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Graduate School of Biomedical Sciences

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

(1) Staff and Students

Professor: Masayuki Okazaki  
Research Associate: Yuji Nomura, Isao Hirata, Ryo Nishikiori  
Researcher: Jiang Wu

(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: Bioassay of endocrine disruptor chemicals  
6: Mechanism of molecular-level tooth adhesion  
7: Improvement of implant surface  
8: Synthesis and polymerization of multi-functional monomers  
9: Casting of glass ceramics

(3) Research Achievements

A) Original Papers (including Case Reports)

B) Review


C) Publications


D) Other Publications

E) Presentation at Scientific Meeting

1: Symposium 7 "Tissue engineering”: Concept of carbonate contained hydroxyapatite and collagen scaffold for bone regeneration ability: M. Okazaki: The 9th Congress of the Japanese Society for Regenerative Medicine, Hiroshima, Japan, 2010 (in Japanese)


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

(5) Academic Awards, etc.


(6) Patents
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)


B) Review

1: Roles of DEC1 and DEC2 in the core loop of the circadian clock, and clock outputs to metabolism. :
C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

1: Application of chemically defined media for proliferation and differentiation of mesenchymal stem cells to regenerative medicine : Kato Y.: International symposium concerning support system maintenance business for educational research upgrade. Hiroshima City, Mar. 9, 2010.


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

(5) Academic Awards, etc.

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

(1) Staff and Students

Professor : Takashi Uchida
Assistant Professor : 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)


B) Review


C) Publications

D) Other Publications

E) Presentation at Scientific Meeting


7 : IL-1beta in the trigeminal subnucleus caudalis contributes to extra-territorial allodynia/hyperalgesia following a trigeminal nerve injury: Watanabe, M.: The International Workshop on BioDental Education & Research (Hiroshima), 2010.


(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., Reguration of bone remodeling and stem-cell nicheby the sex hormone and its target factors. NO.21791787. 1,400,000yen

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 reguration of differentiation and function of hard tissue forming cells, and calcificationiduring tooth developmen.No.21592329. 1,100,000yen

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

The study of infectious disease is a constantly challenging field that deals with the emergence and reemergence of diseases as threats to human beings, and drug resistance of bacteria through combat in host-parasite interaction. The research into the basic molecular mechanisms by which bacteria cause disease and become resistant to certain antimicrobial drug is essential for the development of new therapeutic interventions. Molecular bacterial pathogenesis, biogenesis and regulation of cell wall metabolism, and molecular aspect of host-parasite interaction are the research focus of our group of laboratory of bacteriology. Our work concentrates on human pathogens such as Staphylococcus aureus, Pseudomonas aeruginosa, and oral pathogens Aggregatibacter actinomycetemcomitans, oral streptococci and other oral pathogens.

Undergraduate areas of study
A major in Oral Microbiology is designed to offer you concise and comprehensive guide to understand microbiological principles and essential knowledge about microbes present in oral region. You will learn the role of bacteria, virus and fungus in diseases, including etiology of caries, periodontal diseases and other infectious diseases relevant to dentistry. We also participate in some courses, basic immunology, clinical cariology, periodontal medicine, and laboratory medicine.

Topics
We recently started genomic approach to understand pathogenicity and drug resistance mechanism of S. aureus. We are in collaboration with peoples in genome informatics lab. analyzing and evaluating thousands of genes in certain pathogenic strains by comparative genomic hybridization using microarray. We are also interested in regulation mechanism of gene expression in the bacteria infecting host and keen to know how bacterial genes are coordinately regulated by multiple regulators.

(1) Faculty members and students

Professor : Motoyuki Sugai  
Research Associate : Fuminori Kato, Shizuo Kayama, Junzo Hisatsune  
Graduate Student : Shima Morioka D5, Panida Thaniasrisung D4, Kanao Kobayashi D3 (From Dept. Urology), Wataru Shimizu D3 (From Dept. Surgery 1), Norifumi Shigemoto D2 (From Dept. Surgery 1), Itsugun Ko D2 (From Pediatric Dentistry), Ryuichi Kuwabara D1, Taro Kojima D1, Yuko Iwamoto D1 (From Pediatric Dentistry),
Arihiro Nishimoto M3 (till Mar), Yusuke Matoba M (left Mar), Teruaki Murakami M2, Toshie Harino M2, Kazuhisa Koizumi M1.

Research Technician: Naomi Saeki, Naomi Kida, Natsumi Fujiwara

(2) Main Research Interests
1: Research on peptidoglycan hydrolases
2: Drug resistance mechanism of nosocomial pathogens and molecular epidemiology
3: Research on bacterial toxins modifying signal transduction
4: Functional study of virulence factors of periodontopathic bacteria
5: Comparative genomic analysis of staphylococci
6: Gene expression analysis of S. aureus

(3) Research Accomplishments

A) Original Papers (including Case Reports)


5. Identification of a novel Staphylococcus pseudintermedius exfoliative toxin gene and its prevalence in isolates from canines with pyoderma and healthy dogs. Keita Iyori, Junzo Hisatsune, Tetsuji
6. A novel mechanism of rapid nuclear neutrophil extracellular trap formation in response to 
*Staphylococcus aureus*. Florian H. Pilsczek, Davide Salina, Karen K. H. Poon, Candace Fahey, 
Bryan G. Yipp, Christopher D. Sibley, Stephen M. Robbins, Francis H. Y. Green, Mike G. Surette, 
Motoyuki Sugai, M. Gabriela Bowden, Muzaffar Hussain, Kunyan Zhang, Paul Kubes. Journal of 
Immunology 185, 7413-7425, 2010.

53(3):221-226.

8. High prevalence of *Pseudomonas aeruginosa* from oropharyngeal biofilm in patients with 
cerebrovascular infarction and dysphagia. Hirota K, Yoneyama T, Sakamoto M, Miyamoto H, 

9. Methods to study epidemiology of drug resistant bacteria—a trial in Hiroshima—. Sugai, M. 
Rinsho-kensa 54, 547-551, 2010

C) Books

1. Basics and Clinics for Infectious Diseases—Towards control of resistant bacteria—. (Sup. 
Resistant staphylococci : Healthcare associated MRSA/Community acquired MRSA. Sugai, M.


3. Oral Microbiology and Immunology 3rd ed. Hamada, S., Kawabata, S., Nishihara, T., Sugai, M., 
Nakagawa, I. 2010 10 10 Ishiyaku Shuppan

D) Other Publications

E) Presentation at Scientific Meeting

1. Recent topics in MRSA. Motoyuki Sugai. The 83rd General Meeting of Japanese Society for Bacteriology Symposium S1 Now and future of multiple drug resistant bacteria. Pacifico Yokohama, 3/27 Yokohama


8. Phage involved in acquisition of *S. aureus* pathogenicity: Phage propagating exfoliative toxin gene. Sugai, M. Osaka University Institute for Protein Research Seminar 3rd Phage Seminar Osaka Univ. 9/9 Osaka


11. Molecular epidemiology of *bla*IMP-1–positive *P. aeruginosa* isolated in Hiroshima City Hospital for 7 years. Harino, T., Kayama, S., Sugai, M. The 63rd Chugoku-Shikoku Branch Meeting of Japanese Society of Bacteriology 10/16 Matsuyama


19. Surveillance of *Pseudomonas aeruginosa* in Chugoku district :Chugoku district infection forum Kuwabara, M., Kusano, S., Shimizu, E., Shimizu, W., Kobayashi, K., Kohda, S., Sugai, M., Doi, M.,
Kumon, Y. The 44th Pseudomonas Meeting 2/12-13 Tokyo


22. Nosocomial Infection Surveillance of ESBL-producing *E. coli*. Watanabe, Y., Shimizu, S., Doi, M., Kuwabara, M., Sugai, M., Kuwabara, R. The 84th General Meeting of Japan Society of Infectious Diseases 4/5-6 Kyoto

F) Invited speakers, Symposist and others

1. Recent topics in MRSA. Motoyuki Sugai. Simposium S1. The 83rd General Meeting of Japanese Society for Bacteriology Pacifico Yokohama, 3/27 Yokohama

2. Phage involved in acquisition of *S. aureus* pathogenicity: Phage propagating exfoliative toxin gene. Sugai, M. Osaka University Institute for Protein Research Seminar 3rd Phage Seminar Osaka Univ. 9/9 Osaka


(4) Research grants.


2: Grant-in-Aid for Scientific Research for Young Investigator B from the Ministry of Education, Science, Sports and Culture of Japan : Kato, F.

3: Grant-in-Aid for Scientific Research for Young Investigator B from the Ministry of Education, Science,
Sports and Culture of Japan: Hisatsune, J.


(5) Awards
Young Investigator Award, Chugoku-Shikoku Branch of Japan Society of Bacteriology: Murakami, T: Staphylococcus aureus surface protein Skip: The 63rd Branch Meeting of Chugoku-Shikoku, Japanese Society of Bacteriology 10/16 Matsuyama.

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

(1) Staff and Graduate Students  

Professor : SHIBA, Yoshiki (~March), SUGITA, Makoto (August~)  
Associate Professor : HIRONO, Chikara  
Assistant Professor : SUGITA, Makoto (~July)  
Research Associate : IWASA, Yoshiko (~March)  
Research Assistant : YAMAMOTO, Kuniyo  
Graduate Students : MARUYAMA, Takane (~March), INOUE, Machiko (~March)  

(2) Current Subjects in Scientific Activity  

1 : Molecular physiological study on function of ion channels and ion transporters  
2 : The neuronal mechanisms underlying the taste-evoked behavioral and emotional responses  
3 : The role of cell communication in proliferation and differentiation of the oral epithelium and salivary glands  
4 : Study on the system mechanisms of mastication and swallowing  

(3) Academic Achievements  

A) Original Papers (including Case Reports)  


B) Review  

C) Publications

D) Other publication

E) Presentation in academic meetings


3: The cellular characteristics of the specific populations of taste neurons labeled by genetic tracing: Sugita M.: 2nd International Workshop on BioDental Education & Research, Hiroshima University Graduate School of Biomedical Sciences (Hiroshima), 2010.

4: Salivary peroxidase secretion on mental stress and its modulation by insulin: Maruyama T.: 2nd International Workshop on BioDental Education & Research, Hiroshima University Graduate School of Biomedical Sciences (Hiroshima), 2010.


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

1: Grant-in-Aid for Scientific Research (C): Sugita M., The neuronal mechanisms underlying the taste recognition revealed by genetic tracing. 21592362. ¥1,700,000.

(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: Toshiya Okumura, Hiroti Tanaka
Undergraduate student (Advanced Dental Research course): Ryuichi Tsuruta (6th), Yuya Ogawa (5th), Nami Kikushige (5th), Nozomi Hinada (5th)

(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
3: Genetic reduction of GABA_A receptor gamma2 subunit expression potentiates the immobilizing
2010


B) Reviews


C) Publications


D) Other Publications


E) Presentation at Scientific Meeting


8: PRIP may be involved in mouse taste nerve responses: Horio N., Kanematsu T., Hirata M., Ninomiya Y.: The 87\textsuperscript{th} Annual Meeting of The Physiological Society of Japan (Morioka), 2010.


12: Modulation of central NMDA signaling induced by neuropathic pain: Tsuruta R., Kitayama T., Morita K., Kanematsu T.: The 43\textsuperscript{th} Ordinary Meeting of Hiroshima University Dental society (Hiroshima), 2010.

13: PRIP regulates inhibitory transmission in the cerebellum: Tanaka H., Hirata M., Kanematsu T.: The 43\textsuperscript{th} Ordinary Meeting of Hiroshima University Dental society (Hiroshima), 2010.
20: Energy metabolism is up-regulated in PRIP-DKO mice: Okumura T., Harada K., Kamata N., Kanematsu T.: Scientific Meeting of the 49th Hiroshima Prefecture Dental Association and the 94th Hiroshima University Dental Society (Hiroshima), 2010.

F) Special lectures in academic meeting


(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 6,110,000.

2: Grant-in-Aid for Challenging Exploratory Research: Kanematsu T., Studies on the regulatory mechanisms of neuropathic pain by PRIP. Project number 21659429. Amount 1,500,000.


4: Cooperative Study Program of National Institute for Physiological Sciences: Kanematsu T., Studies on the pathogenic mechanisms of neuropathic pain via PRIP molecule. Project number 122. Amount 266,000.

6: Grant-in-Aid for challenging Exploratory Research: Morita K., Identification of tumor-cell producing novel analgesic substance. Project number 22659337. Amount 1,600,000.

7: Grant-in-Aid for Young Scientific (B): Kitayama T., Mechanism of saliva secretion via novel molecule of trafficking of granules regulator. Project number 22791789. Amount 2,340,000.

8: Grant-in-Aid for Young Scientists (B): Harada K., A research and development of novel low-cytotoxic oral self-care methods for the patients who use denture adhesives. Project number 21791898. Amount 1,500,000.

(5) Academic Awards

1: Ryuichi Tsuruta: Chairman's Award 2010: The 43th Ordinary Meeting of Hiroshima University Dental society. 2010.

2: Tomoya Kitayama: Incentive award of Hiroshima University, Faculty of Dentistry Alumni Association. 2010.

(6) Patents

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

(1) Staffs and Students

Professor : Takashi Takata
Associate Professor : Mutsumi Miyauchi
Assistant Professor : Yasusei Kudo
Research Associate : Toshihiro Inubushi
Postdoctoral Fellow : Guangying Qi
Visiting Researcher: Ajiravudh Subarnhesaj
Secretary: Yuko Masuda

Graduate Student : Kiyako Sakamoto (D4), Maki Yoshida (D4), Elsayed Deraz (D4), Hisako Furusho (D3), Phuong Thao Nyugen (D3), Intan Suraiya Merican Binti Aljunid Merican (D2), Takaaki Tsunematsu (D1), Mariko Obayashi (D1), Natsumi Shimizu (M2)

(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


B) Original Papers (Case Reports)

C) Original Papers (Review)

D) Books
E) Special lectures in academic meetings
2. Odontogenic tumours: Takata T, Speight P: 15th International Congress of International Association of Oral Pathologists, COEX (Seoul, Korea), 16 August, 2010

F) Presentation at International Scientific Meeting
2. Runx3 has an Oncogenic role in head and neck cancer: Kudo Y, Tsunematsu T, Takata T. 17th RUNX Meeting (Hiroyama, Japan), 11-14, July, 2010.
3. hyper-γ-glutamyl transpeptidase (GGT)emia is a potent risk factor for osteoporosis: Miyauchi M, Kawazoe Y, Inubushi T, Takata T. The 15th International Congress of Oral Pathology and Medicine (Seoul, South Korea), August 16-20, 2010.


G) Presentation at Domestic Scientific Meeting


9. Anti-inflammatory effects of soybean lecithin liposomalized lactoferrin -Application for control of


21. γ-Glutamyl transpeptidase (GGT) is a potent risk factor of periodontitis: Miyauchi M, Kawazoe Y,


H) Case Reports at Scientific Meeting


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


2. Grants-in-Aid for Scientific Research (Scientific Research (C)) Continuance: Mutsumi Miyauchi : Study on the development of novel therapy for bone disease targeting γ-GTP.


6. Donated fund from Ito ultrasound Ltd., Continuance : Takashi Takata : Study on the influence of ultrasonic irradiation on periodontal tissue.

7. Donated fund from Sanstar Co. Ltd. : Takashi Takata.


9. Donated fund from Mitsubishi-Mihara Hospital, Continuance : Takashi Takata : Study on diagnosis
for oral disease.

10. Donated fund for Hiroshima Prefecture tumor registration business. Continuance : Takashi Takata

(5) Academic Awards, etc.

1. Maki Yoshida : Encouragement Award at The 42nd meeting of Hiroshima University Dental Society, Hiroshima, 2010.

2. Satoshi Yamaguchi : (6th grade Student) : Special Award from President of Hiroshima University Dental Society at The 42nd meeting of Hiroshima University Dental Society, Hiroshima, 2010.

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

(1) Staffs and Students

Professor: Hidemi Kurihara
Associate Professor: Hiroyuki Kawaguchi
Associate Professor, Lecture: Hideki Shiba
Assistant Professor: Takamune Hino, Naohiko Hasegawa, Noriyoshi Mizuno, Tsuyoshi Fujita, Yuushi Uchida, Katsuhiro Takeda, Tomoyuki Iwata, Kazuhisa Ohara
Resident: Yasuko Kitamoto, Fumino Ogawa

(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. Irso gladine maleate regulates neutrophil migration and E-cadherin expression in gingival epithelium stimulated by Aggregatibacter actinomycetemcomitans.: Fujita T., Kishimoto A.,


B)

C) Publications

E) Presentation at Scientific Meeting


4. Effect of periodontal ligament cells on osteogenesis in mesenchymal stem cells.: T. Iwata, T. Fujita, T. Nagahara, R. Hirata, H. Shiba, N. Mizuno, H. Kawaguchi, H. Kurihara; The 53rd spring meeting of the Japanese society of Periodontology (Iwate), May 2010


7. Involvement of integrin, and phosphoryration of Focal Adhesion Kinase (FAK) in migration of endothelial cells induced by Brain-derived neurotrophic factor (BDNF): S. Matsuda, T. Fujita, M. Kajiya, K. Takeda, H. Shiba, H. Kawaguchi, H. Kurihara; The 53rd spring meeting of the Japanese society of Periodontology (Iwate), May 2010

8. Short-term improvement of inflamed periodontal tissue in a patient with severe chronic periodontitis: A case report; K. Matsui, Y. Uchida, Y. Tamura, H. Kurihara; The 53rd spring meeting of the Japanese society of Periodontology (Iwate), May 2010


14. Usefulness of anaerobic bacterial examination to infected root canal treatment.: Y Kitamoto, Y. Uchida, T. Hino, H. Shiba, H. Kawaguchi, H. Kurihara; The International Association of Dental Research (Barcelona), July 2010.

15. The-break-of-immunetolerance to oral-commensal-bacteria leads to periodontal bone loss in mouse.: K. Ouhara, T. Kawai, T. Fujita, H. Komotsuzawa, M. Kajiya, H. Shiba, H. Kawaguchi, H. Kurihara; 88th General session and Exhibition of the international association for dental research (Barcelona),


18. Brain-derived neurotrophic factor (BDNF) enhances the expression of hyaluronic acid synthases through a TrkB signaling pathway in human gingival fibroblasts: N. Katagiri, K. Takeda, H. Shiba, A. Konishi, M. Kittaka, T. Fujita, S. Matsuda, H. Kawaguchi, H. Kurihara; The 53rd autumn meeting of the Japanese society of Periodontology (Kagawa), September 2010

19. We propose self-extracellular matrix as a useful scaffold in cell transplant therapy: M. Kittaka, H. Shiba, K. Hayashida, K. Takeda, T. Iwata, T. Fujita, H. Kawaguchi, H. Kurihara; The 53rd autumn meeting of the Japanese society of Periodontology (Kagawa), September 2010


23. BDNF induces migration of endothelial cells: S. Matsuda, T. Fujita, H. Shiba, H. Kurihara; Japanese Association For Dental Reserch 58th Annual Meeting (Fukuoka), November 2010


25. Usefullnes of stem cell-produced extracellular matrix as a scaffold: M. Kittaka, H. Shiba, K. Hayashida, K. Takeda, T. Iwata, T. Fujita, H. Kawaguchi, H. Kurihara; The 2nd workshop for the resarch aiming for improved QOL through oral health (Hiroshima), December 2010
F) Special lectures in academic meetings

1. Novel regenerative therapy on periodontal tissue – potential of mesenchymal stem cells: Hidemi Kurihara; a seminar of carrier study (Wakayama), June 2010
2. The award winner lecture of DENTSPLY
   Basic study on biologic endodontic treatment in hopes of realization: Hideki Shiba; The 31th Annual Scientific Meeting of Japan Endodontic Association (Tokyo), July 2010
3. Novel regenerative therapy on periodontal tissue – potential of mesenchymal stem cells: Hidemi Kurihara; a seminar of carrier study (Ohita), July 2010
4. Neurotrophins and Periodontal Tissue Regeneration BDNF: Hidemi Kurihara; IADR (Barcelona), July 2010
5. On “medical care security” and bacteriological inspection in the endodontic treatment: Hidemi Kurihara; The 31th Meeting of Japan Endodontic Association (Tokyo), July 2010.
6. Periodontal Tissue Regeneration with Growth Factor: Hidemi Kurihara; FDI (Salvador), September 2010
7. Novel regenerative therapy on periodontal tissue – potential of mesenchymal stem cells: Hidemi Kurihara; a seminar of carrier study (Gunma), October 2010
8. Novel regenerative therapy on periodontal tissue – potential of mesenchymal stem cells: Hidemi Kurihara; a seminar of carrier study (Miyagi), November 2010
9. Development of novel periodontal tissue regeneration with Brain-derived Neurotrophic Factor / High molecular weight Hyaluronic Acid Complex
   Regeneration: Hidemi Kurihara; The 32th Congress of the Japanese Society for Biomaterials (Hiroshima), November 2010
10. Next-generation medical equipment regenerative medicine examination WG (Tokyo): Hidemi Kurihara, December 2010

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

1. Grants-in aid for scientific research: Hidemi Kurihara: # 20592334
2. Grants-in aid for scientific research: Hideki Shiba, #20592430
3. Grants-in aid for scientific research: Hidemi Kurihara: #21390557
4. Grants-in aid for scientific research: Noriyoshi Mizuno: #21792122
5. Grants-in aid for scientific research: Hiroyuki Kawaguchi: #22592313
6. Grants-in aid for scientific research: Katsuhiko Takeda: #22791929
7. Grants-in aid for scientific research: Kazuhisa Ouhara: #22792085
8. Grants-in aid for scientific research: Tsuyoshi Fujita: #22792087
9. Grants-in aid for scientific research: Yuushi Uchida: #22792088
10. Grants-in aid for scientific research: Tomoko Hatakeyama: #22932005

(5) Award.

Katsuhiro Takeda

Brain-derived Neurotrophic Factor / Hyaluronic Acid Complex Enhances Periodontal Tissue Regeneration: Korean Academy of Periodontology. The 50th Anniversary, General session, and International Congress of the Korean Academy of Periodontology (Seoul); Best Poster Presentation Award, 2010
Programs for Applied Biomedicine, Division of Medical Intelligence and Informatics (Department of Mucosal Immunology)

(1) Staffs

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) Text book (in japanese)


B) Review


C) Presentation at Scientific Meeting

proteobacteria in colonic CD11b⁺ cells induce intestinal T cell responses. The 14th International Congress of Immunology. August 26, 2010, Kobe, Japan.

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

1. Grant for the Co-laboratory Research from the Institute of Medical Science, The University of Tokyo: Takahashi, I: Molecular and cellular mechanism for the induction and maintenance of mucosal memory T cells. (No. 2010-3-305) ¥ 1,000,000.
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: Masaru Konishi, Yukimi Yasuhara, Mitsuko Shimizu, Kiyohito Ota, Md Mahmud Uz Zaman, Satsuki Minamitani,

(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

E) Presentation at Scientific Meeting


F) Invited lectures at Scientific Meeting


3: Swallowing; What we know? : Keiji Tanimoto : The Annual Scientific Meeting of the ADS-ROC ABSTRACT FORM (Taipei), 2010.

(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) ¥1,170,000

2: Grant-in-aid for scientific research from the Japan Society for the Promotion of Science:
   Nagasaki T : Development of a cognitive deficient and dysphagic patient’s cure, on the basis of Neuromagnetic findings and/or diffusing MRI findings. ( no. 20592202) ¥780,000
Programs for Applied Biomedicine,  
Division of Clinical Medical Science  
(Department of Oral Growth and Developmental Biology)

(1) Staffs and Students

Professor: Norihiko Maeda  
Associate Professor: Yuji Yoshiko  
Research Associate: Tomoko Minamizaki, Hirotaka Yoshioka  
Research Assistant: Satoko Kitabatake  
Graduate Student: Aya Nishikiori

(2) Main Research Activities

1: Bone and tooth mineralization  
2: Phosphate-regulating molecules

(3) Research Achievements

A) Original Papers (including Case Reports)


E) Presentation at Scientific Meeting

2: Soluble Klotho is recruited to FGF23 function in bone matrix mineralization: Minamizaki T., Yoshiko Y., Yoshioka H., Maeda N.: The 28th Annual Meeting of the Japanese Society for Bone and Mineral


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

1: Grants-in-Aid for Young Scientists (B): Hirotaka Yoshioka, Tooth morphogenesis and the regulation of phosphate homeostasis: basic and preclinical studies of tooth hypoplasia., No. 22791768, ¥2,080,000

2: Grants-in-Aid for Young Scientists (B): Tomoko Minamizaki, A basic study of Klotho as a local factor of hard tissue reproduction., No. 21791788, ¥2,210,000

3: Japan Society for the Promotion of Science Travel Grant for Academic Meetings: Tomoko Minamizaki, Soluble Klotho acts as a coactivator of FGF23 in bone but not in kidney to regulate mineralization., ¥260,000

4: Grants-in-Aid for Scientific Research (C): Yuji Yoshiko, A basic study on FGF23 for molecular targeted therapy of bone/tooth diseases., No. 20592139, ¥1,430,000

5: Research Grant (Raffinee International): Yuji Yoshiko, Screening for mineralization-associated factors., ¥3,600,000

(5) Academic Awards, etc.

1: Yukiko Konishi: Encouragement Award at The 42nd meeting of Hiroshima University


3: Tomoko Minamizaki: Young Investigator Award, The 32nd Annual Meeting of the American Society
(6) Patent.
1: Yuji Yoshiko, Tomoko Minamizaki, Hirotaka Yoshioka, Katsuyuki Kozai, Kazuaki Watanabe, Norihiko Maeda: Applications for Klotho, FGF23 and FGFR in mineralized tissues. (Tokugan 2010-136637) (Applicant, Hiroshima University and Raffinee International Co. Ltd.)
Programs for Applied Biomedicine, Division of Clinical Medical Science (Department of Dental Anesthesiology)
Department of Oral and Maxillofacial Surgery and Oral Medicine (Dental Anesthesiology)

(1) Staff and Students

Professor: Irifune Masahiro, D.D.S., Ph.D.
Graduate Student: Mukai Akari, D.D.S., Miyahara Takeshi, D.D.S., Oue Kana, D.D.S.

(2) Main Research Activities

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

(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.

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
Programs for Applied Biomedicine,
Division of Cervico-Gnathostomatology
(Department of Dental Science for Health Promotion)
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, Seiji Kobuke

(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: Anti-demineralizing effect on teeth by surface coating: Arakawa M., Shirai K., Suzuki S.,


B) Review

C) Publications


D) Other Publications
E) Presentation at Scientific Meeting


F) Special lectures in academic meetings

1: The reason why periodontal disease has been considered as risk factor for diabetes rather than simple complication of diabetes. (symposium Periodontal Medicine Up-date – What we have learned so far –) : Nishimura F.: 19th Japan Society of Dental Medicine for Illness (Kobe), April 24, 2010


3: Glycine transporters as a target of potential therapeutic strategy for intractable pain.: Morita K,


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

1: Grant-in-Aid for Scientific Research (B): Nishimura F., Collaborative Basic Research on Periodontal Medicine and Geriatric medicine. No. 80208222. ¥ 2,400,000

2: 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. ¥ 1,170,000

3: 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. ¥ 940,000

4: Grant-in-Aid for Scientific Research: Mineoka A., Acquisition of good quality re-calcification enamel. -Clarification of mechanism with strontium at nano level-. No. 22791837. ¥ 1,300,000

5: Grants-in-Aid for Scientific Research: Arakawa M., Study on relationship between aging and periodontal disease -Evaluation on Werner Syndrome patients-. No. 21722120. ¥ 1,040,000

6: Grant-in-Aid for Scientific Research(C): Motoyama N., The potential therapeutic strategy for dental pain. No. 21592421. ¥ 1,950,000


(5) Academic Awards, etc.


(6) Patents
Programs for Applied Biomedicine,

Division of Cervico-Gnathostomatology

(Department of Oral and Maxillofacial Surgery),

and Department of Oral & Maxillofacial Surgery and Oral Medicine (Oral and Maxillofacial Reconstructive Surgery)

(1) Staff and Students

Professor : Nobuyuki Kamata
Associate Professor : Masaaki Takechi
Assistant Professor : Kouichiro Higashikawa
Research Associate : Koji Ohta (Diagnosis and treatment lecturer), Yoshiaki Ninomiya, Hiroshi Simasue, Shigehiro Ono, Hideo Shigeishi, Kuniko Mizuta, Takayuki Nakagawa, Misato Hiraoka
Resident : Shinichi Fujimoto,
Graduate Student : Masahiko Minami, Fumi Tanaka, Gaku Okui, Toshiya Okumura, Akiko Fukui, Akira Ohta, Hiroko Hatano, Kahori Negishi, Megumi Takamoto, Ta To Tran, Kazumi Kubozono, Sayaka Seino, Andra Rizqiawan
Registered Intern : Masaki Kiyomihara, Yoshihisa Inoue, Sou Hasegawa, Yukio Nakamoto, Masaki Yoshioka

(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)


9: Two cases of tongue cancer which detected synchronous multiple primary cancer in preoperative PET-CT : Kuniko Mizuta, Shigehiro Ono, Shinichi Fujimoto, Gaku Okui, Yoshitugu Mitani, Masaaki Takechi, Nobuyuki Kamata.: The Journal of Hiroshima University Dental Society Vol.42
B) Review

C) Publications

1: Oral mucous disease examined by doctor in private practice From diagnosis to correspondence Disease examined by symptom Disease with dyschromatosis Nevus Pigmentosus: Masaaki Takechi, Nobuyuki Kamata: DENTAL DIAMOND Vol. 35 No. 10 p48 publication July 1 2010 editing member Mitsuo Amagasa, Mikio Kusama, Ryoichi Kawabe


4: Can we examine this disease in the medical department? or dentistry? Mental nerve paralysis.: Masaaki Takechi, Nobuyuki Kamata: DENTAL DIAMOND p118-121 publication April 1 2010 editing member Mitsuo Amagasa, Ken Kitamura, Kazuo Yamada, Hiroyuki Wake, Koichi Nakakuki

D) Other Publications

E) Presentation at Scientific Meeting

1: Jaw bone tissue regeneration for reconstruction of ideal jaw form and occlusal function: Takechi M.: 2nd International Workshop on BioDental Education & Research 2010(February 11-12, 2010 Hiroshima)


25: Cyr61 involves high-malignancy in oral squamous cell carcinoma cells: Tanaka F, Higashikawa K,


29: A Case of SAPHO Syndrome with Diffuse Sclerosing Osteomyelitis of the Mandible Treated Successfully with Prednisolone and Bisphosphonate: Hiroko Hatano, Hideo Shigeishi, Koichiro Higashikawa, Hiroshi Shimasue, Nobuyuki Kamata: The 58th Chugoku-Shikoku Regional Chapter of the Japanese Stomatological Society (November 6, 2010 Hiroshima)


35: The Availability Assessment of Medical Information System After Introducing in the Dental Section


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

1 : ?in Aid for Scientific ?(A)Novelty: Kamata N, Clarification and Control of oral cancer with highly malignancy through EMT. No22249066.

2 : Grants-in-Aid for Young Scientists(B) Novelty: Tada M, Analysis of bone formation molecule mechanism of osteoblasts in porous ceramics. No40572326.

3 : Grants-in-Aid for Scientific Research(C)Novelty : Ninomiya Y, Development of the high functional biomaterial possessing the ability of the drug release control. No 22592216.


5 : Grants-in-Aid for Scientific Research (C)Continuation : Shimasue H, Molecular analysis of
mechanisms regulating cell morphology and motility on tumor invasion and metastasis in squamous cell carcinoma: No.21592554

6: Grant-in-Aid for Young Scientists(B) Continuation: Takechi M, Fabrication of the high functional bone replacement apatite cement with drug delivery control capacity. Subject number 21792000.

7: Grants-in-Aid for Young Scientists(B) Continuation: Obta K, The possible role and identification of the specific protein induced by Candida albicans in oral mucosal cells. No.20791522.

8: Grants-in-Aid for Young Scientists(B) Continuation: Ono S, The participation of micro RNA acquiring the ability with high-invasiveness via Epithelial-mesenchymal Transition in squamous cell carcinoma. No.21791999.


10: Grants-in-Aid for Young Scientists(B) Continuation: Cell biology research on immune response about refractory oral endermosis generation in the oral keratinocytes and gingival fibroblast. No. 20791518.

11: Grants-in-Aid for Young Scientists(B) Continuation: Kuniko Mizuta, Functional analysis of GDD1 gene responsible for gnathodiaphyseal dysplasia(GDD) No.20791517.

12: Grants-in-Aid for JSPS Fellows Novelty: Hatano H, Studies on molecular mechanisms related to the invasiveness of oral tumors and development of the diagnostic tools and treatments: No.22・6035

(5) Academic Awards, etc.

1: Hatano H: Award for excellence: The 64th Annual Meeting of the Japanese Stomatological Society
2: Tanaka F: Award for excellence: The 2th International Workshop on BioDental Education & Research
3: Tanaka F: Award for excellence: The 53th Congress of the Japanese Society of Oral and Maxillofacial Surgeons

(6) Patents
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 : Yasuhiro Abe, Tsuyoshi Taji, Kyou Hiasa
Assistant : Katsunori Koretake, Mineka Yoshikawa, Kazuhiko Hayashi, Yasunari Miyamoto
Secretary : Rinko Kurumi
Resident : Maho Takeuchi, Ayumi Matsuura, Koji Morita, Mariko Maruyama, Norie Fujino
Graduate Student : Ryo Takeshita, Hiroshi Oue, Yohei Okazaki, Hirokazu Tsuchioka, Kazuhisa Ookura,
Maretaningtias Dwi Ariani, Shinsuke Okada, Shiho Kajihara

(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 prostheses and their surrounding bone supported by implants.
5: Elucidation of the effect of prosthodontic treatments on the quality of life of elderly people.
6: Removal prosthodontics and 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)

2. Degree of immobilization of synthetic RGDS(PO3H2)PA peptides on titanium surfaces: Abe Y.,


B) Review


C) Publications
D) Other Publications

E) Presentation at Scientific Meeting

4: Tongue capacity is decreased in frail elderly persons: Tsuga K., Ooue H., Okazaki Y., Tsuchioka H., Maruyama M., Yoshikawa M., Akagawa Y.: The 88th General Session & Exhibition of the IADR (Barcelona), 2010.


Rehabilitation (Niigata), 2010.


(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). ¥5,100,000

2: 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). ¥8,000,000

3: 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). ¥1,100,000

4: MEXT Grants-in-Aid for Scientific Research (C): Taji T: Occlusal support index for partial denture design. (Grant No. 20592270) ¥2,700,000

5: 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). ¥900,000

6: 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). ¥500,000

7: MEXT Grants-in-Aid for Young Scientists (B): Yoshikawa M: Management for Volume of Oral Cavity against Deterioration of Swallowing Function. 吉川峰加: (Grant No. 19791442). ¥1,500,000

8: MEXT Grants-in-Aid for Young Scientists (B): Yoshikawa M: Anti-aging on swallowing function by maintenance and restoration of occlusion retention. (Grant No. 21791900). ¥900,000

9: MEXT Grants-in-Aid for Young Scientists (Start-up): Hayashi K.: Development of New Implant Augmentation Drug Delivery System Using a rh-BMP-2 - Gelatin Hydrogel Complex. (Grant No. 2279188600). ¥40,000

10: 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). ¥950,000

11: 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

12: Grant-in-Aid for Scientific Research from the Ministry of Health, Labour and Welfare: Akagawa Y.: Research on review of provision of information on dental service (Grant No.kose-227901): ¥2,200,000

13: MEXT Grants-in-Aid for Scientific Research (A): Akagawa Y.: Multi center research on Prosthodontic treatment for shortened dental arch. (Grant No. 202490770101): ¥550,000

14: MEXT Grants-in-Aid for Scientific Research (C): Yoshikawa M: Magnetoencephalogram (MEG) and diffusion MRI. (Grant No. 20592202). ¥40,000

(5) Academic Awards, etc.

1: Japan Prosthodontic Society Research Paper Award: Akagawa Y.
2: Japan Society for Dental Materials and Devices the 55th Research Paper Award: Matsuura A.
3: Japanese Society for Mastication Science and Health Promotion the 20th Commemoration Meeting Poster Award: Maruyama M.

(6) Patents
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 Abeuka (in the university),  
Assistant : Shunji Inoue, Kazuko Kagawa, Kazuya Doi  
Secretary : Michiko Miyagawa  
Resident : Shouji Hayashi (Until March), Isao Fujihara, Takeshi Maeda, Wataru Mizumach,  
Intern Dentist : Takeshi Maeda (Until March), Wataru Mizumach (Until March), Keisuke Nogami  
Graduate Student : Shouji Hayashi (Until March), Kouji Kamata, Hiroki Tsuka, Masahiro Tsuboi, Isao Fujihara, Tomoharu Hori, Tomohisa Okura, Takae Yamamoto (Until July)  
Registered Intern : Takae Yamamoto

(2) Main Research Activities

1 : Selection of osteoblast-precursor cells from oral tissues using cell surface antigen  
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 : The antimicrobial efficacy of chlorine dioxide element to add to dental material  
5 : Molecular biology of mesenchymal stem cells towards osteogenic differentiation  
6 : Psychiatric disorders in dental practice

(3) Research Achievements

A) Original Papers (including Case Reports)

2010

Dent, 10, 29-34, 2010.


B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting


F) Special lectures in academic meetings


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

1: Grant-in-Aid for Young Scientists (B): Takeshi Maeda: A study of the evaluation of tissue conditioner within stable Chlorine Dioxide. assignment number 22791888.2730 thousand yen.

2: Grant-in-Aid for Scientific Research (C): Abekura H: Relationship between psychological stress evaluated by salivary Chromogranin and oral habits. assignment number 19592242. 1,560 thousand yen


(5) Academic Awards, etc.

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

(1) Staffs and students

Professor : Kazuo Tanne  
Associate Professor : Toshitsugu Kawata  
Assistant Professor : Hiroshi Ueda, Kotaro Tanimoto,  
Assistant : Masato Kaku, Tadashi Fujita, Junji Ohtani, Masahide Motokawa, Myongsun Koh, Yuki Tanne  
Intern : Satoru Ohkuma, Ryouta Sano, Maya Shirakura, Kouji Takahashi, Yasunori Iwabuchi, Ryo Kunimatsu, Genki Watanabe,  
Resident : Kayo Horie  
International Student : Emanuel Braga Rego, Rene Arturo Marquez Hernandez,  
Professor (part-time) : Kazuhiro Ueki, Toshitsugu Kojima, Hiroharu Tsuka, Hiroshi Hanaoka, Junichiro Iida  
Registered Intern : Kuniaki Tanaka, Kazunori Itatani, Hiroko Kamada, Takuro Hasegawa, Eizo Yamano, Youhei Suekawa, Ryouko Yamamoto, Natsumi Tsuka  
Dental Hygienist : Kanako Yano

(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.
13: Long term cryopreservation of various tissues and cells

(3) Research achievement

A) Original article

7. Activation of the hypoxia-inducible factor-1 in overloaded temporomandibular joint, and induction of osteoclastogenesis.: Shirakura M., Tanimoto K., Eguchi H., Miyauchi M., Nakamura


B) General remarks

C) Books

D) Other publications

E) Presentation at Scientific Meeting
2. Innovation of mini-screw implantation method and instruments to achieve the high success rate.:


2010 Conference on Orthodontic Treatment (Hiroshima), 2010.


International Workshop on Biodental Education&Research (Hiroshima), 2010.


55. A clinical survey for the prevalence of root resorption in open bite(Par 1).: Terao A., Motokawa M., Kaku M., Kawata T., Sasamoto T., Ozaki N., Koseki H., Kawazoe A., Matsuda Y., Abedini S.,


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F) Academic society symposium and special lecture

1. Tanne K.: Mini-symposium “Importance of TMJ for jaw deformity”, Association of temporomandibular joint disorder with the onset of jaw deformity: The 20th Annual


4. Tanne K.: Tissue regeneration therapy for the defects of bony structures and teeth in the craniofacial region. : Joint Scientific Meeting in Dentistry (JSDiD) (Surabaya), 2010.


(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. No. 20390523. 3,100,000 yen

3. Grant-in-Aid for Scientific Research (C): Ueda H.: Clinical application of the oral appliance for sleep apnea to diminish the side effect on occlusal function: No 20592403.: 300,000yen.


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.


8. Grant-in-Aid for Scientific Research: Tanne Y.: Applications of amelogenin to the induction of bone regeneration by using mesenchymal stem cells: No21890164. 880,000yen.


11. Grant-in-Aid for Scientific Research: Iwabuchi Y.: Regenerative therapy of temporomandibular joint osteoarthritis developed by the regulative technology of matrix metabolism with low intensity pulsed ultrasound irradiation: No22890122. 1,120,000yen.

12. Grant-in-Aid for small business developing technologies in Hiroshima city.: Ishikawa Corp.: Verification of commoditizing and efficacy of disinfect in calcium iron water: 1,820,000yen.

13. Collaborative project in faculty and fuzoku.: Koh M.: Confirmation and clinical application of quantitative appraisal method of nasal resistance affect the buccinator mechanism.: 30,000yen.

(5) Commendation


(6) Patent
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 (~March)
: Fumiko Hayashi (August~)
Research Associate : Yasutaka Kaihara, Fumiko Hayashi, Chieko Mitsuhata
Goh Yoshimura, Meiko Tachikake (April~), Noriko Kadomoto
Physician : Noriko Kadomoto (April~), Kozue Miura (~March), Mihaya Ariki,
Ryoko Hirata, Satoko Otani, Nami Miyake
Graduate Student : Aya Tsuboi, Yukari Ohara, Hu Yiqun Yukiko Konishi, Ayumi Shimada
Aomin (April~), Kazunori Matsuura (~March), Akira Yamane (~March)
Yuko Iwamoto (April~), Noriko Kozama (April~)
Research Student : Kaori Saiga (~March), Ayako Banshoudani (~March),
Mie Hirakawa (~March), Kazunori Matsuura (April~), Akira Yamane (April~)
Registered Intern : Mami Yamashiro (~March), Mie Hirakawa (~March)
: Ayako Banshoudani (~March), Noriko Kashiwa (April~)

(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
10 : Research in Maltreated children's Oral Health and study for construction of health improvement system
11 : Surveillance study to construct a preventive and educational program for oral health promotion of
Cambodian children

(3) Research Achievements

A) Original Papers (including Case Reports)


10: Late established mutans streptococci in children over 3 years old: Okada M., Taniguchi Y.,
B) Review


C) Publications


D) Other Publications


E) Presentation at Scientific Meeting


7: Research on the spread of periodontal bacteria among families: Kadomoto N., Hayashi F., Kozai K.:

8: Frequency of congenitally missing or supernumerary teeth in patients visited at the pediatric dental clinic of our university hospital: Mitsuhata C., Ohara Y., Kozai K.: The 43rd Congress of The Hiroshima University Dental Society (Hiroshima), 2010.


F) Special lectures in academic meetings

1: Special Lecture organized by the Yamaguchi prefecture branch of alumni association of Hiroshima University Faculty of Dentistry: Growth and development of dentition and occlusion and appliance therapy in pediatric dentistry: Kaihara Y., Shunan-shi Shikaisi Kaikan (Shunan), 2010.


4: 2010 the 8020 movement seminar:: Kozai K., Miyoshi-shi Shikaishi Kaikan(Miyoshi), 2010.


8: Lecture for JICA students at Kyushu University: Etiology and clinical approach for periodontal disease of children: Kozai K., Kyushu University (Fukuoka), 2010.


10: The 3rd International Symposium for Lactic Acid Bacteria to Urge Industry-University Cooperation


14 : Clinical treatment of occlusal guidance on Department of Pediatric Dentistry in Hiroshima University Hospital: Kadomoto N.: Special lecture at University of Health Sciences Faculty of Odonto-Stomatology, Phnom Penh, Kingdom of Cambodia, 2010.

15 : The introduction of my school life and International Dental Course in Hiroshima University: Iwamoto Y.: Special lecture at University of Health Sciences Faculty of Odonto-Stomatology, Phnom Penh, Kingdom of Cambodia, 2010.

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


3 : 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

4 : 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

5 : 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

6 : Grant-in-aid scientific research (C) : Suzuki J.: Unknown virulence factors produced by periodontal pathogen. (No.18592236). ¥600,000
7: Grant-in-Aid for Scientific Research (C): Mitsuhata C.: Effects of endocrine disorders on developing dopaminergic system in Brain (No.19592354). ¥1,500,000

8: Hiroshima University Educational research.: Hayashi F.: Status of periodontal diseases and prevalence of periodontal pathogens in Junior high school students, ¥96,000

9: Hiroshima University Educational research 2009: Kaihara Y.: Investigation on eating habits of elementary school children. ¥133,000

10: Grant-in-Aid of Futoku-kai: 2009: Hu Yiqun.. ¥300,000

11: Hiroshima University Educational research 2010: : Hayashi F.: Status of periodontal diseases in Junior high school students. ¥74,000

12: Hiroshima University Educational research 2010: Kaihara Y.: Investigation on dental health behavior of elementary school children. ¥62,000


14: Grant-in-Aid of Futoku-kai: 2010: Ao min.: ¥300,000

15: Grant-in-Aid of Futoku-kai:2010: Tsuboi A.: ¥300,000

(5) Academic Awards, etc.


2: Yukiko Konishi: Encouragement Award at The 43rd meeting of Hiroshima University Dental Society, Hiroshima, 2010.

(6) Patents
Master’s Program for Oral Health Sciences, Division of Oral Health Sciences (Department of Public Oral Health)

(1) Staffs and Students

Professor : Masaru Sugiyama
Assistant Professor : Maki Nosou
Assistant Professor : Atsushi Shimazu (Department)
Graduate Student : Rumi Nishimura, Tieko Kawai, Kaoru Yamasita, Aya Tamura

(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 oral functions in elders.
3 : Experimental study on the mechanism of growth and regeneration of periodontal tissues.
4 : Study on the activities of oral health at school.

(3) Research Achievements

A) Original Papers (including Case Reports)


B) Review
C) Publications

D) Other Publications

1: Environmental Education in Graduate School of Biomedical Sciences, Faculty of Medicine, Dentistry and Pharmaceutical Sciences, and Graduate School of Health Science; Oral Public Health (Dental Basic Course in Faculty of Dentistry): Shimazu A, Hiroshima University Environmental Report 2009 11-12: 2010.

E) Presentation at Scientific Meeting


F) Contribution to Community

1: Atsushi SHIMAZU: Dental Support Activity in Cambodia (Cambodia), 2010.
2: Atsushi SHIMAZU: Oral health activity in Junior High School Students in Hiroshima (Hiroshima),
3: Atsushi SHIMAZU: Dental Examination for Acidity and Alkalinity (Hiroshima), 2010.
4: Atsushi SHIMAZU: Hiroshima University Oral Health Promotion Project Center (Hiroshima), 2010.

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

1: Grants-in Aid for Scientific Research (Scientific Research (C)) Continuance: Atsushi SHIMAZU: Effects of Stress induced Proteins in Periodontal disease. (No. 20592456). ¥1,000,000.

(5) Academic Awards, etc.

(6) Patents
Master’s Program for Oral Health Science,  
Division of Oral Health Sciences (Department of Maxillofacial Functional Development)

(1) Staff and Students

Professor : AMANO Hideaki  
Assistant Professor : HARA Kumiko  
Research Associate : TSURUDA Keiko  
Graduate Student : IWAMOTO Akiko, FUKADA Eri

(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  
7 : Study on the Mechanism of Aggregatibacter actinomycetemcomitans-CDT complex formation and secretion

(3) Achievements

4 : Cytolethal distending toxin from Aggregatibacter actinomycetemcomitans induces DNA damage,

B) Reviews

C) Books

D) Other Publications

E) Presentations


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): 2010


3: Some Techniques for Mouth Cleaning - application of the skills - : Hara K.: 11th Seminar for Practical
Oral Care (Hiroshima) : 2010.


G) Social Contributions

1 : Program for kids from elementary schools, Dental Kids, “Let’s Be a Dentist!”: Hiroshima University Faculty of Dentistry, 2010.
2 : Program for high school students, Dental Kids: Hiroshima University Faculty of Dentistry, 2010.
3 : Cooperate to the assessment of the Program for improvement of oral function in the ambulatory care facility “Kosei-En”, 2010.

(4) Grant-in-Aid for Scientific Research

1 : 2010th 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 : 2010th grant-in-aid for scientific research : Tsuruda K. : Development of the method of preventing infection under control of the mucosal genes. (No.22592333)

(5) Awards

(6) Patents
Master’s Program for Oral Health Sciences, 
Division of Oral Health Sciences 
(Department of Oral Health Management)

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

(2) Research Fields
1: Dental hygienists education
2: Research about dental hygienists occupation
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: Research about halitosis

(3) Achievements

A) Original Articles


C) Books

1: [Prophylaxis of transmission and audit in dentistry] [ja]: Niitani Y: JICHG (Hatae S, Kurihara H.) ed,
D) Other Publications


E) Presentations at Scientific Meeting


7: [Findings from salivary test of primary school students in agricultural district in Cambodia] [ja]: Kawano S, Moriyama Y, Matsuzoe K, Matsumoto A, Shimazu A, Takemoto T, Amano H, Takata T:
The 21st annual meeting of the Kinki-Chugalug-Shikoku Branch of the Japanese Society for Dental Health (Matsue), 2010.


F) Lectures

1: [What is the purpose of dental hygienists students at 4-year university to acquire research ability?] [ja]: Takemoto T.: Panel Discussion “To consider the reinforcement of research ability in dental hygienists under-graduate and lifelong education”: The 59th academic meeting of Japanese Association foe Dental Health (Niigata), 2010.

2: [Lecture about mouth, group instruction of tooth] [ja]: Matsumoto A.: Child-care course of a community program of the nursery school, Mimyo Nursery School (Hiroshima): 2010.

3: [Lecture about mouth, group instruction of tooth] [ja]: Matsumoto A.: Child-care course of a community program of the nursery school, Danbara Mimyo Nursery School (Hiroshima): 2010.

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), 2010.

5: [Dental Hygiene 3] [ja]: Niitani Y.: JADHE program I for teachers in dental hygienists schools (Aichi) 2010.


G）Social Contributions

1: Program for kids from elementary schools, Dental Kids, “Let’s Be a Dentist!”: Hiroshima University Faculty of Dentistry, 2010.

2: Renewal seminar for teacher’s license: Takemoto T, Hiroshima University (Hiroshima), 2010.

3: Member of Dental Hygienists’ Examination committee: Matsumoto A.: Foundation of Promoting Dental Care and Training, 2010.


5: Member of dental hygienists authorization committee: Matsumoto A., Japan Dental Hygienists’ Association, 2010.


7: Volunteer activity for international dental support: Matsumoto A (Cambodia) 2010.


9: Member in the dental project team in committee of National University Hospital infection control association: Niitani Y., 2010.
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
Graduate Students : Kenta Kusano, Yuko Araki, Shougo Iwaguro

(2) Main Research Activities

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

(3) Research Achievements

A) Original Papers (including Case Reports)


B) Review

C) Publications


D) Other Publications

E) Presentation at Scientific Meeting


10: Objective evaluation of tooth carving using the three-dimensional image -Comparison with subjective

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

1: Grant-in-Aid for Scientific Research(C) (Continuance): Shimoe S: Development of tooth-friendly zirconia crown restorations optimized polymer composite resins. (No. 21592453). ¥ 1,200,000

(5) Academic Awards, etc.

1: N Tsumura: Technical Competition in the 32th Annual Meeting of Nippon Academy of Dental Technology (Nagoya), Silver prize, 2010, 11, 6

(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, Keita Yauchi, Daigo Tomonari, Mana Kawakami
Graduation Research Students : Yuta Takumi, Tsuyoshi Hidaka, Mana Kawaguchi,
   Masamine Ogasawara, Kaoru Wada, Shinya Chiba, Koki Ishizu,
   Kousei Ohno, Setsuri Shimazaki, Keisuke Hayashida,
   Asumi Yamaguchi

(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: Evaluation of single liquid primers with organic sulfur compound for bonding between indirect composite material and silver-palladium-copper-gold alloy: Saiji SHIMOE, Naomi TANOUE,
   Takahiro SATODA, Takeshi MURAYAMA, Hiroki NIKAWA, Hideo MATSUMURA: Dent Mater J,
2: Three-dimensional finite element analysis of cartilaginous tissues in human temporomandibular joint


B) Review


C) Publications

D) Other Publications

E) Presentation at Scientific Meeting


F) Special Lectures in Academic Meetings

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

(5) Academic Awards, etc.


(6) Patents
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 （H22.9）
Assistant Professor : Hisako Sasahara, Tsuyoshi Taji （H22.10-）
Research Associate : Kazuko Kawahara
Research Associate : Yuichi Mine （H22.11-）
(Special Appointment)
Secretary : Miki Onji
Research Assistant : Kaori Taguchi
Graduate Student : Naoya Imari, Yuko Omae, Takuya Kihara, Takahiro Syuto, Airi Takahashi, Sachie Hogaki, Aya Hiyama, Yuichi Mine, Sumiyo Mimura, Azusa Yamada, Hitomi Ishii, Satoshi Iwata, Fumiko Uehara （H22.4-H22.9）, Emi Okura, Shota Okazaki, Suguru Kawamura, Yuko Takamoto, Yukihiro Takayama
Undergraduate Student : Minako Okamura, Yuko Katabuchi, Minako Shinkawa, Tomoya Tamura, Minako Hiramatsu, Rie Fukuda, Eri Morooka, Yu Yamaguchi, Kaori Yushita, Hitomi Kajiwara, Asami Katayama, Megumi Kurose, Mao Shiba, Hideki Tanaka, Ayane Toda, Yu Tomiyama, Yukari Muraoka, Natsumi Yamamoto, Yusuke Yamamoto

(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)


B) Review
C) Publications

D) Other Publications

E) Presentation at Scientific Meeting
3 : Immune-cell-mediated bone resorption in periimplantitis and periodontitis : Seicho Makihira : 2nd international Workshop on BioDental Education & Research Hiroshima University Graduate School of Biomedical Sciences (Hiroshima), 2010

(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 : Fusanori Nishimura (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)
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
Department of Advanced General Dentistry, General Dentistry

(1) Staff and Students

Professor : Tetsuji Ogawa
Associate Professor : Norihiro Taguchi (until March 2010)
Research Associate : Yoshihara Tanaka, Masaru Ohara, Hiromi Nishi (from April, 2010)
Graduate Student : Taiji Obayashi (from April, 2010)
Secretary : Tomoe Sasaki

(2) Main Research Activities

1. Research in patient-centered dentistry based on narrative approach
2. Research in general dentistry
3. Examination of postgraduate dental training program
4. Research in health communication strategy
5. Research in clinical education
6. Research in assessment of clinical skills
7. Research in development and standardization of Simulated Patients

(3) Research Achievements

A) Original Papers (including Case Reports)

4. Wound healing effects of gingival fibroblasts cultured in animal-free medium. : Nishi H, Ohta K,


B) Review

C) Publications


D) Other Publications


E) Presentation at Scientific Meeting


2. Medical interview training for oral health care in continuous professional development : ○Kayo Kajitani, Tomoe Sasaki, Jyunko Maeda, Norihiro Taguchi, Hiroko Tamura, Tetsuji Ogawa and Tohru


12. Prevalence of methicillin-resistant Staphylococci carriages in the residents at the department of Advanced General Dentistry in Hiroshima University Hospital : ○Masaru Ohara, Takamune Hino,


F) Implementation of Seminars / Workshops

1. Workshop for postgraduate trainees 2009 (Hiroshima)

G) Lecturer • Symposium

H) Attending of Lectures, Seminars, and Workshops


I) Implementation of OSCE, CSA

1. 2nd Advanced OSCE for Postgraduate Trainees 2009-2010
2. 1st Advanced OSCE for Postgraduate Trainees 2010-2011

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

(5) Academic Awards, etc.

(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)


B) Reviews

C) Books/Book Chapters

D) Proceedings/Others

E) Presentations

1: PRECEDE-PROCEED Model modification in community-based oral health promotion in Japan.

(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. 800,000yen.

(5) Awards

(6) Patents
Department of Oral Health and Development
(Special Care Dentistry)

(1) Staffs and Students

Associate Professor : Mitsugi Okada  (※) Head of Dentistry
Research Associate : Koichi Hayashida
Resident       : Yuki Oda (from October to present)
Senior Resident : Tomoko Takitani (from April to August)
Senior Resident : Taro Kojima (from April to present)
Graduate Resident : Megumi Iwamoto

(2) Main Research Activities

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

(3) Research Achievements

A) Original Papers (including Case Reports)


4: PRECEDE-PROCEED Model modification in community- based oral health promotion by using the linear structural relations program: Kawamura M, Komabayashi T, Sasahara H, Okada M, Taguchi N,

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, 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


3: The videofluoroscopic findings for dysphagic patients with the freeze infusion of root vegetables examination: Nagasaki T., Konishi M., Hirai T., Yamagata H., Kayashia J.
Yasuhara A., Kimura H., Nakatsu S., Sakamoto H., Tanimoto K.: The 16th annual meeting of
Japan Society of Dysphagia Rehabilitation (Niigata, Japan), 2010.
4: Respiratory pattern on healthy young adult under diet meal: Oota K., Nagasaki T.,
Minamitani S., Yasuhara A., Simizu N., Higashijima M., Tanimoto K.: The 20th annual meeting
of Japan Society for Respiratory Care and Rehabilitation (Nagasaki, Japan), 2010.
5: Respiratory pattern on healthy young adult during eating: Second report: The Characteristic
respiratory pattern during swallowing: Oota K., Nagasaki T., Minamitani S.,
Yasuhara A., Simizu N., Higashijima M., Tanimoto K.: The 16th annual meeting of Japan Society
of Dysphagia Rehabilitation (Niigata, Japan), 2010.
6: The swallowing dynamic state of the freeze infusion of root vegetables: Nagasaki T.,
Konishi M., Hirai T., Yamagata H., Kayashia J., Yasuhara A., Kimura H., Nakatsu S.,
Sakamoto H., Tanimoto K.: The 54th annual meeting of Japan Society of Oral and Maxillofacial
Radiology (Yokohama, Japan), 2010.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.
1: Grant-in-aid for exploratory research from Hiroshima University: Oral function research in school-age
children: the relationship between tongue pressure and speech. ¥500,000

(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
Intern: Mariko Ohbayashi

(2) Main Research Activities

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

(3) Research Achievements

A) Original Papers (including Case Reports)


B) Review


C) Publications


D) Other Publications

E) Presentation at Scientific Meeting


3: Overexpression of Survivin and Aurora-B in oral squamous cell carcinoma: Kudo Y., Qi G, Ogawa
2010


F) Special Lectures in Academic Meetings


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, Grants-in-Aid for Young Scientists (B): Kitagawa M.: Functional analysis of
cementoblast maker gene, f-spodin: (22791767), ¥1,820,000

3: Research project, Grants-in-Aid for Young Scientists (B): Shintani T.: The role of FGF binding protein/HBp17 of cancer stem cells in oral cancer and an application for the molecular target therapy: (22791982), ¥2,300,000

(5) Academic Awards, etc.

(6) Patents
Central Clinical Sections, Dental Technicians Section

(1) Staff and Students

Director of Dental Technicians Section : Hiroki Nikawa (Prof.)
Chief Dental Technician : Hirotaka Okura
Supervisor Dental Technician : Masanobu Yamamoto, Eisaku Habu, Yoshihiro Otani, Meiji
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


(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: Miho Yoneda, Tomoko Hatakeyama, Kayo Kajitani, Kanako Matsu, Megumi Takamoto, Kumi Miyakawa (Till July), Tomoko Tokikazu, Kanako Yano, Kana Dainobu, Naomi Hara, Miho Okada, Ayumi Kouchi, Rie Kanna (Till February), Itsuka Kouno, Atsuko Wakita, Risako Inoue (Till March), Chieko Kawai, Yukiko Nagatani, Yurie Nakano
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) Research Achievements
A) Original Papers (including Case Reports)
B) Review
C) Publications
D) Other Publications
E) Presentation at Scientific Meeting
5: M Fundamental study of bone augmentation for clinical implant by interconnected porous calcium


N.: The 32th Annual Meeting of the Japanese society for Biomaterials (2010.11.30 Hiroshima)


20: Analysis of Volatile Sulfur Compounds (VSCs) Productivity by Porphyromonas gingivalis.: Yoriko Iwasaki, Kazuhisa Ouhara, Takamune Hino, Naohiko Hasegawa, Hiroyuki Kawaguchi, and Hidemi Kurihara.: The 43th meeting of Hiroshima University Faculty of Dentistry, (2010.2.11 Hiroshima)

F) Special lectures in academic meetings

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

1: Prevention for the periodontal inflammation functional regulation of gingival epithelial cells with the antimicrobial peptide (LL37).: encouragement study.: Tomoko Hatakeyama:22932005

Dental Clinic

(1) Staff and Students

Assistant Professor: Takamune Hino
Research Associate: Masaru Ohara

(2) Main Research Activities

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

(3) Research Achievements

A) Original Papers (including Case Reports)


B) Review

C) Publications

Etiology and pathogenesis of periodontal disease
Editor: Alexandrea L. Dumitrescu
Chapter 2 “Periodontal Microbiology”: Alexandrea L. Dumitrescu and Masaru Ohara p39-76
Springer-Verlag Berlin Heidelberg 2010

D) Other Publications
E) Presentation at Scientific Meeting


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

1: Grants-in-Aid for Scientific Research <KAKENHI>, New Resseach Projects under Scientific Research (B): The basic research for developing the cytokine regeneration therapy as order housemaid medical treatment. Number: 21390557. ¥300,000.

(5) Academic Awards, etc.

(6) Patents
Dental Medical Information Section

(1) Staff and Students

Director : Nobuyuki Kamata (Co.)
Professor : Hideaki Amano (Co.)
Assistant : Kyou Hiasa (Co.), 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)

B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting


4: The Correlation between Adverse Events in Hospitals and Their Administration and Education Structure on Hospital Information Systems: Takeshi Tanaka et al.: The 30th Joint Conference of Medical Informatics (Hamamatsu) 2010.

5: The importance of information training for medical staff of healthcare information technologist: Nobuhiro WAKABAYASHI et al.: The 30th Joint Conference of Medical Informatics (Hamamatsu) 2010.

6: The Availability Assessment of Medical Information System After Introducing in the Dental Section of University Hospital: Kyou HIASA et al.: The 30th Joint Conference of Medical Informatics (Hamamatsu) 2010.


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

(5) Academic Awards, etc.
(6) Patents