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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.: J·JS MUFF 5, 403-408, 2009 (in Japanese)

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**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

(2) Main Research Activities

- 1) Basic and clinical aspects of mesenchymal stem cells
- 2) Differentiation of chondrocytes
- 3) Molecular clocks

We cloned novel bHLH transcription factors (Dec1 and Dec2), which play roles in differentiation of mesenchymal stem cells (MSC) into chondrocytes, adipocytes, myoblasts and osteoblasts. Furthermore, Dec1 and 2 are involved in core feed back loops of the transcriptional and translational control in molecular clock systems (Honda-S et al. Nature, 2002). In addition, we developed the super-expansion method for MSC and found many molecular markers for MSC.

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: The liver X receptors (LXR α and LXR β) are potent regulators for hepatic *Dec1* expression. : Noshiro M, Usui E, Kawamoto T, Sato F, Nakashima A, Ueshima T, Honda K, Fujimoto K, Honma S, Honma K, Makishima M, Kato Y. :Genes to Cells, 2009 Jan;14(1):29-40.
- 2: 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, 2009 Mar;14(3):407-24.
- 3: PERIOD1 is an anti-apoptotic factor in human pancreatic and hepatic cancer cells. :Sato F, Nagata C,

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 : 3rd Hiroshima Conference11.7-8,2009, Hiroshima City

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

(5) Academic Awards, etc.

(6) Patents

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

(1) Staff and Students

教授 : Takashi Uchida

助教 : Shinji Hiyama、Mineo Watanabe

(2) Main Research Activities

- 1 : Morphological and molecular biological studies of the amelogenesis
- 2 : Molecular biological and morphological studies of the mechanism of bone metabolism
- 3 : Referred pain involved with inflammatory cytokines on orofacial regions

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1 : 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

- 1 : 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 31st Annual meeting of American Society for Bone and Mineral Research (Denver), 2009.
- 2 : 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.
- 3 : Cross sectional PBL tutorial for 1sy 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.: The 28th annual meeting of Japanese Dental Education Association (Hiroshima), 2009.
- 4 : . IL-1beta in the trigeminal nucleus contributes to mechanical allodynia in rats with painful mononeuropathy induced by mental nerve transection.: Takahashi, K., Watanabe, M., Suekawa, Y., Ito, G., Nishi, M., Uchida, T., Tanne, K.: Hiroshima Conference on Education and Science in Dentistry (Hiroshima), 2009.
- 5 : A role of trigeminal gap junctions in the potential involvement in pain induced by trigeminal nerve injury.: Suekawa, Y., Watanabe, M., Takahashi, K., Ito, G., Nishi, M., Uchida, T., Tanne, K.: Hiroshima Conference on Education and Science in Dentistry (Hiroshima), 2009.
- 6 : Regulation of osteoclast differentiation in the estrogen-treated male Japanese quail during medullary bone formation.: Hiyama, S., Watanabe, M., Uchida, T. : The 27th annual meeting of The Japanese Society of Bone and Mineral Research (Osaka), 2009.

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

- 1 : Grant-in-Aid for Young Scientists (B) from the Japanese Society for the Promotion of Science : Hiyama, S., Regulation of bone remodeling and stem-cell niche by the sex

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

- 2 : 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⁻ secretion induced by the Ca²⁺ 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_A 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 inhibitors as a novel drug discovery strategy for neuropathic pain: T. Dohi, K. Morita, T. Kitayama, N. Motoyama and N. Morioka: *Pharmacology and Therapeutics*, 123, 54-79, 2009
- 2: Eating disorder and central nervous system damage: T. Kitayama: *Jpn. J. Neuropsychopharmacol.*, 29, 165-169, 2009

C) Publications

- 1: Regulation of GABA_A receptor trafficking via new signaling molecule PRIP: T. Kanematsu: *Brain Science Review 2009*, (*Ed*, M Itou & N Kawai): Kuba Pro, Tokyo, pp 103-122, 2009

D) Other Publications

E) Presentation at Scientific Meeting

- 1: PRIP-KO mice exhibit a phenotype of hyperinsulinemia: T. Kanematsu and M. Hirata: The 82nd Annual Meeting of The Japanese Pharmacological Society (Yokohama), 2009.
- 2: Phenotype of PRIP-1,2 double knockout: spontaneous and drug-induced orofacial movements: K. Tomiyama, L. Q. Song, K. Adachi, A. Kinsella, M. Kobayashi, T. Kanematsu, M. Hirata, N. Koshikawa, J. Waddington: The 82nd Annual Meeting of The Japanese Pharmacological Society (Yokohama), 2009.
- 3: Anti-allodynia effects of platelet-activating factor (PAF) receptor antagonists on developing and established mechanical allodynia in neuropathic pain model: T. Kitayama, N. Motoyama, K. Morita, H. Oka, H. Nishimura and T. Dohi: The 82nd Annual Meeting of The Japanese Pharmacological Society (Yokohama), 2009.
- 4: Nicotine stimulates the promoter activity of human dopamine transporter gene: K. Ohyama, C. Sogawa, N. Sogawa, K. Morita, T. Dohi and S. Kitayama: he 82nd Annual Meeting of The Japanese Pharmacological Society (Yokohama), 2009.
- 5: Glycine transporter inhibitors possess potential therapeutic ability for neuropathic pain: N. Motoyama, K Morita, H. Nishimura, T. Kanematsu and T. Dohi: The 29th Annual Meeting of Japanese Society of Oral Therapeutics and Pharmacology, Osaka, 2009.
- 6: Involvement of PRIP, a novel signaling molecule in autophagy: H. Umebayashi, M. Fujii, M. Hirata and T. Kanematsu: 21st IUBMB and 12th FAOBMB International Congress of Biochemistry and Molecular Biology, Shanghai, China, 2009.

- 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 115th 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 28th 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 51st 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 51st Annual Meeting of Japanese Association for Oral Biology (Nigata), 2009.
- 11: Masticatory muscle activity in a rat model of Parkinson's disease: S. Nakamura, N. Kawai, T. Kitayama, M. Watanabe, K. Tanne and E. Tanaka: The 2nd Meeting of the IADR PAPF, 1st Meeting of the IADR APR, Wuhan, China, 2009.
- 12: Pharmacological properties of tonic GABAergic inhibition in the amygdala neurons of PRIP1-KO mice: J. Yamada, K. Migita, M. Tomiyama, T. Kanematsu, M. Hirata and S. Ueno: Neuroscience 2009, Chicago, USA.
- 13: Nociceptive transmission in the trigeminal subnucleus caudalis of PRIP-1, -2 double knockout mice: K. Seo, N. Fujiwara, T. Maeda, T. Kanematsu and M. Hirata: Neuroscience 2009, Chicago, USA.
- 14: PRIP-dependent complex formation is important for the insulin-induced membrane insertion of GABA_A receptor: M. Fujii, T. Kanematsu and M. Hirata: The 82nd Annual Meeting of the Japanese Biochemical Society, Kobe, 2009.
- 15: Role of Platelet-activation factor (PAF) receptor in the enhancement of pain sensation: N. Motoyama, K. Kifune, K. Morita, T. Kitayama, Y. Jinnin, F. Nishimura, T. Kanematsu, T. Dohi: The Japanese Society of Conservative Dentistry, Autumn Meeting in 2009 (the 131st) (Sendai), 2009.
- 16: Phospholipase C-related catalytically inactive protein negatively modulates insulin secretion in pancreatic β cells: Takashi Kanematsu: The 6th Japan-Korea Conference on Cellular Signaling for Young Scientists, Sasebo, 2009.
- 17: Glycine transporter inhibitors as a potential therapeutic strategy for neuropathic pain: K. Morita, N. Motoyama, T. Kitayama, T. Kanematsu and T. Dohi: The 6th Japan-Korea Conference on Cellular signaling for Young Scientists, Sasebo, 2009.
- 18: The improvement of 6-OHDA-induced eating disorder by transplantation of neural progenitor cells in rats: T. Kitayama, K. Morita and T. Kanematsu: The 6th Japan-Korea Conference on Cellular signaling for Young Scientists, Sasebo, 2009.
- 19: PRIP is involved in regulation of energy metabolism.: K. Harada, H. Tanaka, M. Hirata and T. Kanematsu:

- The 51st 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 6th 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 6th Japan-Korea Conference on Cellular Signaling for Young Scientists, Sasebo, 2009.
 - 22: GABA_A receptor subunit alteration-dependent diazepam insensitivity in the cerebellum of PRIP knockout mice: H. Tanaka, A. Mizokami, M. Hirata and T. Kanematsu: The 6th Japan-Korea Conference on Cellular Signaling for Young Scientists, Sasebo, 2009.
 - 23: Glycine receptor $\alpha 3$ (GlyR $\alpha 3$) 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 130th), Sapporo, 2009.
 - 24: PRIP regulates insulin-induced cell surface expression of GABA_A receptors through the ternary complex formation among GABA_A receptor, PRIP and Akt: M. Fujii, T. Kanematsu and M. Hirata: The 6th Japan-Korea Conference on Cellular signaling for Young Scientists, Sasebo, 2009.

F) Special lectures in academic meeting

- 1: Mechanisms of GABA_A receptor trafficking and their regulating proteins: T. Kanematsu and M. Hirata: The 82nd 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_A receptor cell surface expression and the implication in regulation of stomatofnathic function: T. Kanematsu and M. Hirata: The 51st Annual Meeting of Japanese Association for Oral Biology, Nigata, 2009.

(4) Grants

- 1: Grant-in-Aid for Scientific Research (B): Kanematsu T., Studies on the mechanisms of food intake-regulated by PRIP. Project number 21390495. Amount 7,800,000.
- 2: Grant-in-Aid for challenging Exploratory Research: Kanematsu T., Studies on the regulatory mechanisms of neuropathic pain by PRIP. Project number 21659429. Amount 1,200,000.

- 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.

(5) Academic Awards

(6) Patents

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

(1) Staff and Students

Professor : Takashi Takata

Associate Professor : Mutsumi Miyauchi

Assistant Professor : Yasusei Kudo

Research Associate : Shojiro Kitajima

Postdoctoral Fellow : Shinji Iizuka

Research Assistant: Saki Tomita, Nobuko Ishimura, Tomomi Ichi

Secretary: Yuko Masuda

Graduate Student : Kiyako Sakamoto (D4), Mohammad Reza Keikhaee (D4), Guangying Quit (D4), Maki Yoshida (D3), Elsayed Deraz (D3), Hisako Furusho (D2), Phuong Thao Nyugen (D2), Intan Suraiya Merican Binti Aljunid Merican (D1), Natsumi Shimizu (M1)

(2) Main Research Activities

- 1 : Molecular pathological study on proliferation and development of oral squamous cell carcinoma
- 2 : Experimental pathological study on the mechanism of regeneration of periodontal tissues
- 3 : Experimental pathological study on the mechanism of destruction of periodontal tissues
- 4 : Study on the criteria of diagnosis and cellular differentiation of odontogenic tumors and salivary gland tumors

(3) Research Achievements

A) Original Papers (including Case Reports)

1. 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;221:696-706.
2. Effects of improvement in periodontal inflammation by toothbrushing on serum lipopolysaccharide concentration and liver injury in rats: Tomofuji T, Ekuni D, Sanbe T, Azuma T, Tamaki N, Irie K,

- 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. 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* (Japanese).
4. 1. 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

(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, Midorikawa I, Kudo Y, Takata T: DHstyle 3(28): 12-14, 2009.
3. Close up of Oral disease: Epithelial pearl arising at right upper alveolar region: Kikuta M, Kouhara G, Miyauchi 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 (Keratocystic odontogenic tumor): Sato A, Umemoto J, Kitajima S, Takata T: DHstyle3 (33): 10-12, 2009.
8. Close up of Oral disease: Radiolucent region of root apex (Radicular granuloma): Sato A, Umemoto J, Miyauchi M, Takata T: DHstyle 3 (34): 10-13, 2009.
9. Close up of Oral disease: Radicular cyst arising in right mandible: Kikuta M, Kouhara G, Miyauchi M, Takata T: DHstyle 3 (35): 10-12, 2009.
10. Close up of Oral disease: Dentigerous cyst of lower incisor region: Kikuta M, Kouhara G, Kudo Y, Takata T: DHstyle 3(37): 10-13, 2009.
11. Close up of Oral disease: Chronic marginal periodontitis: Watanabe T, Takahashi M, Miyauchi M, Takata T: DHstyle 3 (38): 10-13, 2009.
12. 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) : Ikuko Ogawa, Hiroo Matsuura, Takashi Takata: The 52nd
2. Meeting of Hiroshima Pathological Conference. January 10, 2009. Hiroshima.
3. Low-intensity Ultrasound Stimulation Inhibits Root Resorption Induced by the Application of Experimental Force: Toshihiro Inubushi, Braga Emanuel Rego, Yamano Eizo, Jyunji Otani, Mutsumi Miyauchi, Takashi Takata, Kazuo Tanne: The 3rd International Workshop on Biodental education &

- 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 γ -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 γ -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 Survivin 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 SCF β TrCP-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 100th 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-myoeepithelial 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. Reconsideration of regeneration of Periodontal tissue: Takashi Takata: Hiroshima University alumni association, Ehime Prefecture branch. May 9, 2009. Matsuyama.
 5. Satellite symposium " Young D.D.S. Investigator Symposium: Diversity of research of life science". Regulatory mechanism of APC/C ubiquitin ligase and carcinogenesis: Yasusei Kudo, Takashi Takata: 51st Annual Meeting of Japanese Association for Oral Biology. September 9, 2009. Niigata.
 6. Application of liposomal lactoferrin to prevention and treatment of periodontitis : Takashi Takata : special lecture at The University of Medicine & Pharmacy at Ho Chi Minh City. December 28, 2009. Ho Chi Minh City, Vietnam.

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

1. Grants-in-Aid for Scientific Research (Scientific Research (A)) New: Takashi Takata : The clarification of the mechanism of invasion and metastasis of oral cancer and its application to diagnosis of malignancy and gene therapy. ¥18,300,000
2. Grants-in-Aid for Scientific Research (Scientific Research (C)) New: Mutsumi Miyauchi : Study on the development of novel therapy for bone disease targeting γ -GTP. ¥1,600,000
3. Grants-in-Aid for Scientific Research (Young Scientists (A)) Continuance : Yasusei Kudo : Abnormal regulation of APC/C ubiquitin ligase complex inhibitor Emi1 and its role for carcinogenesis. ¥4,000,000
4. Grants-in-Aid for Scientific Research (Young Scientists (B)) Continuance : Shojiro Kitajima : Regulation of Aurora-A stabilization by phosphorylation and its abnormal regulation in oral cancer. ¥1,500,000
5. Grants-in-Aid for Scientific Research (JSPS Fellows) Continuance : Shinji Iizuka : The study of bone regeneration by using Ameloblastin synthetic peptides. ¥600,000
6. Grants-in-Aid for Scientific Research (JSPS Fellows) Continuance : Guangying Qi : Overexpression of Survivin and Aurora-B and their roles in oral cancer. ¥600,000
7. Grant from Ministry of Health, Labour and Welfare, New : Takashi Takata : Exploring and analysis of novel marker for health and geriatric disease. ¥3,000,000
8. Donated fund (SATAKE education research promotion) New: Shojiro Kitajima: Clarification of the mechanisms of cell division through dephosphorylation by PP2A. ¥300,000

9. Research grant in 2009 from Kurozumi Medical Foundation, New : Yasusei Kudo: Development of diagnostic system of malignancy of head and neck cancer targeting novel invasion related factor, Periostin. ¥900,000
10. Donated fund from Ito ultrasound Ltd., Continuance : Takashi Takata : Study on the influence of ultrasonic irradiation on periodontal tissue. ¥4,500,000
11. Donated fund from Clinical laboratory center, Hiroshima city medical association, Continuance : Takashi Takata : Study on diagnosis for oral disease. ¥200,000
12. Donated fund from Mitsubishi-Mihara Hospital, Continuance : Takashi Takata : Study on diagnosis for oral disease. ¥105,000
13. Donated fund for Hiroshima Prefecture tumor registration business, Continuance : Takashi Takata ¥20,575

(5) Academic Awards, etc.

1. Shinji Iizuka: Poster Presentation award on The international Workshop on Bio-dental Education & Research, Hiroshima, 2009.
2. Toshinori Ando: Encouragement Award at The 42nd meeting of Hiroshima University Dental Society, Hiroshima, 2009.
3. Shojiro Kitajima: SATAKE education research subsidy, Hiroshima, 2009.
4. Maki Yoshida: Best Poster Presentation Award at 20th The Japanese Society for Oral Pathology, Sapporo, 2009.
5. Yasusei Kudo: Research subsidy of Heisei 21 year of Kurozumi medicine Promoting Foundation, Tokyo, 2009.
6. Shinji Iizuka: Poster Presentation Award at 3rd Hiroshima Conference on Education and Science in Dentistry, Hiroshima, 2009.
7. Shinji Iizuka: adopted for Excellent Young Researchers Overseas Visit Program, 2009.

(6) Patents

None

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 52nd 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 52nd 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 130th 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 130th spring meeting of Japanese society of conservative dentistry (Sapporo), 2009
 - 12: The effect of Irsogladine maleate on intercellular junctional complex in gingival epithelium : Kishimoto A, Fujita T, Shiba H, Hayashida K, Uchida Y, Kawaguchi H, Kurihara H. : The 130th spring meeting of Japanese society of conservative dentistry (Sapporo), 2009
 - 13: Brain-derived neurotrophic factor (BDNF) enhance cell-cell adhesion through Map kinase cascade : Matsuda S, Fujita T, Kajiya M, Takeda K, Shiba H, Kawaguchi H, Tsuji K, Kurihara H.: The 130th spring meeting of Japanese society of conservative dentistry (Sapporo), 2009
 - 14: The expression of claudin-1 in junctional epithelium : Fujita T, Hayashida K, Shiba H, Kurihara H.: The 51th meeting of Japanese association for oral biology (Niigata), 2009
 - 15: 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, Kitagawa M, Ogawa I, Kurihara H. : The second meeting of the Japanese society of Evidence and the Dental Professional (Hiroshima), 2009
 - 16: Is the serum IgG antibody titer to *Aggregatibacter actinomycetemcomitans* effective for diagnosis of periodontitis types ? : Ogawa F, Hino T, Kawamura Y, Shiba H, Kawaguchi H, Kurihara H. : The second meeting of the Japanese society of Evidence and the Dental Professional (Hiroshima), 2009
 - 17: Utility of bacterial examination with anaerobic culture system for samples from root canal root canal treatment: Kitamoto Y, Hino T, Uchida Y, Shiba H, kawaguchi H, Kurihara H. : The Hiroshima University Dental Society, 2009
 - 18: Development of a new medical device for periodontal tissue regeneration using brain-derived neurotrophic factor(BDNF) / hyaluronic acid -Effects of hyaluronic acid on human periodontal ligament cells- : Takeda K, Nagahara T, Shiba H, Fujita T, Matsuda S, Kawaguchi H, Hashimoto M, Tsuji K, Kurihara H. : The 131st autumn meeting of Japanese society of conservative dentistry (Sendai), 2009
 - 19: Detection of Heterotrophic Microorganisms on the inner surface of Dental Unit Waterline tubes : Niitani Y, Hino T, Ouhara K, Hayashida K, Shiba H, Kawaguchi H, Takemoto T, Kurihara H. : The 131st autumn meeting of Japanese society of conservative dentistry (Sendai), 2009
 - 20: Analysis of Volatile Sulfur Compounds Productivity by *Porphyromonas gingivalis*: Iwasaki Y, Hino T, Ouhara K, Hasegawa N, Shiba H, Kawaguchi H, Kurihara H. : The 52nd autumn meeting of the Japanese society of Periodontology (Miyazaki), 2009
 - 21: Brain-derived Neurotrophic Factor(BDNF) Enhances Angiogenesis Through Map Kinase Cascade : Matsuda S, Fujita T, Kajiya M, Takeda K, Shiba H, Kawaguchi H, Tsuji K, Kurihara H.: The 52nd autumn meeting of the Japanese society of Periodontology (Miyazaki), 2009
 - 22: Irsogladine maleate regulates *Aggregatibacter actinomycetemcomitans*-induced chemokine production and reduction of E-cadherin in gingival epithelial cells : Fujita T, Kishimoto A, Shiba T, Hayashida K, Uchida Y, Takeda K, Miyagawa T, Matsuda S, Kawaguchi H, Kurihara H. : The 52nd the autumn meeting of the Japanese society of Periodontology (Miyazaki), 2009
 - 23: Brain-derived Neurotrophic Factor / Hyaluronic Acid Complex Enhances Periodontal Tissue Regeneration : KATSUHIRO TAKEDA, NORIYUKI SAKAI, HIDEKI SHIBA, HIROYUKI KAWAGUCHI, KOUICHIRO TSUJI, HIDEKI KURIHARA : 87th General session and Exhibition of the international association for dental research (April; Miami, USA)
 - 24: Distribution of cortisol and the cell adhesion proteins in gingival tissue from aggressive periodontitis. : Koichi Hayashida, Noriko Tsunekuni, Mikihiro Kajiya, Tsuyoshi Fujita, Hideki Shiba, Yushi Uchida, Hiroyuki Kawaguchi, Hidemi Kurihara : 87th General session and Exhibition of the

- 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 Kajiya, 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 Kajiya, 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.: Symposium 'Regenerative Therapy', The meeting of the Japanese 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 39th 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-derived Neurotrophic Factor(BDNF) Enhance Angiogenesis Through Map Kinase Cascade : The Hiroshima University Dental Society, 2009

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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

[Returns to the Contents](#)

Programs for Applied Biomedicine, Division of Medical Intelligence and Informatics (Department of Oral and Maxillofacial Radiology)
Department of Oral and Maxillofacial Surgery and Oral Medicine (Oral and Maxillofacial Radiology)

(1) Staff and Students

Professor :Keiji Tanimoto
Associate Professor :Minoru Fujita
Assistant Professor :Yoshikazu Suei, Takashi Nakamoto
Research Associate :Toshikazu Nagasaki, Masahiko Ohtsuka, Masahiko Sawajiri,
Masaru Konishi
Graduate Student :Samir Banik, Masaru Konishi, Yukimi Yasuhara, Mitsuko Shimizu,
Kiyohito Ota

(2) Main Research Activities

- 1: Radiographic classification of simple bone cyst of the jaw
- 2: Radiographic study of osteomyelitis of the jaw
- 3: Study of radiation dosimetry in X-ray region for diagnosis
- 4: Study on the contrast agents and foods used in videofluoroscopic examination of swallowing
- 5: Radiation effects of heavy ion particles on bone metabolism.

(3) Research Achievements

A) Original Papers

B) Review

C) Publications

- 1:Section 10 Dental radiography ; Clark's Positioning in Radiography 12th ed. (K. Shimamoto, K. Yamada, Y. Saitoh, K. Maruhashi (Supervision translation)) : M. Ohtsuka: Nishimurashoten (Tokyo), 281-331, 2009.

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 50th 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.:17th 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. : 17th 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 48th 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 E₂ 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_3 -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_3 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 amelogenesis imperfecta.: H. Yoshioka, Y. Yoshiko, T. Minamizaki, A. Suzuki, M. Ito, N. Maeda. The 27th Annual Meeting for Bone and Mineral Research, Osaka, 2009.

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

1: Grant from Raffinee International Corporation: Y. Yoshiko: ¥ 3,600,000, 2009

2: Grant-in-Aid for Scientific Research: Y. Yoshiko: (No. 20592139) ¥ 1,430,000, 2009

3: Grant from Hiroshima University: T. Minamizaki ¥220,000, 2009

4: Grant-in-Aid for Scientific Research: T. Minamizaki: (No. 21791788) ¥ 1,340,000, 2009

5: Grant from Raffinee International Corporation: H. Yoshioka (No. 21890156): ¥ 3,600,000, 2009

(5) Academic Awards, etc.

1: H. Yoshioka et al., JSBMR Plenary Poster Award in the 27th Annual Meeting of the Japanese Society for Bone and Mineral Research, Osaka, 2009

2: Minamizaki et al., JSBMR Plenary Poster Award in the 27th Annual Meeting of the Japanese Society for Bone and Mineral Research, Osaka, 2009

(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	: Irifune Masahiro, D.D.S., Ph.D.
Research Associate	: Shimizu Yoshitaka, D.D.S., Ph.D., Doi Mitsuru, D.D.S., Saida Takuya, D.D.S., Ph.D., Arai Yukiko, D.D.S., Ph.D.
Resident	: Miura Kan-na, D.D.S.
Graduate Student	: Mukai Akari, D.D.S., Miyahara Takeshi, D.D.S., Fukushima Reiko, D.D.S.
Clinical Trainee	: Kawahara Michio, M.D., Ph.D., Katayama Sohtaro, D.D.S., Ph.D., Kawahara Toshiya, D.D.S., Okamoto Yoshiaki, D.D.S., Kobayashi Keiko, D.D.S., Onizuka Chiori, D.D.S., Ph.D., Nishinakamura Ryo, D.D.S., Hayashi Hideaki, D.D.S.

(2) Main Research Activities

- 1: Study on mechanisms of general anesthetic action
- 2: Study on a stage of delirium in general anesthesia
- 3: Study on antianxiety effects of sedative drugs
- 4: Effects of nitrous oxide on cardiovascular system
- 5: Study on chronic pain
- 6: Study on efficacy of chest compressions in cardiopulmonary resuscitation
- 7: Acute medicine for emergency during dental treatments

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: A case of postextraction hemorrhage in a patient with warfarin therapy. Tamura K, Katayama S, Orita T, Kawamoto Y, Yanagidani T, Ogawa T, Irifune M, Katayama I. The Journal of Hiroshima Dental Association 36 (2): 54-58, 2009.
- 2: A case of a child with idiopathic thrombocytopenic purpura detected by abnormal gingival hemorrhage. Katayama S, Ono A, Hamamoto K, Suzawa T, Irifune M, Katayama I. The Journal of Hiroshima Dental

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 TETRTM 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 37th Annual Meeting of Japanese Dental Society of Anesthesiology (Nagoya), 2009.
- 5: Evaluation of usefulness of Airway ScopeTM in nasal tracheal intubation. Shimizu Y, Doi M, Saida T, Arai Y, Miura K, Mukai A, Miyahara T, Fukushima R, Irifune M. The 37th 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 37th 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

and immobility as general anesthetic components, ¥500,000.

- 2: Grant-in-Aid No. 20791524 for Young Scientists (B) from the Ministry of Education, Culture, Sports, Science, and Technology of Japan (Continued): Doi M: Possibility of symptom specificity for patients with intractable chronic pain, and quantitative evaluation of sociopsychological factors –MEG and f-MRI-, ¥100,000.

(5) Academic Awards, etc.

(6) Patents

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**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 : Kenichi Shirai, Makoto Arakawa, Shigeki Suzuki, Naoyo Motoyama,
Akane Mineoka, Akiko Yamashita

Graduate Student : Misaki Iwashita, Sonoko Kumamoto, Junko Yonehiro, Yuuki Jinnin,
Hideo Nakarai, Sakiko Fujii, Takanori Shinjo

(2) Main Research Activities

- 1: Studies on host factors associated with caries susceptibility
- 2: Studies on relationship between dental disease and systematic diseases
- 3: Studies on association between nutrients and dental diseases
- 4: Development of new laboratory tests for diagnosis of dental diseases
- 5: Development of new preventive therapies for dental diseases based on new laboratory tests
- 6: Development of biocompatible materials and their clinical application
- 7: Pathology of discolored teeth and development of new therapy
- 8: Development of new host-noninvasive therapies using lasers
- 9: Biological regeneration of dentin/pulp complex

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1: 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.
- 2: 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.
- 3: 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.
- 4: 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.
- 5: 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.
- 6: 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

- 1: 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.
- 2: Chronic low-grade inflammation accelerating aging: *Inflammation and Regeneration* Nishimura F., Soga Y., Yamashita A.: *Periodontal disease*, 29: 186-189, 2009.

C) Publications

- 1: 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.
- 2: 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.
- 3: 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

- 1: 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 82th Annual Meeting of The Japanese Pharmacological Society (Yokohama), March16-18, 2009.
- 2: DNA microarray analyses of LPS-stimulated adipocytes co-cultured with macrophages: Yamashita A., Soga Y., Iwamoto Y., Abiko Y., Nishimura F.: The 87th International Association for Dental Research (Miami), April 4, 2009.
- 3: 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 52nd Meeting of the Japanese Society of Periodontology(Okayama), May 15, 2009.
- 4: Adipocytes co-cultured with macrophages in the presence of LPS produce molecules enhancing toll-like receptor-mediated signals: Kumamoto S., Yamashita A., Iwashita M., Soga Y., Iwamoto Y., Abiko Y., Nishimura F.: The 52nd Meeting of the Japanese Society of Periodontology (Okayama), May 15, 2009.
- 5: Induction of insulin resistance in adipocyte-macrophage co-cultures and its prevention by ARB: Iwashita M., Kumamoto S., Sakoda H., Kushiyama A., Fujishiro M., Sai K., Yoneda M., Ono H., Kamata H., Nishimura F., Asano T.: The 52nd Annual Meeting of the Japan Diabetes Society(Osaka), May 22, 2009.
- 6: DNA microarray analyses of genes expressed differentially in adipocytes co-cultured with macrophage cell in the presence of the toll-like receptor 4 ligand bacterial endotoxin: Yamashita A., Soga Y., Iwamoto Y., Abiko Y., Nishimura F.: The 52nd Annual Meeting of the Japan Diabetes Society (Osaka), May 22, 2009.
- 7: Co-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., Nishimura F.: The 130th Japanese Society of Conservative Dentistry (Sapporo), June11-12, 2009.
- 8: Glycine receptor $\alpha 3$ (GlyR $\alpha 3$) mediation of tactile allodynia induced by platelet-activating factor (PAF) through cGMP signaling in spinal cord in mice: Motoyama N., Morita K., Kitayama T., Nishimura F., Dohi T.: The 130th Japanese Society of Conservative Dentistry(Sapporo), June 11-12, 2009.
- 9: Microarray analyses of the genes differentially expressed in adipocytes co-cultured with macrophages stimulated with LPS: Yamashita A., Soga Y., Iwamoto Y., Abiko Y., Nishimura F.: The

- 130th Japanese Society of Conservative Dentistry (Sapporo), June 11-12, 2009.
- 10: Glycine transporter inhibitors possess potential therapeutic ability for neuropathic pain: Motoyama N., Morita K., Nishimura F., Kanematsu T., Dohi T.: The 29th Annual Meeting of Japanese Society of Oral Therapeutics and Pharmacology (Osaka), June 20-21, 2009.
 - 11: Anti-allodynia effects of Glycine transporter (GlyT) inhibitors on mechanical allodynia in neuropathic pain model induced by streptozotocine: Kitayama T., Motoyama N., Nishimura F., Kanematsu T., Morita K., Dohi T.: The 115th Kinki Branch Meeting (Kanazawa), June 26, 2009.
 - 12: Anti-allodynia action of glycine transporter inhibitors in diabetic neuropathy model in mice: Motoyama N., Kitayama T., Jinnin Y., Nishimura F., Kanematsu T., Morita K., T. Dohi: The 51st Annual Meeting of Japanese Association for Oral Biology (Nigata), September 9-11, 2009.
 - 13: Platelet-activation factor (PAF) receptor inhibitor as a potential therapeutic strategy for chronic pain: Kifune K., Motoyama N., Kitayama T., Nishimura F., Kanematsu T., Morita K., Dohi T.: The 51st Annual Meeting of Japanese Association for Oral Biology (Nigata), September 9-11, 2009.
 - 14: Adipocytes produce acute inflammatory protein SAA by interacting with macrophages in the presence of LPS: Nakarai H., Yamashita A., Soga Y., Iwamoto Y., Abiko Y., Nishimura F.: The 52nd Meeting of the Japanese Society of Periodontology (Miyazaki), October 11, 2009.
 - 15: Intraperitoneal low-dose LPS infusion induces chronic inflammation in LDL receptor deficient mouse and Angiotensin receptor blocker attenuates inflammation: Kumamoto S., Iwashita M., Nishimura F.: The 52nd Meeting of the Japanese Society of Periodontology (Miyazaki), October 11, 2009.
 - 16: Periodontal conditions in patients with Werner Syndrome: Arakawa M., Suzuki S., Yamashita A., Shirai K., Fujii M., Nishimura F.: The 132nd Japanese Society of Conservative Dentistry Meeting (Sendai), October 29-30, 2009.
 - 17: Dentin sialoprotein and dentin phosphoprotein have distinct roles in dentin mineralization: Suzuki S., Nishimura F.: The 132nd Japanese Society of Conservative Dentistry Meeting (Sendai), October 29-30, 2009.
 - 18: Role of Platelet-activation factor (PAF) receptor in the enhancement of pain sensation: Motoyama N., Kifune K., Morita K., Kitayama T., Jinnin Y., Nishimura F., Kanematsu T., Dohi T.: The 132nd Japanese Society of Conservative Dentistry Meeting (Sendai), October 29-30, 2009.
 - 19: The use of serum-free medium STK2 in cultures of human dental pulp cells: Fujii S., Fujimoto K., Shao J., Nishimura F., Kato Y.: The 3rd Hiroshima Conference on Education and Science in Dentistry (Hiroshima), November 7, 2009.
 - 20: Dentin sialoprotein and dentin phosphoprotein have distinct roles in dentin mineralization: Suzuki S., Nishimura F.: The 3rd Hiroshima Conference on Education and Science in Dentistry (Hiroshima), November 7, 2009.
 - 21: Glycine transporter inhibitors as a potential therapeutic strategy for neuropathic pain: Morita K.,

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

- 22: Co-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 11th Joint Meeting between KACD and JSCD(Jeju), November 12-14, 2009.
- 23: Involvement of infiltrated macrophage in the induction of LPS-induced insulin resistance in adipose tissue and its prevention by ARB: Iwashita M., Kumamoto S., Sakoda H., Kushiyama A., Fujishiro M., Nakatsu Y., Yoneda M., Ono H., Otani Y., Tsuchiya Y., Kamata H., Nishimura F., Asano T.: The 21st Symposium on Molecular Diabetology (Wakayama), December 12, 2009.

F) Special lectures in academic meetings

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

- 1: [Grant-in-Aid for Exploratory Research](#): Nishimura F., Elucidation of the association between nutrition and caries susceptibility. No. 20659298. ¥3,200,000
- 2: Grant-in-Aid for Scientific Research (B):Nishimura F., Collaborative Basic Research on Periodontal Medicine and Geriatric medicine. No. 80208222. 6,890,000
- 3: Grant-in-Aid for Scientific Research (C): Shirai K., Development of adhesive system with capacity of self-repair applied by Sr-CaPO₄ complex. No. 20592227. ¥910,000
- 4: Grant-in-Aid for Young Scientist (Start-up): Suzuki S., The analysis of the mechanism and significance of Dentin sialophosphoprotein cleavage in dentin development. No. 21890158. ¥1,365,000
- 5: Grants-in-Aid for Scientific Research: Arakawa M., Study on relationship between aging and periodontal disease -Evaluation on Werner Syndrome patients-. No. 21722120. ¥1,170,000
- 6: Grant-in-Aid for Scientific Research(C): Motoyama N., The potential therapeutic strategy for dental pain. No. 21592421. ¥1,950,000
- 7: Grants-in-Aid for Scientific Research: Yamashita A., The basic and clinical study of the relevance of periodontal disease and metabolic syndrome. No. 20890143. ¥1,560,000

(5) Academic Awards, etc.

- 1: Yamashita A.: Award for excellence: The 52th Annual Meeting of the Japan Diabetes Society, May 22, 2009.
- 2: Yonehiro J.: Densply Merit Award in recognition of distinctive contributions to research in

Conservative Dentistry, October 29, 2009.

- 3: Yonehiro J.: Merit Award in recognition of distinctive contributions to new research in the Autumn Scientific Meeting 132nd 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- β 1 on differentiation and mineralization of osteoblasts in interconn- ective porous 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 「Biomaterial, Organism signal factor, The practice of regeneration medical treatment using cell for patient」.: Masaaki 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 periartthritis 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 : Hemiacted 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 keratinocytes and gingival fibroblast : Hiromi Nishi, Kouji Ohta, Akiko Fukui, Masaaki Takechi, Nobuyuki Kamata : The 19th 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: 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- β 1) on bone regeneration of novel interconne

- ctive porous hydroxyapatite ceramics/ osteoblasts composite. Hiraoka M, Takechi M, Minami M, Ohta K, Kamata N.: The 39th Academic Conference of the Japanese Society of Oral Implantology. (September 14-16, 2009 Osaka)
- 14 : Estimation for “Clinical path for dental surgical operation” by clinical staff and outpatient :Takamoto M, Nakaoka M, Ishio M, Sasaki Y, Higashikawa K, Yoshioka Y, Sukei T, Tamura Y.: 4th 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 39th Annual Meeting of the Japanese Society of Oral Implantology (September 14-16, 2009 Osaka)
- 16 : Effect of transforming growth factor-beta1 (TGF- β 1) on bone regeneration of novel interconnective porous hydroxyapatite ceramics/ osteoblasts composite. Hiraoka M, Takechi M, Minami M, Ohta K, Kamata N.: The 39th 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.: 68th 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.: 68th 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.: 68th 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.: 68th 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 54th Congress of the Japanese Society of Oral and Maxillofacial Surgeons (October 9, 2009 Sapporo)
- 22 : 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 54th 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 54th 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. : 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 54th 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.:第60回中国地区歯科医学大会 第48回広島県歯科医学会・第93回広島大学歯学会・日本歯科技工学会中国・四国支部第4回学術大会 (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, Nobuyuki K. The 31st Annual Meeting of the Japanese Society For Biomaterials. (2009.11.17 Kyoto)
- 31 : Effect of transforming growth factor- β 1 (TGF- β 1) on bone regeneration of novelinterconnective 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- β 1 on differentiation and mineralization of osteoblasts inintercon-nective 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. 第32回四学会合同（日本口腔外科学会，日本歯科放射線学会，日本臨床口腔病理学会，日本顎顔面インプラント学会）教育研究会。「Based and Clinic of imfective disease」（2009. 8.1～8.2 神戸国際会議場）
- 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 epithetal Mesenelupeltransitism 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

[Returns to the Contents](#)

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, Koji Morita
Clinical Trainee	: Takahisa Kawamura, Koji Morita
Graduate Student	: Yayoi Kanehisa, Mariko Maruyama, Ryo Takeshita, Hiroshi Oue, Yohei Okazaki 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

- 1 : The Mechanism of Mind and Body, Care worker Training Textbook13 1st Edition : Akagawa Y : Minerva shobo Inc., Tokyo, 80-104, 2009.
- 2 : The Mechanism of Mind and Body, Care worker Training Textbook13 1st Edition : Yoshida M : Minerva shobo Inc., Tokyo, 88-102, 2009.
- 3 : Occlusal disorder, Abnormal Occlusion, Dental Prosthodontics New Dental Hygiene Textbook 1st Edition : Akagawa Y : Ishiyaku Pub,Inc., Tokyo,2009.
- 4 : Removable Partial Denture Practice for Dental Students 5th Edition : Mitani H, Kobayashi Y and Akagawa Y : Ishiyaku Pub,Inc., Tokyo,2009.
- 5 : 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 patient's disorders ” Ideal way of dental treatment 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 I 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 for Dental Materials and Devices (Kagoshima), 2009.
- 27: Development of New Evaluation for Oral Muscle Function with a Handy Intraoral Manometric Device in the healthy elderly : Maruyama M, Okada G, Yoshikawa M, Yoshida M, Tsuga k, Akagawa Y : 20th Annual Meeting of Japanese Society for Mastication Science and Health Promotion (Fukuoka), 2009.
- 28: 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 20th Annual meeting of the Japanese Society for mastication science and health promotion (Fukuoka), 2009.
- 29: Symposium 2; Clinical examinations for geriatric dental treatments -Examination of oral function with handy tongue pressure measuring device: Kazuhiro Tsuga: The 2nd annual scientific meeting of Japanese Society for Evidence and the Dental Professional (Hiroshima), 2009.
- 30: To Start Implant Treatment –Understanding Current Statement- : Akagawa Y : Mie Prefecture Dental Society Seminar (Tsu), 2009.
- 31: What is the Council of Japan Dental Science of Societies ? : Akagawa Y : Matsumoto Dental University Post-Graduate School FD Study Meeting (Shiojiri), 2009.
- 32: Tips on production of implant superstructure -Collaboration between clinic and laboratory- : Kubo T : Lunch-on-seminar in The 60th Chugoku Regional Meeting of Dental Medicine (Hiroshima) , 2009.
- 33: 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 and Uchida T : 28th Annual Meeting of Japanese Dental Education Association (Hiroshima), 2009.
- 34: Aim for becoming oral rehabilitation doctor using prosthodontic speciality : Yoshikawa M: Annual

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

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**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

- 1 : Molecular biology of mesenchymal stem cells towards osteogenic differentiation
- 2 : Relation between prosthetic treatment and general condition in elderly with dementia
- 3 : The study of relationship between oral habits and psychosomatic stress responses measured by salivary chromogranin A
- 4 : Rheology of dental materials and development of denture lining materials
- 4 : Development of low invasive alveolar ridge augmentation systems
- 5 : Psychiatric disorders in dental practice

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1 : 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.
- 2 : 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.
- 3 : The clinical application of silicone type resilient denture liner: Jin C., Hong G., Hamada T.: *Dent Resource Guide*, (3), 44-48, 2009.
- 4 : 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.
- 5 : 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.
- 6 : 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 (1), 31-36, 2009.
- 7 : 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

- 1 : 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.
- 2 : 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.

- 3 : 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.
- 4 : 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.
- 5 : 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.
- 6 : 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.
- 7 : 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.
- 8 : 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.
- 9 : 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.
- 10 : 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.
- 11 : 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.

- 1 2 : 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

- 1 : Dental and oral health (Bruxism):Hiroshima Prefecture Dental Hygiene Liaison Council, “Heisei 21 Nendo” Campaign Promotion Project “Keep 20 Teeth Till Your 80”, Promotion Project Workshop “Dental, Oral and Mental positive Health” (Mihara), 2009.12.2

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

- 1 : Grant-in-Aid for Scientific Research (C): Abekura H, assignment number 19592242. 1,560 thousand yen
2 : 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
3 : 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
4 : 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.

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

(6) Patents

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

(2) Main academic activity

- 1: Viscoelastic property of temporomandibular joint disks.
- 2: Effects of growth factors on the proliferation and differentiation of condylar cartilage and the disk cells.
- 3: Biomechanical investigation of TMJ loading and assessment of lubricating function.

- 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. Masticatory muscle activity in a rat model of Parkinson's disease: Nakamura S., Kawai N., Kitayama T., Watanabe M., Tanne K and Tanaka E.; 2nd Meeting of IADAR Pan Asian Pacific Federation and 1st 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.: 8th 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.: 8th 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. Emdogenous PGE₂ 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 II 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 Japanese Society for the Temporomandibular Joint (Tokyo), 2009.
 35. Association between pathologic status of TMJ and craniofacial morphology in patients with malocclusion: Sano R, Tanimoto K, Tanne Y, Kamiya T, Mitsuyoshi T, Sugiyama H, Ozawa S, Tanne K: 22nd Annual Meeting of Japanese Society for the Temporomandibular Joint (Tokyo), 2009.
 36. Importance of cephalometric and facial photo analysis for the best facial proportion: Ozaki N., Kawata T., Kaku M., Motokawa M., Kamiya T., Kunimatsu R., Sasamoto T., Koseki H., Hirose N., Ito G.: Tanne K: The 68th Annual Meeting of the Japanese Orthodontic Society (Fukuoka), 2009.
 37. The device of AB86 was aimed for shortening orthodontic treatment period: Kawata T., Kaku M., Kamiya T., Ueda H., Fujita T., Tanne K.: The 68th Annual Meeting of the Japanese Orthodontic Society (Fukuoka), 2009.
 38. Association between success rate and twisting torque of mini-screw used as an orthodontic anchorage: Sunagawa H., Ohtani J., Sano R., Marquez Hernandez R.A., Fujita T., Kawata T., Kaku M., Motokawa M., Nishio C., Tsuka N., Koseki H., Hayashi H., Matsuda Y., Abedini S., Tanne K.: The 68th Annual Meeting of the Japanese Orthodontic Society (Fukuoka), 2009.
 39. A clinical survey for the association between root resorption to orthodontic treatment and tooth movement: Sasamoto T., Motokawa M., Kaku M., Kawata T., Yamamoto R., Tsuka N., Inubushi T.,

- 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 7th 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 7th 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 Orthodontic Congress (Xi'an, China), 2009.
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: 8th Asian Implant Orthodontic Conference (Sendai, Japan), 2009.
6. Tanne K: Planning of education curriculum of temporomandibular joint disorder (TMD): It's 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.: 700,000yen.
12. Grants-in-Aid for support of small business: Ishikawa co.: Investigation of commercialize in calcium ion water with bactericidal activity. 800,000yen.

(5) Commendation

1. Huang YC.: Effects of Amelogenin on the Proliferation and Differentiation of Human Mesenchymal Stem Cells: Poster award: Workshop on Bio-Dental Education and Research in Hiroshima (Hiroshima, Japan), 2009.
2. Emanuel B.R.: Ultrasound stimulation increases PGE₂ production and induces mineral deposition via prostaglandin EP4 receptor activation in mouse cementoblasts: Poster award: Workshop on Bio-Dental Education and Research in Hiroshima (Hiroshima, Japan), 2009.
3. Fujita T.: Regeneration of condyle by use of a functional appliance: EOS Best Poster Award: 85th Congress of the European Orthodontic Society (Helsinki, Finland), 2009.
4. Emanuel B.R.: Endogenous PGE₂ induced by ultrasound stimulation mediates cementblast differentiation through the activation of prostaglandin receptors EP2 and EP4: Encouragement Award: The 42th Annual Meeting of Hiroshima University Dental Society.
5. Fujita T.: The 12th Hiroshima University Faculty of Dentistry Alumni Association Encouragement Award, 2009.
6. Mitsuyoshi T.: Effects of hyaluronan on the expression of superficial zone protein: Poster award: 2nd Japanese Society for the Temporomandibular Joint (Tokyo), 2009.
7. Sano R.: Association between pathologic status of TMJ and craniofacial morphology in patients with malocclusion: Poster award: 22nd Annual Meeting of Japanese Society for the Temporomandibular Joint (Tokyo), 2009.
8. Kamiya T.: A proposal of new method for tooth restoration using teeth bank or expedient teeth: Presentation award (oral): 68th Annual Meeting of the Japanese Orthodontic Society (Fukuoka), 2009.
9. Huang YC.: Effects of amelogenins on the proliferation and differentiation of human mesenchymal stem cells: Presentation award: 68th Annual Meeting of the Japanese Orthodontic Society (Fukuoka), 2009.
10. Inubushi T.: Prize giving of Hiroshima University Presidents, 2009.
11. Kunimatsu R.: Hiroshima University excellent student scholar ship, 2009.
12. Watanabe G.: Hiroshima University excellent student scholar ship, 2009.

**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 Goh Yoshimura, Meiko Tachikake (April~), Noriko Kadomoto(~March)
Physician	: Noriko Kadomoto (April~), Kozue Miura, Mihaya Arika, Ryoko Hirata Satoko Otani, Nami Miyake
Graduate Student	: Aya Tsuboi, Yukari Ohara, Hu Yiqun Yukiko Konishi (April~) 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 primary teeth on traumatic injuries in the primary dentition: Hirata R., Kaihara Y., Suzuki J., Kozai K.: *The Journal of Hiroshima University Dental Society* 41(1), 44-49, Japanese, 2009.
 - 5 : Automutanolysin disrupts clinical isolates of cariogenic streptococci in biofilms and planktonic cells :Thanysarisung P, Komatuzawa H., Yoshimura G, Fujiwara T., Kozai K., Etoh K., Izumi Y., Sugai M.: *Oral microbiology and Immunology*, 24(6), 451-455, 2009.
 - 6 : A case report of effective appliance toward mesial inclination and ectopic eruption of molar teeth: Yoshimura G., Kaihara Y., Hayashi F., Kozai K.: *Jpn J Ped Dent*, 47(5), 780-786, Japanese, 2009.
 - 7 : Two Case Reports of Replantation of Mandibular Primary Incisors: Miyake M., Hayashi F., Suzuki J., Kadomoto N., Tachikake M., Kozai K.: *Jpn J Ped Dent*, 47(5), 787-795, Japanese, 2009.
 - 8 : An overview of the public event for children's oral health care: Miura K., Kaihara Y., Yoshimura G., Suzuki J., Kozai K.: *Jpn. JDW*, 14 (1), 41-46, Japanese, 2009.
 - 9 : Investigation of eating habits among first grade elementary school children: Hayashi F., Kaihara Y., Suzuki J., Kozai K.: *Jpn. JDW*, 14 (1), 47-51, Japanese, 2009.
 - 10 : Possibility of more than one strain of *Streptococcus mutans* post initial acquisition in children: Udijanto T., Kozai K.: *Proceeding of the 3rd Hiroshima Conference on Education and Science in Dentistry*, 105, 2009.
 - 11 : EP2 and EP4 receptors differentially mediate MAPK pathways underlying anabolic actions of prostaglandin E2 on bone formation in rat calvaria cell cultures.: Minamizaki T., Yoshiko Y., Kozai K., Aubin J E., Maeda N.: *Bone*, 44(6), 1177-1185, 2009.

B) Review

- 1 : Transmission of Mutans streptococci and prevention of caries (review): Kozai K., Suzuki J.:

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

- 2 : School Dental Health Activities based on enough understanding about CO and GO: Detailed discussion ②: 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 3rd 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 18th 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 47th 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 47th 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 47th 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 47th 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 47th 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 47th 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 : Mitsuata C., Ariki 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: Mitsuata C., Suzuki J., Kozai K.: The 21st IAPD International Congress (München), 2009.
- 11 : Oral health care for the improvement of QOL of patients in pediatric ward: Kozai K.: The 23rd 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 28th 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 28th 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 3rd 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 28th 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 17th 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 22nd Annual Meeting of the Japanese Society of Oral Diagnosis/Oral Medicine Symposium: Evaluation of Stress with CgA -Significance to use CgA in dental treatments-: Mitsuhashi 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 20th 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 17th conference of school dentists in Hiroshima prefecture: Oral health and safety for children: Kozai K.: Hiroshima-ken shikaishi kaikan Harmony hall, 2009.
- 11 : The 14th 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 14th 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 hygienists’ 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 27th 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): Mitsuata 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's 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

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

- 1 : Study on the relationship between oral microorganism infection and oral mucosal lesion.
- 2 : Study on the relationship between oral sensitivity and function in elders.
- 3 : Study on the activities of oral health at school.

(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, 41-46, 2009.

B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

- 1 : 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.

- 2 : 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.
- 3 : 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 35th 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

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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

- 1 : 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)
- 2 : 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.
- 3 : Functional Model of the Middle Ear Ossicles : Satoda T, Shimoe S, Makihira S, Tamamoto M, Matsutoto 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) Reviews

C) Books

- 1 : Schoolbook for dental hygienists – Occlusal Disorder and Prosthetics - : Hara K. and others : Ishiyaku Pub., Inc.(Tokyo) : 181-190, 2009. (in Japanese)

D) Other Publications

- 1 : 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

- 1 : 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.
- 2 : 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.
- 3 : 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.
- 4 : 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.
- 5 : 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.
- 6 : 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.
- 7 : 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.

- 8 : 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 54th Annual meeting of Japan Salivary Gland Society(Tokyo), 2009.

F) Lectures

- 1 : Practical Oral Health Care : Hara K. : Workshop for the staff of nursing service department in Healthcare Corporation Kousei-kai Kusatsu Hospital (Hiroshima) : 2009
- 2 : Program for certified nurse course of Japanese Red Cross Hiroshima College of Nursing, “Technology for feeding and swallowing training” : Hara K. : Japanese Red Cross Hiroshima College of Nursing (Hiroshima), 2009.
- 3 : 2009th seminar for teachers of dental hygienists school, ”Research guidance method : Hara K, Japanese Association for Dental Hygienist’s Education (Kanagawa), 2009.
- 4 : Some Techniques for Mouth Cleaning - Basic of the skills- : Hara K. : 10th Seminar for Practical Oral Care (Hiroshima) : 2009.
- 5 : Some Techniques for Mouth Cleaning - application of the skills- : Hara K. : 10th Seminar for Practical Oral Care (Hiroshima) : 2009.

G) Social Contributions

- 1 : Program for kids from elementary schools, Dental Kids, “Let’s Be a Dentist!”: Hiroshima University Faculty of Dentistry, 2009.
- 2 : Program for high school students, Dental Kids: Hiroshima University Faculty of Dentistry, 2009.
- 3 : Cooperate to the assessment of the Program for improvement of oral function in the ambulatory care facility “Kosei-En”, 2009.

(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. 21592650)
- 2 : 2009th employment system for scientific research supporter: Hara K.

(5) Awards

(6) Patents

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

(1) Staff

Professor: Toshinobu TAKEMOTO
Assistant professor: Atsue MATSUMOTO
Research associate: Yoshie NIITANI
Graduate student: Koutarou KUBO (from April)

(2) Research Fields

- 1 : Dental hygienists education
- 2 : Research about halitosis
- 3 : Career formation of students
- 4 : Oral relaxation method
- 5 : Relation between saliva flow and emotion
- 6 : Education about counseling
- 7 : Infection control in dentistry
- 8 : About male dental hygienists in Japan

(3) Achievements

A) Original Articles

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

C) Books

- 1 : [Movement of medical and welfare education- Dental hygienists education][ja]: Statement for dental education (2008: Takemoto T. (Contributor) : Edited by Jpn Dental Educ Assoc, 201-203, 2009.
- 2 : [Basic theory and practical process for prosthodontic dentistry][ja]: The newest series of textbook for dental hygienists (Matsumoto A.: Contributor): Edited by the Japan Association for Dental Hygienist Education, Ishiyaku Publishers (Tokyo) 2009.

E) Presentations at Scientific Meeting

- 1 : [Antimicrobiological activity and physical property of artificial saliva on the market -2nd report-][ja]:Takayama Y, Takamoto Y, Ishii H, Ohkura M, Kamoi K, Nikawa H, Makihira S, Kawahara K, Sasahara H, Tamamoto M, Amano H, Nosou M, Sugiyama M, Takemoto T, Kitagawa M, Ogawa I, Kurihara H.: 42nd annual Meeting of the Hiroshima University Dental Society (Hiroshima), 2009.
- 2 : [Trial of surface antimicrobiological treatment of denture resin material.][ja]: Ohkura M, Ishii H, Takamoto Y, Takayama H, Nikawa H, Makihira S, Kawahara K, Sasahara H, Satoda T, Murayama T, Niitani Y, Matsumoto A, Hara K, Nosou M, Shimazu A, Inagaki Y.: 42nd annual Meeting of the Hiroshima University Dental Society (Hiroshima), 2009.
- 3 : [The effect of the combination in Candida albicans on biofilm formation.][ja]: Takamoto Y, Takayama Y, Ishii H, Ohkura M, Nikawa H, Makihira S, Kawahara K, Sasahara H, Tamamoto M, Shimoe S, Satoda T, Murayama T, Nosou M, Tsuruda K, Amano H, Sugiyama M, Takemoto T. : 42nd annual Meeting of the Hiroshima University Dental Society (Hiroshima), 2009.
- 4 : [The evaluation of salivary cromogranin A for smokers during sleep][ja]: Kubo K, Matsumoto A, Niitani Y, Takamoto T, Shimazu A, Tsuruda K, Amano H: The 20th annual meeting of the Kinki-Chugalug-Shikoku Branch of the Japanese Society for Dental Health (Hiroshima), 2009.
- 5 : [The design of negative model for finger protease using CAD and 3D printer.][ja]: Fujita S, Murayama T, Tamamoto M, Shimoe S, Makihira S, Sasahara H, Kawahara K, Satoda T, Nikawa H, Niitani Y, Hara K, Matsumoto A, Takemoto T, Amano H: 93rd Meeting of Hiroshima University Dental Society, 48th Meeting of Hiroshima Prefecture Dental Association (Hiroshima), 2009.
- 6 : [The effect of denture cleaner used on mouth guard sheet.][ja]: Kaneishi H, Murayama T, Tamamoto M, Shimoe S, Makihira S, Sasahara H, Kawahara K, Satoda T, Nikawa H, Niitani Y, Hara K, Matsumoto A, Takemoto T, Amano H: 93rd Meeting of Hiroshima University Dental Society, 48th Meeting of Hiroshima Prefecture Dental Association (Hiroshima), 2009.
- 7 : [Detection of heterotrophic bacteria from water system of dental units.][ja]:Niitani Y, Hino T, Ouhara K, Hayashida K, Matsumoto A, Shiba H, Kawaguchi H, Takemoto T, Kurihara H: 93rd Meeting of Hiroshima University Dental Society, 48th Meeting of Hiroshima Prefecture Dental Association (Hiroshima), 2009.
- 8 : [The effect of amiloide on the proliferation of osteoclasts.][ja]:Miyai R, Makihira S, Nikawa H, Okazaki S, Mine Y, Yamaguchi Y, Kawahara K, Nosou M, Hara K, Matsumoto A, Niitani Y : 93rd Meeting of Hiroshima University Dental Society, 48th Meeting of Hiroshima Prefecture Dental Association (Hiroshima), 2009.
- 9 : [The effect of new antibacterial peptide JH8194 on the increase of human mesenchymal stem cells.][ja]: Kawamura T, Makihira S, Nikawa H, Kawahara K, Nishimura H, Shimoe S, Tamamoto M, Murayama T, Satoda T, Takemoto T, Sugiyama M, Amano H: 93rd Meeting of Hiroshima

- University Dental Society, 48th Meeting of Hiroshima Prefecture Dental Association (Hiroshima), 2009.
- 10 : [The adherence to titan block and the effect on gingival fibroblasts of *Candida albicans* isolated from around oral implant body .][ja]: Akamine S, Makihira S, Nikawa H, Kawahara K, Okazaki S, Takamoto Y, Satoda T, Murayama T, Takemoto T, Sugiyama M, Amano H. : 93rd Meeting of Hiroshima University Dental Society, 48th Meeting of Hiroshima Prefecture Dental Association (Hiroshima), 2009.
- 11 : [Cross sectional PBL tutorial for 1st year dental students.] [ja]:Taji T, Taguchi N, Takemoto T, Tamamoto M, Miyauchi M, Watanabe M, Kanawa M, Hara K, Satoda T, Murayama T, Ogawa T, Uchide T: The 28th Annual Meeting of Japanese Dental Education Association (Hiroshima), 2009.
- 12 : [An investigation of actual conditions of student concepts of health in the oral health science course of our school.][ja]:Yamashita K, Iwamoto A, Kubo K, Kawai C, Nishimura R, Naitou A, Nosou M, Niitani Y, Matsumoto A, Takemoto T, Shimadu A, Keiko T, Sugiyama M, Hara K, Amano H: The 28th Annual Meeting of Japanese Dental Education Association (Hiroshima), 2009.
- 13 : [Evaluation of oral health counseling practice for Hiroshima University Oral Health Science students.][ja]:Matsumoto A, Niitani Y, Hara K, Kubo K, Nosou M, Naito 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.
- 14 : [Educational effect of Basic Nursing Practicum in medical department for students in the School-Nursing Course of the Dental Hygienists Program.][ja]: Nosou M, Naitou A, Masaru S, Hara K, Matsumoto A, Niitani Y, Tsuruda K, Shimazu A, Takemoto T, Amano H: The 28th Annual Meeting of Japanese Dental Education Association (Hiroshima), 2009.
- 15 : [An examination for the practice of oral rehabilitation with student's self-assessment.] [ja]: Hara K, Iwamoto A, Kubo K, Kawai C, Nishimura R, Yamashita K, Naitou A, Nosou M, Niitani Y, Matsumoto a, Takemoto T, Shimazu A, Tsuruda K, Sugiyama M, Amano H: The 28th Annual Meeting of Japanese Dental Education Association (Hiroshima), 2009.
- 16 : [Improvement of career support in 4-year university for dental hygienist – The analysis of consciousness survey for students-.][ja]: Kubo K, Takemoto T : The 28th Annual Meeting of Japanese Dental Education Association (Hiroshima), 2009.
- 17 : [A Practice of Oral Rehabilitation for dental hygienist students][ja]:Hara K, Naitou a, Nosou M, Tsuruda K, Shimazu A, Niitani Y, Matsumoto Y, Takemoto T, Sugiyama M, Amano H: JAHDA autumn meeting 2009(Tokyo) , 2009.
- 18 : [Analyses of heterotrophic bacteria detected through tubes for waterline of dental units.][ja]: Niitani Y, Hino T, Ouhara K, Hayashida K, Shiba H, Kawaguchi H, Takemoto T, Kurihara H: The 131st Annual Meeting of Japanese Society of Conservative Dentistry (Sendai), 2009.

F) Lectures

- 1 : [Oral relaxation and salivary flow- For instruction to aged people-][ja]: Matsumoto A., Seminar in Asa-Minami block of Hiroshima prefecture Dental Hygienists association (Hiroshima), 2009.
- 2 : [Lecture about mouth, group instruction of tooth-1][ja]: Matsumoto A. : Child-care course of a community program of the nursery school, Social welfare corporation Mimyo-Fukushi-Kai (Hiroshima) : 2009.
- 3 : [Lecture about mouth, group instruction of tooth-2][ja]: Matsumoto A.: Child-care course of a community program of the nursery school, Social welfare corporation Mimyo-Fukushi-Kai (Hiroshima) : 2009.
- 4 : [Oral care for pregnant woman and new born infant][ja]: Matsumoto A, Niitani Y. : School for pregnant women in Gynecology department of Hiroshima University Hospital (Hiroshima) , 2009.
- 5 : [Dental Hygiene 3][ja]: Niitani Y,: JADHE program II for teachers in dental hygienists schools (Gifu) 2009.

G) Social Contributions

- 1 : Program for kids from elementary schools, Dental Kids, “Let’s Be a Dentist!”: Hiroshima University Faculty of Dentistry, 2009.
- 2 : Program for high school students, Dental Kids: Hiroshima University Faculty of Dentistry, 2009.
- 3 : Renewal seminar for teacher’s license: Takemoto T, Hiroshima University (Hiroshima), 2009.
- 4 : Collaboration for oral functional assessment: Hara K, Matsumoto A: Care center for visitors “Kouseien” (Hiroshima) , 2009.
- 5 : Member of Dental Hygienists’ Examination committee: Matsumoto A. : Foundation of Promoting Dental Care and Training, 2009.
- 6 : Secretary of the regional association of Kinki , Chugoku and Shikoku area for Japanese Society for Dental Health: Matsumoto A, 2009.
- 7 : Member of dental hygienists authorization committee: Matsumoto A., Japan Dental Hygienists’ Association, 2009.
- 8 : Editorial board of The Journal of Japan Society for Dental Hygiene.: Matsumoto A, Japan Society for Dental Hygiene (Tokyo), 2009.
- 9 : Volunteer activity for international dental support: Matsumoto A (Cambodia) 2009.
- 10 : Educational committee of Japanese Association for Dental Hygienists Education, Niitani Y, JADHE (Tokyo), 2009.
- 11 : Member in the dental project team in committee of National University Hospital infection control association: Niitani Y., 2009

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**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

- 1 : Development of Effective model for anatomy education
- 2 : Morphological Research on masticatory neuronal network
- 3 : Study on dental materials for esthetic
- 4 : Study on bonding prosthetic materials to dental alloys
- 5 : Study on effective denture marking for individual identification

(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, Nosou M, Niitani Y, Sugiyama M, Takemoto T, Murayama T, Amano H, Nikawa H : Acta Anatomica Nipponica, 84, 41-46, 2009.
- 2 : 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

- 1 : 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~.
- 2 : 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

- 1 : Functional Model of the Facial Expression Muscles around the Oral Cavity : Satoda T, Fujimoto K, Itoh A, Kusano K, Araki Y, Shimoe S : The 114th Annual Meeting of Japanese Association of Anatomists (Okayama), 2009.
- 2 : A Model for Embryological Instruction of the Branchial Cartilages : Arima Y, Honda H, Hirose K, Shimoe S, Satoda T : The 8th Annual Meeting of Co-Medical Function and Structure Association (Kyoto), 2009.
- 3 : Functional Model of the Eye ball : Honda H, Arima Y, Hirose K, Shimoe S, Satoda T : The 31st Annual Meeting of Nippon Academy of Dental Technology (Fukuoka), 2009.
- 4 : Functional Model of the Eye ball : Satoda T, Honda H, Arima Y, Hirose K, Shimoe S : The 64th Annual Meeting of Japanese Association of Anatomist, Cyugoku-Shikoku regional meeting (Nangoku), 2009.
- 5 : 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 4th Annual Meeting of Nippon Academy of Dental Technology Cyugoku Shikoku regional meeting (Hiroshima), 2009.
- 6 : 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 28th 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- Establishment of Master's Program of Oral 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

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

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1 : 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.
- 2 : 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.

3 : 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

1 : 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

1 : 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.

2 : 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.

3 : 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.

4 : 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.

5 : 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 : Ikue Hayashi

(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 16th 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.

(6) Patents

[Returns to the Contents](#)

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, Kashiya 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 : ○Yoshida T, Ogawa 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. 28th Meeting of Japanese Dental Education Association, Hiroshima, 2009.
3. Dental trainees' experiences of trainers' negative treatment. Taguchi N., Okada M., Tanaka Y., Sasahara H. and Ogawa T. 28th 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 T. 28th 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. 28th 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. 28th Meeting of Japanese Dental Education Association, Hiroshima, 2009.
7. 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 and Uchida T. 28th 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. 28th 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. 28th 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. 28th 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. 28th 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. Communication with Elderly Person. Hiroshima Prefecture Dental Association Members' 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. 28th 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. 1st 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. 50th Seminar for University Teacher. Ogawa T. Hachioji Seminar House, Tokyo, 2009.

I) Implementation of OSCE, CSA

1. 2nd Advanced OSCE for Postgraduate Trainees 2008-2009
2. 1st Advanced OSCE for Postgraduate Trainees 2009-2010

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

(5) Academic Awards, etc.

1. 1st Education culture Prize of Japanese Dental Education Association. Norihiro TAGUCHI

(6) Patents

Department of Oral Health and Development, Preventive Dentistry

(1) Staff and Postgraduate students

Assistant Professor: Makoto Kawamura

(2) Research fields

1: Behavioral science regarding oral health

2: International studies on oral health promotion

3: Studies on community dental health

4: Studies on school dental health

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

(3) Publication

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: The influence of parents' attitude toward child-raising on the dental health condition of their children.

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 Schools Attached to Hiroshima University)*, 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.: *Euoperio 6* (Stockholm),

2009.

(4) Grants-in-aid

- 1: Grant-in-aid for Scientific Research(C), No.20592455, Continued: Kawamura M. (representative), Okada M., Taguchi N., Sasahara H., Ogawa T.: Calibration of GO and G for school dental health on the basis of CAD. 600,000yen.

(5) Awards

(6) Patents

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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: Teenagers' oral health attitudes and behavior in Japan: Kawamura M, Takase N, Sasahara H, Okada M: 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](#), [Hayashida K](#), [Kawaguchi H](#), [Kurihara H](#). J Periodont Res 43(5): 508-513, 2008.

B) Review

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

[Returns to the Contents](#)

Central Clinical Sections, Special Dental Clinic Section

(1) Staff and Students

Chief Professor : Keiji Tanimoto

Research Associate : Yukimi Yasuhara

(2) Main Research Activities

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

(3) Research Achievements

A) Original Papers (including Case Reports)

B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

(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^④. 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 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.
- 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 in 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., Kitajima S., Miyauchi M., Takata T.: The 20th Meeting of the Japanese Society for Oral Pathology (Sapporo), 2009.
 - 11: HSulf-1 promotes the invasion of head and neck cancer: Yoshida M., Kudo Y., Nguyen PT., Ogawa I., Takata T.: The 20th Meeting of the Japanese Society for Oral Pathology (Sapporo), 2009.
 - 12: The role of ameloblastin for osteogenesis and its application to bone regeneration: Iizuka S., Kudo Y., Ogawa I., Miyauchi M., Takata T.: The 20th Meeting of the Japanese Society for Oral Pathology (Sapporo), 2009.
 - 13: HSulf-1 promotes the invasion of head and neck cancer: Yoshida M., Kudo Y., Ogawa I., Takata T.: The 68th Annual Meeting of the Japanese Association for Cancer Research (Yokohama), 2009.
 - 14: Co-expression of nuclear Survivin and Aurora-B shows malignant behavior of head and neck cancer: Qi G., Kudo Y., Ando T., Yoshida M., Keikahee MR., Ogawa I., Takata T.: The 68th Annual Meeting of the Japanese Association for Cancer Research (Yokohama), 2009.
 - 15: Three cases of the allergic response to non-metal dental materials: Kitagawa M., Shintani S., Ogawa I., Kurihara H.: The 2nd Meeting of Japanese Society for Evidence and the Dental Professionals (Hiroshima), 2009.
 - 16: 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., Kitagawa M., Ogawa I., Kurihara H. : The 2nd Meeting of Japanese Society for Evidence and the Dental Professionals (Hiroshima), 2009.
 - 17: Is the serum IgG antibody titer to *Aggregatibacter actinomycetemcomitans* effective for diagnosis of periodontitis types? : Ogawa F., Hino T., Kawamura Y., Shiba H., Kawaguchi H., Kurihara H. : The 2nd Meeting of Japanese Society for Evidence and the Dental Professionals (Hiroshima), 2009.
 - 18: Study on the mechanism of cellular differentiation by SPON1 in human cementoblast: Kitagawa M., Miyauchi M., Ogawa I., Takata T.: The 52nd Autumn Meeting of the Japanese Society of Periodontology (Miyazaki), 2009.
 - 19: Analysis of Volatile Sulfur Compounds Productivity of *Porphyromonas gingivalis* : Iwasaki Y., Hino T., Ouhara K., Hasegawa N., Shiba H., Kawaguchi H., Kurihara H.: The 52nd Autumn Meeting of the Japanese Society of Periodontology (Miyazaki), 2009.
 - 20: 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 (Hiroshima), 2009.
 - 21: Utility of bacterial examination with anaerobic culture system for samples from root canal root canal treatment : Kitamoto Y., Hino T., Uchida Y., Shiba H., Kawaguchi H., Kurihara H. : The

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-myoeepithelial 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
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

(3) Research Achievements

A) Original Papers (including Case Reports)

B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

- 1: 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.

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

(5) Academic Awards, etc.

(6) Patents

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,
Tomoko Hatakeyama, Kayo Kajitani, Tetsuko Hayashida (Till June) ,
Kumi Miyakawa, Tomoko Tokikazu, Kanako Matsui, Kanako Yano,
Kana Dainobu, Naomi Hara, Miho Okada, Rie Kanna, Ayumi
Kouchi, Megumi Takamoto, Itsuka, Kouno, Atsuko Wakita, Risako
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 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 (2009.5.30 Hiroshima)
- 3 : 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 (2009. 7.18. Sapporo)
- 4 : 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 (2009.7.18, Sapporo)
- 5 : Estimation for “clinical path for dental surgical operation” by clinical staff and outpatient : Takamoto M, Nakaoka M, Ishio M, Sasaki Y, Higashikawa K, Yoshioka Y, Sukei T, Tamura Y.: 4 th Japanese Society for Dental Hygiene (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 regeneration using new interconnected porous calcium hydroxyapatite and titanium mesh.:Ohta K, Takechi M, Ninomiya Y, Minami M, Takamoto M, Kamata N.: The 54th Congress of the Japanese Society of Oral and Maxillofacial Surgery.:(2009 1010 Sapporo)
- 8 : Analysis of volatile sulfur compounds productivity by *Porphyromonas gingivaris*: Iwasaki Y, Hino T T, Ouhara K, Hasegawa N, Kawaqmura M, Kawaguti H, and Kurihara H.: 93th The Hiroshima University Dental Society (200910.24,25 Hiroshima)
- 9 : Volatile sulfur compounds productivity by *Porphyromonas gingivaris*: Iwasaki Y, Hino T , Ouhara K, Hasegawa N, Kawaqmura M, Kawaguti H, and Kurihara H.:52th The Japanese Society of Periodontology (200910 Miyazaki)
- 10 : 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 (2009.10.25.Hiroshima)

- 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 : 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

- 1 : Multi drug-resistant *Pseudomonas aeruginosa*
- 2 : Construction of HIV patients treatment network system

(3) Research Achievements

A) Original Papers (including Case Reports)

8. Molecular cloning and characterization of *shnI* 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., Sugai M. and Ogawa T.. The Journal of Hiroshima University Dental Society vol 41, 135-142, 2009.
10. Increased prevalence and clonal dissemination of multidrug-resistant *Pseudomonas aeruginosa* with the *bla*IMP-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. vol 64, 46-51. 2009.

B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

15. Learning Style for Self-Directed Learning. Ogawa T., Taguchi N., Tanaka Y. Ohara M. and Sasaki T.

- 28th 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. 28th 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. 28th 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. Communication with Elderly Person. Hiroshima Prefecture Dental Association Members' 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.

- 1 : 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

- 1 : Research on development and management of hospital information system.
- 2 : Research on Medical Informatics.

(3) Research Achievements

A) Original Papers (including Case Reports)

- 1 : 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).
- 2 : 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.
- 3 : 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: Journal of the Japan Society for Healthcare Administration **46** Suppl. pp. 180, 2009.

B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

- 1 : 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 6th Conference of Asia Pacific Association for Medical Informatics (APAMI 2009) (Nov. 22-24, 2009; Hiroshima).
- 2 : 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).
- 3 : 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).
- 4 : 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 47th Academic Meeting of the Japan Society for Healthcare Administration (Yokohama), 2009.

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

(5) Academic Awards, etc.

(6) Patents

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