: DHstyle 3(31): 12-14 2009

28. Close up of Oral disease: lymphangioma arising at center of dorsum: Kikuta M, Kohara G, Kitagawa M, Takata T: DHstyle 3 (31): 12-14 2009

29. Close up of Oral disease: Radiolucent region of mandible body (Ameloblastoma): Sato A, Umemoto J, Kudo Y, Takata T: DHstyle 3(31): 12-14 2009

30. Close up of Oral disease: lymphangioma arising at center of dorsum: Kikuta M, Kohara G, Kitagawa M, Takata T: DHstyle 3 (31): 12-14 2009

31. Close up of Oral disease: Radiolucent region of mandible body (Ameloblastoma): Sato A, Umemoto J, Kudo Y, Takata T: DHstyle 3(31): 12-14 2009

32. Close up of Oral disease: lymphangioma arising at center of dorsum: Kikuta M, Kohara G, Kitagawa M, Takata T: DHstyle 3 (31): 12-14 2009

33. Close up of Oral disease: Radiolucent region of mandible body (Ameloblastoma): Sato A, Umemoto J, Kudo Y, Takata T: DHstyle 3(31): 12-14 2009

34. Close up of Oral disease: lymphangioma arising at center of dorsum: Kikuta M, Kohara G, Kitagawa M, Takata T: DHstyle 3 (31): 12-14 2009

35. Close up of Oral disease: Radiolucent region of mandible body (Ameloblastoma): Sato A, Umemoto J, Kudo Y, Takata T: DHstyle 3(31): 12-14 2009

36. Close up of Oral disease: lymphangioma arising at center of dorsum: Kikuta M, Kohara G, Kitagawa M, Takata T: DHstyle 3 (31): 12-14 2009

37. Close up of Oral disease: Radiolucent region of mandible body (Ameloblastoma): Sato A, Umemoto J, Kudo Y, Takata T: DHstyle 3(31): 12-14 2009

- Research. February 7-8, 2009. Hiroshima.
4. Ultrasound stimulation increases PGE2 production and induces mineral deposition via prostaglandin EP4 receptor activation in mouse cementoblasts: Braga Emanuel Rego, Toshihiro Inubushi, Aki Kawazoe, Mutsumi Miyauchi, Takashi Takata, Kazuo Tanne: The 3rd International Workshop on Biodental education & Research. February 7-8, 2009. Hiroshima.
  5. Influence of elevation of GGT by cholestatic liver disease on bone and LPS induced alveolar bone destruction: Yusuke Kawazoe, Mutsumi Miyauchi, Takashi Takata: The 3rd International Workshop on Biodental education & Research. February 7-8, 2009. Hiroshima.
  6. Heparin derivative induces bone regeneration: Haruka Imai, Shinji Iizuka, Mutsumi Miyauchi, Takashi Takata: The 3rd International Workshop on Biodental education & Research. February 7-8, 2009. Hiroshima.
  7. Influence of high-fat diet and coffee in colorectal cancer: Fumio Shimamoto, Guangying Qi, Atsumi Momen, Eriko Aoki, Nami Moriwaki: 98th Annual Meeting of the Japanese Society of Pathology. May 1-3, 2009. Kyoto.
  8. Possibility of the diagnostic system for periodontal disease by using the activity of  $\alpha$ -glutamyl transpeptidase in gingival crevicular fluid: Yusuke Kawazoe, Mutsumi Miyauchi, Hisako Furusho, Shumpei Niida, Takashi Takata: The 52nd Spring Meeting of the Japanese Society of Periodontology. May 15-16, 2009. Okayama.
  9. Expression of surviving in serrated polyps of the large intestine: Fumio Shimamoto, Handan Tuncel, Guangying Qi, Eriko Aoki, Takashi Takata, Masaaki Tatsuka: 34th FEBS congress. July 3-9, 2009. Prague, Czech Republic.
  10. Tongue tumor Sialadenoma papilliferum : Ikuko Ogawa Takashi Takata, Iwao Nakazato Academic Meeting of Chugoku-Shikoku Branch of the Japanese Society of Pathology (99th Slide Conference). June 13, 2009. Nangoku.
  11. Endogenous PGE2 induced by ultrasound stimulation mediates cementoblast differentiation through the activation of prostaglandin receptors EP2 and EP4: Braga Emanuel Rego, Toshihiro Inubushi, Aki Kawazoe, Mutsumi Miyauchi, Takashi Takata, Kazuo Tanne: The 42nd Meeting of Hiroshima University Dental Society. June 20, 2009. Hiroshima.
  12. Effects of low-intensity ultrasound on osteoclastogenesis by cementoblast: Toshihiro Inubushi, Eiji Tanaka, Koutaro Tanimoto, Atsumi Ohta, Naohisa Okada, Mutsumi Miyauchi, Takashi Takata, Kazuo Tanne: The 6th Meeting of physical stimulation society. March 28, 2009. Fukuoka.
  13. Overexpression of Emi1 by abnormal ubiquitin mediated degradation in oral cancer: Yasusei Kudo, Takaaki Tsunematsu, Shinji Iizuka, Ikuko Ogawa, Takashi Takata: The 28th Meeting of the Japan Society for Molecular Pathology. July 18-19, 2009. Kobe.
  14. Palate tumor (Infiltrating pleomorphic adenoma with bizarre cells): Ikuko Ogawa, Toshitaka Maeshima, Shojiro Kitajima, Mutsumi Miyauchi, Takashi Takata: The 21st Meeting of the Japanese

- Society for Oral Pathology. July 29-31, 2009, Sapporo.
15. The influence of hyper -glutamyl transpeptidase on the destruction of bone: Mutsumi Miyauchi, Yusuke Kawazoe, Hisako Furusho, Shumpei Niida, Takashi Takata: The 20th Meeting of the Japanese Society for Oral Pathology. July 29-31, 2009. Sapporo.
  16. HSulf-1 promotes the invasion of head and neck cancer: Maki Yoshida, Yasusei Kudo, Phuong Thao Nguyen, Ikuko Ogawa, Takashi Takata: The 20th Meeting of the Japanese Society for Oral Pathology. July 29-31, 2009. Sapporo.
  17. The role of Ameloblastin for osteogenesis and its application to bone regeneration: Shinji Iizuka, Yasusei Kudo, Ikuko Ogawa, Mutsumi Miyauchi, Takashi Takata: The 20th Meeting of the Japanese Society for Oral Pathology. July 29-31, 2009. Sapporo.
  18. Dramatic changing of FDC-SP in junctional epithelium by LPS stimulation: Akiko Oshiro, Mutsumi Miyauchi, Shoko Iseki, Tamayuki Shinomura: The 51st Meeting of Association for Oral Biology. September 9-11, 2009. Niigata.
  19. HSulf-1 promotes the invasion of head and neck cancer: Maki Yoshida, Yasusei Kudo, Ogawa I, Takashi Takata: The 68th Annual Meeting of the Japanese Association for Cancer Research. October 1-3, 2009. Yokohama.
  20. Abnormal expression of Evi5 and its role for cancer development: Toshinori Ando, Yasusei Kudo, Tsunemastu T, Takashi Takata: The 68th Annual Meeting of the Japanese Association for Cancer Research. October 1-3, 2009. Yokohama.
  21. Co-expression of nuclear Surviving and Aurora-B shows malignant behavior of head and neck cancer: Guangying Qi, Yasusei Kudo, Toshinori Ando, Maki Yoshida, Mohammad Reza Keikahee, Ogawa I, Takashi Takata: The 68th Annual Meeting of the Japanese Association for Cancer Research. October 1-3, 2009. Yokohama.
  22. Mechanism of JNK-initiated and SCFbetaTrCP-dependent ubiquitination of Cdc25B: Sanae Uchida, Nobumoto Watanabe, Yasusei Kudo, Katsuji Yoshioka, Tsukasa Matsunaga, Itsuki Nakagama, Katsumi Yamashita: The 68th Annual Meeting of the Japanese Association for Cancer Research. October 1-3, 2009. Yokohama.
  23. Expression of chromosomal passenger protein in thyroid cancer: Fumio Shimamoto, Guangying Qi, Eriko Aoki, Nami Moriwaki, Masaaki Tatsuka: The 68th Annual Meeting of the Japanese Association for Cancer Research. October 1-3, 2009. Yokohama.
  24. Study on the mechanism of cellular differentiation by SPON1 in human cementoblast: Masae Kitagawa, Mutsumi Miyauchi, Ikuko Ogawa, Takashi Takata: The 52nd Autumn Meeting of the Japanese Society of Periodontology. October 11, 2009. Miyazaki.
  25. Tumor of the parotid gland (Mucoepidermoid carcinoma arising in Warthin tumor): Ikuko Ogawa, Takashi Takata, Yukio Takeshima, Kouki Inai: The 100<sup>th</sup> Academic Meeting of Chugoku-Shikoku Branch of the Japanese Society of Pathology. November 7, 2009. Kurashiki.

26. Regeneration of bone by ameloblastin: Shinji Iizuka, Masae Kitagawa, Yasusei Kudo, Ikuko Ogawa, Mutsumi Miyauchi, Takashi Takata: 3rd Hiroshima Conference on Education and Science in Dentistry. November 8, 2009. Hiroshima.
27. Heparin derivative induces bone regeneration: Haruka Imai, Shinji Iizuka, Mutsumi Miyauchi, Takashi Takata: 3rd Hiroshima Conference on Education and Science in Dentistry. November 8, 2009. Hiroshima.
28. Anti-Inflammatory effects of soybean lecithin liposomal lactoferrin: Aki Kawazoe, Mutsumi Miyauchi, Toshihiro Inubushi, Braga Emanuel Rego, Eizo Yamano, Atsushi Ishikado, Kazuo Tanne, Takashi Takata: 3rd Hiroshima Conference on Education and Science in Dentistry. November 8, 2009. Hiroshima.
29. Anti-inflammatory effect of liposomal lactoferrin by oral administering: Aki Kawazoe, Toshihiro Inubushi, Braga Emanuel Rego, Eizo Yamano, Atsushi Ishikado, Takashi Takata, Kazuo Tanne: The 68th Annual Meeting of the Japanese Orthodontic Society. November 16-18, 2009, Fukuoka.
30. Elevation of g-gulutamyl transpeptidase with cholestatic liver diseases is a potential risk factor of osteoporosis and periodontal disease: Takashi Takata, Yusuke Kawazoe, Mutsumi Miyauchi, Shumpei Niida: 32nd The Annual Scientific Meeting of the Association for Dental Sciences of the Republic of China. November 27-29, 2009. Kao-hsiung Taiwan.
31. The expression of chromosome passenger protein on the colorectal serrated adenocarcinoma: Fumio Shimamoto, Guangying Qi, Eriko Aoki, Miho Masaike, Masaaki Tatsuka: The 20th Japanese Society of Gastroenterological Carcionogenesis. November 28-29, 2009. Hiroshima.
32. Tumor of the parotid gland (Epithelial-myoeptithelial carcinoma): Ikuko Ogawa, Yoshiko Uemura, Takashi Takata: The 11th Meeting of Society of Salivary Gland Tumor Pathology, December 4, 2009. Tokyo.
33. One case of Mucoepidermoid carcinoma arising in Warthin tumor: Ikuko Ogawa, Yukio Takeshima, Kouki Inai, Takashi Takata: The 54th Annual Meeting of Japan Salivary Gland Society. December 5, 2009. Tokyo.
34. B56alpha-PP2A regulates chromosome alignment and stability: Shojiro Kitashima, Yasusei Kudo, Takashi Takata: The 32nd Annual Meeting of the Molecular Biology Society of Japan. December 9-12, 2009. Yokohama.
35. Sequence requirement for degradation of Cdc25B by SCFbetaTrCP in response to cellular stress: Sanae Uchida, Nobumoto Watanabe, Yasusei Kudo, Tsukasa Matsunaga, Itsuki Nakagama, Katsumi Yamashita: The 32nd Annual Meeting of the Molecular Biology Society of Japan. December 9-12, 2009. Yokohama.

#### F) Special lectures in academic meetings

1. Abnormal regulation of ubiquitin mediated proteolysis of cell cycle regulators in cancer cells

- Yasusei Kudo The 7th Meeting of Advances in Oral Frontier Science. March 7, 2009. Tokushima.
2. Companion meeting [Recent topic of salivary gland tumor], Specificity of minor salivary gland tumor and tumor-like lesions: Ogawa I, Takashi Takata: The 98th Annual Meeting of the Japanese Society of Pathology. May 1-3, 2009. Kyoto.
  3. Companion meeting [Recent topic of salivary gland tumor], Polymorphous low grade adenocarcinoma: Takata T, Ikuko Ogawa: The 98th Annual Meeting of the Japanese Society of Pathology. May 1-3, 2009. Kyoto.
  4. **Reciprocal** Regulation of regeneration of Periodontal tissue: Takashi Takata: Hiroshima University alumni association, Ehime Prefecture branch. May 9, 2009. Matsuyama.
  5. **Satellite** Micro-DNA in oral cancer: Yasusei Kudo, Takashi Takata: 51st Annual Meeting of Japanese Society of Pathology. March 15, 2009. Tokushima.

9.



Programs for Biomedical Research, Division of Frontier Medical Science (Department of Periodontal Medicine) ,and Department of Preventive and Restorative Dentistry (Periodontics and Endodontics)

(1) Staff and Students

Professor: Hidemi Kurihara

Associate Professor: Hiroyuki Kawaguchi

Research Associate: Hideki Shiba

Assistant: Takamune Hino, Naohiko Hasegawa, Noriyoshi Mizuno, Tsuyoshi Fujita, Yuushi Uchida, Katsuhiko Takeda, Tomoyuki Iwata, Kazuhisa Ohara

Resident: Yasuto Kawamura, Fumino Ogawa

: Yasuko Kitamoto, Akiyoshi Kishimoto, Takayoshi Nagahara

Graduate Student: Yoriko Iwasaki, Yoshie Niitani, Shinji Matsuda, Takeshi Ueda, Yusuke Taniguchi, Tomoko Hatakeyama, Naoko Katagiri, Mizuho Kittaka, Akihiro Konishi, Tuyoshi Miyagawa, Kenji Wada

(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 physiological function and differentiation of the cells derived from periodontal ligament or dental pulp
- 5: Study on pathogenicity of periodontopathogenic bacteria
- 6: Study on interaction between periodontopathogenic bacteria and host cells
- 7: Clinical study on endodontal-periodontal therapy
- 8: Study on interaction between stress and periodontics

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: [Neodymium-doped yttrium-aluminium-garnet laser irradiation abolishes the increase in interleukin-6 levels caused by peptidoglycan through the p38 mitogen-activated protein kinase pathway in human](#)

- [pulp cells](#). :Shiba H, Tsuda H, Kajiya M, Fujita T, Takeda K, Hino T, Kawaguchi H, Kurihara H. *J Endod*. 35(3):373-6. 2009
- 2: Brain-derived neurotrophic factor protects cementoblasts from serum starvation-induced cell death. :Kajiya M, Shiba H, Fujita T, Takeda K, Uchida Y, Kawaguchi H, Kitagawa M, Takata T, Kurihara H. *J Cell Physiol*. 2009 Dec;221(3):696-706.
  - 3: Ceruloplasmin induces polymorphonuclear leukocyte priming in localized aggressive periodontitis. :Iwata T, Kantarci A, Yagi M, Jackson T, Hasturk H, Kurihara H, Van Dyke TE. *J Periodontol*. 2009 Aug;80(8):1300-6.
  - 4: PDK1 regulates chemotaxis in human neutrophils. :Yagi M, Kantarci A, Iwata T, Omori K, Ayilavarapu S, Ito K, Hasturk H, Van Dyke TE. *J Dent Res*. 2009 Dec;88(12):1119-24. Epub 2009 Nov 5.
  - 5: RUNX3 has an oncogenic role in head and neck cancer. :Tsunematsu T, Kudo Y, Iizuka S, Ogawa I, Fujita T, Kurihara H, Abiko Y, Takata T. *PLoS One*. 2009 Jun 12;4(6):e5892.
  - 6: Hydrogen mediates suppression of colon inflammation induced by dextran sodium sulfate. :Kajiya M, Silva MJ, Sato K, Ouhara K, Kawai T. *Biochem Biophys Res Commun*. 2009 Aug 14;386(1):11-5. Epub 2009 May 30.
  - 7: Hydrogen from intestinal bacteria is protective for Concanavalin A-induced hepatitis. :Kajiya M, Sato K, Silva MJ, Ouhara K, Do PM, Shanmugam KT, Kawai T. *Biochem Biophys Res Commun*. 2009 Aug 21;386(2):316-21. Epub 2009 Jun 10.
  - 8: Relation of periapical lesion to conditions of root filling at radiograph. :Kitamoto Y, Hino T, Uchida Y, Shiba H, Kawaguchi H, Kurihara H. *The Journal of Japan Endodontic Association.*, 30:182-187. 2009.
  - 9: Infected root canal treatment with systemic administration of antibiotics based on susceptibility test: A case report : Uchida Y, Niitani Y, Kitamoto Y, Hino T, Ogawa I, Shiba H, Kawaguchi H, Kurihara H. *The Journal of Japan Endodontic Association.* 30(3) 188-194 2009

### C) Publications

- 1: *The Periodontology* Editors: Izumi Y, Numabe Y, Yamamoto M, Kinoshita A, Shiba H, Kurihara H : Nagasueshoten, 79-81, 2009

### E) Presentation at Scientific Meeting

- 1: Utility of bacterial examination with anaerobic culture system for samples from root canal in root canal treatment: Kitamoto Y, Uchida Y, Hino T, Shiba H, Kawaguchi H, Kurihara H. : The meeting of the society of Japan endodontic association (Tokyo), 2009
- 2: Infected root canal treatment with systemic administration of antibiotics based on susceptibility test: A case report: Uchida Y, Niitani Y, Kitamoto Y, Hino T, Shiba H, Kawaguchi H, Kurihara H. : The meeting of the society of Japan endodontic association (Tokyo), 2009
- 3: Development of periodontal tissue regeneration therapy by using bone marrow mesenchymal stem cells/ beta-tricalcium phosphate complex : Nagahara T, Kawaguchi H, Takeda K, Fujita T, Hayashida K, Kawahara K, Sakai N, Ueda T, Tsuji K, Kurihara H.: The 52<sup>nd</sup> spring meeting of the Japanese society of Periodontology (Okayama), 2009
- 4: The expression and function of claudin-1 in junctional epithelium : Fujita T, Hayashida K, Shiba H, Kajiya M, Kishimoto A, Uchida Y, Matsuda S, Kawaguchi H, Kurihara H. : The 52<sup>nd</sup> spring meeting of the Japanese society of Periodontology (Okayama), 2009
- 5: Brain-derived Neurotrophic Factor(BDNF) Enhance Angiogenesis Through Map Kinase Cascade : Matsuda S, Fujita T, Takeda K, Shiba H, Kawaguchi H, Tsuji K, Kurihara H. : The Hiroshima University Dental Society, 2009
- 6: Utility of bacterial examination with anaerobic culture system for samples from root canal in root canal treatment : Kitamoto Y, Uchida Y, Hino T, Shiba H, Kawaguchi H, Kurihara H. : The Hiroshima University Dental Society, 2009
- 7: Infected root canal treatment with systemic administration of antibiotics based on susceptibility test: A case report: Uchida Y, Kitamoto Y, Hino T, Shiba H, Kawaguchi H, Kurihara H. : The Hiroshima

- University Dental Society, 2009
- 8: Detection of Heterotrophic Microorganisms in Dental Unit Waterlines : Niitani Y, Hino T, Ouhara K, Hayashida K, Matsumoto A, Shiba H, Kawaguchi H, Takemoto T, Kurihara H. : The Hiroshima University Dental Society, 2009
  - 9: Analysis of Volatile Sulfur Compounds Productivity of *Porphyromonas gingivalis* : Iwasaki Y, Hino T, Ouhara K, Hasegawa N, Shiba H, Kawaguchi H, Kurihara H. : The Hiroshima University Dental Society, 2009
  - 10: The defective system human gingival epithelial cell by regulating intercellular : Fujita T, Shiba H, Kajiya M, Kishimoto A, Uchida Y, Hayashida K, Matsuda S, Kawaguchi H, junctional complex and cytokine.: Kurihara H. : The 130<sup>th</sup> spring meeting of Japanese society of conservative dentistry (Sapporo), 2009
  - 11: The localization of claudin-1, -3, -7 in rat junctional epithelium : Hayashida K, Fujita T, Shiba H, Kishimoto A, Uchida Y, Matsuda S, Kawaguchi H, Kurihara H. : The 130<sup>th</sup> spring meeting of Japanese society of conservative dentistry (Sapporo), 2009
  - 12: The effect of Irsog 153.43 631 EMC /P <</M7(e)15(t)BT 4n:.17 Td [(s)8(p)24(r)-23(i)16(n)-23(g)24()24( /S)>>BD53.43 6

- international association for dental research (April; Miami, USA)
- 25: Preventive effect of irsogladine maleate for periodontal disease :Akiyoshi Kishimoto, Tsuyoshi Fujita, Hideki Shiba, Kouichi Hayashida, Yuushi Uchida, Hiroyuki Kawaguchi, Hidemi Kurihara :87th General session and Exhibition of the international association for dental research (April; Miami, USA)
  - 26: Irsogladine maleate abolishes IL-8 production through ERK in human epithelial cells :Tsuyoshi Fujita, Akiyoshi Kishimoto, Hideki Shiba, Mikihiro Kajiyama, Katsuhiko Takeda, Kouichi Hayashida, Yushi Uchida, Shinji Matsuda, Hiroyuki Kawaguchi, Hidemi Kurihara :87th General session and Exhibition of the international association for dental research (April; Miami, USA)
  - 27: Brain-derived Neurotrophic Factor(BDNF) enhances endothelial cell migration :Shinji Matsuda, Tsuyoshi Fujita, Mikihiro Kajiyama, Katsuhiko Takeda, Hideki Shiba, Hiroyuki Kawaguchi, Kouichiro Tsuji, Hidemi Kurihara :87th General session and Exhibition of the international association for dental research (April; Miami, USA)
  - 28: Ceruloplasmin Regulates Superoxide Generation in LAP Neutrophils :Tomoyuki iwata, Alpdogan Kantarci, Motohiko Yagi, Amanda Blackwood, Tina Jackson, Taisuke Ohira, Hatice Hasturk, Hidemi Kurihara, Thomas E. Van Dyke :87th General session and Exhibition of the international association for dental research (April; Miami, USA)
  - 29: Preventive effect of irsogladine maleate for periodontal disease :Akiyoshi Kishimoto, Tsuyoshi Fujita, Hideki Shiba, Kouichi Hayashida, Yuushi Uchida, Hiroyuki Kawaguchi, Hidemi Kurihara :3rd Hiroshima Conference on Education and Science in Dentistry November; Hiroshima
  - 30: Brain-derived Neurotrophic Factor (BDNF) Enhances Angiogenesis through ERK Signaling. :Shinji Matsuda, Tsuyoshi Fujita, Katsuhiko Takeda, Hideki Shiba, Hiroyuki Kawaguchi, Kouichiro Tsuji, Hidemi Kurihara :3rd Hiroshima Conference on Education and Science in Dentistry November; Hiroshima

#### F) Special lectures in academic meetings

- 1: Periodontal tissue regeneration by mesenchymal stem cell: Kawaguchi H., Kurihara H.: The 6<sup>th</sup> International Conference on the Biology of the Tissue Culture Association.
- 2: Oral examination of the periodontitis and implant: Meeting of the Japanese society of Evidence and the Dental Professional: Kurihara H The 39<sup>th</sup> academic conference of the Japanese society of oral implantology
- 3: Periodontal regenerative therapy : symposium : Kurihara H: Academic meeting of the Tokyo dental college
- 4: Periodontal tissue regeneration with brain-derived neurotrophic factor :Hidemi Kurihara : ADS-ROC annual meeting

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

- 1: Grants-in aid for scientific research : Ouhara K.: 21890165
- 2: Grants-in aid for scientific research : Hayashida K. : 21792121.
- 3: Grants-in aid for scientific research : Kurihara H. : 21390557.
- 4: Grants-in aid for scientific research : Mizuno N. : 21792122
- 5: Grants-in aid for scientific research : Fujita T. : 20791613
- 6: Grants-in aid for scientific research : Shiba H. : 20592430
- 7: Grants-in aid for scientific research : FTakeda K. : 20791466
- 8: Grants-in aid for scientific research : Kurihara H.: 20592334
- 9: Grants-in aid for scientific research : Iwasaki Y.: 21932003

#### (5) Award.

- 1: Shiba H. : Effect of LL37 on expression of inflammatory cytokines in human pulp cells : Dentsply award. The meeting of the society of Japan endodontic association (Tokyo), 2009

- 2: Kitamoto Y : Utility of bacterial examination with anaerobic culture system for samples from root canal root canal treatment : The second meeting of the Japanese society of Evidence and the Dental Professional

- 3: Matsuda S. : Brain-derivegCID 1EMC /P <</M.<</M.<a95ufeseatsphculF7(s)8(ud)15(r)-23()15(sr(i)13t<</MF7(s)v)24(i)-



## **Programs for Applied Biomedicine, Division of Medical Intelligence and Informatics (Department of Mucosal Immunology)**

### (1) Staff and Students

Professor: Ichiro Takahashi  
Associate Professor: Kei Tobiume  
Graduate Student: Hirokazu Toubou

### (2) Main Research Activities

- 1: Immunobiological analysis of the mucosal immune system
- 2: Molecular analysis of cell death

### (3) Research Achievements

#### A) Original Papers

- 1: Iriyama T, Takeda K, Nakamura H, Morimoto Y, Kuriowa T, Mizukami J, Umeda T, Noguchi T, Naguro I, Nishito H, Saegusa K, Tobiume K, et al. ASK1 and ASK2 differentially regulate the counteracting roles of apoptosis and inflammation in tumorigenesis. *EMBO J.* 28: 843-853, 2009.
- 2: Kawauchi K, Araki K, Tobiume K, Tanaka N. Loss of p53 enhances catalytic activity of IKK-beta through O-linked beta-N-acetyl glucosamine modification. *Proc. Natl. Sci. USA* 106: 3431-3436, 2009.

#### B) Review

- 1: Takahashi I, Nochi T, Yuki Y, Kiyono H. New horizon of mucosal immunity and vaccines. *Current Opinion in Immunology.* 21: 352-358, 2009.

#### C) Presentation at Scientific Meeting

- 1: Takahashi, I. A role of mucosal T cells in determining the outcome of commensal bacteria-triggered

inflammatory bowel disease. RCC-ERI Seminar 3/2009. Thailand-Japan Research Collaboration Center on Emerging and Re-emerging Infections, September 14, 2009, Bangkok, Thailand.

D) Other Publications

E) Presentations

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

1. Grant for the Young Investigator (B) from the Ministry of Education, Science, Sports, and Culture: Tobiume K: Analysis of apoptosis pathway in the p53-deficient cancer cells. (No. 21791823)¥3,900,000.

(5) Academic Awards, etc.

(6) Patents

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## E) Presentation at Scientific Meeting

- 1: Digital image operation of intra-oral radiography in Hiroshima University Hospital: Nakamoto T, Takaba J, Yamamoto Y, Tanimoto K. The 50<sup>th</sup> annual meeting of Japan Society of Oral and Maxillofacial Radiology (Osaka, Japan), 2009.
- 2: Kinetic Analysis of the Laryngeal Movement and Laryngeal Closure in Swallowing : Konishi M., Nagasaki T., Tanimoto K.:17<sup>th</sup> International Congress of Dentomaxillofacial Radiology(Amsterdam,The Netherlands),2009.
- 3: Osteoclasts in The Japanese medaka (*Oryzias latipes*) after carbon ion and gamma ray irradiation. Banik S., Sawajiri M., Nomura Y., Maruyama K., Tanimoto K. 17<sup>th</sup> International Congress of Dento-Maxillo-Facial Radiology Amsterdam 2009
- 4: Radiation effects of heavy ion particles on bone metabolism: Sawajiri M., Nomura Y., Takinami S., Maruyama K., Tanimoto K. : The 48<sup>th</sup> Annual Meeting of Japan Radiation Research Society (Hiroshima), 2009
- 5: Radiation effects of heavy ion particles on bone metabolism: Sawajiri M., Nomura Y., Takinami S., Maruyama K., Tanimoto K.: 2008 Annual meeting of the research project with heavy ion at NIRS-HIMAC (Chiba), 2009.

## D) Other Publications

## E) Presentation at Scientific Meeting

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

- 1: Grant-in-aid for scientific research from the Japan Society for the Promotion of Science: Sawajiri M : Radioprotective assay on bone metabolism with Japanese Medaka (*Oryzias latipes*). ( no. 20592201) ¥800,000

## (5) Academic Awards, etc.

## (6) Patents

**Programs for Applied Biomedicine,  
Division of Clinical Medical Science  
Department of Oral Growth and Developmental Biology**

(1) Staff and Students

Professor: Maeda Norihiko

Associate Professor: Yoshiko Yuji

Research Associate: Minamizaki Tomoko, Yoshioka Hirota

Researcher: Kitabatake Seiko

Graduate Student: Nishikiori Aya

Student: Koma Yoshiaki, Irie Yasumasa

(2) Main Research Activities

- 1: Study on the development and aging in the masticatory system
- 2: Study on the neurogenesis in the brain
- 3: Studies on cell fate choice and plasticity in osteoblast-lineage cells
- 4: Studies on the molecular mechanisms of bone formation and mineralization
- 5: Study on the molecular mechanisms of tooth formation and mineralization

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: Dynamic nuclear organization of constitutive heterochromatin during fetal male germ cell development in mice: Yoshioka H, McCarrey JR, Yamazaki Y. *Biology of Reproduction* 80: 804-812, 2009..
- 2: EP2 and EP4 receptors differentially mediate MAPK pathways underlying anabolic actions of prostaglandin E<sub>2</sub> on bone formation in rat calvaria cell cultures: Minamizaki T, Yoshiko Y, Kozai K, Aubin JE, Maeda N. *Bone* 44(6), 1177-1185, 2009..

B) Review

- 1: A possible molecular mechanism of odontogenesis based on clinical and laboratory findings of hypophosphatemic disorders: Y. Yoshiko, T. Minamizaki, H. Yoshioka, S. Suzuki, N. Maeda *The Journal of Hiroshima Dental Association*, 36, 1-12, 2008.

## C) Publications

## D) Other Publications

## E) Presentation at Scientific Meeting

1: A Parathyroid Hormone-1  $\alpha$ 25-dihydroxyvitamin D<sub>3</sub>-FGF23 Loop Regulating Bone Mineralization in Cultured Rat Calvaria Osteoblasts: T. Minamizaki, Y. Yoshiko, H. Yoshioka, J. E. Aubin, N. Maeda. The 31st Annual Meeting of the American Society for Bone and Mineral Research, Denver, September, 2009.

2: Overexpression of the type III Na/Pi transporter Pit1 in transgenic rats results in amelogenesis imperfecta: H. Yoshioka, Y. Yoshiko, T. Minamizaki, A. Suzuki, M. Ito, N. Maeda. The 27th Annual Meeting of the Japanese Society for Bone and Mineral Research, Osaka, 2009.

3: A Parathyroid Hormone and 1  $\alpha$ 25-dihydroxyvitamin D<sub>3</sub> are involved in induction and signal transduction of FGF23, and regulate bone mineralization: T. Minamizaki, Y. Yoshiko, H. Yoshioka, N. Maeda, The 27th Annual Meeting of the Bone and Mineral Research, Osaka, 2009..

4: Overexpression of the type III Na/Pi transporter Pit1 in transgenic rats results in amelogenesis imperfecta: H. Yoshioka, Y. Yoshiko, T. Minamizaki, A. Suzuki, M. Ito, N. Maeda. The 51st Annual Meeting of Japanese Association for Oral Biology, Niigata, 2009.

5: Overexpression of the type III Na/Pi transporter Pit1 in transgenic rats results in

(6) Patents

(7) Introduction of Department of Oral Growth and Developmental Biology

[Education]

Our educational program consists of lectures and the practical exercise on histology of the human body, and oral anatomy mainly focusing the mastication.

[Research]

We mainly focus on the subjects described in the Main Research Activities. The final goal of our research is to contribute to the high quality of the human life in the world. So, we collaborate on the research not only with some research groups of other universities and research institutes in Japan but also with the research group of the University of Toronto in Canada.

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## Programs for Applied Biomedicine, Division of Clinical Medical Science Department of Dental Anesthesiology ,and Department of Oral and Maxillofacial Surgery and Oral Medicine (Dental Anesthesiology)

### (1) Staff and Students

**Professor** : **Ilh Mb** , D.D.S., Ph.D.  
**Associate Professor** : **Shn b** , D.D.S., Ph.D. , **Db Mb** D.D.S., **Säl b** , D.D.S., Ph.D. , **Ah** D.D.S., Ph.D.  
**Assistant Professor** : **Mä Ka -a** , D.D.S.  
**Graduate Student** : **Mä i Ak** , D.D.S., **Mä** D.D.S., **Fä** D.D.S.  
**Resident** : **Kä** M.D., Ph.D., **Kä** **Soh** , D.D.S., Ph.D., **Kä** **b** D.D.S., **Oh** D.D.S., **Kä** D.D.S., **Oh** **Cb** , D.D.S., Ph.D., **Nä** D.D.S., **Hä** D.D.S.

### (2) Main Research Activities

- 1: **Sj**
- 2: **Sj**
- 3: **Sj**
- 4: **Eä** **ä**
- 5: **Sj**
- 6: **Sj**
- 7: **Ä** **mä** **ä** **dä** **ä** **s**

### (3) Research Achievements

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

- 1: **A** **ä** **K**, **Kä**, **Oh**  
**Kä** **ä** **ä** **M**, **Kä**.

Association 37 (1): 61-66, 2009.

B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

- 1: A difference of quality between behavior induced by endogenous neurotransmitters and that by specific synaptic ligands. Irifune M, Mukai A, Shimizu Y, Saida T, Doi M, Arai Y, Miura K, Miyahara T, Fukushima R. The 6th Scientific Meeting of Japanese Dental Society of Anesthesiology Chugoku and Shikoku branch (Okayama), 2009.
- 2: A case with borderline personality disorder who complained dysesthesia after tooth extraction as one of somatizational symptoms. Doi M, Onizuka C, Fukushima R, Miyahara T, Mukai A, Miura K, Arai Y, Saida T, Shimizu Y, Irifune M. The 6th Scientific Meeting of Japanese Dental Society of Anesthesiology Chugoku and Shikoku branch (Okayama), 2009.
- 3: Usefulness of ORSYS TETR<sup>TM</sup> computer system introduced in Hiroshima University Hospital. Shimizu Y, Sanuki M, Irifune M, Saida T, Doi M, Arai Y, Miura K, Mukai A, Miyahara T, Fukushima R. The 6th Scientific Meeting of Japanese Dental Society of Anesthesiology Chugoku and Shikoku branch (Okayama), 2009.
- 4: A case of general anesthesia of a patient with mandibular osteomyelitis who had severe anemia induced by bisphosphonate. Miura K, Irifune M, Shimizu Y, Saida T, Doi M, Arai Y, Mukai A, Miyahara T, Fukushima R. The 37<sup>th</sup> Annual Meeting of Japanese Dental Society of Anesthesiology (Nagoya), 2009.
- 5: Evaluation of usefulness of Airway Scope<sup>TM</sup> in nasal tracheal intubation. Shimizu Y, Doi M, Saida T, Arai Y, Miura K, Mukai A, Miyahara T, Fukushima R, Irifune M. The 37<sup>th</sup> Annual Meeting of Japanese Dental Society of Anesthesiology (Nagoya), 2009.
- 6: Intravenous lidocaine was effective for a patient with thalamic pain. Doi M, Shimizu Y, Saida T, Arai Y, Miura K, Mukai A, Miyahara T, Fukushima R, Kojima T, Irifune M. The 37<sup>th</sup> Annual Meeting of Japanese Dental Society of Anesthesiology (Nagoya), 2009.

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

- 1: Grant-in-Aid No. 20592373 for Scientific Research (C) from the Ministry of Education, Culture, Sports, Science, and Technology of Japan (Continued): Irifune M: The role of Substance P in antinociception

an-23(a)1676.27461322012188870000057 Total (a) 5 (unit) (20718US) 4500,00 (r9US) d 21 US  
in  
2: Grant-in-Aid No. 20791524 for Young Scientists (B) from the Ministry of Education, Educat,



Programs for Applied Biomedicine,  
Division of Cervico-Gnathostomatology  
(Department of Dental Science for Health Promotion),  
and Department of Preventive and Restorative Dentistry  
(Operative and Conservative Dentistry)

(1) Staff and Students

Professor : Fusanori Nishimura

Associate Professor :

Assistant Professor : Masashi Fujii

Research Associate : K 706.0:

- S., Sreenath T., Haruyama N., Honeycutt C., Terse A., Cho A., Kohler T., Müller R., Goldberg M., Kulkarni A. B.: *Matrix Biol.*, May 28 (4), 221-229, 2009.
- 3Bœ Genetic evidence for key roles of decorin and biglycan in dentin.: Haruyama N., Sreenath T. L., Suzuki S., Yao X., Wang Z., Wang Y., Honeycutt C., Iozzo R. V., Young M. F., Kulkarni A. B.: *Matrix Biol.*, April 28 (3), 129-136, 2009.
- 4Bœ Soga Y., Yamasuji Y., Kudo C., Matsuura-Yoshimoto K., Yamabe K., Sugiura Y., Maeda Y., Ishimaru F., Tanimoto M., Nishimura F., Takashiba S. Febrile neutropenia and periodontitis: lessons from a case periodontal treatment in the intervals between chemotherapy cycles for leukemia reduced febrile neutropenia. *Support Care in Cancer*, 17:581-587, 2009.
- 5Bœ Okada Y., Meguro M., Ohyama H., Yoshizawa S., Takeuchi-Hatanaka K., Kato N., Matsushita S., Takashiba S., Nishimura F. HLA-II - induced cytokines from human gingival fibroblasts promotes proliferation of human umbilical vein endothelial (HUVEC) cells: potential association with enhanced angiogenesis in chronic periodontal inflammation. *J Periodontal Res*, 44:103-109, 2009.
- 6Bœ Ohyama H., Kato-Kogoe1 N., Kuhara A., Nishimura F., Nakasho K., Yamanegi K., Yamada N., Masaki Hata1., Yamane J., Terada N. The involvement of IL-23 and Th17 pathway in periodontitis. *J Dent Res*, 88:633-638, 2009.

## B) Review

- 1Bœ Glycine transporter inhibitors as a novel drug discovery strategy for neuropathic pain: Dohi T., Morita K., Kitayama T., Motiyama N., Morioka N.: *Pharmacology and Therapeutics*, 123, 54-79, 2009.
- 2Bœ Chronic low-grade inflammation accelerating aging: *Inflammation and Regeneration* Nishimura F., Soga Y., Yamashita A.: *Periodontal disease*, 29: 186-189, 2009.

## C) Publications

- 1Bœ Synergistic Roles of Amelogenin and Ameloblastin.: Hatakeyama J., Fukumoto S., Nakamura T., Haruyama N., Suzuki S., Hatakeyama Y., Shum L., Gibson C.W., Yamada Y., Kulkarni A. B.: *J. Dent. Res.*, April 88 (4), 318-322, 2009.
- 2Bœ Dentin sialoprotein and dentin phosphoprotein have distinct roles in dentin mineralization.: Suzuki S., Sreenath T., Haruyama N., Honeycutt C., Terse A., Cho A., Kohler T., Müller R., Goldberg M., Kulkarni A. B.: *Matrix Biol.*, May 28 (4), 221-229, 2009.
- 3Bœ Genetic evidence for key roles of decorin and biglycan in dentin. Haruyama N., Sreenath T. L., Suzuki S., Yao X., Wang Z., Wang Y., Honeycutt C., Iozzo R. V., Young M. F., Kulkarni A. B.: *Matrix Biol.*, April 28 (3), 129-136, 2009.

D) Other Publications

E) Presentation at Scientific Meeting

1Bœ Anti-allodynia effects of platelet-activating factor (PAF) receptor antagonists on developing and established mechanical allodynia in neuropathic pain model: Kitayama T., Motoyama N., Morita K., Oka H., Nishimura H., Dohi T.: The 82<sup>th</sup> Annual Meeting of The Japanese Pharmacological Society (Yokohama), March16-18, 2009.

2Bœ DNA microarray analyses of LPS-stimulated adipocytes co-cultured with macrophages: Yamashita A., Soga Y., Iwamoto Y., Abiko Y., Nishimura F.: The 87<sup>th</sup> International Association for Dental Research ( Miami), April 4, 2009.

3Bœ Induction of insulin resistance in adipocyte-macrophage co-cultures and its prevention by ARB: Iwashita M., Kumamoto S., Sai K., Jinnin Y., Asano T., Nishimura F.: The 52<sup>nd</sup> Meeting of the Japanese Society of Periodontology(Okayama), May 15, 2009.

4Bœ Adipocytes co-cultured with macrophages in the presence of LPS produce molecules enhancing toll-like receptor-mediated signalsnd

130<sup>th</sup> Japanese Society of Conservative Dentistry (Sapporo), June11-12, 2009.

10BαGlycine transporter inhibitors possess potential therapeutic ability for neuropathic pain: Motoyama

Motoyama N., Kitayama T., Kanematsu T., Dohi T.: The 6<sup>th</sup> Japan-Korea Conference on Cellular signaling for Young Scientists(Sasebo), November 24-26, 2009.

22BœCo-existence of human immortalized pulp cells and macrophages up-regulates inflammatory cytokine productions, and flavonoids suppress enhanced productivity: Yonehiro J., Yamashita A., Yoshizawa S., Ohta K., Kamata N., and Nishimura F.: The 11<sup>th</sup> Joint Meeting between KACD and JSCD(Jeju), November 12-14, 2009.

23Bœ

Conservative Dentistry, October 29, 2009.

3B0E Yonehiro J.: Merit Award in recognition of distinctive contributions to new research in the Autumn Scientific Meeting 132<sup>nd</sup> of Korean Academy of Conservative Dentistry, November 14, 2009.

(6) Patents

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## Programs for Applied Biomedicine,

### Division of Cervico-Gnathostomatology

#### Department of Oral and Maxillofacial Surgery , and Department of Oral & Maxillo-facial Surgery and Oral Medicine (Oral and Maxillofacial Reconstructive Surgery)

##### (1) Staff and Students

Professor Nobuyuki Kamata  
 Associate Professor Masaaki Takechi  
 Assistant Professor Miwa Miyauchi Kouichiro Higashikawain( school)  
 Research Associate Koji Ohta(Diagnosis and treatment lecturer) Yoshiaki Ninomiya  
 Hiroshi Simasue Shigehiro Ono Hideo Shigeishi Hiromi Nishi Masayuki Taki(Until March)  
 Resident Kuniko Mizuta Takayuki Nakagawa Misayo Hiraoka  
 Graduate Student Shinichi Fujimoto,Masahiko Minami Fumi Tanaka Gaku Okui  
 Toshiya Okumura Akiko Fukui Masami Yasuda Akira Ohta Takako Hatano  
 Kahori Negishi Ai Takagi Ta To Tran  
 Registered Intern Masaki Kiyomihara Yoshihisa Inoue Sou Hasegawa Ryutaro Ozaki  
 Yukio Nakamoto

##### (2) Main Research Activities

- 1 Functional evaluation and development of oral and maxillofacial reconstructive surgeries
- 2 Genomic analysis of [stomatognathic diseases](#)
- 3 Biochemical characterization and development of therapeutics of oral tumors
- 4 [Molecular-biological studies on](#) control of invasion and migration of oral cancers
- 5 Studies on responsible gene of osseous dysplasia of jaws
- 6 [Molecular-biological studies on](#) dental and [periodontal tissue regeneration](#)
- 7 Development of biomaterials of oral and maxillofacial reconstruction

## (3) Research Achievements

## A) Original Papers(including Case Reports)

- 1 Amphiregulin induces proliferative activities in osseous dysplasia. Shigeishi H, Yamaguchi S, Mizuta K, Nakakuki K, Fujimoto S, Amagasa T, Kamata N.: J Dent Res. 88(6):563-568, 2009.
- 2 Overexpression of the receptor for hyaluronan-mediated motility, correlates with expression of microtubule-associated protein in human oral squamous cell carcinomas. Shigeishi H, Fujimoto S, Hiraoka M, Ono S, Taki M, Ohta K, Higashikawa K, Kamata N.: Int J Oncol. 34(6):1565-1571, 2009.
- 3 DeltaNp63alpha-dependent expression of Id-3 distinctively suppresses the i- nvasiveness of human squamous cell carcinoma. Higashikawa K, Yoneda S, Tobiume K, Saitoh M, Taki M, Mitani Y, Shigeishi H, Ono S, Kamata N.: Int J Cancer. 124(12):2837-2844, 2009.
- 4 Oncogenic role of nuclear accumulated Aurora-A. Tatsuka M, Sato S, Kanda A, Miki T, Kamata N, Kitajima S, Kudo Y, Takata T.: Mol Carcinog. 48(9):810-820, 2009.
- 5 Expression of TPX2 in salivary gland carcinomas. Shigeishi H, Ohta K, Hiraoka M, Fujimoto S, Minami M, Higashikawa K, Kamata N.: Oncol Rep. 21(2):341-344, 2009.
- 6 Nodal lymphangiogenesis and metastasis: Role of tumor-induced lymphatic vessel activation in extramammary Paget's disease. Hirakawa S, Detmar M, Kerjaschki D, Nagamatsu S, Matsuo K, Tanemura A, Kamata N, Higashikawa K, Okazaki H, Kameda K, Nishida-Fukuda H, Mori H, Hanakawa Y, Sayama K, Shirakata Y, Tohyama M, Tokumaru S, Katayama I, Hashimoto K.: Am J Pathol, 175(5):2235-2248, 2009.
- 7 Effect of TGF- $\beta$ 1 on the proliferation of human oral squamous cell carcinoma cells on calcium hydroxyapatite ceramics. Hiraoka M, Takechi M, Minami M, Ohta K, Kamata N.: Archives of BioCeramics Research;(9) 303-306, 2009.
- 8 Complete intraoral approach for osteosynthesis in saggital splitting ramus osteotomy using poly-L-lactic acid screw and contra-angle screwdriver.: Kouji Ohta, Shigehiro Ono, Kuniko Mizuta, Yoshiaki Ninomiya, Takayuki Nakagawa, Miwa Miyauchi, Natumi Tsuka, Masaaki Takechi, Kazuo Tanne, and Nobuyuki Kamata. The journal of Hiroshima university dental society 41(2), 143-148,2009
- 9 A Case of Maxillary Veneer Graft using Mandibulartorus Fukui A,Takechi M, Mitani Y, Ninomiya Y, Tuga K, Akagawa Y and Kamata N:The journal of Hiroshima University Dental Society Vol. 41-No2, 60-164 2009

## B) Review



- 1 Application of biomaterials to jaw bone regeneration for the reconstruction of form and function :Kamata N, Takechi M. Regeneration inducing treatment **AB**iomaterial, Organism signal factor, The practice of regeneration medical treatment using cell for patientAùMasaaki Takechi, Nobuyuki Kamata.: gene medicine MOOK No 13 53-58, 2009

### C) Publications

- 1 SLE: Kamata N: Pocket book of Dentistry for Medically compromised patient general disease vs dental treatment,94-95,dental diamond Co.:2009
- 2 Rheumatoid arthritis Sclerotic scleridima: Pocket book of Dentistry for Medically compromised patient general disease vs dental treatment,96-97 dental diamond Co.:2009
- 3 Shogren syndrome: Pocket book of Dentistry for Medically compromised patient general disease vs dental treatment,98-99 dental diamond Co.:2009
- 4 Bachet disease : Pocket book of Dentistry for Medically compromised patient general disease vs dental treatment,100-101 dental diamond Co.:2009
- 5 Shoulder periarthritits neck-shoulder-arm syndrome: Pocket book of Dentistry for Medically compromised patient general disease vs dental treatment,188-189 dental diamond Co.:2009
- 6 Gonarthosis: Pocket book of Dentistry for Medically compromised patient general disease vs dental treatment,190-191 dental diamond Co.:2009
- 7 Hemiaded disc: Pocket book of Dentistry for Medically compromised patient general disease vs dental treatment,192-193 dental diamond Co.:2009
- 8 Spinal stenosis; Pocket book of Dentistry for Medically compromised patient general disease vs dental treatment,194-195 dental diamond Co.:2009

### D) Other Publications

### E) Presentation at Scientific Meeting

- 1 Two cases of synchronous double cancer including oral cancer found by post-operative PET-CT examination.: Miyauchi M, Nishi H, Shigeishi H, Ono S, Shimasue H, Ninomiya Y, Ohta K, Fujimoto S, Yoneda S, Takechi M, Kamata N. 27th Annual Meeting of the Japanese Society for Oral Tumor, in Tochigi (January 29, 2009).
- 2 Evaluation of bone tissue regeneration of novel interconnected porous hydroxyapatite ceramics hybridized with osteoblasts. Hiraoka M, Takechi M, Minami M, Ohta K, Shigeishi H, Kamata N.: The first Workshop for Bio-dental education. (February 7-8, 2009 Hiroshima)
- 3 Basic research on osteomyelitis of alpha-TCP / apatite cement containing gentamycin-Basic property

- and affinity of organism : Yoshiaki N, Masaaki T, Kouji O, Misato H, Masahiko M, Tetsuya Y, Kunio I, Nobuyuki K. The 63th Annual Meeting of the Japanese Stomatological Society. (April 17, 2009 Hamamatsu)
- 4 Expression of Fractalkine (CX3CL1) induced by *Candida albicans* in gingival fibroblasts.: Kouji Ohta, Hiromi Nishi, Akiko Fukui, Masayuki Taki, Hideo Shigeishi, Masaaki Takechi, Nobuyuki Kamata. The 63th Annual Meeting of The Japanese Stomatological Society (April 17, 2009 Hamamatsu)
  - 5 The analysis of the JAK/STAT signal transduction pathway by inflammatory cytokines in the gingival fibroblast : Hiromi Nishi, Kouji Ohta, Akiko Fukui, Masaaki Takechi , Nobuyuki Kamata : The 63th Annual Meeting of the Japanese Stomatological Society (April 17, 2009 Hamamatsu)
  - 6 Oral care for the prevention of ventilator-associated pneumonia(VAP):.Ninomiya Y, Ono S, Shigeishi H, Mizuta K, Kobayashi M, Okamoto K, Fukui M, Ishida Y, Takeda T, Kondo M, Kajitani K, Takamoto M, Tamura Y, Okamoto T, Tanigawa K, Kamata N.: The 38th Annual Meeting of Japanese Society of Oral and Maxillofacial Surgery (May 30, 2009 Hiroshima)
  - 7 A case of oral rehabilitation treated by endosteal implants for edentulous mandible after resection of oral cancer.: Shimasue H, Takechi M, Shigeishi H, Ohta K, Minami M, Miyauchi M, Nishimura M, Takamoto M, Kamata N.: The 38th Annual Meeting of Japanese Society of Oral and Maxillofacial Surgery (May 30, 2009 Hiroshima)
  - 8 The analysis of the JAK/STAT signal transduction pathway by inflammatory cytokines in the oral mucous membrane. [Kouji Ohta, Akiko Fukui, Masaaki Takechi, Nobuyuki Kamata : The 19<sup>th</sup> Annual Meeting of the Japanese Society for Oral Mucous Membrane, (June 6, 2009 Kanagawa)]
  - 9 Expression and function of Fractalkine (CX3CL1) induced by *Candida albicans* in gingival fibroblasts.: Kouji Ohta, Hiromi Nishi, Akiko Fukui, Hideo Shigeishi, Masaaki Takechi, Nobuyuki Kamata. 19th Annual Meeting of the Japanese Society for Oral Mucous Membrane (June 6, 2009 Kanagawa)
  - 10 Expression and function of Toll-like receptor in oral keratinocytes and fibroblasts. [Akiko Fukui A, Ohta K, Nishi H, Takechi M and Kamata N The 19th Annual meeting of the Japanese Society for Oral Mucous Membrane (June 6, 2009 Kanagawa)]
  - 11 A case of occlusal reconstruction by dental implant for comminuted mandibular fracture with the crush injury: Ono S, Takechi M, Mizuta K, Ohta K, Higashikawa K, Takamoto M, Ninomiya Y, Kamata N: 11th Annual Meeting of the Japanese Society of Oral and Maxillo-Facial Trauma (July 18, 2009 Sapporo)
  - 12 A case of panfacial fracture by the traffic injury.: Shimasue H, Takechi M, Minami M, Hiraoka M, Takamoto M, Ono S, Miyauchi M, Kamata N: 11th Japanese Society for Oral and Maxillo-Facial Trauma (July 18, 2009 Sapporo)
  - 13 Effect of transforming growth factor-beta1 (TGF- $\beta$ 1) on the expression of Fractalkine (CX3CL1) in gingival fibroblasts. [Ryoji Ohta, Hideo Shigeishi, Masaaki Takechi, Nobuyuki Kamata : 11th Annual Meeting of the Japanese Society of Oral and Maxillo-Facial Trauma (July 18, 2009 Sapporo)]

- ctive porous hydroxyapatite ceramics/ osteoblasts composite. Hiraoka M, Takechi M, Minami M, Ohta K, Kamata N.: The 39<sup>th</sup> Academic Conference of the Japanese Society of Oral Implantology. (September 14-16, 2009 Osaka)
- 14 ( V W L P D W L R Q I R U † & O L Q L F D O S D W K I R U G t h C M K D n O V X U J L F D O M, Nakaoka M, Ishio M, Sasaki Y, Higashikawa K, Yoshioka Y, Sukei T, Tamura Y.: 4<sup>th</sup> Japan Society for Dental Hygiene (September 14-16, 2009 Osaka)
- 15 A Case of split-crest technique using new Interconnected Porous Calcium Hydroxyapatite.: Ninomiya Y, Takechi M, Ohta K, Takamoto M, Nishimura M, Kamata N.: The 39<sup>th</sup> Annual Meeting of the Japanese Society of Oral Implantology (September 14-16, 2009 Osaka)
- 16 Effect of transforming growth factor-beta1 (TGF- on bone regeneration of novel interconnective porous hydroxyapatite ceramics/ osteoblasts composite. Hiraoka M, Takechi M, Minami M, Ohta K, Kamata N.: The 39<sup>th</sup> Academic Conference of the Japanese Society of Oral Implantology. (September 14-16, 2009 Osaka)
- 17 Transcriptional control and EMT induction by Snail. Symposium Epithelial Mesenchymal Transition and tumor invasion and metastasis : Kamata N, Higashikawa K, Tobiume K.: 68<sup>th</sup> Annual Meeting of the Japanese Cancer Association (October 3, 2009 Yokohama)
- 18 Functional role of tumor-associated lymphatic vessels in skin cancer metastasis to lymph nodes.: Hirakawa S, Keitaro M, Higashikawa K, Kamata N.: 68<sup>th</sup> Annual Meeting of the Japanese Cancer Association (October 3, 2009 Yokohama)
- 19 Functional Analysis of Snail-mediated downregulation of deltaNp63alpha in squamous cell carcinoma cells.: Higashikawa K, Tobiume K, Kamata N.: 68<sup>th</sup> Annual Meeting of the Japanese Cancer Association (October 3, 2009 Yokohama)
- 20 A Snail-induced secretory protein associated with the invasiveness of squamous cell carcinoma.: Tanaka F, Higashikawa K, Tobiume K, Ono S, Shigeishi H, Kamata N.: 68<sup>th</sup> Annual Meeting of the Japanese Cancer Association (October 3, 2009 Yokohama)
- 21 Resistance to gamma-secretase inhibitor in EMT phenotype oral squamous cell carcinoma cells.: Higashikawa K, Tanaka F, Shigeishi H, Ono S, Kamata N: The 54<sup>th</sup> Congress of the Japanese Society of Oral and Maxillofacial Surgeons (October 9, 2009 Sapporo)
- 22 ~~29~~ A Snail-induced secretory protein associated with the high-invasiveness in oral squamous cell carcinoma cells :Tanaka F, Higashikawa K, Shigeishi H, Ono S, Kamata N.:The 54<sup>th</sup> Congress of the Japanese Society of Oral and Maxillofacial Surgeons (October 9, 2009 Sapporo)
- 23 A case of implant placement operated with bone regeneration using new interconnected porous calcium hydroxyapatite and titanium mesh.:Ohta K, Takechi M, Ninomiya Y, Minami M, Takamoto M, Kamata N.: The 54<sup>th</sup> Congress of the Japanese Society of Oral and Maxillofacial Surgery.: (October 10, 2009 Sapporo)

- 24 Expression and function of Toll-like receptor in oral keratinocytes and Fibroblasts BîBú Fukui A, Ohta K, Nishi H, Takechi M and Kamata N The 54th Annual meeting of the Japanese Society of oral and maxillofacial surgeon (October 10, 2009 Sapporo)
- 25 Immunohistochemical analysis of GDD1 gene product in mouse teeth and periodontal tissue: Kuniko Mizuta, Shinichi Fujimoto, Nobuyuki Kamata.: The 54<sup>th</sup> Annual meeting of the Japanese Society of oral and maxillofacial surgeon (October 10, 2009 Sapporo)
- 26 4 year's history of the dental hygiene outpatient center at Hiroshima University Hospital. Hara N, Dainobu K, Kajitani K, Tamura Y.: 93th The Hiroshima University Dental Society (October 25, 2009 Hiroshima)
- 27 2009 dental residency program : clinical education and consciousness research of resident : Tanaka C, Motoyama T, Morimoto K, Doe K, Kawahara M, Kumagaya H, Nakamoto M, Yamasaki T, Yamamoto T, Aratani K, Mito A, Kubo Y, Kuriu K, Shimasue K, Mitsuyama T, Yamasaki Y, Nakamura R, Kishitami T, Imoo H, Shindou N, Ogawa T, Taguchi N, Mishima K, Kashiwa N, Motoyama T, Jinnin Y, Jinnin D, Kamata N.:  
  
(October 25, 2009 Hiroshima)
- 28 A case of the sinus elevation operated with bone regeneration using new interconnected porous calcium hydroxyapatite: Ono S, Takechi M, Nishi H, Fukui A, Ota A, Takamoto M, Kamata N.: 57th Annual Meeting of Japanese Stomatological Society, Chugoku-Shikoku Branch (2009 Kurashiki) .
- 29 Two cases of tongue cancer which detected synchronous multiple primary cancer in preoperative PET-CT: Kuniko Mizuta, Miwa Miyauchi, Shigehiro Ono, Shinichi Fujimoto, Gaku Okui, Masaaki Takechi, Nobuyuki Kamata.: The 57th Annual Meeting of the Japanese Stomatological Society (2009 Kurashiki).
- 30 Basic research on osteomyelitis of alpha-TCP/ apatite cement containing gentamycin Basic property and evaluation of bone tissue regeneration .: Yoshiaki N, Masaaki T, Kouji O, Masaaki M, Misato H, Akira O, Tetsuya Y, Kunio I, Nobuyaki K. The 31st Annual Meeting of the Japanese Society For Biomaterials. (2009.11.17 Kyoto)
- 31 Effect of transforming growth factor- $\beta$  on porous hydroxyapatite ceramics/ osteoblasts composite. Hiraoka M, Takechi M, Minami M, Ohta K, Shigeishi H, Kamata N.: The 31th Annual Meeting of the Japanese Society for Biomaterials. (2009.11.16-17. Kyoto)
- 32 Effect of TGF- $\beta$  1 on differentiation and mineralization of osteoblasts in interconnected porous calcium hydroxyapatite ceramics: Hiraoka M, Takechi M, Minami M, Ohta K, Kamata N.: 9th Asian BioCeramics Symposium 2009 2009.12.10 Nagoya
- 33 A case of implant placement operated with bone regeneration using new interconnected porous

- calcium hydroxyapatite.:Ninomiya Y, Takechi M, Ohta K, Takamoto M, Ono S, Okui G, Ohta A.:  
The 13th Annual Meeting of the Japanese Academy of Maxillofacial Implants(2009 12.13 Saga)
- 34 A case of occlusal reconstruction by dental implant for comminuted mandibular fracture with high energy injury: Ono S, Takechi M, Mizuta K, Ohta K, Higashikawa K, Takamoto M, Ninomiya Y, Kamata N: The 13th Annual Meeting of the Japanese Academy of Maxillofacial Implants (2009 12.13 Saga)

#### F) Special lectures in academic meetings

- 1 Kamata N. Recent advance of Oral and Maxillofacial Surgery April 4 Koyukai of second department of oral surgery Hiroshima university
- 2 Kamata N. 32  
Based and Clinic of infective disease  
2009 8.1 8.2
- 3 Kamata N. Odontogenic tumor (June 15 Okayama University)
- 4 Kamata N. Odontogenic tumor (November 5 Nagasaki University)
- 5 Kamata N. Odontogenic tumor and disease gene (November 13 Osaka University)

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

- 1 Grants-in-Aid for Scientific Research(B) Kamata N:Control metastasis of Oral Cancer through epithelial Mesenelupueltransitism No. 18390541
- 2 Grants-in-Aid for Scientific Research C Novelty Higashikawa K, Analysis of epithelial integrity in invasion and metastasis of oral cancer No.21592526
- 3 Grants-in-Aid for Scientific Research (C) Novelty : Shimasue H, Molecular analysis of mechanisms regulating cell morphology and motility on tumor invasion and metastasis in squamous cell carcinoma: No.21592554
- 4 Grant-in-Aid for Young Scientists (B)Novelty ; Masaaki Takechi, Fabrication of the high functional bone replacement apatite cement with drug delivery control capacity. Subject number 21792000.
- 5 Grant-in-Aid for Young Scientists(B) Ohta K The possible role and identification of the specific protein induced by *Candida albicans* in oral mucosal cells. No 20791522
- 6 Grant-in-Aid for Young Scientists(B)Novelty Ono S The participation of micro RNA acquiring the ability with high-invasiveness via Epithelial-mesenchymal Transition in squamous cell carcinoma. No. 21791999
- 7 Grants-in-Aid for Scientific Research for Young Scientists(B)Novelty : Shigeishi H, Expression and functional analysis of TPX-2 in human salivary gland carcinomas. (No. 21791998).

- 8 Grant-in-Aid for Young Scientists(B)Novelty Nishi H, Cell biology research on immune response about refractory oral endermosis generation in the oral keratinocytes and gingival fibroblast. No20791518
- 9 Grants-in-Aid for Young Scientists(B) Continuation: Kuniko Mizuta, Functional analysis of GDD1 gene responsible for gnathodiaphyseal dysplasia(GDD) No.20791517.
- 10 Grant-in-Aid for Young Scientists (B) Continuation : Taki M: Functional analysis of Wnt related to invasiveness of oral cancers: No.18791497

(5) Academic Awards, etc.

- 1 The 54th Annual Meeting of the Japanese Society of Oral and Maxillofacial Surgeons (Sapporo),Gold ribbon award

(6) Patents

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## Programs for Applied Biomedicine,

### Division of Cervico-Gnathostomatology

#### Department of Advanced Prosthodontics Department of Preventive and Restorative Dentistry Implants and Prosthodontics

##### (1) Staff and Students

|                     |                                                                                                                            |
|---------------------|----------------------------------------------------------------------------------------------------------------------------|
| Professor           | : Yasumasa Akagawa                                                                                                         |
| Associate Professor | : Kazuhiro Tsuga, Takayasu Kubo                                                                                            |
| Assistant Professor | Yasuhiko Abe, Tsuyoshi Taji, Kyou Hiasa                                                                                    |
| Assistant           | Katsunori Koretake, Mineka Yoshikawa, Kazuya Doi                                                                           |
| Secretary           | Rinko Kurumi                                                                                                               |
| Resident            | Maho Takeuchi, Kazuhiko Hayashi, Yasunari Miyamoto, Ayumi Matsuura,<br>Koji Morita                                         |
| Clinical Trainee    | Takahisa Kawamura, Koji Morita                                                                                             |
| Graduate Student    | Yayoi Kanehisa, Mariko Maruyama, Ryo Takeshita, Hiroshi Oue, Yohei Okazaki<br>Hirokazu Tsutioka, Maretaningtias Dwi Ariani |

##### (2) Main Research Activities

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

##### (3) Research Achievements

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

1. Effect of combined application of bFGF and inorganic polyphosphate on bioactivities of osteoblasts and initial bone regeneration : Yuan Q, Kubo T, Doi K, Morita K, Takeshita R, Katoh S, Shiba T, Gong P and Akagawa Y : *Acta Biomater.*, 5, 1716-1724, 2009.
2. Body weight and serum albumin change after prosthodontic treatment among institutionalized elderly in a longtermcare geriatric hospital : Kanehisa, Y, Yoshida M, Taji T, Akagawa Y and Nakamura H : *Community Dent Oral Epidemiol.* 37, 534-538, 2009.
3. Bone formation ability of carbonate apatite-collagen scaffolds with carbonate contents : Matsuura A, Kubo T, Doi K, Hayashi K, Morita K, Yokota R, Hayashi H, Hirata I, Okazaki M and Akagawa Y : *Dental Material Journal*, 28, 234-242, 2009.
4. The effect of tooth loss on body balance control among community-dwelling elderly persons : Yoshida M, Kikutani T, Okada G, Kawamura T, Kimura M and Akagawa Y : *Int J Prosthodont.* 22, 136-139, 2009.
5. Oral motor function and masticatory performance in the community-dwelling elderly : Kikutani T, Tamura F, Nishiwaki, K, Kodama M, Suda M, Fukui T, Takahashi N, Yoshida M, Akagawa Y and Kimura M : *Odontology*, 97, 38-42, 2009.
6. Initial bone regeneration around fenestrated implants in Beagle dogs using basic fibroblast growth factor-gelatin hydrogel complex with varying biodegradation rates : Akagawa Y, Kubo T, Koretake K, Hayashi K, Doi K, Matsuura A, Morita K, Takeshita R, Yuan Q and Tabata Y : *J. Prosthodont. Res.* 53, 41-47, 2009.
7. Newly development of artificial bone with polyphosphate coated on interconnected hydroxyapatite : Morita K : *J. Hiroshima univ. Dent. Soc.*, 41(1), 57-70, 2009.
8. The Relationship of Dental treatment to the Critical path of Region Coordination for Strokes : Yoshida M, Akagawa Y : *Journal of Hiroshima Dental Society*, 41, 80-82, 2009.
9. Assessment of Oral Pneumonia Risks -For Establishment of Oral Care Management-. : Yoshida M, Kikutani T, Watanabe Y, Hanagata T, Tokura S, Takahashi K, Tamura F and Akagawa Y : *Japanese Journal of Gerodontolgy*, 24, 3-9, 2009.
10. Standardization of Evaluation of Masticatory Ability : Ichikawa T, Nagao K, Kuboki T, Kimura A, Hideshima M, Tamaki K, Kodaira Y, Sadamori S, Tsuga K, Koshino H, Akagawa Y and Hirai T : *Journal of the Japanese Association for Dental Science*, 28, 34-38, 2009.

## B) Review

- 1: A Clinical Dental Approach in Hiroshima City General Rehabilitation Center : Yoshida M : *Journal of Hiroshima Dental Society*, 36, 20-23, 2009.



### C) Publications

- : The Mechanism of Mind and Body, Care worker Training Textbook13 1st Edition Akagawa Y : Minerva shobo Inc., Tokyo, 80-104, 2009.
- : The Mechanism of Mind and Body, Care worker Training Textbook13 1st Edition Yoshida M : Minerva shobo Inc., Tokyo, 88-102, 2009.
- : Occlusal disorder, Abnormal Occlusion, Dental Prosthodontics New Dental Hygiene Textbook 1st Edition : Akagawa Y : Ishiyaku Pub,Inc., Tokyo,2009.
- : Removable Partial Denture Practice for Dental Students 5th Edition : Mitani H, Kobayashi Y and Akagawa Y : Ishiyaku Pub,Inc., Tokyo,2009.
- : Occlusal disorder, Abnormal Occlusion, Dental Prosthodontics New Dental Hygiene Textbook 1st Edition : Akagawa Y : Yoshida M : Ishiyaku Pub,Inc., Tokyo,2009.

### D) Other Publications

- 1: Planning of dental treatment with understanding of dental care in super-aged age: Yoshida M : The Nippon Dental Review 69(11), 71-78, 2009.

### E) Presentation at Scientific Meeting

- 1: Swallowing sound analysis for amyotrophic lateral sclerosis patients. : Yoshikawa M, Nagasaki T, Okada G, Yoshida M and Akagawa Y : The 17th Annual Dysphagia Research Society Meeting (New Orleans ), 2009.
- 2: Comparative evaluation of bone regeneration by using differently-formed granule types of newly developed interconnected porous hydroxyapatite. A beagle dog study : Takeshita R, Doi K, Kubo T, Hayashi K, Morita K, Koretake K and Akagawa Y : 6th Biennial Congress of Asian Academy of Prosthodontics (Seoul) , 2009.
- 3: Forum Chair Akagawa Y : 6th Biennial Congress of Asian Academy of Prosthodontics (Seoul) , 2009.
- 4: Development of inorganic polyphosphate-adsorbed interconnected porous calcium hydroxyapatite as a new bone regeneration material : Doi K, Kubo T, Morita K, Hayashi K, Takeshita R and Akagawa Y : The 13th Meeting of the International College of Prosthodontists (CapeTown) , 2009.
- 5: Postgraduate education curriculum in Prosthodontics in Japan : Akagawa Y : University of Oslo, Seminar (Oslo), 2009.
- 6: Bone augmentation for esthetic-functional implant treatment - State of the science : Akagawa Y : 37th Indian Prosthodontic Society Conference, Special lecture (Thrissur, Kerala) , 2009.

- 7: Postgraduate education curriculum in Prosthodontics in Japanese Universities : Akagawa Y : Sri Ramachandra University, Seminar (Chennai) , 2009.
- 8: Bone formation ability of a newly developed carbonate apatite collagen sponge scaffold Matsuura A, Kubo T, Koretake K, Doi K, Hayashi K, Morita K, Hirata I, Okazaki M and Akagawa Y : 5th Asian Academy of Osseointegration(Bali) , 2009.
- 9: Application of bFGF - gelatin hydrogel complex for bone regeneration around fenestrated implants : Morita K, Koretake K, Hayashi K, Doi K, Matsuura A, Takeshita R, Kubo T and Akagawa Y : 5th Asian Academy of Osseointegration (Bali) , 2009.
- 10: Prosthodontic Treatment by Complete Denture and Healthy Well-living : Akagawa Y: Special lecture in the Nippon Dental University School of Life Dentistry at Tokyo (Tokyo), 2009.
- 11: Handy tongue pressure measuring device using disposable intra-oral probe : Kazuhiro Tsuga : Niigata University region cooperation food science center series lecture "Food science technology" #11 "Measurement of eating" (Niigata) , 2009.
- 12: The Future value of Removable Prosthodontic Treatment : Akagawa Y : Special lecture in Hokkaido University Graduate School of Dental Medicine (Sapporo),2009.
- 13: The Point of Denture Treatment to get patient's satisfaction : Akagawa Y: Yamaguchi Prefecture Dental Association Academic Meeting (Ube), 2009.
- 14: Infection control and dust control in prosthodontics: Tsuga K : Japan International Cooperation Agency Group Training Course for Oral Health Science Education (Fukuoka) , 2009.
- 15: Functional oral rehabilitation for the elderly: Tsuga K : Japan International Cooperation Agency Group Training Course for Oral Health Science Education, Fukuoka City, 2009.
- 16: Current State of Advanced Medication Akagawa Y Council of Japan Dental Science of Societies Lecture meeting (Tokyo), 2009.
- 17: Newly development of artificial bone with polyphosphate adsorbed on hydroxyapatite with bone formation ability : Morita K, Kubo T, Doi K, Takeshita R, Akagawa Y : The 118th Annual meeting of Japan Prosthodontic Society (Kyoto), 2009.
- 18: A case study of rehabilitation for lip closure failure after stroke : Yoshikawa M, Maruyama M, Kanehisa Y, Tsuga K, Yoshida M, Akagawa Y: 118th Scientific meeting of the Japan Prosthodontic Society (Kyoto), 2009.
- 19: Current state of advanced medication : Akagawa Y : Council of Japan Dental Science of Societies (Tokyo), 2009.
- 20: Clinical guideline task force report; how to make clinical decision? -clinical utilization of the prosthodontic guideline 2008 -; 4. How to apply guideline in clinical decision making? : Tsuga K : The 118th annual scientific meeting of the Japan Prosthodontic Society (Kyoto) , 2009.
- 21: To Start Implant Treatment -Knowing Current Standards- : Akagawa Y : Japan Dental Society Training Seminar 2009 (Morioka,Gifu,Fukuoka, Sapporo,Kobe,Chiba), 2009.

- 22: The relationship between pressures produced by masticatory muscles and oral diadochokinesis  
Maruyama M Okada G Yoshikawa M Yoshida M, Tsuga k, Akagawa Y The 42nd The journal of  
hiroshima university dental society (Hiroshima), 2009.
- 23: Oral rehabilitation using tongue pressure measurement device for articulation and swallowing  
disorders after stroke: Yoshikawa M, Mori R, Kanehisa Y, Yoshida M: The 15th Annual meeting of  
the Japanese Society of Dysphagia Rehabilitation (Nagoya), 2009.
- 24: Development of bread to masticate and swallow easily for the older people in need of nursing care:  
Yoshikawa M, Yoshida M, Syobayashi M, Nagasaki T, Tsuga K, Akagawa Y: The 15th Annual  
meeting of the Japanese Society of Dysphagia Rehabilitation (Nagoya), 2009.
- 25: Long-term evaluation of one step zirconia implants : Kubo T, Doi K, Hayashi K, Morita K,  
Takeshita R, Hiasa K, Akagawa Yasumasa : The 39th Annual Meeting of the Japanese Society of  
Oral Implantology (Osaka), 2009.
- 26: Bone formation ability of newly developed biomimetic bone graft material : Matsuura A Kubo T  
Kazuya D Hirata I Okazaki M Akagawa Y : The 54th Annual Meeting of the Japanese Society of  
Oral Implantology (Osaka), 2009.

scientific meeting of Japan Prosthodontic Society Kansai and Chugoku and Shikoku Branches winter school in Awaji 2009 (Awaji), 2009.

- 35: Assessment of oral function of nursing cared elderly people with handy tongue pressure measurement: Kazuhiro Tsuga: Prosthodontic Winter School in Awaji 2009 (Awaji), 2009.
- 36: Fifteen years clinical follow-up of one-step and one-part zirconia implants : Kubo T, Doi K, Morita K, Takeshita R, Wadamoto M, Hashimoto M, Akagawa Y : The Scientific Meeting of Japan Prosthodontic Society Kansai and Chugoku-Shikoku Branches 2009 (Awaji), 2009.
- 37: The Front of Implant and GBR Researches : Akagawa Y : Special Lecture in Kagoshima University Graduate School of Medical and Dental Sciences (Kagoshima), 2009.

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

- 1: Ministry of Education, Culture, Sports, Science and Technology(MEXT) Grant-in Aid for scientific Research (B) : Akagawa Y : Newly development of bFGF-polyphosphate integrated intelligent artificial bone. (Grant No. 2139051). ¥5,200,000
- 2: MEXT Grants-in-Aid for Scientific Research (B) : Akagawa Y : Development of New Implant GBR Using a bFGF-gelatin Hydrogel Complex. (Grant No. 19390498). ¥ 6,900,000
- 3: MEXT Grants-in-Aid for Exploratory Research : Akagawa Y : A Molecular Research on Relationship between Dementia of the Alzheimer Type and Loss of Occlusal Support. (Grant No. 19390498). ¥900,000
- 4: Ministry of Health, Labour and Welfare Grants-in-Aid: Akagawa Y : Establishment of oral Care Management (Grant No. KOSE202001). ¥4,340,000
- 5: National Institute of Biomedical Innovation Grants-in-Aid : Akagawa Y : Research of medicine eluted artificial bone in dental field. (Grant No. 1809JE023). ¥4,480,000
- 6: MEXT Grants-in-Aid for Scientific Research (A) : Akagawa Y : A Multi-center Study on Prosthetic Intervention in Patients with Shortened Dental Arch. (Grant No. 20249077). ¥1,750,000
- 7: MEXT Grants-in-Aid for Scientific Research (C) : Tsuga K : Development of Rader-chart for enhancing the anti-aging effect of prosthodontic treatments. (Grant No. 20592269). ¥9,000,000
- 8: MEXT Grants-in-Aid for Scientific Research (C) : Abe Y : Development of high-level biofunctional nano-surface modification of bionic titanium implant. (Grant No. 21592452). ¥1,400,000
- 9: MEXT Grants-in-Aid for Scientific Research (C) : Taji T : Occlusal support index for partial denture design. (Grant No. 20592270) ¥2,700,000
- 10: MEXT Grants-in-Aid for Scientific Research (C) : Hiasa K : Development of Multi-physics simulator for Advanced implant integration system of diagnosis and treatment. (Grant No. 20592299). ¥3,000,000
- 11: MEXT Grants-in-Aid for Young Scientists (B) : Koretake K : The New Bone Quality Improving

Method Applying the Bone Modeling for Additional Implant Insertion. (Grant No. 19791443).  
¥1,100,000

- 12: MEXT Grants-in-Aid for Young Scientists (B) : Yoshikawa M : Anti-aging on swallowing function by maintenance and restoration of occlusion retention. (Grant No. 19791442). ¥3,500,000
- 13: MEXT Grants-in-Aid for Scientific Research (C) : Yoshikawa M : Magnetoencephalogram (MEG) and diffusion MRI . (Grant No. 20592202). ¥60,000
- 14: MEXT Grants-in-Aid for Young Scientists (Start-up) : Matsuura A : Effect of bone formation ability using a cytokine treated biomimetic bone graft material. (Grant No. 21890159). ¥1050,000
- 15: MEXT Grants-in-Aid for Young Scientists (Start-up) : Morita K : Effect of bone formation ability by combined application of bFGF and polyphosphate adsorbed on hydroxyapatite. (Grant No.21890160). ¥1,050,000

(5) Academic Awards, etc.

- 1: Hiroshima University The President Award : Akagawa Y
- 2: The13th Meeting of the International College of Prosthodontists (ICP) Poster Competition Award :  
Doi K

(6) Patents

[Returns to the Contents](#)

**Programs for Applied Biomedicine, Division of Cervico-Gnathostomatology  
(Department of Advanced Prosthodontics)  
Department of Preventive and Restorative Dentistry  
(Prosthetic Dentistry)**

(1) Staff and Students

|                     |                                                                                                                                                                |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Professor           | : Yasumasa Akagawa                                                                                                                                             |
| Associate Professor | : Shinsuke Sadamori                                                                                                                                            |
| Associate Professor | : Hitoshi Abekura (in the university), Masahiro Nishimura (in the university until May)                                                                        |
| Assistant           | : Shunji Inoue, Hong Guang(Until March), Kazuko Kagawa, Kazuya Doi                                                                                             |
| Secretary           | : Michiko Miyagawa                                                                                                                                             |
| Resident            | : Kae Harada, Syouji Hyashi , Isami Fujiwara                                                                                                                   |
| Intern Dentist      | : Fumio Suehiro (Until March), Isami Fujiwara (Until March), Tomoharu Hori (Until March) , Takeshi Maeda, Wataru Mizumach, Takae Yamamoto                      |
| Graduate Student    | : Takeshi Maeda(Until March),Wataru Mizumachi (Until March), Syouji Hyashi, Kouji Kamata, Hiroki Tsuka, Masahiro Tsuboi, Dhirinuru(Until April), Kazuisa Okura |
| Registered Intern   | : Masami Furuebisu(Until March), Yutaka Fukanogi(Until March),                                                                                                 |

(2) Main Research Activities

Molecular biology of mesenchymal stem cells towards osteogenic differentiation

Relation between prosthetic treatment and general condition in elderly with dementia

The study of relationship between oral habits and psychosomatic stress responses measured by salivary chromogranin A Rheology of dental materials and development of denture lining materials

Development of low invasive alveolar ridge augmentation systems

Psychiatric disorders in dental practice

(3) Research Achievements

A) Original Papers (including Case Reports)

Identification of mesenchymal stem cell (MSC)-transcription factors by microarray and knockdown analyses, and signature molecule-marked MSC in bone marrow by immunohistochemistry: Kubo H., Shimizu M., Taya Y., Kawamoto T., Michida M., Kaneko E., Igarashi A., Nishimura M., Segoshi K., Shimazu Y., Tsuji K., Aoba T., Kato Y.: *Genes to Cells* 14, 407-424, 2009.

Influence of denture cleansers on the color stability of three types of resin: Hong G., Murata H., Li Y.A., Sadamori S., Hamada T.: *J Prosthet Dent*, 101(3), 205-213, 2009.

The clinical application of silicone type resilient denture liner: Jin C., Hong G., Hamada T.: *Dent Resource Guide*, (3), 44-48, 2009.

Influence of denture cleansers on the color stability of three types of resin: Hong G., Murata H., Li Y.A., Sadamori S., Hamada T.: *J Prosthet Dent*, 101, 205-213, 2009.

Selection and analysis of new transcription factors of human mesenchymal stem cells toward osteogenetic differentiation.: Suehiro Fumio.: *The Journal of Hiroshima University Dental Society*, 41(1), 12-26, 2009

A case of dyshidrotic eczema with improvement of hand dermatitis after removing dental metal restorations: Harada K., Makihira S., Nikawa H., Ogawa I., Kitagawa M., Abekura H., Nishimura M., Kurihara H., Akagawa Y., Hamada T.: *Journal of Japanese Society for Evidence and the Dental Professional*, 1 (B) 31-36, 2009.

Study about the standardization of the evaluation of masticatory performance Ichikawa T., Nagao H., Kuboki T., Kimura A., Hideshima M., Tamaki K., Kohira J., Sadamori S., Tsuga K., Koshino H., Akagawa Y., Hirai T.: *Journal of the Japanese Association for Dental Science*, 28, 34-38, 2009

## B) Review

## C) Publications

## D) Other Publications

## E) Presentation at Scientific Meeting

The influence of Sericin solution on wettability and antifungal effect of resin surface: Hong G, Hamada T, Maeda T, Yuda S, Yamada H, Tsujimoto K, Sadamori S.: *The 3rd International Symposium for Interface Oral Health Science (Sendai)*, 2009.

Interface, implant, regenerated bone and recipient alveolar bone: M Nishimura, Y Sakai, F Suehiro, M Tsuboi, K Kamada, T Hori, M Sakai, M Takeda, K Tsuji and T Hamada: *The 3rd International Symposium for Interface Oral Health Science (Sendai)*, 2009.

Influence of PMMA polymer on the viscoelasticity and component leachability of trial tissue conditioners: Maeda T, Hong G, Hamada T, Sadamori S.: 1st Scientific Meeting of The Japan Denture Care Society (Yokohama), 2009.

Influence of component on mechanical properties of tissue conditioners: Tsuka H, Hong G, Maeda T, Mizumachi W, Hamada T, Murata H, Sadamori S.:1st Scientific Meeting of The Japan Denture Care Society (Yokohama), 2009.

The dynamic viscoelasticity of trial tissue conditioners: Hong G, Maeda T, Hori T, Sadamori S, Hamada T, Murata H: The 118th Scientific Meeting of Japan Prosthodontic Society (Kyoto) 2009.

Changes of denture wearing and physical and psychological state of elderly with dementia in nursing home: Hayashi S, Sadamori S, Fujiwara I, Abekura H, Hamada T, Akagawa Y: The 20th Annual Meeting of the Japanese Society of Gerodontology (Yokohama) , 2009.

Changes of usage of denture and physical and psychological state of institutionalized elderly with dementia: Hayashi S, Sadamori S, Fujiwara I, Abekura H, Hamada T, Akagawa Y: The Annual Meeting of The Hiroshima University Dental Society(Hiroshima) , 2009.

The Relationships between General Health and Oral Status in the Elderly with Dementia-From an Investigation of Physical and Mental Condition, Activities of Daily Living and Oral Status-: Isao Fujihara,Shinsuke Sadamori, Syouji Hayashi,Hitoshi Abekura, Taizo Hamada and Yasumasa Akagawa The Annual Meeting of the Society of Gerodontology(Yokohama).and Shikoku Branches(Awaji), 2009.

The Relationships between General Health and Oral Status in the Elderly with Dementia-From an Investigation of Physical and Mental Condition, Activities of Daily Living and Oral Status- Isao Fujihara,Shinsuke Sadamori,Syouji Hayashi,Hitoshi Abekura,Taizo Hamada and Yasumasa Akagawa The Annual Meeting of the Society of Gerodontology(Yokohama) 2009.

The relationship between oral habits and psychosomatic stress responses measured by salivary chromogranin A: H. Abekura, S. Sadamori, Tuboi, H.Akagawa,Y:The 22nd Annual Meeting of Japanese Society for the Temporomandibular Joint, In Conjunction with The 14th Annual Meeting of Japanese Society of Orofacial Pain(Tokyo), 2009.

Comparison of Body Mass Index and Oral Status between the Elderly with Dementia and the Elderly without Dementia Isao Fujihara,Shinsuke Sadamori, Syouji Hayashi,Shunji Inoue,Hitoshi Abekura,Taizo Hamada and Yasumasa Akagawa Annual Scientific Meeting of Japan Prosthodontic Society Kansai,chugoku and Shikoku Branches(Awaji) 2009.



The Dynamic Viscoelasticity of Alcohol-free Trail Tissue Conditioner Hiroki Tsuka, Hong G, Maeda T, Taizo Hamada, Yasumasa Akagawa, Youji Nomura, and Masayuki Okazaki 53rd Scientific Meeting of Japanese Society of Dental Materials and Devices(Tokyo) 2009.

## F Special lectures in academic meetings

Dental and oral health (Bruxism):Hiroshima Prefecture Dental Hygiene Liaison Council,

† + H L V H L 1 H Q G R · & D P S D L J Q 3 U R P R W L R Q 3 U R M H F W † . H H S  
3 U R P R W L R Q 3 U R M H F W : R U N V K R S † ' H Q W D O 2 U D O D Q G O H Q V

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

Grant-in-Aid for Scientific Research (C): Abekura H, assignment number 19592242. 1,560 thousand yen

Grant-in-Aid for Scientific Research (B) (2) general: Nishimura M: Development of alveolar bone regenerative medicine using regulated autologous cells. assignment number 19390497. 3,200 thousand yen

Grant-in-Aid for Young Scientists (B): Hong Guang: Research on the evaluation of trail crude drug combination tissue conditioner for halitosis. assignment number 19791441. 1,100 thousand yen

Grant-in-Aid for Scientific Research (C): Kagawa K: The development of crude drug combination oral moisture gel for dry mouth. assignment number 19592238. 910 thousand yen

### (5) Academic Awards, etc.

Nishimura M: Excellent Young Investigator Award at The 3rd International Symposium for Interface Oral Health Science in Sendai: 2009.1.15

### (6) Patents

Kato Y, Kawamoto T, Nishimura M, Tsuji K: Inducible mesenchyma stem cells and its fabrication  
Patent pending 2009-115378 Hiroshima Univ, TWO CELLS, Co.,Ltd

**Programs for Applied Biomedicine,  
Division of Cervico-Gnathostomatology  
(Department of Orthodontics and Craniofacial  
Developmental Biology)  
Department of Oral Health and Development (Orthodontics)**

## (1) Staff and students

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Professor             | Kazuo Tanne                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Assistant Professor   | Toshitsugu Kawata, Hiroshi Ueda, Kotaro Tanimoto,                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Assistant             | Masato Kaku, Tadashi Fujita, Nobuaki Tanaka, Junji Ohtani, Masahide<br>Motokawa, Myongsun Koh, Yuki Tanne                                                                                                                                                                                                                                                                                                                                                                                   |
| Resident              | Emi Ishikawa, Kyoko Murasaki                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Intern                | Youhei Suekawa, Ryouko Yamamoto, Toshihiro Inubushi, Satoru Ohkuma,<br>Takashi Kamiya, Ryouta Sano, Maya Shirakura, Kouji Takahashi, Natsumi<br>Tsuka                                                                                                                                                                                                                                                                                                                                       |
| Graduate Student      | Yasunori Iwabuchi, Ryo Kunimatsu, Genki Watanabe, Emanuel Braga Rego,<br>Rene Arturo Marquez Hernandez, Huang Yu-ching, Goshi Ito, Noritsugu<br>Ozaki, Aki Kawazoe, Hiroyuki Koseki, Hiroko Sunagawa, Tomoko Sasamoto,<br>Naoto Hirose, Atsushi Horihata, Masahiko Michida, Motoko Yoshioka,<br>Hidetaka Hayashi, Yayoi Matsuda, Tomomi Mitsuyoshi, Sara Abedini,<br>Syunichi Kojima, Keisuke Sumi, Noriko Tsubamoto, Akiko Terao, Yuki<br>Yoshimi, Morio Masunaga (adult graduate student) |
| International Student | Daniele Irina Shiratori                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Professor (part-time) | Kazuhiro Ueki, Toshitsugu Kojima, Hiroharu Tsuka, Hiroshi Hanaoka,<br>Junichiro Iida                                                                                                                                                                                                                                                                                                                                                                                                        |
| Registered Intern     | Kuniaki Tanaka, Kazunori Itatani, Isuzu Kimura, Masashi Ueki, Hiroko<br>Kamada, Tamami Suekawa, Takuro Hasegawa, Reiko Yamano, Eizo Yamano                                                                                                                                                                                                                                                                                                                                                  |
| Dental Hygienist      | Miho Okada                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## (2) Main academic activity

- 4: Mechanisms of pain transmission during experimental tooth movement and clarification of pain control.
- 5: Changes in stomatognathic functions from orthodontic surgery.
- 6: Association between nasal respiratory disturbances and craniofacial morphology and masticatory and respiratory functions.
- 7: Influences of mechanical stimuli on the proliferation and differentiation of chondrocytes.
- 8: Clarification of PDL regeneration mechanism.
- 9: Metabolism of hyaluronan in TMJ synovial fluid.
- 10: Influences of food consistency on neuropathological changes in the cerebral cortex.
- 11: Regeneration of bone and cartilage with mesenchymal stem cells.
- 12: Control mechanism of bone growth and development with sex hormone.

### (3) Research achievement

#### A) Original article

1. The Effect of Two Jaw Exercises on Occlusal Function in Obstructive Sleep Apnea Patients during Oral Appliance Therapy A Randomized Controlled Trial.: Ueda H., Almeida FR., Chen H., Lowe AA.: *American Journal of Orthodontics and Dentofacial Orthopedics*, 135, 430-437, 2009.
2. Supraposition of unopposed molars in young and adult rats: Fujita T., Montet X., Tanne K., Kiliaridis S.: *Archives of Oral Biology*, 54, 40-44, 2009.
3. Evaluation of aesthetic brackets' resistance to torsional forces from archwire: Nishio C., de Moraes Mendes A., de Oliveira Almeida M.A., Tanaka E., Tanne K., Elias C.N.: *American Journal of Orthodontics and Dentofacial Orthopedics*, 135, 42-48, 2009.
4. Fms-like tyrosine kinase(Flt)-4 signaling participates in osteoclast differentiation in osteopetrotic (op/op) mice: Tsuka N., Motokawa M., Kaku M., Kawata T., Fujita T., Ohtani J., Koseki H., Sunagawa H., Matsuda Y., Abedini S., Hayashi H., Tanne K.: *Biomedical Research*, 30, 31-37, 2009.
5. Effect of mandibular advancement on growth after condylectomy: Nakano M., Fujita T., Ohtani J., Kawata T., Kaku M., Motokawa M., Tsuka N., Hayashi H., Tanne K.: *Journal of Dental Research*, 88, 261-265, 2009.
6. Functional roles of prolines at amelogenin C terminal during tooth enamel formation: Zhu L., Tanimoto K., Le T., Den Besten PK., Li W.: *Cells Tissues Organs*, 189, 203-206, 2009.
7. The mandibular cartilage metabolism is altered by damaged subchondral bone from traumatic impact loading: Lin YY., Tanaka N., Ohkuma S., Kamiya T., Kunimatsu R., Huang YC.,

- Yoshioka M., Mitsuyoshi T., Tanne Y., Tanimoto K., Tanaka E., Tanne K.: *Annals of Biomedical Engineering*, 37, 1358-1367, 2009.
8. Effects of increased occlusal vertical dimension on daily activity and myosin heavy chain composition in rat jaw muscle: Ohnuki Y., Kawai N., Tanaka E., Langenbach GE., Tanne K., Saeki Y.: *Archives of Oral Biology*, 54, 783-789, 2009.
  9. Effects of hyaluronan oligosaccharide on the expression of MMP-1 in periodontal ligament cells: Nakatani Y., Tanimoto K., Tanaka N., Tanne Y., Kamiya T., Kunimatsu R., Tanaka E., Tanne K.: *Archives of Oral Biology*, 54, 757-763, 2009.
  10. A newly developed snack effective for enhancing bone volume: Ohtani J., Marquez Hernandez R.A., Sunagawa H., Fujita T., Kawata T., Kaku M., Motokawa M., Tsuka N., Koseki H., Matsuda Y., Hayashi H., Sara A., Tanne K.: *Nutrition Journal*, 8, 1-7, 2009.
  11. Stress analysis in the mandibular condyle during prolonged clenching: a theoretical approach with the finite element method: Nishio C., Tanimoto K., Hirose M., Horiuchi S., Kuroda S., Tanne K., Tanaka E.: *Journal of Engineering in Medicine*, 223, 739-748, 2009.
  12. Functional characteristics of the rat jaw muscles: daily muscle activity and fiber type composition: Kawai N., Sano R., Korfage JA., Nakamura S., Tanaka E., van Wessel T., Langenbach GE., Tanne K.: *Journal of Anatomy*, 215, 656-62, 2009.
  13. Correction of severe open bite using miniscrew anchorage: Kaku, M., Kawai A., Koseki H., Abedini S., Kawazoe A., Sasamoto T., Sunagawa H., Yamamoto R., Tsuka N., Motokawa M., Ohtani J., Fujita T., Kawata T., Tanne K.: *Australian Dental Journal*, 54, 374-380, 2009.
  14. Two treatment case of impaired tooth eruption after traumatic injury of primary tooth: Kawai N., Kawai A., Ueki M., Tanne K.: *Journal of Hiroshima Dental Association*, 36, 48-53, 2009.
  15. Effect of new snack for the enhancement of bone volume: Ohtani J., Ishikawa I., Ishida H., Ono T., Fujita T., Tanne K.: *Journal of Hiroshima Dental Association*, 36, 24-30, 2009.
  16. A patient with deformity of the temporomandibular joint who received a second orthodontic treatment for open bite which appeared after the previous orthodontic treatment: Tanimoto K., Tanne Y., Tanne K.: *Journal of Japanese Society of Tempolar Mandibular Joint*. 21, 5-10, 2009 .
  17. Clinical survey of patients with malocclusions treated with orthodontic clinic, Hiroshima University hospital for the latest 8 years: Comparison with the finding for the past 32 years: Nakamura S., Kawai N., Yamano E., Inubushi T., Ueda H., Tanne K.: *Journal of Chu-Shikoku Orthodontic Society*, 21, 77-85, 2009.
  18. An orthodontic treatment case for a patient with a pain disorder collaborate with pain clinicians: Koseki H., Kaku M., Kawata T., Fujita T., Motokawa M., Tsuka N., Ohtani J., Marquez Hernandez R.A., Sunagawa H., Matsuda Y., Sara A., Tanne K.: *Journal of Chu-Shikoku Orthodontic Society*, 21, 19-24, 2009.
  19. Clinical survey of traumatic injury to facial complex in patients with malocclusions of

- Orthodontic Department, Hiroshima University Hospital: Kawai N., Nakamura S., Ohtani J., Motokawa M., Thoma Y., Nishi M., Tanne K.: *Orthodontic Waves-Japanese Edition*, 68, 75-82, 2009.
20. Association between the force of lip closure and lateral facial morphology in children: Ueda H., Horihata A., Watanabe G., Aizawa M., Omatsu H., Tanne K.: *The Annals of Educational Research in Hiroshima University*, 69, 150-152, 2009.
  21. Oral administration of soy bean lecithin liposomal lactoferrin inhibits inflammation and bone resorption in rat LPS-induced periodontitis: Kawazoe A., Miyauchi M., Yamano E., Ishikado A., Tanaka E., Makino T., Inubushi T., Rego E.B., Tanne K., Takata T.: *Lactoferrin* 2009, 79-83, 2009.
  22. Statistical Examination of Cleft Lip and /or Palate Patients in the Department of Orthodontics, Hiroshima University Hospital: Ozaki N., Ueki M., Hasegawa T., Tanaka N., Touma Y., Nishi M., Kunimatsu R., Tanimoto K., Tanne K.: *Journal of Hiroshima University Dental Society*, 41, 4-11, 2009.
  23. Complete Intraoral Approach for Osteosynthesis in Saggital Splitting Ramus Osteotomy Using Poly-L-lactic Acid Screw and Contra-angle Screwdriver: Ohta K., Ono S., Mizuta K., Ninomiya Y., Nakagawa T., Miyauti M., Tsuka N., Takechi M., Tanne K., Kamata N.: *Journal of Hiroshima University Dental Society*, 41, 143-148, 2009.
  24. Clinical Application of an Orthodontic Appliance to Shorten Orthodontic Treatment Period: Kawata T., Kamiya M., Kaku M., Ueda H., Motokawa M., Fujita T., Ohtani J., Kunimatsu R., Tanne K.: *Journal of Hiroshima University Dental Society*, 41, 114-120, 2009.

## B) General remarks

1. Aiming for more safety and reliable implant as on orthodontic anchorage: Risk management for mini-screw implantation (Part 1): Ohtani J., Sunagawa H., Ueki K., Tanne K.: *Journal of Orthodontic Practice*, 01, 99-104, 2009.
2. Aiming for more safety and reliable implant as on orthodontic anchorage: Risk management for mini-screw implantation (Part 1): Ohtani J., Sunagawa H., Ueki K., Tanne K.: *Journal of Orthodontic Practice*, 03, 41-50, 2009.
3. The role of dentistry for obstructive sleep apnea Compliance and side effect of the oral appliance Ueda H., Watanabe G., Horihata A., Tanne K.: *Japanese Journal of Sleep Medicine*, 3, 264-269, 2009.
4. Occlusal treatment and the improvement of masticatory function Association between morphology and function in the orthodontic treatment : Ueda H., Watanabe G., Koh M., Tanne K.: *The Nippon Dental Review*, 69, 150-152, 2009.
5. Orthodontics and temporomandibular disorders: Tanimoto K., Tanne K.: *The Nippon Dental*

- Review, 69, 148-150, 2009.
6. Effects of the functional appliance on mandibular growth: Fujita T, Tanne K: *Nippon Dental Review*, 69, 169-171, 2009.
  7. The New Material for Esthetic Restoration -A Role of Teeth Bank- : Kawata T., Kamiya T., Kaku M., Kunimatsu R., Ueda H., Kurihara H., Okazaki M., Nishimura H., Shirai K., Fujii M., Uchida T., Tanne K.: *Journal of Hiroshima University Dental Society*, 41, 121-125, 2009.

#### D) Other publications

#### E) Presentation at Scientific Meeting

1. Cryopreservation of PDL cells by use of program freezer with magnetic field for teeth banking: Abedini S., Kaku M., Koseki H., Kawata T., Motokawa M., Matsuda Y., Tsuka N., Fujita T., Ohtani J., Sunagawa H., Marquez Hernandez R.A., Tanne K.: *The International Workshop on BioDental Education and Research Hiroshima University Graduate School of Biomedical Sciences (Hiroshima, Japan), 2009.*
2. Effects of Amelogenin on the Proliferation and Differentiation of Human Mesenchymal Stem Cells: Huang YC., Tanimoto K., Tanaka N., Tanne Y., Kamiya T., Kunimatsu R., Yoshioka M., Michida M., Kato Y., Tanne K.: *Workshop on Bio-Dental Education and Research in Hiroshima (Hiroshima, Japan), 2009.*
3. Effect of recombinant human amelogenin on the proliferation of cementoblasts and periodontal ligament cells: Kunimatsu R., Tanimoto K., Tanne Y., Kamiya T., Ohkuma S., Inubushi T., Huang YC., Yoshioka M., Hirose N., Mitsuyoshi T., Miyauchi M., Takata T., Tanne K.: *Workshop on Bio-Dental Education and Research in Hiroshima (Hiroshima, Japan), 2009.*
4. Ultrasound stimulation increases PGE2 production and induces mineral deposition via prostaglandin EP4 receptor activation in mouse cementoblasts.: Emanuel B.R., Inubushi T., Kawazoe A., Miyauchi M., Takata T., Tanne K.: *Workshop on Bio-Dental Education and Research in Hiroshima (Hiroshima, Japan), 2009.*
5. Regeneration of condyle by use of a functional appliance: Fujita T., Ohtani J., Tanne K.: *85th Congress of the European Orthodontic Society (Helsinki, Finland), 2009.*
6. Influences of different oral appliances for obstructive sleep apnea on occlusal function: Watanabe G., Ueda H., Horihata A., Tanne K.: *America Academy of dental sleep Medicine 18th Annual Meeting (Seattle, USA), 2009.*
7. Influence of oral appliance for the treatment of obstructive sleep apnea on occlusal function: Ueda H., Watanabe G., Horihata A., Tanne K.: *America Academy of dental sleep Medicine 18th Annual Meeting (Seattle, USA), 2009.*

8. O D V W L F D W R U \ P X V F O H D F W L Y L W \ L Q D U D W P R G H O R I 3  
Kitayama T., Watanabe M., Tanne K and Tanaka E.; 2<sup>nd</sup> Meeting of IADAR Pan Asian Pacific Federation and 1<sup>st</sup> Meeting of IADAR Asia/Pacific Region (Beijing, China), 2009.
9. Examination of twisting torque and healing period for the success rate of mini-screw: Investigation by animal experiment and clinical survey: Sunagawa H., Ohtani J., Marquez Hernandez R.A., Fujita T., Kawata T., Kaku M., Motokawa M., Tsuka N., Koseki H., Matsuda Y., Hayashi H., Shiratori I.D., Tsubamoto N., Terao A. and Tanne K.: 8<sup>th</sup> Asian Implant Orthodontic Conference( Sendai, Japan), 2009.
10. A new concept of screw implantation and clinical outcomes of self-drilling screw in the Department of Orthodontics, Hiroshima University Hospital: Shiratori I.D., Ohtani J., Sunagawa H., Sano R., Marquez Hernandez R.A., Fujita T., Kaku M., Tsubamoto N. and Tanne K.: 8<sup>th</sup> Asian Implant Orthodontic Conference(Sendai, Japan), 2009.
11. A cleft lip and palate patient treated with maxillary distraction osteogenesis using a rigid external distraction (RED) system: Tanne Y., Tanimoto K., Yoshioka M., Huang YC., Mitsuyoshi T., Tanne K.: Cleft 2009 11th International Congress (Fortaleza, Brazil), 2009.
12. Bone Regeneration for the Treatment of Jaw Cleft with Mesenchymal Stem Cells Derived from Bone Marrow: Yoshioka M., Tanimoto K., Tanaka N., Tanne Y., Sugiyama M., Kato Y., Tanne K.: Cleft 2009 11th International Congress (Fortaleza, Brazil), 2009.
13. Effects of amelogenin on the proliferation and differentiation of human mesenchymal stem cells and the possible intracellular mechanism: Huang YC., Tanimoto K., Tanaka N., Tanne Y., Kamiya T., Kunimatsu R., Okuma S., Yoshioka M., Michida M., Mitsuyoshi T., Kato Y., Tanne K.: 3rd Hiroshima Conference on Education and Science in Dentistry, (Hiroshima, Japan), 2009.
14. Effect of recombinant human amelogenin on the proliferation of cementoblasts and periodontal ligament cells: Kunimatsu R., Tanimoto K., Tanaka N., Tanne Y., Kamiya T., Ohkuma S., Huang YC., Yoshioka M., Mitsuyoshi T., Miyauchi M., Takata T., Tanne K.: 3rd Hiroshima Conference on Education and Science in Dentistry (Hiroshima, Japan), 2009
15. Regeneration of Maxillary Bone with Mesenchymal Stem Cells for the Treatment of Jaw Cleft: Yoshioka M., Tanimoto K., Tanaka N., Tanne Y., Sumi K., Kato Y., Sugiyama M., Tanne K.: 3rd Hiroshima Conference on Education and Science in Dentistry (Hiroshima, Japan), 2009.
16. Anti-inflammatory effects of soybean lecithin liposomal lactoferrin: Kawazoe A, Miyauchi M, Inubushi T, Emanuel B.R., Yamano E, Ishikado A, Tanne K, Takata T: 3rd Hiroshima Conference on Education and Science in Dentistry,(Hiroshima, Japan), 2009.
17. Effects of bFGF on the modulation of apoptosis during wound healing in gingival tissue with different ages: Ohkuma S., Tanaka N., Tanimoto K., Tanne Y., Kamiya T., Kunimatsu R., Huang Y.C., Yoshioka M., Mitsuyoshi T., Tanne K.: 33rd Annual Meeting of Japanese Cleft Palate Association(Tokyo), 2009

18. Treatment of jaw cleft with bone regeneration by use of mesenchymal stem cells derived from bone marrow: Yoshioka M., Tanimoto K., Tanaka N., Tanne Y., Kamiya T., Okuma S., Kunimatu R., Huang Y.C., Mitsuyoshi T., Sakai Y., Sugiyama M., Kato Y., Tanne K.: 33rd Annual Meeting of Japanese Cleft Palate Association(Tokyo), 2009
19. A case report of hemifacial microsomia treated by mandibular distraction osteogenesis after long-term observation: Sano R., Ohtani J., Sunagawa H., Fujita T., Ueda H., Tanne K.: The 19th Annual Meeting of the Japanese Society for Jaw Deformities (Sendai), 2009
20. Factors of skeletal stability after surgical correction in open bite Ito G., Koh M., Fujita T., Shirakura M., Ueda H., Tanne K.: The 19th Annual Meeting of the Japanese Society for Jaw Deformities (Sendai), 2009
21. Expression profiles of nuclear receptors and their functions: Ozaki N., Noshiro M., Honda K., Kawamoto T., Fujimoto K., Tanimoto K., Kato Y., Tanne K: The 42th Annual Meeting of Hiroshima University Dental Society.
22. A case report of mandibular prognathism with severe crowding and missing tooth treated by two jaw surgery and tooth transplantation: Michida M., Tanaka N., Tanimoto K., Tanne K.: The 42th Annual Meeting of Hiroshima University Dental Society.
23. Development of supplement snack for bone enhancement to improve bone volume: Ohtani J., Ishikawa I., Tanne K.: The 42th Annual Meeting of Hiroshima University Dental Society.
24. Oral administration of liposomal lactoferrin inhibits inflammation and bone resorption in rat LPS-induced periodontitis: Kawazoe A., Yamano E., Miyauchi M., Ishikado A., Makino T., Tanne K., Takata T.: The 42th Annual Meeting of Hiroshima University Dental Society.
25. Endogenous PGE<sub>2</sub> induced by ultrasound stimulation mediates cementblast differentiation through the activation of prostaglandin receptors EP2 and EP4: Emanuel B.R., Inubushi T, Kawazoe A, Miyauchi M, Takata T, Tanne K.: The 42th Annual Meeting of Hiroshima University Dental Society.
26. Effects of amelogenin on the metabolism of cementblasts: Kunimatsu R., Tanimoto K., Tanaka N., Tanne Y., Kamiya T., Ohkuma S., Huang Y.C., Yoshioka M., Mitsuyoshi T., Miyauchi M., Takata T.,Tanne K.: The 42th Annual Meeting of Hiroshima University Dental Society.
27. Association between root resorption incident to orthodontic treatment and treatment factors: Motokawa M., Matsuda Y., Kaku M., Kawata T., Yamamoto R., Tsuka N., Inubushi T., Sasamoto T., Ozaki N., Koseki H., Kawazoe A., Tanne K.: 52nd Annual Meeting of Chu-Shikoku Orthodontic Society (Tokushima), 2009.
28. An Angle class gummy smile case treated with miniscrew anchorage: Kaku M., Koseki H., Kawazoe A., Sara Abedini., Motokawa M., Tsuka N., Sasamoto T., Matsuda Y., Fujita T., Hayashi H., Ohtani J., Sunagawa H., Kawata T., Tanne K.: 52nd Annual Meeting of Chu-Shikoku Orthodontic Society (Tokushima), 2009.
29. A treatment case of posterior open bite due to a long-term use of occlusal splint for



- temporomandibular joint disorders; Huang YC., Tanimoto K., Honda K., Ueda H., Tanne Y., Kunimatsu R., Yoshioka M., Tanne K.: 52nd Annual Meeting of Chu-Shikoku Orthodontic Society (Tokushima), 2009.
30. An orthodontic treatment case of mandibular protrusion and open bite with achondroplasia: Mitsuyoshi T., Tanne Y., Tanimoto K., Huang Y.C., Kamiya T., Kunimatsu R., Yoshioka M., Tanne K.: 52nd Annual Meeting of Chu-Shikoku Orthodontic Society (Tokushima), 2009.
  31. A clinical survey for the association between root resorption incident to orthodontic treatment and host factors: Matsuda Y., Motokawa M., Kaku M., Kawata T., Yamamoto R., Tsuka N., Inubushi T., Sasamoto T., Ozaki N., Koseki H., Kawazoe A., Tanne K.: 52nd Annual Meeting of Chu-Shikoku Orthodontic Society(Tokushima), 2009.
  32. Orthodontic treatment for a severe epilepsy patient with gingival hyperplasia: Kunimatsu R., Tanimoto K., Tanne Y., Kamiya T., Ozaki N., Huang Y.C., Yoshioka M., Mitsuyoshi T., Tanne K.: The 52nd Chu-Shikoku Orthodontic Society(Tokushima),2009
  33. Effects of inflammatory cytokine on hyaluronidase activity in cultured synovial membrane Tanne Y., Tanimoto K ., Yamano R., Kamiya T., Mitsuyoshi T., Tanne K: The 22nd Annual Meeting of Japanese Society for the Temporomandibular Joint (Funahori) ,2009.
  34. Effects of hyaluronan on the expression of superficial zone protein: Mitsuyoshi T, Kamiya T, Tanimoto K, Tanaka N, Tanne Y, Tanne K: 22nd Jap

- Ozaki N., Koseki H., Kawazoe A., Matsuda Y., Tanne K.: The 68th Annual Meeting of the Japanese Orthodontic Society (Fukuoka), 2009.
40. Assessment of primary stability of mini-screw as an orthodontic anchorage: Ohtani J., Sunagawa H., Kaku M., Watanabe G., Sano R., Marquez Hernandez R.A., Fujita T., Kawata T., Motokawa M., Nishio C., Tsuka N., Koseki H., Hayashi H., Matsuda Y., Tanne K.: The 68th Annual Meeting of the Japanese Orthodontic Society (Fukuoka), 2009.
  41. Effect of low-intensity ultrasound for temporomandibular joint chondrocyte: Iwabuchi Y., Tanimoto K., Tanaka N., Tanne Y., Inubushi T., Kamiya T., Ohkuma S., Kunimatsu R., Huang Y., Yoshioka M., Ozaki N., Sasamoto T., Michida M., Tanaka E., Tanne K.: The 68th Annual Meeting of the Japanese Orthodontic Society (Fukuoka), 2009.
  42. Function of transcription factor GAT6 in the proliferation and differentiation of mesenchymal stem cell (MSC) : Michida M., Kawamoto K., Sasamoto T., Ozaki N., Tanaka N., Tanimoto K., Kato Y., Tanne K.: The 68th Annual Meeting of the Japanese Orthodontic Society (Fukuoka), 2009.
  43. Effect of vascular endothelial growth factor(VEGF)-C, D on osteoclast differentiation and their function: Tsuka N., Motokawa M., Kaku M., Kawata T., Fujita T., Ohtani J., Koseki H., Sunagawa H., Marquez Hernandez R.A., Matsuda Y., Abedini S., Tanne K.: The 68th Annual Meeting of the Japanese Orthodontic Society (Fukuoka), 2009.
  44. Effect of recombinant human amelogenin on metabolism of periodontal ligament cells: Kunimatsu R., Tanimoto K., Tanaka N., Tanne Y., Kamiya T., Ohkuma S., Inubushi T., Iwabuchi Y., Huang YC., Yoshioka M., Ozaki N., Sasamoto T., Michida M., Mitsuyoshi T., Tanne K.: The 68th Annual Meeting of the Japanese Orthodontic Society (Fukuoka), 2009.
  45. Proliferation and characteristics of PDL cells after long-term cryopreservation: Abedini S., Kaku M., Kawata T., Koseki H., Fujita T., Motokawa M., Ohtani J., Tsuka N., Marquez Hernandez R.A., Sunagawa H., Matsuda Y., Hayashi H., Tanne K.: The 68th Annual Meeting of the Japanese Orthodontic Society (Fukuoka), 2009.
  46. The role of P2X7 receptor in neuropathic pain: Ito G., Watanabe M., Suekawa Y., Inubushi T., Takahashi K., Hirose N., Hiyama S., Uchida T., Tanne K.: The 68th Annual Meeting of the Japanese Orthodontic Society (Fukuoka), 2009.
  47. Regulation of bone growth by sex hormone receptor in newborn mice: Marquez Hernandez R.A., Ohtani J., Fujita T., Kawata T., Kaku M., Motokawa M., Tsuka N., Sunagawa H., Koseki H., Hayashi H., Matsuda Y., Abedini S., Tanne K.: The 68th Annual Meeting of the Japanese Orthodontic Society (Fukuoka), 2009.
  48. Anti-inflammatory effects of liposomal lactoferin: Kawazoe A., Inubushi T., Emanuel B.R., Yamano E., Ishikado A., Takata T., Tanne K.: The 68th Annual Meeting of the Japanese Orthodontic Society (Fukuoka), 2009.

49. Long-term cryopreservation of mouse osteoblasts by use of a program freezer with magnetic field: Koseki H., Kaku M., Kawata T., Motokawa M., Tsuka N., Fujita T., Ohtani J., Sunagawa H., Marquez Hernandez R.A., Abedini S., Matsuda Y., Hayashi H., Tanne K.: The 68th Annual Meeting of the Japanese Orthodontic Society (Fukuoka), 2009.
50. Force on the dental arches by using an oral appliances for treatment of sleep apnea: Horihata A., Ueda H., Watanabe G., Tanne K.: The 68th Annual Meeting of the Japanese Orthodontic Society (Fukuoka), 2009.
51. Effects of amelogenins on the proliferation and differentiation of human mesenchymal stem cells: Huang YC., Tanimoto K., Tanne Y., Kamiya T., Ohkuma S., Inubushi T., Kunimatsu R., Yoshioka M., Michida M., Mitsuyoshi T., Yoshimi Y., Kato Y., Tanne K: The 68th Annual Meeting of the Japanese Orthodontic Society (Fukuoka), 2009.
52. Immunohistochemical study of age related changes in rat masticatory muscle fibers: Nakamura S., Kawai N., Sano R., Kinouchi N., Kawakami E., Tanne K., Tanaka E.: The 68th Annual Meeting of the Japanese Orthodontic Society (Fukuoka), 2009.
53. A proposal of new method for tooth restoration using teeth bank or expedient teeth: Kamiya T., Kawata T., Kaku M., Kunimatsu R., Tanne K.: The 68th Annual Meeting of the Japanese Orthodontic Society (Fukuoka), 2009.

#### F) Academic society symposium and special lecture

1. Tanne K.: Induction mechanisms of temporomandibular joint disorder (TMD) and the problem-oriented therapeutic system: The 7<sup>th</sup> Congress of Iranian Association of Orthodontists ( Hamadan, Iran), 2009.
2. Tanne K.: Recent advances in clinical orthodontics: evidence-based therapeutic strategy with use of teeth cryopreservation and implant anchorage: The 7<sup>th</sup> Congress of Iranian Association of Orthodontists (Hamadan, Iran), 2009.
3. Tanne K.: Recent innovation in edgewise technique for the correction of vertical discrepancy cases: multiloop edgewise archwire (MEAW) or micro-implant?: The 5th World Edgewise 2 U W K R G R Q W L F & R Q J U H V V ; L ¶ D Q & K L Q D
4. Tanne K.: A strategic innovation in the treatment for open bite: multiloop edgewise archwire of micro-implant?: 2009 Annual Meeting of Taiwan Association of Orthodontists (Kaohsiung, Taiwan), 2009.
5. Ohtani J.: Establishment of reliable and safety implantation : Investigation by animal study and clinical survey: 8<sup>th</sup> Asian Implant Orthodontic Conference (Sendai, Japan), 2009.
6. Tanne K: Planning of education curriculum of temporomandibular joint disorder (TMD): It is important to educate basic knowledge and treatment skills for TMD leading to the long-term

- stability of orthodontic treatment outcomes. The 22nd Annual Meeting of Japanese Society for TMJ/ The 14th Annual Meeting of Japanese Society for Orofacial Pain (Tokyo), 2009.
7. Tanimoto K. Regeneration of maxillary bone with mesenchymal stem cells for the treatment of jaw cleft; a trial for clinical application. The regular meeting of Hiroshima orthodontic society (Hiroshima), 2009.
  8. Tanimoto K. Application of mesenchymal stem cells to the treatment of jaw cleft; regeneration of maxillary bone and orthodontic tooth movement to the grafted area. The 73rd meeting of Stem cell research society, (Hiroshima), 2009.

#### (4) Scientific research grant -in-aid

1. Grant-in-aid for Scientific Research (B): Tanne K.: Responses of each cartilaginous layer of mandibular condyle to external stimuli and the association with progressive condylar resorption. 5200000 yen.
2. Grant-in-Aid for Clinical Research : Tanne K.: Hiroshima University Hospital: Establishment of long-term cryopreservation technique for bone marrow-derived mesenchymal stem cells with use of magnetic field: 500,000yen.
3. Grant-in-Aid for Scientific Research: Ueda H.: Clinical application of the oral appliance for sleep apnea to diminish the side effect on occlusal function: No 20592403.: 1,450,000 yen.
4. Grant-in-Aid for Scientific Research: Tanimoto K.: Elucidation of onset mechanism of amelogenesis imperfecta (AI) using a biomineralization model: No. 20390522.: 4,290,000yen.
5. Grant-in-Aid for Scientific Research: Tanimoto K.: Development of biomineralization technology using nano-process and its application to regeneration of tooth enamel: No. 21659474.: 1,600,000yen.
6. Grants-in-Aid for Scientific Research: Fujita T.: Influences of sex hormones in TMJ dysfunctions: No20791577.: 1,700,000 yen.
7. Grant-in-Aid for Scientific Research: Tanne Y.: Applications of amelogenin to the induction of bone regeneration by using mesenchymal stem cells: No21890164. 1,352,000yen.
8. Grant-in-Aid for Scientific Research: Kamiya T.: Clarification in regulatory expression mechanism of lubrication functional protein SZP and therapeutic development of temporomandibular joint function: No 21890163.1,456,000yen.
9. Grant-in-Aid for Scientific Research: Takahashi K.: Role of gap junction in orofacial chronic pain: No21890162. 1,365,000yen.
10. Hiroshima Sangyoh Sohsei Hojokin (H21): Two cell co.: The new method of MSC culture and cryopreservation collected from dentoalveolar region for general practice.: 135,000yen.

11. Collaborative Research in Hiroshima University: Pro-Seed Co.: Histomorphometric study for the development of newly short screw as an orthodontic anchorage.

**Programs for Applied Biomedicine, Division of Cervico-Gnathostomatology  
(Department of Pediatric Dentistry)  
Department of Oral Health and Development  
(Pediatric Dentistry)**

(1) Staff and Students

|                     |                                                                                                                                         |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Professor           | Katsuyuki Kozai                                                                                                                         |
| Associate Professor | Junji Suzuki                                                                                                                            |
| Research Associate  | Yasutaka Kaihara Fumiko Hayashi, Chieko Mitsuhata<br>Goh Yoshimura, Meiko Tachikake (April~), Noriko Kadomoto(~March)                   |
| Physician           | Noriko Kadomoto (April~), Kozue Miura, Mihaya Arika, Ryoko Hirata<br>Satoko Otani, Nami Miyake                                          |
| Graduate Student    | Aya Tsuboi, Yukari Ohara, Hu Yiqun Yukiko Konishi (April~)<br>Ayumi Shimada (April~), Kazunori Matsuura (April~), Akira Yamane (April~) |
| Research Student    | Kaori Saiga, Ryoko Hirata, Ayako Banshoudani, Mie Hirakawa, No Min                                                                      |
| Registered Intern   | Mami Yamashiro                                                                                                                          |

(2) Main Research Activities

- 1 Automutanolysin in oral streptococci
- 2 Research in oral bacteria especially *Staphylococcus aureus* in children
- 3 Effect of PG agonist differentiation of osteoblast
- 4 Molecular analysis of cell-cell communication in differentiation of osteoblast
- 5 Bacteriological and epidemiological research in periodontal diseases in children
- 6 Behavior evaluation of psychological stress in dental treatment in children
- 7 Transmission of mutans streptococci
- 8 Seeking for anti-cariogenic substance from natural foods
- 9 Denaturalization of tooth by low pH beverage

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1 A pilot study for establishment of educational guidelines of pre-clinic practice of pediatric dentistry in Japan. (1) Overview of educational contents of pre-clinical practice: Hayashi F.,

- Kozai K., Uchikawa Y., Kimoto S., Tamura Y., Nakajima I., Ono T., Arita K., Shintani S., Fukumoto S., Suzuki J., Kaihara Y., Tsuchiya T.: *Jpn J Ped Dent* 47(1) 24-32, Japanese, 2009.
- 2 A pilot study for establishment of educational guidelines of pre-clinic practice of pediatric dentistry in Japan. (2) The effort of educational workshop: Kaihara Y., Kozai K., Uchikawa Y., Kimoto S., Tamura Y., Nakajima I., Ono T., Arita K., Shintani S., Fukumoto S., Suzuki J., Hayashi F., Tsuchiya T.: *Jpn J Ped Dent* 47(1), 24-32, Japanese, 2009.
  - 3 Status of periodontal diseases and prevalence of periodontal pathogens in Junior high school students: Hayashi F., Yasuda R., Nakata K., Suzuki J., Okada M., Kawamura M., Kozai K.: *The annals of educational research*, 275-278, Japanese, 2009.
  - 4 Clinical evaluation of intruded C BT 106.13i

Cariology Today 5(August), 29-32, Japanese, 2009.

- 2 School Dental Health Activities based on enough understanding about CO and GO: Detailed discussion : Diagnosis of GO for periodontal diseases in children: Kozai K.: Journal of the Japanese Association of School Dentists, 101, 24-29, Japanese, 2009.

### C) Publications

- 1 Pediatric Dentistry (The 3<sup>rd</sup> edition ): Periodontal disease in children, 155-167, Treatment for children periodontitis, 268-276, Treatment and prevention of traumatic dental injuries in childhood, 407-430, Kozai K.: Ishiyaku Publisher, Inc., Japanese, 2009.

### D) Other Publications

### E) Presentation at Scientific Meeting

- 1 Effective appliance for MTM using lingual arch and sectional wire: Kaihara Y., Suzuki J., Kozai K.: The Debate of the Society of Dentistry for Child Health and Development Kobe , 2009.
- 2 Effect of the oral appliance in children and cerebral palsy with dysphagia: Masuda S., Suzuki J., Hayashi F., Kadomoto N., Tachikake M., Kozai K.: The 18<sup>th</sup> Otolaryngology rehabilitation igaku kennkyukai(Tokyo), 2009.
- 3 The Relationship between Distribution of Mutans Streptococci and caries prevalence in school children: Miyake M., Okada M., Ariki M., Hayashi F., Kozai K.: The 47<sup>th</sup> Congress of Japanese Society of Pediatric Dentistry (Osaka), 2009.
- 4 The investigation of properties change of mutans streptococci under acidic surrounding.: Ohara Y., Yoshimura G., Suzuki J., Kozai K.: The 47<sup>th</sup> Congress of Japanese Society of Pediatric Dentistry (Osaka), 2009.
- 5 Effective appliance toward molar uprighting and molar distalization; Kaihara Y., Yoshimura G., Kadomoto N., Hayashi F., Kozai K.: The 47<sup>th</sup> Congress of Japanese Society of Pediatric Dentistry (Osaka), 2009.
- 6 PCR Assay for Quantitative Detection of Porphyromonas gingivalis in Children: Hayashi F., Kadomoto N., Suzuki J., Okada M., Kozai K.: The 47<sup>th</sup> Congress of Japanese Society of Pediatric Dentistry (Osaka), 2009.
- 7 Optimal treatment for intruded primary teeth: Hirata R., Kaihara Y., Suzuki J., Kozai K.: The 47<sup>th</sup> Congress of Japanese Society of Pediatric Dentistry (Osaka), 2009.
- 8 Improvement in the respiratory failure by dental approach: Tachikake M., Suzuki J., Ohara Y., Kozai



- K.: The 47<sup>th</sup> congress of Japanese Society of Pediatric Dentistry (Osaka), 2009.
- 9 Use of a cognitive behavioral therapy-type approach to achieve successful dental treatment of a child suspected of dental phobia Mitsuhata C., Arika M., Hirata R., Suzuki J., Amano H., Kozai K.: The first conference of Japanese Psychosomatic Medicine (Tokyo), 2009.
  - 10 Children's stress in dental treatment with salivary chromogranin A: Mitsuhata C., Suzuki J., Kozai K.: The 21<sup>st</sup> IAPD International Congress (München), 2009.
  - 11 Oral health care for the improvement of QOL of patients in pediatric ward: Kozai K.: The 23<sup>rd</sup> Annual meeting of the Japanese Society of Psychosomatic Dentistry (Matsuyama), 2009.
  - 12 Dental health education to prevent dental caries in elementary school: Otani S., Tsuboi A., Morimoto H., Tachikake M., Yoshimura G., Hayashi F., Kaihara Y., Suzuki J., Kozai K.: The 28<sup>th</sup> Congress of Japanese Society of Pediatric Dentistry Chushikoku Branch (Hiroshima), 2009.
  - 13 Dental check-ups in a temporary care shelters for children: Yamane A., Banshodani A., Yamasaki K., Kozai K.: The 28<sup>th</sup> Congress of Japanese Society of Pediatric Dentistry Chushikoku Branch (Hiroshima), 2009.
  - 14 Possibility of more than one strain of *Streptococcus mutans* post initial acquisition in children. Udijanto T., Kozai K.: The 3<sup>rd</sup> Hiroshima Conference on Education and Science in Dentistry (Hiroshima), 2009.
  - 15 Significance of exchanges with different academic departments in Kasumi orientation camp. Iwamoto Y., Iwamoto A., Takada T., Kozai K., Nikawa H., Ogawa T., Taguchi N.: The 28<sup>th</sup> Congress of Japanese Dental Education Association (Hiroshima), 2009.

#### F) Special lectures in academic meetings

- 1 Yamaguchi Pediatric Association: The second Saikatei seminar, Healthy teeth and Healthy Body Kaihara Y.: Saikoutei, 2009.
- 2 The seminar for Japan Association of Dental Traumatology Specialists: Treatment and prevention of oral and dental trauma in children Instruction for school teachers : Kozai K.: Midou Kaikan, 2009.
- 3 2008 Sasebo oral health promotion in children: Children's gum and health: Kozai K.: Sasebo community center, 2009.
- 4 The Fifth National Scientific Meeting in Dentist: Guidance of the Developing Occlusion: Kozai K.: Airlangga University, 2009.
- 5 The congress of Japanese Society of Pediatric Dentistry Lecture on basic studies in pediatric dentistry: The basic research on periodontal disease progression in children: Suzuki J.: Osaka University, 2009.

- 6 The 17<sup>th</sup> conference of Hiroshima study group on oral health care: Growth and development on children and oral health care for children: Kozai K.: Hiroshima University, 2009.
- 7 The 22<sup>nd</sup> Annual Meeting of the Japanese Society of Oral Diagnosis/Oral Medicine Symposium: Evaluation of Stress with CgA -Significance to use CgA in dental treatments-: Mitsuata C.: Rofos Shonan, 2009.
- 8 The seminar for specialists of pediatric dentistry of Japanese Society of Pediatric Dentistry -Basic research on periodontal disease in children-: Suzuki J.: Kojin Kaikan, Hiroshima University, 2009.
- 9 The 20<sup>th</sup> Congress of Nishinippon Society of Pediatric Oral and Maxillofacial Surgery: Oral health care for children with systemic diseases Cooperation between pediatrics and pediatric dentistry : Kozai K.: Kumamoto-ken shikaishi kaikan, 2009.
- 10 The 17<sup>th</sup> conference of school dentists in Hiroshima prefecture: Oral health and safety for children: Kozai K.: Hiroshima-ken shikaishi kaikan Harmony hall, 2009.
- 11 The 14<sup>th</sup> conference of the society of dentistry for child health and development Seminar: Treatment for dental trauma Kozai K.: Kojin Kaikan, Hiroshima University, 2009.
- 12 The 14<sup>th</sup> conference of the society of dentistry for child health and development symposium: Cooperation between Pediatric Dentistry and pediatrics. Support for childhood cancer patients : Suzuki J.: Hiroshima University, 2009.
- 13 Dental treatment for Pervasive Developmental Disorders. Hayashi F.: Kojin-Kaikan, Hiroshima University, 2009.
- 14 Mock class Caries and the force of bite : Kozai. K.: Izumo High School, 2009.
- 15 2009 Hiroshima dental K \ J L Association seminar: Oral health service along life stages progress From prenatal periods to childhood : Kozai K.: Hiroshima-ken shikaishi kokuho kaikan, 2009.
- 16 2009 Hiroshima University open collage: Oral health promotion and growth and development on occlusion for children: Kozai K.: Hatsukaichi cultural center Sakurapia, 2009.
- 17 The 27<sup>th</sup> Congress of Japanese Society of Pediatric Dentistry Chushikoku Branch Table clinic: The comprehensive approach to patients with pervasive developmental disorders at the department of pediatric dentistry Hiroshima University Hospital: Kadomoto N.: Hiroshima University, 2009.
- 18 Mihara child-raising assistance seminar: Support for development of oral function for 0-year-old to one-year-old children : Kozai K: Mihara Shimin Fukushi Kaikan, 2009.

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

- 1 Grant-in-Aid for Scientific Research (B): Kadomoto N.: Development of oral care program using dental drug delivery system for patients who underwent hematopoietic stem cell transplantation . No.21792073 . 1,170,000

- 2 Grant-in-Aid for Scientific Research (B): Tachikake M.: Inhibition of osteoblastic cell differentiation by Lipopolysaccharide from Periodontopathic Bacteria *A.a* and its mechanism (No. 21792074). 2,600,000
- 3 Grant-in-Aid for Scientific Research (B): Kozai K.: Resolution of mechanism of transmission of periodontitis related bacterial strains in children and development of prevention from adult periodontitis. (No.19390530). 2,200,000
- 4 Grant-in-aid scientific research C : Suzuki J.: Unknown virulence factors produced by periodontal pathogen. (No.18592236). 600,000
- 5 Grant-in-Aid for Scientific Research(C): Mitsuhashi C.: Effects of endocrine disorders on developing dopaminergic system in Brain. (No.19592354). 1,500,000
- 6 Grant-in-Aid for Scientific Research from the Ministry of Education, Science, Sports and Culture of children §mouths. (No.19791581). 1,000,000
- 7 Grant-in-Aid of Futoku-kai: 2008: Kadomoto N.: ¥ 300,000
- 8 Hiroshima University Educational research: Kaihara Y.:Investigation on eating habits of elementary school children. ¥ 133,000
- 9 Hiroshima University Educational research.: Hayashi F.: Status of periodontal diseases and prevalence of periodontal pathogens in Junior high school students, ¥ 94,000
- 10 Grant-in-Aid of Futoku-kai: 2008: Hu Yiqun.. ¥ 300,000

(5) Academic Awards, etc.

(6) Patents

[Returns to the Contents](#)

**Master's Program for Oral Health Sciences**  
**Division of Oral Health Sciences**  
**(Department of Public Oral Health)**

(1) Staff and Students

Professor : Masaru Sugiyama

Assistant Professor : Maki Nosou

Research Associate : Akemi Naitou

(2) Main Research Activities

Study on the relationship between oral microorganism infection and oral mucosal lesion.

Study on the relationship between oral sensitivity and function in elders.

Study on the activities of oral health at school.

(3) Research Achievements

A) Original Papers (including Case Reports)

Functional Model of the Middle Ear Ossicles : Satoda T, Shimoe S, Makihira S, Tamamoto M, Matsumoto A, Hara K, Noso M, Niitani Y, Sugiyama M, Takemoto T, Murayama T, Amano H, Nikawa H :Acta Anatomica Nipponica, 84, 41-46, 2009.

B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

Evaluation of practicum of oral rehabilitation based on self-evaluation by students Hara K, Iwamoto A, Kubo K, Kawai T, Nishimura R, Yamashita K, Naitou A, Nosou M, Niitani Y, Matsumoto A, Takemoto T, Shimazu A, Turuda K, Sugiyama M, Amano H The 28<sup>th</sup> Annual Meeting of Japanese Dental Education Association, Hiroshima, 2009.

Educational effect of practicum of basic nursing based on self-evaluation by students and the recent trend : Fujii T, Miyakoshi Y, Teraoka Y, Kobayashi T, Takase M, Kawada A, Ueno K, Nosou M : The 35<sup>th</sup> Annual Meeting of Japan Society of Nursing Research, Yokohama, 2009.

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

(5) Academic Awards, etc.

(6) Patents

[Returns to the Contents](#)

## **Master's Program for Oral Health Sciences, Division of Oral Health Sciences (Department of Maxillofacial Functional Development)**

### (1) Staff and Students

Professor : AMANO Hideaki

Assistant Professor : HARA Kumiko

### (2) Specialized Fields

- 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 activation of the function of salivary glands
- 4 : Study on the methods for Oral health care
- 5 : Study on the education program for Oral health
- 6 : Study on education program for graduate dental hygienists

### (3) Achievements

A dietary instruction with the analysis of relationship between the pleasantness of dinner and secretion volume of salivary amylase-peroxidase Shiba Y, Hara K, Iwasa K, Maruyama T, Kanno M, Tarumoto K, Goto M, Inoue M, Proceedings of Hiroshima University and High Schools 37, 223-227, 2009. (in Japanese)

A study of effect of clinical training for oral care in the Oral Care Seminar Shikada M, Maruyama T, Hara K OralCareMate 4, 16-22, 2009.

Functional Model of the Middle Ear Ossicles : Satoda T, Shimoe S, M

## D) Other Publications

About Dentures -Stabilization- , Salivation is useful for stabilization of the dentures, massotherapy on the salivary gland : Hara K. and others : GlaxoSmithKline K.K..(Tokyo) : 9-10,2009. (in Japanese)

## E) Presentations

A study of effect of clinical training for oral care Shikada M, Maruyama T, Hara K The 20th Annual Meeting of the Kinki-Chugoku-Shikoku Regional Chapter of Japanese Society for Dental Health(Hiroshima), 2009.

Evaluation of practicum of oral rehabilitation based on self-evaluation by students Hara K, Iwamoto A, Kubo K, Kawai T, Nishimura R, Yamashita K, Naitou A, Nosou M, Niitani Y, Matsumoto A, Takemoto T, Shimazu A, Turuda K, Sugiyama M, Amano H The 28th Annual Meeting of Japanese Dental Education Association, Hiroshima, 2009.

An actual condition survey on the health concepts of the dental hygienist students in our school Yamashita K, Nishimura R, Iwamoto A, Nosou M, Naitou A, Hara K, Matsumoto A, Niitani Y, Turuda K, Shimazu A, Takemoto T, Amano H The 28th Annual Meeting of Japanese Dental Education Association, Hiroshima, 2009.

Study on the educational effects of practicum of basic nursing in the medical outpatient department for the dental hygienist students in school nurse program Nosou M, Naitou A, Sugiyama M, Hara K, Matsumoto A, Niitani Y, Turuda K, Shimazu A, Takemoto T, Amano H The 28th Annual Meeting of Japanese Dental Education Association, Hiroshima, 2009.

A Cross-sectional PBL tutorial education for the freshmen of School of Dentistry Taji G, Taguchi N, Takemoto T, Tamamoto M, Miyauchi M, Watanabe M, Kanawa M, Hara K, Satoda T, Murayama T, Ogawa T, Uchida T The 28th Annual Meeting of Japanese Dental Education Association, Hiroshima, 2009.

A practical training for oral health counseling in School of Oral Health Sciences, Hiroshima University Faculty of Dentistry and its evaluation by the students Matsumoto A, Niitani Y, Hara K, Kubo K, Nosou M, Naitou A, Tamamoto M, Makihira S, Sasahara H, Kawahara K, Satoda T, Murayama T, Sugiyama M, Takemoto T, Amano H The 28th Annual Meeting of Japanese Dental Education Association, Hiroshima, 2009.

A practical program for oral rehabilitation Hara K, Naitou A, Nosou M, Turuda K, Shimazu A, Niitani Y, Matsumoto A, Takemoto t, Sugiyama M, Amano H: Autumn meeting 2009 of the teachers for Dental Hygiene (Tokyo), 2009.

A study for effect of gland massage on salivary secretion Hara K Maehara A, Maruyama T, Iwasa K, Sugita M, Hirono T, Amano H, Shiba Y : The 54<sup>th</sup> Annual meeting of Japan Salivary Gland Society(Tokyo), 2009.

#### F) Lectures

Practical Oral Health Care : Hara K. : Workshop for the staff of nursing service department in Healthcare Corporation Kousei-kai Kusatsu Hospital (Hiroshima) : 2009

Program for certified nurse course of Japanese Red Cross Hiroshima College of Nursing, Hara K. Japanese Red Cross Hiroshima College of Nursing Hiroshima 2009.

2009<sup>th</sup> seminar for Research guidance on the mouth care Hara K. Kanagawa UOD. O + \ J L H Q L V W ¶ V ( G X F D V

Some Techniques for Mouth Cleaning - Basic of the skills- : Hara K. : 10th Seminar for Practical Oral Care (Hiroshima) : 2009.

Some Techniques for Mouth Cleaning - application of the skills- : Hara K. : 10th Seminar for Practical Oral Care (Hiroshima) : 2009.

#### G) Social Contributions

: 3 U R J U D P I R U N L G V I U R P H O H P H Q W D U \ H U S H I M A U N I V E R S I T Y ' H Q W D O . I Faculty of Dentistry, 2009.

: Program for high school students, Dental Kids: Hiroshima University Faculty of Dentistry, 2009.

: Cooperate to the assessment of the Program for improvement of oral function in the ambulatory care fa F L O L W \ Q 2009. V H L

#### (4) Grant-in-Aid for Scientific Research

1 : 2009th grant-in-aid for scientific research : Hara K.: An analysis of lowering factors of salivary secretion and development of the preventive program for the xerostomia. (No.

2009th employment system for scientific research supporter: Hara K.

#### (5) Awards

#### (6) Patents

[Returns to the Contents](#)



**Master's Program for Oral Health Sciences, Division of Oral Health Sciences (Department of Oral Health Management)**

S&A

- P&A AKEMOD
- A&P AMASMOD
- R&B NIIANI
- G&B KKBO (A&P)

R&B

- : D&B
- : R&B
- : C&B
- : O&B
- : R&B
- : E&B
- : I&B
- : A&B

Ab & B

O&B A&B

F&B S&B, M&B, O&B, M&B  
A, H&K, N&M, N&S&B, O&M&B, A&A, N&M, A&B  
A&B, 84(2), 41-46, 2009.

B&B

M&B - D&B : S&B  
A&B 2008 : B&B ( C&B ) : E&B, D&B, A&B, 201-203, 2009.

Pá Sámé  
 Áln 2009 -2d  
 Pá -YIH, OM, KáK, NÁM, MÉS,  
 KáK, SÁH, ÁM, ÁNH, NÓM, SÁM, ÁN KÁ,  
 M, OÁ, KÁH.: 42d ÁMÁHÁDÁD  
 (Hán ), 2009.  
 ÁMÁHÁDÁD ÁM, ÁH,  
 ÁNH, NÁM, MÉS, KáK, SÁH, SÁ MÓN  
 NÁYMA, HÁK, NÓM, SÁ, ÁY : 42d ÁMÁD  
 HÁDÁDÁH ( ), 2009.  
 ÁMÁHÁDÁD ÁM, SÁ,  
 ÁNH, OM, NÁM, MÉS, KáK, SÁH, Á  
 SÁ MÓN NÓM, ÁK, ÁNH, SÁM, Á : 42d Á  
 MÁHÁDÁDÁH ( ), 2009.  
 ÁMÁHÁDÁD ÁK, MÁ,  
 NÁYHÁ SÁ, ÁK, ÁNH: Á 20th ÁMÁD  
 Ká -CÁ -SÁMÁDÁH (Hán ), 2009  
 ÁMÁHÁDÁD ÁD Á FÁ,  
 MÓN, SÁ, MÉS, SÁH, KáK, SÁ NÁM,  
 NÁYHÁK, MÁ, Á ÁNH : 93d MÁHÁD  
 DÁD 8th MÁHÁDÁH ÁMÁHÁDÁH 200 9.  
 ÁMÁHÁDÁD Á KÁH, MÓN  
 M, SÁ, MÁS, SÁH, KáK, SÁ NÁM, NÁYHÁK,  
 MÁ, Á ÁNH : 93d MÁHÁDÁH ÁMÁD 8th  
 MÁHÁDÁDÁH 9.  
 ÁMÁHÁDÁD Á NÁHÁ OÁ  
 K, HÁK, MÁ, SÁH, KÁH, Á : 93d MÁ  
 HÁDÁDÁH 8th MÁHÁDÁDÁH  
 (Hán 200 9).  
 ÁMÁHÁDÁD ÁMÁR, MÁS, NÁM,  
 OÁ, M ÁMÁK, NÓM, HÁK, MÁ, NÁY : 93d  
 MÁHÁDÁDÁH 8th MÁHÁDÁDÁH  
 ÁMÁHÁDÁH 200 9.  
 ÁMÁHÁDÁD ÁMÁHÁDÁH  
 Á ÁMÁS, NÁM, KáK, NÁM, SÁ, Á  
 M, MÓN SÁ Á SÁM, ÁNH: 93d MÁHÁDÁH

- 8thMtg HRPDA (Hn  
 2009.
- 10 [CSPBL 61] s 666 .] 6 ]: 6N, 6  
 666] AS, MS, NAH, KAK, OAS,  
 666] M6 6 SgM, Am oH. : 93d Mtg  
 HRPDA 8thMtg HRPDA  
 (Hn 200 9.
- 11 [CSPBL 61] s 666 .] 6 ]: 6N, 6  
 666] M6 6 SgM, HaK, S6 M6 Og  
 6 : 6 8thMtg HRPDA (Hn , 2009.
- 12 [CSPBL 61] s 666 .] 6 ]: 6N, 6  
 666] M6 6 SgM, HaK, S6 M6 Og  
 28thMtg HRPDA (Hn , 2009.
- 13 [CSPBL 61] s 666 .] 6 ]: 6N, 6  
 666] M6 6 SgM, HaK, S6 M6 Og  
 The 2009 P6 ( 43(en-US) > 6 6 2 7 2 6 261.67 Td [(y)48 TJ ET EMC /P <</MCID 43 25ng (e 43(en-US)>  
 S, S6H, KAK, S6 M6 SgM, 6 6 Ach: 6 8th  
 AMTG HRPDA (Hn , 2009.
- 14 [CSPBL 61] s 666 .] 6 ]: 6N, 6  
 666] M6 6 SgM, HaK, S6 M6 Og  
 K, MA, NAH, SA, 6 Ach : 6 8thA  
 Mtg HRPDA (Hn , 2009.
- 15 [CSPBL 61] s 666 .] 6 ]: 6N, 6  
 666] M6 6 SgM, HaK, S6 M6 Og  
 MA, K6K, K6C, NAH, 6K, NA, NOM, NA  
 MA 6 SA, 6K, SgM, Ach : 6 8thA  
 Mtg HRPDA (Hn , 2009.
- 16 [CSPBL 61] s 666 .] 6 ]: 6N, 6  
 666] M6 6 SgM, HaK, S6 M6 Og  
 - 6 6 6 6 -

1. **As -Mh-HD-Hg-Hn** 2009. 9.  
 [ **ebngcb** -1j : **Ma**. : **Cd** -**eo** **sfa**  
**ingb** **eb** **Sb** **Ev** **Mgn** -**Fl** -**Ka**  
 (Hn 2009.  
 [ **ebngcb** -2j : **Ma**. : **Cd** -**esfa**  
**ingb** **eb** **So** **eb** **Mgn** -**Fl** -**Ka**  
 (Hn 2009.  
**Dhagb** **ov** **an** **abob** j : **Ma**, **NhY**: **Sb**  
**gv** **Ggb** **Hh** **Hn** 2009. 9.  
**D Hg INY JADHE** **gh** **gh** **Gf**  
 2009.

**SbCb**

3URJUDP IRU NLGV IURP HOHPHQW DU\ VFK:RI OV 'HQWDO .LGV †/  
**FD** , 2009.  
**PghDKd** : **Hh** **FD** , 2009.  
 5HQHZDO VHPLQDU IRU WHDFKHU IV OLFHQVH 7DNHPRWR 7 +LURV  
**Cbcb** : **HaK**, **Ma** **GA**: **Cebcb**  
 †.RXVHLHQ. +2009.RVKLPD  
 OHPEHU RI 'HQWDO +\JLHQLVWMA. : ([DPL**QD** **LV** **LRO** **FRPPLWWHH**  
**Dc** 2009. 9.  
**Sb** **eb** **gb** **fb** **Kk** **CgSh** **kb** **Sb**  
**DHb** : **Ma**, 2009.  
**Mebgh** **Ma**, -**DSDQ** 'HQWDO +\JLHQLVW  
**Ab** 2009.  
**Eh** **Sb** **Dh** **Ma** **GA**, **Jsb**  
**Dh** 2009.  
**gh** **Ma** (C) 2009.  
 10 **Eh** **Ab** **Dh** **INY JADHE**  
 (b) 2009.  
 11 **Mh** **INY JADHE**  
**b** : **Nh**, 2009

**Master's Program for Oral Health Sciences,  
Division of Oral Health Sciences  
(Department of Anatomy and Functional Restorations)**

(1) Staff and Students

Professor Takahiro Satoda

Assistant Professor Saiji Shimoe

(2) Main Research Activities

Development of Effective model for anatomy education

Morphological Research on masticatory neuronal network

Study on dental materials for esthetic

Study on bonding prosthetic materials to dental alloys

Study on effective denture marking for individual identification

(3) Research Achievements

A) Original Papers (including Case Reports)

Functional Model of the Middle Ear Ossicles Satoda T Shimoe S Makihira S Tamamoto M  
Matsumoto A Hara K Nosou M Niitani Y Sugiyama M Takemoto T Murayama T Amano  
H Nikawa H Acta Anatomica Nipponica, 84, 41-46, 2009.

Facial Measurement by Light Section Method and its Application : Kihara T, Murayama T, Kawahara  
K, Shimoe S, Sasahara H, Tamamoto M, Makihira S, Satoda T, Nikawa H : The Journal of Hiroshima  
University Dental Society 41-2 2009

B) Review

C) Publications

The New Series of Textbooks for Dental Technologist-Dental Technology of Restoration : Suese K,  
Matsumura H, Marumo Y, Kumono Y, Shimoe S : ISHIYAKU PUBLISHERS, INC , Tokyo, 174,  
2007 .

The New Series of Textbooks for Dental Technologist-Dental Technology Practical Training : Kanai  
M, Kuwata M, Shimoe S, Maeda Y, Matsumura H, Miura H et al : ISHIYAKU PUBLISHERS,  
INC ,Tokyo, 207, 2008 .

D) Other Publications

## E) Presentation at Scientific Meeting

Functional Model of the Facial Expression Muscles around the Oral Cavity Satoda T Fujimoto K Itoh A Kusano K Araki Y Shimoe S The 114<sup>th</sup> Annual Meeting of Japanese Association of Anatomists Okayama 2009.

A Model for Embryological Instruction of the Branchial Cartilages Arima Y Honda H Hirose K Shimoe S Satoda T The 8<sup>th</sup> Annual Meeting of Co-Medical Function and Structure Association Kyoto 2009.

Functional Model of the Eye ball Honda H Arima Y Hirose K Shimoe S Satoda T The 31<sup>st</sup> Annual Meeting of Nippon Academy of Dental Technology Fukuoka 2009.

Functional Model of the Eye ball Satoda T Honda H Arima Y Hirose K Shimoe S The 64<sup>th</sup> Annual Meeting of Japanese Association of Anatomist, Cyugoku-Shikoku regional meeting Nangoku 2009.

Effectiveness of surface preparations on bonding between a zirconia ceramic material and an indirect composite : Kusano K, Araki Y, Shimoe S, Satoda T, Tanoue N, Matsumura H : The 93rd annual meeting of Hiroshima University Dental Society, The 4<sup>th</sup> Annual Meeting of Nippon Academy of Dental Technology Cyugoku Shikoku regional meeting Hiroshima 2009.

Objective evaluation of tooth carving using a non-contact three-dimensional surface scanner Part1:Quantification by volume and reference points Kihara T, Shimoe S, Nikawa H, Murayama T, Satoda T, Makihira S, Tamamoto M, Kawahara K, Sasahara H : The 28<sup>th</sup> Annual Meeting of Japanese Dental Education Association Hiroshima 2009.

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

Grant-in-Aid for Scientific Research(C) (New): Shimoe S : Development of tooth-friendly zirconia crown restorations optimized polymer composite resins. (No. 21592453). 1,820,000

## (5) Academic Awards, etc.

## (6) Patents

**Master's Program for Oral Health Sciences,  
Division of Oral Health Sciences  
(Department of Medical System and Biomaterial Engineering)**

(1) Staff and Students

Professor : Takeshi Murayama  
Associate Professor : Mitsuhiro Tamamoto  
Graduate Student : Kozue Miyamoto,  
Graduation Research Students : Kazuki Tatehata, Keita Yauchi, Sakie Fujita, Yuta Takumi,  
Daigo Tomonari, Mana Kawakami, Shougo Iwaguro,  
Harumi Kaneishi, Tsuyoshi Hidaka, Mana Kawaguchi,  
Masamine Ogasawara, Kaoru Wada, Shinya Chiba, Koki Ichizu

(2) Main Research Activities

- 1: Application of CAD/CAM and rapid prototyping to dentistry
- 2: Concurrent engineering in dentistry
- 3: 3d-modeling and computer simulation in dentistry
- 4: Development and clinical application of maxillofacial prosthetic apparatus for treatment and protection
- 5: Study on esthetic dentistry
- 6: Study on dental education
- 7: Analysis of dental techniques using sensors
- 8: Simulation-based analysis of work processes in dental technology
- 9: Study on sports dentistry ( mouthguard )
- 10: Study on musical dentistry ( adapter )

(3) Research Achievements

A) Original Papers (including Case Reports)

1: Functional model of the middle ear ossicles: Satoda T, Shimoe S, Makihira S, Tamamoto M, Matsumoto A, Hara K, Noso M, Niitani Y, Sugiyama M, Takemoto T, Murayama T, Amano H, Nikawa H: Acta anatomica Nipponica, 84(2), 41-46, 2009.

B) Review

1: Facial measurement by light section method and its application: Kihara T, Murayama T, Kawahara K, Shimoe S, Sasahara K, Tamamoto M, Makihira S, Satoda T, Nikawa H: The Journal of Hiroshima University Dental Society, 41(2), 107-113, 2009.

### C) Publications

### D) Other Publications

### E) Presentation at Scientific Meeting

- 1: Evaluation of antibacterial and physical properties of commercially artificial saliva -Part 1: Ishii H, Okura E, Takamoto Y, Takayama Y, Nikawa H, Makihira S, Kawahara K, Sasahara K, Satoda T, Murayama T, Hara K, Takemoto T, Naito A, Hogaki S: 42nd Annual Meeting of Hiroshima University Dental Society (Hiroshima), 2009.
- 2: Evaluation of antibacterial and physical properties of commercially artificial saliva -Part 2: Okura E, Ishii H, Takamoto Y, Takayama Y, Nikawa H, Makihira S, Kawahara K, Sasahara K, Satoda T, Murayama T, Niitani Y, Matsumoto A, Hara K, Noso M, Shimazu A, Hogaki S: 42nd Annual Meeting of Hiroshima University Dental Society (Hiroshima), 2009.
- 3: Influence of the interspecies interaction of Candida species on biofilm formation: Takamoto Y, Takayama Y, Ishii H, Okura E, Nikawa H, Makihira S, Kawahara K, Sasahara K, Tamamoto M, Shimoe S, Satoda T, Murayama T, Noso M, Tsuruta K, Amano H, Sugiyama M, Takemoto T: 42nd Annual Meeting of Hiroshima University Dental Society (Hiroshima), 2009.
- 4: Development of three-dimensional finite element modeling system for the TMJ based on high-resolution MRI: Nikawa H, Murayama T, Ueda K, Ogawa D, Nagasaki T, Tanaka E: 22nd Annual Meeting of Japanese Society for Temporomandibular Joint (Tokyo), 2009.
- 5: Education in computer-aided fabrication at School of Oral Health Sciences: Murayama T, Tamamoto M, Shimoe S, Makihira S, Sasahara K, Kawahara K, Satoda T, Nikawa H: Mechanical Engineering Congress, 2009 Japan(Morioka), 2009.
- 6: Evaluation of antibacterial and physical properties of commercially artificial saliva: Ishii H, Okura E, Takamoto Y, Takayama Y, Nikawa H, Makihira S, Kawahara K, Sasahara K, Satoda T, Murayama T, Hara K, Takemoto T, Naito A, Hogaki S: 36th Annual Meeting of The Society for Antibacterial and Antifungal Agents, Japan (Osaka), 2009.
- 7: Influence of the interspecies interaction of Candida species on biofilm formation: Takamoto Y, Takayama Y, Ishii H, Okura E, Uehara F, Okazaki S, Iwata S, Nikawa H, Makihira S, Kawahara K, Sasahara K, Tamamoto M, Shimoe S, Satoda T, Murayama T, Noso M, Tsuruta K, Amano H, Sugiyama M, Takemoto T: 36th Annual Meeting of The Society for Antibacterial and Antifungal Agents, Japan (Osaka), 2009.



- 8: Building the simulation model and 3d-model using MR Images: Nikawa H, Murayama T, Ueda K, Ogawa D, Nagasaki T, Tanaka E: 2nd Annual Meeting of Japanese Society for Evidence and the Dental Professional (Hiroshima), 2009.
- 9: Measurement of Occlusal Forces using Dental Prescale and T-Scan III: Kihara T, Nikawa H, Murayama T, Makihira S, Tamamoto M, Satoda T, Shimoe S, Kawahara K, Sasahara K: 2nd Annual Meeting of Japanese Society for Evidence and the Dental Professional (Hiroshima), 2009.
- 10: Development of a system that evaluates abutment teeth by using genetic algorithm: Miyamoto K, Murayama T, Tamamoto M, Shimoe S, Makihira S, Sasahara K, Kawahara K, Satoda T, Nikawa H, Naito A, Tsuruta K, Shimazu A, Noso M, Sugiyama M: 93rd Regular Meeting of Hiroshima University Dental Society (Hiroshima), 2009.
- 11: Design and fabrication of the mold of finger prostheses by using CAD and 3d-printer: Fujita S, Murayama T, Tamamoto M, Shimoe S, Makihira S, Sasahara K, Kawahara K, Satoda T, Nikawa H, Niitani Y, Hara K, Matsumoto A, Takemoto T, Amano H: 93rd Regular Meeting of Hiroshima University Dental Society (Hiroshima), 2009.
- 12: Aesthetic restorations at premolar that processed a new development hybrid ceramic block by dental CAD/CAM system: Tatehata K, Tamamoto M, Murayama T, Abekura H, Taji T, Yamamoto M, Shimoe S, Makihira S, Sasahara K, Kawahara K, Satoda T, Nikawa H, Akagawa Y: 93rd Regular Meeting of Hiroshima University Dental Society (Hiroshima), 2009.
- 13: Influence of denture cleanser on mouth guard sheet: Kaneichi H, Murayama T, Tamamoto M, Shimoe S, Makihira S, Sasahara K, Kawahara K, Satoda T, Nikawa H, Niitani Y, Hara K, Matsumoto A, Takemoto T, Amano H: 93rd Regular Meeting of Hiroshima University Dental Society (Hiroshima), 2009.
- 14: Objective evaluation of tooth carving using the non-contact three-dimensional surface scanner Part 1: quantification of volume and reference points: Kihara T, Shimoe S, Nikawa H, Murayama T, Satoda T, Makihira S, Tamamoto M, Kawahara K, Sasahara K: 28th Scientific Meeting of Japanese Association for Dental Education (Hiroshima), 2009.
- 15: Evaluation of oral health counseling practice for Hiroshima University Oral Health Science students: Matsumoto A, Niitani Y, Hara K, Kubo K, Noso M, Naito A, Tamamoto M, Makihira S, Sasahara K, Kawahara K, Satoda T, Murayama T, Sugiyama M, Takemoto T, Amano H: 28th Scientific Meeting of Japanese Association for Dental Education (Hiroshima), 2009.
- 16: Cross sectional PBL tutorial for 1st year dental students: Taji T, Taguchi N, Takemoto T, Tamamoto M, Miyauchi M, Watanabe M, Kanawa M, Hara K, Satoda T, Murayama T, Ogawa T, Uchida T: 28th Scientific Meeting of Japanese Association for Dental Education (Hiroshima), 2009.
- 17: Building three-dimensional models from three-tesla MRI for simulation of temporomandibular joint: Kawakami M, Murayama T, Nagasaki T, Ueda K, Ogawa D, Tanaka E, Nikawa H: 31st Meeting of the Nippon Academy of Dental Technology (Fukuoka), 2009.

- 18: Evaluation of the skill of dental technicians by using Sensors: Iwaguro S, Tatehata K, Takumi Y, Fujita S, Shimoe S, Tamamoto M, Murayama T: 31st Meeting of the Nippon Academy of Dental Technology (Fukuoka), 2009.
- 19: Attempt and evaluation of wind instrument performance trouble improvement: Tomonari D, Tamamoto M, Murayama T, Yauchi K, Kaneishi H, Satoda T, Nikawa H: 31st Meeting of the Nippon Academy of Dental Technology (Fukuoka), 2009.
- 20: Develop the inexpensive articulator be enabled to give occlusal surface on mouth guard: Yauchi K, Tamamoto M, Murayama T, Tomonari D, Kaneishi H, Satoda T, Nikawa H: 31st Meeting of the Nippon Academy of Dental Technology (Fukuoka), 2009.
- 21: The effect of titanium ion and lipopolysaccharide on gingival epithelial like cell: Kamoi K, Makihira S, Nikawa H, Iwata S, Satoda T, Murayama T: 31st Meeting of the Nippon Academy of Dental Technology (Fukuoka), 2009.

#### F) Special Lectures in Academic Meetings

- 1: Toward Further Development of Oral Health Science- ( V W D E O L V K P H Q W R I O D V W H U ¶ V Health Science-: Takeshi Murayama, Hideaki Amano, Toshinobu Takemoto, Masaru Sugiyama, Takahiro Satoda, Hiroki Nikawa: The International Workshop for BioDental Education and Research (Hiroshima), 2009.

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

- 1: Regional Innovation Grant: Hiroki Nikawa, Takeshi Murayama, Eiji Tanaka, Toshikazu Nagasaki, et al.(Representative: Digital Solutions Inc. Kanji Ueda), Development of System assisting Diagnosis and Treatment of Joints by FEM Analysis. ¥39,999,000

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

#### (6) Patents

**Master's Program for Oral Health Sciences**  
**Division of Oral Health Sciences**  
**(Department of Oral Biology & Engineering)**

(1) Staff and Students

Professor : Hiroki Nikawa  
Associate Professor : Seicho Makihira  
Assistant Professor : Hisako Sasahara H21.4-  
Research Associate : Kazuko Kawahara H21.4-  
Secretary : Miki Onji  
Research Assistant : Kaori Taguchi  
Graduate Student : Naoya Imari, Adusa Yamada, Yuko Omae, Aya Hiyama, Yuichi Mine, Sumiyo  
Mimura, Takuya Kihara, Takahiro Syuto, Airi Takahashi, Suirin Akamine  
H21.4-H21.9

(2) Main Research Activities

Mechanisms on allergy caused by dental materials  
Study on candidal biofilms and denture plaque  
Study on dental caries and probiotics  
Design for cationic antimicrobial peptides  
Study on large-scale proliferation of the mesenchymal stem cells using antimicrobial peptides  
Study on mechanisms of the alveolar bone resorption and on bone - resorption inhibitors  
Study on dental implant materials

(3) Research Achievements

A) Original Papers (including Case Reports)

Authenticity of health communication skills development assessed by means of OSCE stations  
Taguchi N., Ogawa T., Sasahara H., Taji T.: Journal of Hiroshima University Dental Society ,41,1-3,  
2009.  
Immobilized-OPG-Fc on a titanium surface inhibits RANKL-dependent osteoclast differentiation in  
vitro : Makihira S., Mine Y., Nikawa H., Shuto T., Kosaka E., Sugiyama M., Hosokawa R.:J Mater  
Sci Mater Med, 2009.

Impact of titanium ions on osteoblast-, osteoclast- and gingival epithelial-like cells :Mine Y., Makihira S., Nikawa H., Murata H., Hosokawa R., Hiyama A., Mimura S.:J Prosthodont Res. 2010 Jan;54(1):1-6. Epub 2009 Sep 4.

B) Review

Research projects related to complete dentures published in 2008 by members of the Japan Prosthodontic Society Nikawa H., Makihira S.:J Prosthodont Res,53,103-106,2009.

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

Effects of JH8194-immobilized titanium on the differentiation of osteoblastic cell line, MC3T3-E1 Shuto T., Makihira S., Mine Y., Hiyama A., Mimura S., Nikawa H. The International Workshop on BioDental Education & Research Hiroshima University Graduate School of Biomedical Sciences,2009.

Antimicrobial effects of oral isolates of lactobacilli against mutans streptococci and Candida spp Hiyama A., Nikawa H., Makihira S., Mimura S., Mine Y., Shuto T. The International Workshop on BioDental Education & Research Hiroshima University Graduate School of Biomedical Sciences,2009.

Effects of titanium ion on osteoblast and osteoclast differentiation Mine Y., Makihira S., Shuto T., Mimura D., Hiyama A., Nikawa H. The International Workshop on BioDental Education & Research Hiroshima University Graduate School of Biomedical Sciences,2009.

Inhibitory effect of oral isolates of Lactobacillus fermentum on mutans streptococci Mimura S., Nikawa S., Makihira S., Hiyama A., Mine Y., Shuto T. The International Workshop on BioDental Education & Research Hiroshima University Graduate School of Biomedical Sciences,2009.

TGF-Beta1 enhances MICA expression in the human periodontal ligament cells Kawahara K., Shimazu A., Kajiya M., Shiba H., Fujita T., Kawaguchi H.:International Association for Dental Research 87th

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

(5) Academic Awards, etc.

(6) Patents

## Central Research Laboratory

### (1) Staff and Students

Director : Katsuyuki Kozai by-work

Research Associate : ~~14-15~~

### (2) Main Research Activities

- 1 : Proteomics approach for protein identification
- 2 : Structural analysis of biologically active substances

### (3) Research Achievements

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

- 1: Caspase-independent cell death without generation of reactive oxygen species in irradiated MOLT-4 human leukemia cells Yoshida K, Kubo Y, Kusunoki Y, Morishita Y, Nagamura H, Hayashi I, Kyoizumi S, Seyama T, Nakachi K, Hayashi T.: Cell Immunol., 255, 61-68, 2009.
- 2: Screening Test of Methicillin-resistant Staphylococci in the Nasal and Oral Cavity of the Residents at the Department of Advanced General Dentistry, Hiroshima University Hospital: Ohara M, Yoshino H, Taguchi N, Hayashi I, Okada M, Tamura Y, Ogawa I, Sugai M, Ogawa T: J. Hiroshima Univ. Dent Soc., 41, 135-142, 2009.

#### B) Review

#### C) Publications

#### D) Other Publications

#### E) Presentation at Scientific Meeting

- 1: Analysis of Peptidoglycan Structure of Oral Streptococci: Hayashi I, Panida T, Komatsuzawa H, Sugai M: 82nd Annual meeting for Japanese Society for Bacteriology (Nagoya) 2009
- 2: Substrate recognition mechanism and characteristic of selective hydrolytic activity of ALE-1 for S.

aureus: Sugai M, Fujiwara T, Hayashi I, Komatsuzawa H: 82nd Annual meeting for Japanese Society for Bacteriology (Nagoya) 2009 .

3: Effects of immune-related gene polymorphisms and atomic-bomb radiation exposure on risks of stomach and liver cancers: Hayashi T, Ouishi K, Imai K, Yoshida K, Hayashi I, Fujiwara S, Kusunoki Y, Nakachi K: Proceedings of the 16<sup>th</sup> Annual Meeting of the Japanese Society of Immunology, (Asahikawa) 2009.

4: Detailed structural analysis of cell wall peptidoglycan of oral streptococci: Hayashi I, Panida T, Sugai M: 62nd Annual meeting for Japanese Society for Chugoku-Shikoku branch (Hiroshima) 2009

5: The N-terminal cell wall targeting domain of Aml confers substrate selectivity on cariogenic streptococci: Panida T, Hayashi I, Fujiwara T, Sugai M: 62nd Annual meeting for Japanese Society for Chugoku-Shikoku branch (Hiroshima) 2009

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

(5) Academic Awards, etc.

## Department of Advanced General Dentistry, General Dentistry

### (1) Staff and Students

|                     |                  |                            |               |
|---------------------|------------------|----------------------------|---------------|
| Professor           | Tetsuji Ogawa    | Vice President of Hospital | Tetsuji Ogawa |
| Associate Professor | Norihiro Taguchi |                            |               |
| Research Associate  | Yoshihara Tanaka | Masaru Ohara               |               |
| Secretary           | Tomoe Sasaki     |                            |               |

### (2) Main Research Activities

1. Research in patient-centred 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

### (3) Research Achievements

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

1. Authenticity of Health Communication Skills Assessed by means of OSCE. Taguchi N.,Ogawa T.,Taji T., Sasahara H. The Journal of Hiroshima University Dental Society 41 1,1-3, 2009.
2. OSCEs in Japanese postgraduate clinical training Hiroshima experience 2000-2009. Taguchi N., Ogawa T. European Journal of Dental Education accepted.
3. Health Communication Training Focusing on Self-review by Videotaping. Taguchi N.,Sasaki T., Ogawa T. The Journal of Japanese Association in Dental Education 25,115-121,2009.
4. Globalization of Dental Education Lessons Learned from Europe. Taguchi N., Ogawa T. Proceeding, 3rd Hiroshima Conference on Education and Science in Dentistry 23-26 2009.
5. Molecular cloning characterization of *shnlpI* gene in *Shigella flexneri*. Ohara M., Yoshino H., Ogawa T. and Sugai M.. The Journal of Hiroshima University Dental Society vol 41, 50-56, 2009.
6. Screening Test of Methicillin-resistant Staphylococci in the Nasal and Oral Cavity of the Residents at the Department of Advanced General Dentistry, Hiroshima University Hospital. Ohara M.,

Yoshino H., Taguchi N., Hayashi I., Okada M., Tamura H., Ogawa I., Sugai M. and Ogawa T.. The Journal of Hiroshima University Dental Society vol 41, 135-142, 2009.

7. Increased prevalence and clonal dissemination of multidrug-resistant *Pseudomonas aeruginosa* with the blaIMP-1 gene cassette in Hiroshima. Kouda S, Ohara M, Onodera M, Fujiue, Y, Sasaki M, Kohara T, Kashiyama S, Hayashida S, Harino T, Tsuji T, Itaha H, Gotoh N, Matsubara A, Usui T, Sugai M. J Antimicrob Chemother. 2009 Jul;64(1):46-51. Epub 2009 Apr 27.

#### B) Review

1. How Do Students Learn? –Toward Learner-centred Dental Education – Taguchi N., Ogawa T. The Journal of Japanese Association in Dental Education 25,3-14,2009.

#### C) Publications

#### D) Other Publications

1. A participation report to the overseas medicine and dental education meeting in 2008. Taguchi N., Ogawa T. The Journal of Japanese Association in Dental Education 25,3-14,2009.
2. Diffuse X-ray impentrate image that reaches all maudibles. Tanaka Y, Taguchi N. Dental Diamond 34, 9, 125-126, 7 2009.

#### E) Presentation at Scientific Meeting

1. The validity of the simulated patient training program | < R V K L O G D W a T Taguchi N Maeda J Abe K Torii Y Shirai H Konoo T Nakai Y Shimono T 35th Association for Dental Education in Europe Helsinki 2009.
2. Learning Style for Self-Directed Learning. Ogawa T., Taguchi N., Tanaka Y. Ohara M. and Sasaki T. 28<sup>th</sup> Meeting of Japanese Dental Education Association, Hiroshima, 2009.
3. ' H Q W D O W U D L Q H H V ¶ H [ S H U L H Q F H V R I W U D L Q H U V ¶ Q H J D W L Sasahara H. and Ogawa T. 28<sup>th</sup> Meeting of Japanese Dental Education Association, Hiroshima, 2009.
4. A trial on medical interview for patients with special needs in advanced OSCE of Clinical dental training course. Okada M., Taguchi N., Ohara M., Tanaka Y. and Ogawa 28<sup>th</sup> Meeting of Japanese Dental Education Association, Hiroshima, 2009.
5. Educational study of emergency treatment training in dental training. Tanaka T., Taguchi N., Ohara M. and Ogawa T. 28<sup>th</sup> Meeting of Japanese Dental Education Association, Hiroshima, 2009..
6. What is the significance to exchange between the different major students in the "Kasumi Orientation Camp"? Iwamoto Y., Iwamoto A, Takata T., KOZAI K, Nikawa H., Ogawa T., Taguchi N. 28<sup>th</sup> Meeting of Japanese Dental Education Association, Hiroshima, 2009.
7. Cross sectional PBL tutorial for 1<sup>st</sup> year dental students. Taji T., Taguchi N., Takemoto T., Tamamoto



- M., Miyauchi M., Watanabe M., Kanawa M., Hara K., Satoda T., Murayama T., Ogawa T and Uchida T. 28<sup>th</sup> Meeting of Japanese Dental Education Association, Hiroshima, 2009.
8. Clinical training for dental hygiene students. Tamura H., Kajitani K., Nakaoka M., Iwasaki Y., Taguchi N., Okada M. and Ogawa T. 28<sup>th</sup> Meeting of Japanese Dental Education Association, Hiroshima, 2009.
  9. Trial of education using SP in clinical training for dental hygiene students. Kajitani K., Nakaoka M., Iwasaki Y., Taguchi N., Okada M., Tamura H. and Ogawa T. 28<sup>th</sup> Meeting of Japanese Dental Education Association, Hiroshima, 2009.
  10. A skill up session of simulation patients through interchange with teachers affiliated with health / medical care / humanities / society. Sasaki T., Maeda J., Taguchi N., Ogawa T. 28<sup>th</sup> Meeting of Japanese Dental Education Association, Hiroshima, 2009.
  11. The development of educational tools for simulation training using simulated patients. Yoshida T., Nakanoda SW., Shirai H., Nakai Y., Kono T., Suzuki K., Torii Y., Konoo T., Taguchi N., Ogawa T. 28<sup>th</sup> Meeting of Japanese Dental Education Association, Hiroshima, 2009.
  12. Dental Education for Communication. Ogawa T., Taguchi N., Tanaka Y., Ohara M., Sasaki T. Communication Association in Japan Chugoku-Shikoku branch, Educational Research Seminar in Health Communication, Hiroshima, 2009.
  13. & R P P X Q L F D W L R Q Z L W K ( O G H U O \ 3 H U V R Q + L U R V K L P D 3 U Perspective. Taguchi N., Tanaka Y., Ohara M., Ogawa T., Doi N., Katayama S., Segawa K., Matsumoto N., Nakamura M., Kajii M., Yamano R., Miyamura K., Ichinose T., Nishino H., Tsushima T. and Santanda T. Research Seminar in General Dental Medicine 2009. Chiba, 2009.
  14. Screeningtest of Methicillin-resistant Staphylococci in the nasal &oral cavity of the medical staffs at the Department of Advanced General Dentistry. Ohara M., Yoshino H., Taguchi N., Tanaka Y., Tamura H., Ogawa I., Okada M., Sugai M. and Ogawa T., Research Seminar in General Dental Medicine 2009. Chiba, 2009.

#### F) Implementation of Seminars / Workshops

1. Workshop for postgraduate trainees 2009 (Hiroshima)
2. Communication Association in Japan Chugoku-Shikoku branch, Educational Research Seminar in Health Communication, Hiroshima, 2009.

#### G) Lecturer Symposiast

1. Outcome and Competence-based Learning on Undergraduate Education. Taguchi N. 28<sup>th</sup> Meeting of Japanese Dental Education Association, Hiroshima, 2009.

2. Globalization of dental education –Lessons learned from Europe 3rd Hiroshima Conference on Education and Science in Dentistry. Taguchi N, Ogawa T. 2009 Hiroshima Conference, Hiroshima, 2009.
3. Education of Communication in Hiroshima University School of Dentistry. Ogawa T. 1<sup>st</sup> Meeting of Health Communication , Tokyo, 2009.
4. Education of Professionalism in Hiroshima University School of Dentistry. Ogawa T. Meeting for Promotion of Educational Research in Medical, Dental and Pharmacy, Tokyo, 2009.

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

1. Seminar of Qualitative Research for Medical Education in Nagoya 2009. Ogawa T. Associate Dean & Professor, Technologies in Education, Department of Educational Sciences, Graduate School of Education and Human Development, Nagoya University, Nagoya 2009.
2. Seminar for Postgraduate Training Program Manager 2009. Taguchi N. Foundation of Promoting Dental Care and Training, Chiba, 2009.
3. 50<sup>th</sup> Seminar for University Teacher. Ogawa T. Hachioji Seminar House, Tokyo, 2009.

#### I) Implementation of OSCE, CSA

1. 2<sup>nd</sup> Advanced OSCE for Postgraduate Trainees 2008-2009
2. 1<sup>st</sup> Advanced OSCE for Postgraduate Trainees 2009-2010

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

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

1. 1<sup>st</sup> Education culture Prize of Japanese Dental Education Association. Norihiro TAGUCHI

#### (6) Patents

## Department of Oral Health and Development, Preventive Dentistry

Basic and Postgraduate students

Assistant Professor Makoto Kawamura

Research fields

Behavioral science regarding oral health

International studies on oral health promotion

Studies on community dental health

Studies on school dental health

Studies on development of computer-aided diagnosis scheme for periodontal disease

Bibliography

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

1: Exploring the relationships between sense of hopelessness, worry, self-rated oral health status and behavior in a Romanian adult population. Dumitrescu A. L., Kawamura M.: *The Journal of Contemporary Dental Practice*, **10**(2):34-41, 2009.

2: Investigating the relationship between self-reported oral health status, oral health-related behaviors and self-consciousness in Romanian dental patients. Dumitrescu A. L., Kawamura M., Zetu L., Tesularu S.: *Journal of Periodontology*, **80**:468-475, 2009.

3: Self-reported oral health status, oral health-related behaviors, resilience and hope in Romania.

Dumitrescu A. L., Kawamura M., Dogaru B., Dogaru C.: *Oral Health and Preventive Dentistry*, 7(3): 251-259, 2009.

4 7 K H L Q I O X H Q F H R I S Drising On the Dental Health Comix of the Rizi On U G F K L O G  
Sasahara H. Kawamura M. *Journal of Dental Health* 59(2): 118-124, 2009.

## B) Reviews

## C) Books/Book Chapters

1: Etiology of Periodontal Disease: Dental Plaque and Calculus.: Etiology and Pathogenesis of Periodontal Disease. (Dumitrescu A.L). Dumitrescu A.L., Kawamura M.: Springer-Verlag (Berlin/Heidelberg), 1-38, 2009.

## D) Proceedings/Others

1: Status of periodontal diseases and prevalence of periodontal pathogens in Junior high school students : Hayashi F., Yasuda R., Nakata K., Suzuki J., Okada M., Kawamura M., Kozai K., The annals of educational research of Hiroshima University (Faculties and SchoolC Attached to Hiroshima University)Bi 37; 275-278, 2009.

## E) Presentations

1: Exploring the relationships between sense of hopelessness, worry, self-rated oral health status and behavior in a Romanian adult population: Dumitrescu A. L., Kawamura M.: *Europario 6* (Stockholm),

2009.

~~BO~~ Grants-in-aid

**1:** Grant-in-aid for Scientific Research(C), No.20592455, Continued ~~BO~~ Kawamura M. ~~BO~~ Representative ~~BO~~

Okada M., Taguchi N., Sasahara H., Ogawa T.: Calibration of GO and G for school dental health on the basis of CAD. 600,000yen.

~~BO~~ Awards

~~BO~~ Events

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

### (1) Staff and Students

|                     |                  |                   |
|---------------------|------------------|-------------------|
| Associate Professor | Mitsugi Okada    | Head of Dentistry |
| Research Associate  | Koichi Hayashida |                   |
| Resident            | Mie Aoki         |                   |

### (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 periodontal tissue regeneration using bone marrow mesenchymal stem cells
- 4: A study on dental problems of patients with disabled
- 5: A study on PBL task for dental problem of patients with mental retardation
- 6: A clinical study on endodontal-periodontal therapy

### (3) Research Achievements

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

- 1: 7 H H Q D J H U V ¶ | R U D O K H D O W K D W W L W X G H V D Q G E H K D Y L R U L O  
J Oral Sci: 50: 167-174, 2008.
- 2: Simultaneous interrelationship between the oral health behavior and oral health status of mothers and their children: Okada M, Kawamura M, Hayashi Y, Takase N, Kozai K: J Oral Sci 50: 447-452, 2008.
- 3: Irsogladine maleate abolishes the increase in interleukin-8 levels caused by outer membrane protein 29 from *Aggregatibacter (Actinobacillus) actinomycetemcomitans* through the ERK pathway in human gingival epithelial cells. [Kishimoto A](#), [Fujita T](#), [Shiba H](#), [Komatsuzawa H](#), [Takeda K](#), [Kajiya M](#)

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

- 1: PCR detection of *Streptococcus mutans* and *S. sobrinus* in schoolchildren: Okada M, Hayashida K, Yasuda R, Kurihara H: The 86th general session & exhibition of the IADR (Toronto), 2008
- 2: PCR assay for quantitative detection of *Porphyromonas gingivalis* in children: Hayashi F, Okada M, Suzuki J, Kozai K: The 86th general session & exhibition of the IADR (Toronto), 2008

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

(5) Academic Awards, etc.

(6) Patents

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## Central Clinical Sections, Special Dental Clinic Section

### (1) Staff and Students

Chief Professor : Keiji Tanimoto

Research Associate : Yukimi Yasuhara

### (2) Main Research Activities

Perceptual Evaluation of Cleft Palate Speech

Clinical Application of Electropalatography

Research for improvement in articulation problem

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

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

(5) Academic Awards, etc.

(6) Patents



## Central Clinical Sections, Center of Oral Clinical Examination

### (1) Staff and Students

Director: Hidemi Kurihara  
Associate Professor: Ikuko Ogawa Clinic  
Research Associate: Tomoaki Shintani, Masae Kitagawa  
Technician: Keiko Banno

### (2) Main Research Activities

- 1: Clinical study on endodontal-periodontal therapy
- 2: Clinicopathological study on head and neck lesions
- 3: Molecular pathological study on proliferation and development of oral squamous cell carcinoma
- 4: Study on cellular differentiation on salivary gland tumors
- 5: Study on molecular target therapy to oral cancer targeted with VEGFR and EGFR
- 6: Developmental study of treatment to dysgeusia
- 7: Study on test and treatment in metal allergy and dry mouth.
- 8: Study on function of cementoblast specific genes in human cementoblast.

### (3) Research Achievements

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

- 1: A case of dyshidrotic eczema with improvement of hand dermatitis after removing dental metal restorations: Harada K., Makihara S., Nikawa H., Ogawa I., Kitagawa M., Abekura H., Nishimura M., Kurihara H., Akagawa Y., Hamada T.: J Jpn Soc Evid Dent Prof, 1:31-36, 2009.
- 2: Infected root canal treatment with systemic administration of antibiotics based on susceptibility test: A case report: Kitamoto Y., Hino T., Uchida Y., Shiba H., Kawaguchi H., Kurihara H. : J Jpn End Assoc, 30, 82-187, 2009.
- 3: Infected root canal treatment with systemic administration of antibiotics based on susceptibility test: A case report: Uchida Y., Niitani Y., Kitamoto Y., Hino T., Ogawa I., Shiba H., Kawaguchi H., Kurihara H. : J Jpn End Assoc, 30, 188-194, 2009.
- 4: Bacterial examination with anaerobic culture system for canal treatment: Kitamoto Y., Uchida Y., Hino T., Ogawa I., Kurihara H.: Dental Outlook, 113, 655, 2009.

- 5: Nuclear Survivin expression is correlated with malignant behaviors of head and neck cancer together with Aurora-B: Qi G, Kudo Y, Ando T, Tsunematsu T, Shimizu N, Siriwardena S, Yoshida M, Keikhae M, Ogawa I, Takata T: *Oral Oncol*, (in press).
- 6: Brain-derived neurotrophic factor protects cementoblasts from serum starvation-induced cell death: Kajiya M, Shiba H, Fujita T, Takeda K, Uchida Y, Kawaguchi H, Kitagawa M, Takata T, Kurihara H: *J Cell Physiol*, 221, 696-706, 2009.
- 7: RUNX3 has an oncogenic role in head and neck cancer: Tsunematsu T, Kudo Y, Iizuka S, Ogawa I, Fujita T, Kurihara H, Abiko Y, Takata T: *PLoS ONE*, 4, e5892, 2009.
- 8: Aberrant beta-catenin expression and adenomatous polyposis coli gene mutation in ameloblastoma and odontogenic carcinoma: Siriwardena BS, Kudo Y, Ogawa I, Tilakaratne WM, Takata T: *Oral Oncol*, 45, 103-108, 2009.
- 9: A case of glandular odontogenic cyst arising in the molar region of the mandible. –Comparison and review of domestic and international reports–: Niikawa S, Koizumi K, Toratani S, Okamoto K, Ogawa I, Okamoto T: *Jpn J Oral Maxillofac Surg*, 55, 359-363, 2009.
- 10: A case of lower gingival polypoid mass with pseudomalignant change: Yoshioka Y, Ogawa I, Hayashido Y, Toratani S, Takata T, Okamoto T: *J Jpn Stomatol Soc* (in press)
- 11: Screening test of methicillin-resistant staphylococci in the nasal and oral cavity of the residents at the Department of Advanced General Dentistry, Hiroshima University Hospital: Ohara M, Yoshino H, Taguchi N, Hayashi I, Okada M, Tamura Y, Ogawa I, Sugai M, Ogawa T: *J Hiroshima Dent Soc*, 41, 135-142, 2009.

## B) Review

## C) Publications

- 1: Chapter 7, Part 2. Odontogenic tumor. Ogawa I, Takata T, Mori M. *Oral Surgery -Third edition-*: Shirasuna K, Miyazaki M. ed., Ishiyaku-Shuppan.
- 2: Chapter 1. Head and neck regions. 1. Extracapsular invasion (salivary glands): Ogawa I, Takata T. *Patho-morphological keywords, Pathology and Clinical Medicine 28*, Pathology and Clinical Medicine editing committee, ed., Bunkodo.
- 3: Digestive organs; Oral mucosa & Salivary glands. Ogawa I, Kuyama K, Takata T: *ATLAS, Cytological diagnosis and Pathological diagnosis*. Kamei T, Taniyama S, ed., Igaku-Shoin.

## D) Other Publications

- 1: Series Clinical lecture close to young dentists . How to use the clinical examination for daily

- dental examinations. Ogawa I.: J Jpn Dent Assoc 62(5):45-53, 2009.
- 2: Close up of Oral disease: Black hairy tongue in the center of dorsum of tongue: Takagi N., Takahashi M., Ogawa I., Takata T.: Dhstyle 3(27):12-14, 2009.
  - 3: Close up of Oral disease: Papilloma arising at interdental papilla: Kikuta M., Kouhara G., Kitagawa M., Takata T.: DHstyle 3 (29): 12-14 2009
  - 4: Close up of Oral disease: lymphangioma arising at center of dorsum: Kikuta M., Kohara G., Kitagawa M., Takata T.: DHstyle 3 (31): 12-14 2009
  - 5: Close up of Oral disease: Osteonecrosis of alveolar bone caused by bisphosphonate: Anzai K., Shirafuchi K., Ogawa I., Takata T.: DHstyle 3 (39) 10-13 2009

#### E) Presentation at Scientific Meeting

- 1: Tumor of the parotid gland Pleomorphic adenoma with oncocytic metaplasia Ogawa I., Matsuura H., Takata T.: The 52nd Meeting of Hiroshima Pathological Conference (Hiroshima), 2009.
- 2: Utility of bacterial examination with anaerobic culture system for samples from root canal root canal treatment : Kitamoto Y., Uchida Y., Hino T., Shiba H., Kawaguchi H., Kurihara H. : The meeting of the society of Japan endodontic association (Tokyo), 2009.
- 3: Infected root canal treatment with systemic administration of antibiotics based on susceptibility test: A case report : Uchida Y., Niitani Y., Kitamoto Y., Hino T., Shiba H., Kawaguchi H., Kurihara H. : The meeting of the society of Japan endodontic association (Tokyo), 2009.
- 4: The therapeutic experience of bisphosphonate related osteonecrosis of the jaws in our department.: Kimura Y., Shintani T., Hamana T., Fukui Y., Mashima T., Kitamura N., Yoshioka Y., Sakamoto A., Sakamoto T., Tani R., Hayashido Y., Toratani S., Miyauchi M., Ogawa I., Okamoto T.: The 63rd Annual Meeting of Japanese Somatological Society (Hamamatsu), 2009.
- 5: Tongue tumor Sialadenoma papilliferum : Ogawa I., Takata T., Nakazato I. Academic Meeting of Chugoku-Shikoku Branch of the Japanese Society of Pathology (99th Slide Conference) (Nangoku), 2009.
- 6: Case reports of the allergic response to non-metal dental materials: Kitagawa M., Shintani T., Ogawa I., Kurihara H.: The 42nd Meeting of Hiroshima University Dental Society (Hiroshima), 2009.
- 7: Utility of bacterial examination with anaerobic culture system for samples from root canal root canal treatment : Kitamoto Y., Uchida Y., Hino T., Shiba H., Kawaguchi H., Kurihara H. : The 42nd Meeting of Hiroshima University Dental Society (Hiroshima), 2009.
- 8: Infected root canal treatment with systemic administration of antibiotics based on susceptibility test: A case report: Uchida Y., Kitamoto Y., Hino T., Shiba H., Kawaguchi H., Kurihara H.: The 42nd Meeting of Hiroshima University Dental Society (Hiroshima), 2009.
- 9: Overexpression of Emi1 by abnormal ubiquitin mediated degradation in oral cancer: Kudo Y.,

Tsunematsu T., Iizuka S., Ogawa I., Takata T.: The 28th Meeting of the Japan Society for Molecular Pathology (Kobe), 2009.

10: The tumor of palate (Infiltrating pleomorphic adenoma with bizarre cells): Ogawa I., Maeshima T.

Hiroshima University Dental Society (Hiroshima), 2009.

- 22: Tumor of the parotid gland (Mucoepidermoid carcinoma arising in Warthin tumor): Ogawa I., Takata T., Takeshima Y., Inai K.: The 100th Academic Meeting of Chugoku-Shikoku Branch of the Japanese Society of Pathology (Kurashiki), 2009.
- 23: Regeneration of bone by ameloblastin: Iizuka S., Kitagawa M., Kudo Y., Ogawa I., Miyauchi M., Takata T.: The 3rd Hiroshima Conference on Education and Science in Dentistry (Hiroshima), 2009.
- 24: Tumor of the parotid gland (Epithelial-myoepithelial carcinoma): Ogawa I., Uemura Y., Takata T.: The 11th Meeting of Society of Salivary Gland Tumor Pathology (Tokyo), 2009.
- 25: One case of mucoepidermoid carcinoma arising in Warthin tumor: Ogawa I., Takeshima Y., Inai K., Takata T.: The 54th Annual Meeting of Japan Salivary Gland Society (Tokyo). 2009.
- 26: Screening test of Methicillin-resistant Staphylococci in the nasal & oral cavity of the medical staffs at the Department of Advanced General Dentistry: Ohara M., Yoshino H., Taguchi N., Tanaka Y., Tamura H., Ogawa I., Okada M., Sugai M, Ogawa T.: Research Seminar in General Dental Medicine 2009 (Chiba), 2009.

#### F) Special Lectures in Academic Meetings

- 1: Companion meeting [Recent topic of salivary gland tumor], Specificity of minor salivary gland tumor and tumor-like lesions: Ogawa I., Takata T.: The 98th Annual Meeting of the Japanese Society of Pathology (Kyoto), 2009.
- 2: Companion meeting [Recent topic of salivary gland tumor], Polymorphous low grade adenocarcinoma: Takata T., Ogawa I.: The 98th Annual Meeting of the Japanese Society of Pathology (Kyoto), 2009.
- 3: Consideration to the dental treatment from the point of dry mouth. -Utility and necessity of saliva test-: Kitagawa M.: The 2nd Meeting of Japanese Society for Evidence and the Dental Professionals (Hiroshima), 2009.

#### G) Others (Social contribution)

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

- 1: Research project, Grant-in-Aid for Scientific Research C Continuance: Ogawa I.: Histological and molecular biological study of standardization of the pathological diagnosis of salivary gland tumors:(No.20592141) ¥1,300,000
- 2: Research project, Grant-in-Aid for Young Scientists B Continuance: Kitagawa M.: Study on application of spondin to regeneration of periodontal tissues:(No.20791339) ¥2,210,000

- 3: Research project, Grant-in-Aid for Young Scientists B Continuance: Shintani T.: Study on Molecular target therapy to oral cancer with fibroblast growth factor binding protein :(No.20791519) ¥1,430,000
- 4: Donated fund (SATAKE education research promotion) New: Kitagawa M.: Study on experimental standard of saliva in Sjogren syndrome. ¥300,000
- 5: Research grant Hiroshima University women researcher grant New: Kitagawa M.: Analysis of cementblast maker gene, f-spondin in the cementum formation. ¥220,000

(5) Academic Awards, etc.

- 1: Kitagawa M.: SATAKE education research subsidy. 2009, Hiroshima.
- 2: Kitagawa M.: Hiroshima University women researcher encouragement prize in fiscal 2009. 2009, Hiroshima.

(6) Patents

[Returns to the Contents](#)

## Central Clinical Sections, Dental Technicians Section

### (1) Staff and Students

|                                        |                                                                                |
|----------------------------------------|--------------------------------------------------------------------------------|
| Director of Dental Technicians Section | Hiroki Nikawa (Prof.)                                                          |
| Chief Dental Technician                | Hiroataka Okura                                                                |
| Supervisor Dental Technician           | Masanobu Yamamoto, Eisaku Habu, Yoshihiro Otani, Meiji<br>Yamamoto, Ryoji Kato |
| Dental Technician                      | Yuko Araki                                                                     |

### (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

## Central Clinical Sections

### Dental Hygiene Section

#### (1) Staff and Students

|                                    |                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Director of Dental Hygiene Section | Nobuyuki Kamata                                                                                                                                                                                                                                                                                                                                |
| Chief Dental Hygienist             | Hiroko Tamura                                                                                                                                                                                                                                                                                                                                  |
| Supervisor Dental Hygienists       | Yoriko Iwasaki, Miyuki Nakaoka                                                                                                                                                                                                                                                                                                                 |
| Dental Hygienists                  | Akiko Kawashima Till April , Miho Yoneda,<br>Tomoko Hatakeyama, Kayo Kajitani, Tetsuko Hayashida Till June ,<br>Kumi Miyakawa, Tomoko Tokikazu, Kanako Matsui, Kanako Yano,<br>Kana Dainobu, Naomi Hara, Miho Okada, Rie Kanna, Ayumi<br>Kouchi, Megumi Takamoto, Itsuka, Kouno, Atsuko Wakita, Risako<br>Inoue, Chieko Kawai, Yukiko Nagatani |
| Dental Assistants                  | Yuri Ota, Yuka Tamamoto, Hisako Ozaki, Mayumi Yatabe                                                                                                                                                                                                                                                                                           |

#### (2) Main Research Activities

- 1 A study about the dentistry health guidance that dental hygienist performs.
- 2 A study about improvement of local dentistry health.
- 3 About a role of dental hygienist in dentistry medical examination and treatment.

#### (3) Research Achievements

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

##### B) Review

##### C) Publications

##### D) Other Publications

##### E) Presentation at Scientific Meeting

- 1 Oral care for the prevention of ventilator-associated pneumonia VAP .: Ninomiya Y, Ono S, Shigeishi H, Mizuta K, Kobayashi M, Okamoto K, Fukui M, Ishida Y, Takeda T, Kondo M, Kajitani K, Takamoto M, Tamura Y, Okamoto T, Tanigawa K, Kamata N.:



38th Annual Meeting of Japanese Society of Oral and Maxillofacial Surgery 2009 5.30  
Hiroshima

- 2 A case of oral rehabilitation using endosteal implants for edentulous mandible after resection of the mandible. Shimasue H, Takechi M, Shigeishi M, Minami M, Miyauchi M, Takamoto M, Kamata N.: the 38th Meeting of Japanese Society of Oral and Maxillofacial Surgery (2009.5.30 Hiroshima)
- 3 A case of occlusal reconstruction by dental implant for comminuted mandible with the crush injury. Takechi M, Shimasue H, Ohta K, Higashikawa M, Ninomiya Y, Kamata N.: 38th Annual Meeting of the Japanese Society of Oral and Maxillo-Facial Traumatology (2009.7.18, Sapporo)
- 4 A case of panfacial fracture of the maxilla due to the traffic injury. Shimasue H, Takechi M, Hiraoka M, Takamoto M, Sasaki Y, Miyauchi M, Kamata N.: 38th Japanese Society of Oral and Maxillo-Facial Traumatology (2009.7.18, Sapporo)
- 5 Estimation for clinical use of dental surgical operation in the dental clinic outpatient : Takamoto M, Hiraoka M, Ishio M, Sasaki Y, Shimasue H, Yoshioka Y, Sukei T, Kamata N.: 4 th Japanese Society for Dental Traumatology (2009.9.20 Osaka)
- 6 A Case of split-crest technique using new Interconnected Porous Calcium Hydroxyapatite.: Ninomiya Y, Takechi M, Ohta K, Takamoto M, Nishimura M, Kamata N.: The 39th Annual Meeting of the Japanese Society of Oral Implantology (2009.9.27 Oosaka)
- 7 A case of implant placement operated with bone regenerattth bo

Kang

- 11 Trial of education using SP in clinical training for dental hygiene students : Kajitani K, Nakaoka M , Iwasaki Y, Taguchi N, Okada M. Tamura H. Okada. T.: 27 th Japanese Dental Education Association(2008.11.4 Hiroshima)
- 12 Clinical training for dental hygiene student: **M. Tamura, Kajitani K, Nakaoka M,** Iwasaki Y, **Taguchi N, Okada. T, Ogawa T.:** 27 th Japanese Dental Education Association (2008 11.4 Hiroshima)
- 13 ~~9a~~ A case of the sinus elevation operated with bone regeneration using new interconnected porous calcium hydroxyapatite: Ono S, Takechi M, Nishi H, Fukui A, Ota A, Takamoto M, Kamata N: 57th Annual Meeting of Japanese Stomatological Society, Chugoku-Shikoku Branch (2009.11.14 Kurashiki)
- 14: A case of implant placement operated with bone regeneration using new interconnected porous calcium hydroxyapatite.: Ninomiya Y, Takechi M, Ohta K, Takamoto M, Ono S, Okui G, Ohta A.: The 13th Annual Meeting of the Japanese Academy of Maxillofacial Implants(2009 12.13 Saga)
- 15: A case of occlusal reconstruction by dental implant for comminuted mandibular fracture with high energy injury: Ono S, Takechi M, Mizuta K, Ohta K, Higashikawa K, Takamoto M, Ninomiya Y, Kamata N: The 13th Annual Meeting of the Japanese Academy of Maxillofacial Implants (2009 12.13 Saga)

## **F) Special lectures in academic meetings**

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

- 1 A characteristic of P.gingivalis with methyl mercaptan high.: encouragement study.: Yoriko Iwasaki :21932003

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

### **(6) Patents**

## Dental Clinic

### (1) Staff and Students

Assistant Professor Hiroshi Yoshino

Research Associate Masaru Ohara

### (2) Main Research Activities

Multi drug-resistant *Pseudomonas aeruginosa*

Construction of HIV patients treatment network system

### (3) Research Achievements

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

8. Molecular cloning and characterization of *shnlpI* gene in *Shigella flexneri*. Ohara M., Yoshino H., Ogawa T. and Sugai M.. The Journal of Hiroshima University Dental Society vol 41, 50-56, 2009.
9. Screening Test of Methicillin-resistant Staphylococci in the Nasal and Oral Cavity of the Residents at the Department of Advanced General Dentistry, Hiroshima University Hospital. Ohara M., Yoshino H., Taguchi N., Hayashi I., Okada M., Tamura H., Ogawa I.,

- 28<sup>th</sup> Meeting of Japanese Dental Education Association, Hiroshima, 2009.
16. A trial on medical interview for patients with special needs in advanced OSCE of Clinical dental training course. Okada M., Taguchi N., Ohara M., Tanaka Y. and Ogawa T. 28<sup>th</sup> Meeting of Japanese Dental Education Association, Hiroshima, 2009.
  17. Educational study of emergency treatment training in dental training. Tanaka T., Taguchi N., Ohara M. and Ogawa T. 28<sup>th</sup> Meeting of Japanese Dental Education Association, Hiroshima, 2009..
  18. Dental Education for Communication. Ogawa T., Taguchi N., Tanaka Y., Ohara M., Sasaki T. Communication Association in Japan Chugoku-Shikoku branch, Educational Research Seminar in Health Communication, Hiroshima, 2009.
  19. Communicative Competence in English as a Foreign Language: A Cross-Cultural Perspective. Taguchi N., Tanaka Y., Ohara M., Ogawa T., Doi N., Katayama S., Segawa K., Matsumoto N., Nakamura M., Kajii M., Yamano R., Miyamura K., Ichinose T., Nishino H., Tsushima T. and Santanda T. Research Seminar in General Dental Medicine 2009. Chiba, 2009.
  20. Screening test of Methicillin-resistant Staphylococci in the nasal & oral cavity of the medical staffs at the Department of Advanced General Dentistry. Ohara M., Yoshino H., Taguchi N., Tanaka Y., Tamura H., Ogawa I., Okada M., Sugai M. and Ogawa T., Research Seminar in General Dental Medicine 2009. Chiba, 2009.

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

Trust research expense : Study of construction of dental care system to HIV patients in Chugoku and Sikoku district 3,000,000 yen

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

#### (6) Patents

## Dental Medical Information Section

### (1) Staff and Students

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

### (2) Main Research Activities

Research on development and management of hospital information system.

Research on Medical Informatics.

### (3) Research Achievements

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

Proposal for a Wide Area Emergency Information System to Support Coordination between Rescue Sites and Hospitals Takeshi Tanaka, Kiyomu Ishikawa, Norikazu Iwata, Yasumasa Iwasaki, Kenji Yamada, Hidehiko Tsukuma and Minoru Ikeuchi APAMI 2009 Proceedings pp. 105-112 (Hiroshima 2009).

A New Emergency Relief and Evaluation Information System - Real Time Communication Support System at Wide Area Disaster -: Kiyomu Ishikawa, Takeshi Tanaka, Hidehiko Tsukuma, Yasumasa Iwasaki, Norikazu Iwata, Michihisa Ishiguro, Yasushi Houshaku, Toshiko Masuike, Makoto Murai and Takashi Sakau: Japan Journal of Medical Informatics **28** Vol. 4 pp.187-195 2009

9399 Present Status of Reliableness on e-Health Chart Quality in Japan: Kiyomu Ishikawa, Hideo Kusuoka, Yoshiyasu Okuhara, Minoru Ikeuchi, Yoshimasa Umesato, Hidehiko Tsukuma, Takeshi Tanaka, Norikazu Iwata and Hisashi Ohmichi: Journal of the Japan Society for Healthcare Administration **46** Suppl. pp. 1809-1814 2009

#### B) Review

#### C) Publications

## D) Other Publications

## E) Presentation at Scientific Meeting

Proposal for a Wide Area Emergency Information System to Support Coordination between Rescue Sites and Hospitals Takeshi Tanaka, Kiyomu Ishikawa, Norikazu Iwata, Yasumasa Iwasaki, Kenji Yamada, Hidehiko Tsukuma and Minoru Ikeuchi: The 6<sup>th</sup> Conference of Asia Pacific Association for Medical Informatics (APAMI 2009) (Nov. 22-24, 2009; Hiroshima).

Proposal of information linkage between rescue teams and hospitals with RFID devices on the emergency medical information system of Hiroshima prefecture: Takeshi Tanaka, Kiyomu Ishikawa, Hidehiko Tsukuma, Norikazu Iwata, Minoru Ikeuchi, Kenji Yamada and Yasumasa Iwasaki: Japan Association for Medical Informatics Spring Conference 2009 (Nagasaki)

An evaluation of availability by simulating calculations for recovery time of a hospital information system: Norikazu Iwata, Takeshi Tanaka, Hidehiko Tsukuma, Kiyomu Ishikawa: Japan Association for Medical Informatics Spring Conference 2009 (Nagasaki)

Present Status of Reliability on e-Health Chart Quality in Japan: Kiyomu Ishikawa, Hideo Kusuoka, Yoshiyasu Okuhara, Minoru Ikeuchi, Yoshimasa Umesato, Hidehiko Tsukuma, Takeshi Tanaka, Norikazu Iwata and Hisashi Ohmichi: The 47<sup>th</sup> Academic Meeting of the Japan Society for Healthcare Administration (Yokohama), 2009