Hiroshima University Faculty of Dentistry, Hiroshima University Hospital, Institute of Biomedical & Health Sciences

Research Achievements

2013
Contents

Hiroshima University Faculty of Dentistry, Hiroshima University Hospital, Institute of Biomedical & Health Sciences

Basic Life Sciences

* Department of Calcified Tissue Biology
* Department of Oral Biology
* Department of Physiology and Oral Physiology
* Department of Molecular Biology and Biochemistry
* Department of Oral and Maxillofacial Pathobiology
* Department of Bacteriology
* Department of Cellular and Molecular Pharmacology
* Department of Biomaterials
* Department of Mucosal Immunology

Applied Life Sciences

* Department of Periodontal Medicine, and Department of Periodontics and Endodontics, Division of Preventive and Restorative
* Department of Molecular Oral Medicine & Maxillofacial Surgery, Department of Oral and Maxillofacial Surgery, Division of Oral & Maxillofacial Surgery and Oral Medicine
* Department of Oral and Maxillofacial Surgery, and Department of Oral and Maxillofacial Reconstructive Surgery, Division of Oral & Maxillofacial Surgery and Oral Medicine
* Department of Advanced Prosthodontics, and Department of Implants and Prosthodontics, Division of Preventive and Restorative Dentistry
* Department of Advanced Prosthodontics, and Department of Prosthetic Dentistry, Division of Preventive and Restorative Dentistry
* Department of Orthodontics and Craniofacial Development Biology, and Department of Orthodontics, Division of Oral Health and Development
* Department of Oral & Maxillofacial Radiology, Department of Oral and Maxillofacial Radiology, Division of Oral & Maxillofacial Surgery and Oral Medicine

Integrated Health Sciences

* Department of Dental Science for Health Promotion, and Department of Operative and Conservative Dentistry, Division of Preventive and Restorative Dentistry
- Department of Pediatric Dentistry, and Department of Pediatric Dentistry, Division of Oral Health and Development
- Department of Dental Anesthesiology, and Department of Dental Anesthesiology, Division of Oral & Maxillofacial Surgery and Oral Medicine
- Department of International Collaboration Development for Dentistry
- Department of Public Oral Health
- Department of Maxillofacial Functional Development
- Department of Oral Health Management
- Department of Anatomy and Functional Restorations
- Department of Medical System and Biomaterial Engineering
- Department of Oral Biology & Engineering
- Central Research Laboratory
- Department of General Dentistry, Division of Advanced General Dentistry
- Department of Oral Health, Division of Oral Health and Development
- Department of Special Care Dentistry, Division of Oral Health and Development
- Special Dental Clinic Section, Central Clinical Facilities
- Center of Oral Clinical Examination, Central Clinical Facilities
- Dental Technicians Laboratory, Central Clinical Facilities
- Dental Hygiene Section, Central Clinical Facilities
- Dental Clinic
- Dental Medical Information Section
Department of Calcified Tissue Biology, Basic Life Sciences

(1) Staff and Students

Professor: Yuji Yoshiko
Assistant Professor: Tomoko Minamizaki, Hirotaka Yoshioka, Yuichiro Takei
Technical Assistant: Miho Kondo
Graduate Student: Kaoru Sakurai (Pediatric Dentistry), Yoko Fujino (Special Care Dentistry), Kazuko Kagawa (Advanced Prosthodontics), Saki Okita, Yuko Nakao (Orthodontic Dentistry)

(2) Main Research Activities

1: Bone and tooth formation and mineralization.
2: Calcitropic and phosphotropic factors and mineral metabolism.
3: Osteonetwork (Cross-talk between bone and other tissues/organs).

(3) Research Achievements

A) Original Papers (including Case Reports)

4: Thyroid hormones decrease plasma 1α,25-dihydroxyvitamin D levels through transcriptional repression of the renal 25-hydroxyvitamin D3 1α-hydroxylase gene (CYP27B1).: Kozai M., Yamamoto H., Ishiguro M., Harada N., Masuda M., Kagawa T., Takei Y., Otani A., Nakahashi O.,


B) Review

2: For research into bone, a sophisticated organ.: Yoshiko Y.: J. Hiroshima University Dental Society, 45(2), 76-79, 2013.

C) Other Publications


D) Presentation at Scientific Meeting

4: Osteoclast-like Cells are Involved in Aortic Aneurysm Formation.: Takei Y., Yamanouchi D., Yoshiko Y.: 5th Hiroshima Conference on Education and Science in Dentistry (Hiroshima), 2013.
5: A Novel Therapeutic Approach to Abdominal Aortic Aneurysm through the Inhibition of Osteoclastogenesis. Takei Y., Kurosawa K., Yamanouchi D.: Arteriosclerosis, Thrombosis and


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

1: Grants-in-Aid for Scientific Research (C) New: Minamizaki T., Study of regulation of bone/tooth mineralization via downstream factor(s) of Klotho derived from breast cancer cells. No. 25462858.

2: Grants-in-Aid for Young Scientists (B) Continuance: Yoshioka H., Study of tooth morphogenesis from the aspect of local regulation of phosphate metabolism: An epigenomic approach. No. 24791962.


5: Iwadare Scholarship Foundation: Yoshiko Y.

6: Ono Pharmaceutical Co. Research found.: Yoshiko Y.

(5) Academic Awards, etc.

(6) Patents

Department of Physiology and Oral Physiology, 
Basic Life Sciences

(1) Staffs and Students

Professor : SUGITA, Makoto
Associate Professor : HIRONO, Chikara
Assistant Professor : KITAGAWA, Michinori
Research Assistant : YAMAMOTO, Kuniyo
Graduate Students : UENO, Kaori, YAMAMOTO, Kuniyo

(2) Main Research Activities

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) Research Achievements

A) Original Papers (including Case Reports)


B) Review


C) Publications

1 : 11-1. Taste : A Guidebook for Student Practicals in Physiology (The Physiological Society of Japan) :
D) Other publication

E) Presentation at Scientific Meeting


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


2: Grant-in-Aid for Scientific Research (C): Kitagawa M., Functional analysis of Hippo signaling pathway on the formation and maintenance of salivary gland structure. 24592768. ¥1,200,000.

(5) Academic Awards, etc.

(6) Patents
Department of Molecular Biology and Biochemistry,
Basic Life Sciences

(1) Staff and Students

Professor:            Chisa Shukunami
Associate Professor:    Mitsuhide Noshiro
Assistant Professor: Takeshi Kawamoto ,  Katsumi Fujimoto
International Student: Veronica Sainik Ronald

(2) Main Research Activities

1: Mechanisms regulating in the establishment of the junction between cartilage and tendon/ligament
2: The role of Pax1 during formation of vertebral column
3: Mechanisms of tendon/ligament formation
4: Mechanisms of periodontal ligaments formation
5: Pathogenic mechanisms involved in adolescent idiopathic scoliosis
6: Study on the regulatory mechanisms of lipid-metabolism and blood pressure control by clock proteins DEC1 and DEC2.
7: Mechanisms regulating differentiation of dental pulp stem cells

(3) Research Achievements

A) Original Papers (including Case Reports)

4: Sex"/Sox9" progenitors contribute to the establishment of the junction between cartilage and


B) Review


C) Publications


D) Other Publications

E) Presentation at Scientific Meeting

1: Genome-wide analysis of MSX1 target genes in stem cells from human exfoliated deciduous teeth: Noriko Goto, Katsumi Fujimoto, Sakiko Fuii, Takeshi Kawamoto, Mitsuhide Noshiro, Katsuyuki Kouzai, Yukio Kato. the 24th Congress of International Association of Paediatric Dentistry (IAPD) to be held in June 12th-15th 2013, in Seoul, Korea.


F) Special lectures in academic meetings

1: Molecular mechanisms underlying the formation of tendon and ligament: Chisa Shukunami: The 2nd biodental coliserum (Hiroshima), Aug. 31th 2013

2: Regulatory mechanisms governing the establishment of the junction between cartilage and tendon/ligament: Chisa Shukunami: The 28th Annual Research Meeting of the Japanese Orthopaedic Association Symposium 8 (Chiba), Oct. 18th, 2013

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

1: Grant-in-Aid for Scientific Research (B): Chikara Kokubu, Chisa Shukunami, Yuji Hiraki, 24300154, 500 千円

2: Grant-in-Aid for Scientific Research (B): Haruhiko Akiyama, Chisa Shukunami, Shuichi Matsuda. 25293319, 100 千円

3: Grant-in-Aid for Scientific Research (B): Yukio Kato, Mitsuhide Noshiro, Takeshi Kawamoto, Katsumi Fujimoto, 23390423, 3,200 千円

4: Grant-in-Aid for Scientific Research (C): Katsumi Fujimoto, 25462889, 1,600 千円

5: Grant-in-Aid for Scientific Research (C): Ayumu Nakashima, Takeshi Kawamoto, Yukihiro Higashi, Takao Masaki, 25461248, 100 千円

6: Grant-in-Aid for scientific Research (C): Hiroshi Ohtake, Shuji Kaneko, Yoshihiro Ugawa, Takeshi Kawamoto, NHiroaki Takeuchi, Masataka Takekoshi, Brian Morren, 24590622, 100 千円

7: Grant-in-Aid for challenging Exploratory Research: Chisa Shukunami, Aki Takimoto, Teruko Yamamoto, 5670871, 2,000 千円

(5) Academic Awards, etc.

1: Noriko Goto: Poster award: 5th Hiroshima Conference on Education and Science

(6) Patents
Department of Oral and Maxillofacial Pathobiology, Basic Life Sciences

(1) Staffs and Students

Professor : Takashi Takata
Associate Professor : Mutsumi Miyauchi
Assistant Professor : Toshihiro Inubushi, Hisako Furusho
Visiting Researcher : Phuong Thao Nyugen
Graduate Student : Takaaki Tsunematsu (D4), Mariko Ohbayashi (D4), Toshinori Ando (D3), Ajiravudh Subarnhesaj (D3), Nurina Febriyanti Ayuningtyas (D2), Syunryo Yanagisawa (D2), Chea Chanbora (D2), Atsuhiro Nagasaki (D1)

(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 relationship between odontogenic infection and systemic health condition
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

4. Aurora-A controls pre-replicative complex assembly and DNA replication by stabilizing geminin


B) Review


C) Publications


D) Other Publications

E) Presentation at Scientific Meeting

1) Special lectures in academic meetings

4. The mouth is the gate of evil? Takata T. Open lecture in Prefectural university of Hiroshima (Hiroshima), 2013.
8. Application of liposomalized lactoferrin to prevention and treatment of periodontal diseases. Takata T.
The Forsyth Institute (Boston), 2013.

9. OG/OB session; Clarification of carcinogenesis and cancer progression by abnormality of ubiquitin dependent proteolysis of cell cycle regulator. Frontier Dental School 2013 (Tokyo), 2013.


12. A verrucous lesion of the palate. Takata T, Ogawa I. 1st Asian regional consensus meeting on terminology and criteria for oral verrucous papillary lesions of the oral cavity (Kuala Lumpur), 2013.


2) Presentation at International Scientific Meeting


3) Presentation at Domestic Scientific Meeting


13. Two cases of tongue tumor showing the histological features similar to myoepithelial tumors. Ogawa I, Tsunematsu T, Ohbayashi M, Miyauchi M, Takata T. The 102nd annual meeting of the Japanese Society of Pathology (Sapporo), 2013.

4) Case Reports at Scientific Meeting


5) Other lectures

1. Pathological progression of non-alcoholic steatohepatitis (NASH) is exacerbated by dental infection of Porphyromonas gingivalis (P.g.) – Effects of P.g.-LPS and P.g. reached from odontogenic infection on hepatocytes. Sakamoto S, Miyauchi M, Takata T. 2013 Dentsply (Tokyo), 2013.


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

2. Grants-in-Aid for Scientific Research (Young Scientists(B)) New: Toshihiro Inubushi:
Development of low molecular weight lactoferrin for application in periodontal therapy.
3. Grants-in-Aid for Scientific Research (Scientific Research(C)) New: Mutsumi Miyauchi:
clarification of pathological progression mechanisms nonalcoholic steatohepatitis caused by
dental infection of periodontal pathogen.
4. Grants-in-Aid for Scientific Research (Challenging Exploratory Research) Continuance: Takashi
Takata: Study on the application of liposomal lactoferrin for prevention of Rheumatoid arthritis.
5. Grants-in-Aid for Scientific Research (Grant-in-Aid for Research Activity start-up) Continuance:
Hisako Furusho: Analysis of mechanisms of nonalcoholic steatohepatitis exacerbation caused by
dental infection and effects of dental treatment.
6. Grants-in-Aid for Scientific Research (Research fellowship for young scientists) Continuance:
Takaaki Tsunematsu: The role and regulation of RUNX3 in oral squamous cell carcinoma.
7. Grants-in-Aid for Scientific Research (Research fellowship for international scientists)
Continuance: Phuong Thao Nguyen: Study on the development of novel treatment for targeting
N-cadherin in oral cancer.
8. Donated fund from Sanstar Co. Ltd.: Takashi Takata. Study on periodontitis
9. Donated fund from Clinical laboratory center, Hiroshima city medical association. Continuance:
Takashi Takata: Study on diagnosis for oral disease.
10. Donated fund for Hiroshima Prefecture tumor registration business. Continuance: Takashi Takata
11. Donated fund from Mitsubishi-Mihara Hospital. Continuance: Takashi Takata: Study on diagnosis
for oral disease.

(5) Academic Awards, etc.

1. Shinnichi Sakamoto (6th grade of dental faculty) 2013 IADR David B. Scott Fellowship
2. Syota Tsukimoto (6th grade of dental faculty) 2013 Joseph Lister Award representation from Japan
3. Shinnichi Sakamoto (6th grade of dental faculty) 2013 Dentsply Second winner, Winner of Basic session
4. Takaaki Tsunematsu 100th anniversary young investigator prize of pathology, The Japanese Society of Pathology
Department of Bacteriology,
Basic Life Sciences

(1) Faculty members and students

Professor : Motoyuki Sugai
Assistant Professor : Fuminori Kato, Shizuo Kayama, Junzo Hisatsune
Co-Researcher : Keiko Tsuruta (Oral Health Care Major)
               Ikue Hayashi (Faculty of Density)
Researcher : Chika Arai (Leading Program)

Faculty of Density
Kazuhisa Koizumi (Pharmacy, Kimura Eye & Int. Med. Hospital)

Graduate Student : Shima Morioka D8, Kanao Kobayashi D6 (From Dept. Urology), Wataru Shimizu
D6 (From Dept. Surgery 1), Norifumi Shigemoto D4 (From Dept. Surgery 1), Ryuichi Kuwabara D5, Taro Kojima D4, Yuko Iwamoto D4 (From Pediatric Dentistry),
Nobuyuki Tatsukawa D3 (From Pediatric Dentistry), Yoshie Harino D3 (Clinical Laboratory, Hiroshima City Asa Hospital), Shrestha Looniva D3, Yu Liansheng
D2, Tokumitsu Shimada D2, Raita Yano D1, Yoshie Niidzu D1

(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 periodontopathogenic bacteria
5: Comparative genomic analysis of staphylococci
6: Gene expression analysis of S. aureus

(3) Research Accomplishments

A) Original Papers (including Case Reports)

1. Tripoli metallo-b-lactamase-1 (TMB-1)-producing Acinetobacter spp. with decreased resistance to
   imipenem in Japan. Shizuo Kayama, Norifumi Shigemoto, Wataru Shimizu, Ryuichi Kuwahara,
   Mitsuyasu Ikeda, Kikuyo Maeda, Junzo Hisatsune, Hiroki Ohge, Motoyuki Sugai Antimicrobial
   Agents and Chemotherapy. Online, 2014

2. Bacteriocin protein BacL1 of Enterococcus faecalis is a peptidoglycan D-isoglutamyl-L-lysine
   endopeptidase. Jun Kurushima, Ikue Hayashi, Motoyuki Sugai, Haruyoshi Tomita Journal of


C) Books

D) Other Publications

E) Presentation at Scientific Meeting

1. 広島県における ESBL および MBL を産生する腸内細菌の増加. 桑原隆一, 繁本憲文, 鹿山鎭男, 小野寺一, 横﨑典哉, 大毛宏喜, 菅井基行. 第 24 回 日本臨床微生物学会総会 2/2-3 横浜

2. Imipenem-Susceptible Meropenem-Resistant *Enterobacteriaceae* の拡散. 鹿山鎭男, 菅井基行.
3. 犬膿皮症由来 Staphylococcus pseudintermedius 表皮剥脱毒素 ExpB 産生株のゲノム解析. 久恒順三、平川英樹、伊徳泰大、西藤公司、大島健志朗、服部正平、菅井基行. 第 86 回日本細菌学会総会 03/18 千葉

4. 黄色プドウ球菌の病原性発現機構に関与するゲノム情報基盤．加藤文紀、菅井基行．中四国乳酸菌研究会 5/17 岡山


8. Survey of metallo-β-lactamase producing Pseudomonas aeruginosa in Hiroshima. N. Shimada, N. Shigemoto, S. Kayama, H. Ohge, M. Sugai. 28th International congress of chemotherapy and infection. 5th-8th June, Yokohama.

9. 日本における食中毒原性黄色プドウ球菌クローンの分子生物学的解析,佐藤祐介, 第 7 回細菌学若手コロッセウム 8/7 広島

10. 黄色プドウ球菌の表皮剥脱毒素 ETA 遺伝子プロモーター領域の解析, 岩本優子, 若手コロッセウム 08/07 広島

11. 全身播種した CA-MRSA 感染症由来株の解析. 久恒順三, 萩谷英大, 塩田澄子, 菅井基行. 第 66 回日本細菌学会中国四国支部総会 10/12 吳

12. IPM に耐性を示さないカルバペネマーゼ産生 Enterobacteriacea の多様性と脅威. 鹿山鎮男, 慶本憲文, 桑原隆一, 小野寺一, 横崎典哉, 大毛宏喜, 菅井基行. 第 42 回薬剤耐性菌研究会 10/17 熱海

13. Pseudomonas aeruginosa の RND 型異物排出システム MexAB-OprM 発現調節による Staphylococcus aureus の増殖抑制機構. 皆川周, 鹿山鎮男, 菅井基行, 後藤直正, 第 61 回日本化学療法学会西日本支部総会 11/06 大阪

14. 広島県における ESBL 産生菌サーベイランス（第 4 期調査）. 桑原隆一, 鹿山鎮男, 菅井基行. 第 61 回日本化学療法学会西日本支部総会 11/06 大阪

15. メタロ-β-ラクタマーゼ産生グラム陰性桿菌における IMP 型検出キットの有用性. 古畑麻紀, 木場由美子, 小野寺一, 桑原隆一, 慶本憲文, 鹿山鎮男, 菅井基行, 横崎典哉, 大毛宏喜, 第 61 回日本化学療法学会西日本支部総会 11/06 大阪
16. 日本において初めて分離された blaTEM-1 保有 Acinetobacter baumannii の性状解析。鹿山鎭男、繁本憲文、桑原隆一、池田光泰、池部晃司、大毛宏喜、菅井基行。第 61 回 日本化学療法学会西日本支部総会 11/06 大阪
17. 2004 年から 2012 年における広島県での薬剤耐性緑膿菌の動向。嶋田徳光、矢野雷太、繁本憲文、鹿山鎭男、大毛宏喜、菅井基行。第 61 回 日本化学療法学会西日本支部総会 11/06 大阪
18. 日本において初めて分離された blaOXA-181 保有 Klebsiella pneumoniae の性状解析。木場由美子、鹿山鎭男、横崎典也、大毛宏喜、菅井基行。第 61 回 日本化学療法学会西日本支部総会 11/06 大阪
19. IPM に中間耐性を示す Klebsiella 属が所有する新規メタロ-β-ラクタマーゼ blaIMP-34。繁本憲文、鹿山鎭男、桑原隆一、小野寺一、横崎典也、大毛宏喜、菅井基行。第 61 回 日本化学療法学会西日本支部総会 11/06 大阪
20. 「クイックチェイサーIMP」による腸内細菌科の IMP 型メタロ-β-ラクタマーゼの検出。古霜麻紀、木場由美子、小野寺一、長岡里枝、原稔典、城崎由美子、原田昌子、横崎典哉。日本臨床衛生検査技師会中四国支部医学検査学会(第 46 回) 11/09 広島
21. 広島県における ESBL 産生 Proteus mirabilis の増加。桑原隆一、鹿山鎭男、菅井基行。広島感染症研究会 11/30 広島
22. 多剤耐性菌。鹿山鎭男。広島感染症研究会 11/30 広島
23. 黄色ブドウ球菌のタイプによる表皮剥脱毒素の産生量の違いの解析。池田光泰、鹿山鎭男、加藤文紀、菅井基行 広島感染症研究会 11/30 広島
24. 海外帰国者より日本で初めて分離された blaOXA-181 保有 Klebsiella pneumoniae の性状解析。木場由美子、鹿山鎭男、横崎典也、大毛宏喜、菅井基行。広島感染症研究会 11/30 広島

F) Invited speakers, Symposiums and others

1. The 6th National Scientific Meeting in Dentistry, Surabaya, Indonesia 4/27
2. 2013 3rd Research Weßek-international Symposium of Collage of Oral Medicine Taipei Medical University 5/17
3. 「感染症・細菌学」 平成 25 年度 感染症・疾病管理センター研修会（感染症病原体研修コース） 9/10

(4) Research grants.

2 : Grant-in-Aid for Scientific Research for Young Investigator B from the Ministry of Educatio, Science, Sports and Culture of Japan : Kato, F.
3 : Grant-in-Aid for Scientific Research for Young Investigator B from the Ministry of Educatio, Science, Sports and Culture of Japan : Hisatsune, J.
5 : lactobacillus study group scholarship : Sugai, M
6: Grant for Hiroshima Univ. seeds research : Arai, C

(5) Awards

1. Infectious Disease News Article: Emergence of staphylococcus aureus carrying multiple drug resistance genes on a plasmid encoding exfoliative toxin B, 久恒順三
2. The International Dental Course: A Synchronization of the Dental Education for Joint Degree Program, 第 5 回日本歯科医学教育学会国際学会研究発表奨励賞、菅井基行
3. 日本において初めて分離された blaTMB-1 保有 Acinetobacter baumannii の性状解析, 第 8 回日本化学療法学会西日本支部支部長賞、鹿山鎮男
4. 広島県における ESBL 産出菌サーベイランス（第 4 調査）, 第 8 回日本化学療法学会西日本支部支部長賞、桑原隆一
5. 日本において初めて分離された blaOXA-181 保有 Klebsiella pneumoniae の性状解析, 第 5 回日本化学療法学会西日本支部活性化委員会特別賞、木場由美子

(6) Patents
Department of Cellular and Molecular Pharmacology, 
Basic Life Sciences

(1) Staff and Students

Professor: Takashi Kanematsu
Associate professor: Katsuya Morita
Assistant professor: Tomoya Kitayama, Kae Harada, Satoshi Asano
Professor (Part-time): Katsuya Morita, Toshiyuki Sasaguri, Minoru Wakamori, Takayuki Tsukuba, Akira Toyofuku, Akihiko Tanimura
Research Associate: Jun Zhang, Kana Harada
Administrative Staff: Nozomi Hinada
Graduate student: Rizia Sultana, Kana Oue, Masaki Hayashiuchi, Yumiko Nishimura
Undergraduate student (Advanced Dental Research course): Kousuke Yokobayashi (6th), Tomohiro Mukai (6th), Seiya Hayashi (6th), Hanae Ikeda (6th), Sakura Yamada (6th), Takashi Ryoke (5th), Furutama Daisuke (5th), Sayaka Asano (5th), Masaki Yokoyama (4th), Seiki Tomoyuki (4th), Sakiho Tsuyama (4th).

(2) Main Research Activities

1: Studies on the molecular mechanisms of GABA<sub>A</sub> receptor signaling in the central nervous system
2: Studies on the molecular mechanisms controlling insulin secretion
3: Studies on the regulatory mechanisms of food intake and energy metabolism
4: Studies on the roles of a new autophagy-related molecule in autophagy pathway
5: Physiological and pathophysiological roles of neurotransmitter transporters and nucleoside transporters.
6: Studies on the mechanisms for neuropathic pain and the development of novel medicaments.

(3) Research Achievements

A) Original Papers


B) Reviews


C) Publications

D) Other Publications

E) Presentation at Scientific Meeting


4: A complex of PRIP and protein phosphatase regulates lipolysis in mice adipocyte: Kanematsu T.,
Okumura T.: The 7th International DIP Symposium on Diabetes, Hypertension, Metabolic Syndrome, and Pregnancy (Florence, Italy), March 13-16, 2013.

5: Regulation of second phase of insulin secretion by phospholipase C-related catalytically inactive protein: Asano S., Kanematsu T.: 46th meeting of the Hiroshima University Dental Society (Hiroshima), 2013.


F) Special lectures in academic meeting

(4) Grants


3: Grant-in-Aid for Young Scientists (B): Harada Kae., Elucidation of an exclusive mechanism via PRIP
against invasive bacteria. Project number 25861757. Amount 3,100,000 (2013); 16,000,000 (2013-2014).


(5) Academic Awards

(6) Patents

Return to Contents
Department of Biomaterials,
Basic Life Sciences

(1) Staff and Students

Professor: Koichi Kato
Assistant Professor: Yuji Nomura, Isao Hirata, Ryo Nishikiori
Graduate Student: Yusuke Aida (Dept. Periodontal Med.), Aimi Naim (Dept. Orthodontics),
Takahiro Sugino (Dept. Orthodontics), Tomomi Date (Dept. Orthodontics)

(2) Main Research Activities

1: Technology development for the mass-production and quality control of cells used in stem cell-based
regenerative medicine
2: Design of tissue engineering scaffolds
3: Study on dental materials with antimicrobial activity

(3) Research Achievements

A) Original Papers (including Case Reports)

1: The extracts of Japanese willow tree species are effective for apoptotic desperation or
differentiation of acute myeloid leukemia cells: Fujita K., Nomura Y., Sawajiri M., Mohapatra P.K.,
T.: Pharmacognosy Magazine: in press
2: Bioactive surface modification of hydroxyapatite: Abe Y., Okazaki Y., Hiasa K., Yasuda K.,
3: New development of carbonate apatite-chitosan scaffold based on lyophilization technique for bone
4: In vivo study on the survival of neural stem cells transplanted into the rat brain with a collagen
5: Cell orientation and regulation of cell-cell communication in human mesenchymal stem cells on
different patterns of electrospun fibers: Chang J.C., Fujita S., Tonami H., Kato K., Iwata H., Hsu


B) Review


C) Publications


D) Other Publications


E) Presentation at Scientific Meeting


society (Aomori), 2013.

4: Effect of molecular crowding on antigen-antibody interactions at solid-liquid interfaces: The 4th Taiwan-Japan Symposium on Nanomedicine (Taipei, Taiwan), 2013.


8: Microarrays of plasmids and proteins for identifying the determinants of stem cell fates: Kato K.: 5th Hiroshima Conference on Education and Science in Dentistry (Hirosima, Japan), 2013.


11: Kato K.: Interdisciplinary Discussion of Bioengineering in Kyoto (Kyoto, Japan), 2013.

12: Characterization of stem cell population by the antibody array chip: Kato K.: 55th Dental Basic Medical Association Annual Conference meeting (Okayama, Japan), 2013. (in Japanese)


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

1: Grant-in-Aid for Scientific Research, Challenging Exploratory Research: Nishikori R.: Identification of prospective surface markers of mesenchymal stem cells by on-chip cell sorting method: No.25670832. 2,900,000 JPY.

2: Grant-in-Aid for Scientific Research (C), Ministry of Education, Culture, Sports, Science and Technology: Nomura Y.: Research and development of the dental material having a functional antibacterial action: No. 24592917. 900,000JPY

3: Grant-in-Aid for Scientific Research (B), Ministry of Education, Culture, Sports, Science and Technology: Hirata Y.: Development of chemical regulation of culture substrate that control cell growth and differentiation: No. 25293403. 11,700,000JPY
4: Grant-in-Aid for Scientific Research (B), Ministry of Education, Culture, Sports, Science and Technology: Kato K.: Creation of artificial extracellular matrix for biological similar tissue architecture: No.25293404. 10,920,000JPY


6: Grant-in-Aid for Scientific Research, Challenging Exploratory Research: Kato K.: Design of protein treated scaffold material for periodontal tissue regeneration: No. 24659877. 1,430,000JPY

7: JST research results expand business strategic innovation promotion program: Kato K.: Creation of organ regeneration scaffold material based on the differentiation induction technique and cell-specific spatial placement: 4,000,000JPY

(5) Academic Awards, etc.

(6) Patents

1: Fujita K., Nomura Y., Nguyen T.N.: Composition for treating tumor and method for producing the same (Patent Number 5441023) (Hiroshima Univ)


Department of Periodontal Medicine, 
Applied Life Science and 
Department of Periodontics and Endodontics, 
Division of Preventive and Restorative Dentistry

(1) Staffs and Students

Professor: Hidemi Kurihara
Associate Professor: Hideki Shiba
Associate Professor, Lecturer: Tsuyoshi Fujita
Assistant Professor: Noriyoshi Mizuno, Yuushi Uchida, Katsuhleiro Takeda, Tomoyuki Iwata,
Kazuhisa Ouhara, Shinji Matsuda, Mikihito Kajiya
Assistant Professor (Special Appointment): Takayoshi Nagahara (October-)
Resident: Yasuko Kitamoto (-March), Fumino Ogawa, Mizuho Kittaka (June-studying abroad), Akihiro
Konishi, Tsuyoshi Miyagawa, Kenji Wada
Graduate Student: Yoriko Iwasaki (-March), Yoshie Niitani (under leave of absence), Naoko Katagiri
(-March), Kabir MD Ahamedul (-March), Haruka Imai, Yusuke Obinata, Eri Kaneda,
Takako Fujita, Ryoichi Yagi, Shu Ishida, Khung Rathvisal, Kei Kashiwai, Masahiro
Yamakawa, Tetsuya Yoshimoto, Yusuke Aida, Naoko Tokunaga, Keita Takahashi, Kei
Takahashi, NGUYEN, QUOC TRUONG, Masahiko Suzukiwa, Ai Okanbu, Manabu
Takewaki, Shuichi Munenaga (under leave of absence)
Visiting Researcher: Irma Josefine Savitri
Clinical Trainee: Minako Ueshige (-March), Takeshi Ueda, Tetsutaro Ishigaki (August-), Hiroshi Haraga
(December-)
International Research Student:
Kristanti Parisihni (September-November), Sri Wigati Mardi (September-November)

(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. Irsogladine maleate regulates the inflammatory related genes in human gingival epithelial cells stimulated by Aggregatibacter actinomycetemcomitans
Tsuyoshi Miyagawa, Tsuyoshi Fujita, Kazuhisa Ouhara, Shinji Matsuda, Mikihito Kajiya, Kouichi Hayashida, Haruka Imai, Tetsuya Yoshimoto, Tomoyuki Iwata, Hideki Shiba, Yoshimitsu Abiko, Hidemi Kurihara
International Immunopharmacology, 2013 February, 15(2), 340-347

2. Examination of stimulated saliva production, caries risk item and number of Candida of mouth
Kitagawa M., Yanagisawa S., Shintani T., Ogawa I., Kurihara H
J JSEDP, 2013 March, 5(1), 31−7

3. Antimicrobial peptide LL37 promotes vascular endothelial growth factor-A expression in human periodontal ligament cells

4. The antimicrobial peptide LL37 promotes bone regeneration in a rat calvarial bone defect.
Mizuho Kittaka, Hideki Shiba, Mikihito Kajiya, Takako Fujita, Tomoyuki Iwata, Khung Rathvisal, Kazuhisa Ouhara, Katsuhiro Takeda, Tsuyoshi Fujita, Hitoshi Komatsuzawa, Hidemi Kurihara
Peptides, 2013 August, 46, 136-142

5. The Keap1/Nrf2 protein axis plays a role in osteoclast differentiation by regulating intracellular reactive oxigen species signaling
Hiroyuki Kanzaki, Fumiaki Shinohara, Mikihito Kajiya, Tetsuya Kodama
The Journal of Biological Chemistry, 2013 August, 9;288(32), 23009-20

6. BDNF protects human vascular endothelial cells from TNFα-induced apoptosis.
Takeda K., Kermani P., Anastasia A, Obinata Y, Hempstead BL, Kurihara H.

7. Etanercept Administration to Neonatal SH3BP2 Knock-In Cherubism Mice Prevents TNF-α-induced Inflammation and Bone Loss
Teruhito Yoshitaka, Shu Ishida, Tomoyuki Mukai, Mizuho Kittaka, Ernst J. Reichenberger, Yasuyoshi Ueki
8. miR-584 Expressed in Human Gingival Epithelial Cells is Induced by Porphyromonas Gingivalis Stimulation and Regulates Interleukin-8 Production via Lactoferrin Receptor. Kazuhisa Ouhara, Irma Josefina Savitri, Tsuyoshi Fujita, Mizuho Kittaka, Mikihito Kajiya, Tomoyuki Iwata, Tsuyoshi Miyagawa, Masahiro Yamakawa, Hideki Shiba, Hidemi Kurihara
Journal of Periodontology, 2013 November, in press

9. Dental infection of Porphyromonas gingivalis exacerbates high fat diet-induced steatohepatitis in mice. Hisako Frusho, Mutsumi Miyauchi, Hideyuki Hyogo, Toshishiro Inubushi, Min Ao, Kazuhisa Ouhara, Junzou Hisatune, Hidemi Kurihara, Motoyuki Sugai, C Nelson Hayes, Takashi Nakahara, Hiroshi Akita, Shoichi Takahashi, Kazuaki Cyayama, Takashi Takata

B) Review

1. Investigation of Preventive methods for periodontal disease by regulating gingival epithelial function. Tsuyoshi Fujita

C) Publications

1. New edition, Encyclopedia about health of a tooth and a mouse for families (Koichi Ito et al.)
Shiba H., Kurihara H
Ishiyaku Publishers Inc. (Tokyo), 2013, 423-426

2. Glossary of Endodontics 2013 (edited by The Japanese Society of Conservative Dentistry and Japan Endodontic Association)
Shiba H., Kurihara H
Ishiyaku Publishers Inc. (Tokyo), 2013, 41-43

D) Other Publications

1. Life stage and Endodontics, For the long-term preservation of teeth, 3. Endodontics for adults, Approach for endodontic and periodontal disease
Shiba H., Kurihara H
2013, Extra number Dental Diamond, 106-113

E) Presentation at Scientific Meeting
1. The anti-inflammatory effect of amphotericin B in gingival epithelium
H. Imai, T. FUJITA, K. OUHARA, Y. UCHIDA, M. KAJIYA, H. SHIBA, and H. KURIHARA,
General Session & Exhibition of the International Association for Dental Research (Seattle, USA),
March 2013

2. Regulation of Osteogenesis in Mesenchymal Stem Cells by Periodontal Tissue
Eri Kaneda, Tomoyuki Iwata, Tsuyoshi Fujita, Shu Ishida, Hideki Shiba, Hidemi Kurihara
General Session & Exhibition of the International Association for Dental Research (Seattle, USA),
March 2013

3. New method for collecting GCF from mouse
S. Matsuda, I. Ichimonji, M. Suzuki, K. Nishimura, J. Hirschfeld, J. Jin, M. Kajiya, X. Han, H.
Kurihara, M. A. Taubman, T. Kawai
General Session & Exhibition of the International Association for Dental Research (Seattle, USA),
March 2013

4. Small molecule BDNF mimetic regulates cementoblast differentiation via TrkB signaling
Mikihito Kajiya, Hideki Shiba, Tsuyoshi Fujita, Kazuhisa Ouhara, Katsuhiro Takeda, Mizuho
Kittaka, Takashi Takata, Masae Kitagawa, Hidemi Kurihara
General Session & Exhibition of the International Association for Dental Research (Seattle, USA),
March 2013

5. Cherubism Mutation in SH3BP2 Enhances TNF-induced Osteoclast Differentiation and Function
S. ISHIDA, T. MUKAI, R. ISHIKAWA, T. YOSHITAKA, N. MIZUNO, and Y. UEKI
General Session & Exhibition of the International Association for Dental Research (Seattle, USA),
March 2013

6. Profiling of cytokine production in exudative fluids from various periapical lesions for establishment
of novel treatment strategy
Kazuhisa Ouhara, Yuushi Uchida, Tsuyoshi Fujita, Masae Kitagawa, Ikuko Ogawa, Hideki Shiba,
Hidemi Kurihara
International Federation of Endodontic Association the 9th World Endodontic Congress (Tokyo),
May 2013

7. The Antimicrobial Peptide LL37 suppresses the peptidoglycan-induced mRNA expression of
matrix metalloproteinases in human pulp cells.
Rathvisa K., Shiba H., Kittaka M., Kajiya M., Ouhara K., Kurihara H.
International Federation of Endodontic Association the 9th World Endodontic Congress (Tokyo),
May 2013

8. Ball-shaped MSC can be a promising MSC transplant method in bone regeneration.
Mizuho Kittaka, Mikihito Kajiya, Hideki Shiba
2nd Joint Meeting of the International Bone and Mineral Society and the Japanese Society for Bone
9. BDNF regulates inflammatory cytokine expressions in human vascular endothelial cells
Yusuke Obinata, Katsuhiro Takeda, Akihiro Konishi, Naoko Katagiri, Mikihito Kajiya, Tsuyoshi Fujita, Hideki Shiba, Hidemi Kurihara
The 56th spring meeting of the Japanese society of Periodontology (Tokyo), May 2013

10. To investigate the effect of PLGA as a scaffold of bone marrow mesenchymal stem cell for the treatment of large periodontal defect
Takako Fujita, Katsuhiro Takeda, Takayoshi Nagahara, Mizuho Kittaka, Takeshi Ueda, Kenji Wada, Tsuyoshi Fujita, Hideki Shiba, Hidemi Kurihara
The 56th spring meeting of the Japanese society of Periodontology (Tokyo), May 2013

11. Regulation of human gingival epithelial cells by Irsogladine maleate
Tsuyoshi Miyagawa, Tsuyoshi Fujita, Kazuhisa Ouhara, Shinji Matsuda, Katsuhiro Takeda, Yuushi Uchida, Haruka Imai, Mikihito Kajiya, Hideki Shiba, Hidemi Kurihara
The 56th spring meeting of the Japanese society of Periodontology (Tokyo), May 2013

12. Effect of TGF-β1 on apoptosis signaling and the expression of E-cadherin in gingival epithelial cells
Tetsuya Yoshimoto, Tsuyoshi Fujita, Kazuhisa Ouhara, Mikihito Kajiya, Tsuyoshi Miyagawa, Haruka Imai, Hidemi Kurihara
The 56th spring meeting of the Japanese society of Periodontology (Tokyo), May 2013

13. The influence of the expression of inflammatory cytokines via lipid raft on human gingival epithelial cells.
Haruka I., Fujita T, Ouhara K, Kajiya M, Uchida Y, Miyagawa T, Yoshimoto T, Shiba H, Kurihara H
The 138th Meeting of the Japanese Society of Conservative Dentistry (Fukuoka), June 2013

14. Small molecule BDNF mimetic regulates cementoblast differentiation via TrkB signaling
Mikihito Kajiya, Kei Kashiwai, Kei Takeshita, Nguyen Quon Trung, Masae Kiagawa, Takashi Takata, Tsuyoshi Fujita, Hidemi Shiba, Hidemi Kurihara
The 138th Meeting of the Japanese Society of Conservative Dentistry (Fukuoka), June 2013

15. Experimental analysis of Porphyromonas gingivalis infection affected the expression of rheumatoid arthritis
Masahiro Yamakawa, Kazuhisa Ouhara, Mikihito Kajiya, Mizuho Kittaka, Tsuyoshi Fujita, Hideki Shiba, Hidemi Kurihara
The 138th Meeting of the Japanese Society of Conservative Dentistry (Fukuoka), June 2013

16. BDNF regulates inflammatory cytokine expressions in human vascular endothelial cells
Yusuke Obinata, Katsuhiro Takeda, Akihiro Konishi, Naoko Katagiri, Mikihito Kajiya, Tsuyoshi Fujita, Hideki Shiba, Hidemi Kurihara
46th meeting of the Hiroshima University Dental Society (Hiroshima), June 2013

17. Osteogenic differentiation of mesenchymal stem cells in PLGA block
18. Detecting novel mutations of Alzheimer’s disease using semiconductor sequencing
   Ryoichi Yagi, Hirofumi Maruyama, Hiroyuki Morino, Noriyoshi Mizuno, Hideshi Kawakami, Hidemi Kurihara
   46th meeting of the Hiroshima University Dental Society (Hiroshima), June 2013

19. Screening causative genes of Alzheimer’s disease
   Ryoichi Yagi, Ryosuke Miyamoto, Yuishin Izumi, Hirofumi Maruyama, Hidemi Kurihara, Hideshi Kawakami
   The 28th Annual Meeting of Japan Geriatrics Society (Osaka), June 2013

20. Anti-inflammatory effect of Irsogladine maleate on human gingival epithelial cells
   Tsuyoshi Miyagawa, Tsuyoshi Fujita, Hideki Shiba, Hidemi Kurihara
   The 34th Annual Meeting of Japanese Society of Inflammation and Regeneration (Kyoto), July 2013

   Tetsuya Yoshimoto, Tsuyoshi Fujita, Kazuhisa Ouhara, Mikihi Kajiya, Tsuyoshi Miyagawa, Haruka Imai, Hideki Shiba, Hidemi Kurihara
   The 10th Asian Pacific Society of Periodontology Meeting (Nara), September 2013

22. Experimental analysis of the expression of Rheumatoid arthritis affected Porphyromonas gingivalis infection
   Masahiro Yamakawa, Kazuhisa Ouhara, Mikihi Kajiya, Mizuho Kittaka, Tsuyosi Fujita, Hideki Shiba, Hidemi Kurihara
   The 10th Asian Pacific Society of Periodontology Meeting (Nara), September 2013

23. Significance of lip biopsy in diagnosis of Sjogren syndrome and IgG4-related disease
   Nagasaki A, Kitagawa M., Shintani T., Ogawa I., Kurihara H
   The 6th Annual Meeting of Japanese Society for Evidence and the Dental Professional (Yokohama), September 2013

24. Experimental analysis of the expression of Rheumatoid arthritis affected Porphyromonas gingivalis infection
   Masahiro Yamakawa, Kazuhisa Ouhara, Mikihi Kajiya, Mizuho Kittaka, Tsuyoshi Fujita, Hideki Shiba, Hidemi Kurihara
   The 56th Autumn Meeting of Japanese Society of Periodontology (Maebashi), September 2013

25. Functional analysis of mesenchymal stem cell in long term culture and passage process.
   Shu Ishida, Tomoyuki Iwata, Eri Kaneda, Keita Takahashi, Hideki Shiba, Hidemi Kurihara
   The 56th Autumn Meeting of Japanese Society of Periodontology (Maebashi), September 2013
26. Effects of Receptor for advanced glycation endproducts on Human Gingival Epithelial Cells
   Y Uchida, K Ouhara, T Fujita, M Kajiya, H Shiba, H Kurihara
   The 56th Autumn Meeting of Japanese Society of Periodontology (Maebashi), September 2013

27. GCF and IFN-γ in mouse periodontitis -Report of Brain-Circulation Program-
   S. Matsuda
   5th Hiroshima Conference on Education and Science (Hiroshima), October 2013

   Tetsuya Yoshimoto, Tsuyoshi Fujita, Kazuhisa Ouhara, Mikihiro Kajiya, Tsuyoshi Miyagawa, Haruka Imai, Hideki Shiba, Hidemi Kurihara
   The 139th autumn meeting of the Japanese Society for conservative dentistry (Akita), October 2013

29. BDNF induces apoptotic cascade of human gingival epithelial cells.
   Kei Kashiwai, Mikihiro Kajiya, Tsuyoshi Fujita, Shinji Matsuda, Katsuhiko Takeda, Hideki Shiba, Hidemi Kurihara
   The 139th autumn meeting of the Japanese Society for conservative dentistry (Akita), October 2013

30. microRNAs regulate differentiation of mesenchymal stem cells by humoral factors from gingival fibroblasts
   Eri Kaneda, Tomoyuki Iwata, Shu Ishida, Keita Takahashi, Takayoshi Nagahara, Tsuyoshi Fujita, Hideki Shiba, Hidemi Kurihara
   The 139th autumn meeting of the Japanese Society for conservative dentistry (Akita), October 2013

31. A case report of aggressive periodontitis improved by initial preparation
   Noriyoshi Mizuno, Hidemi Kurihara
   The Japanese Academy of Clinical Periodontology (Hiroshima), October 2013

32. Detecting novel mutations of Alzheimer’s disease gene using semiconductor sequencing
   Ryoichi Yagi, Ryosuke Miyamoto, Hiroyuki Morino, Yuishin Izumi, Masahito Kuramochi, Takashi Kurashige, Hirofumi Maruyama, Noriyoshi Mizuno, Hidemi Kurihara, Hideshi Kawakami
   2013 American society Human genetics (BOSTON, USA), October 2013

33. Establish new method for picking up GCF in mice model
   S. Matsuda, M. Kajiya, T. Fujita, H. Shiba, H. Kurihara
   The 97th meeting of Hiroshima University Faculty of Dentistry (Hiroshima), November 2013

34. Adhesion of mesenchyme stem cells to dentin surface
   K Wada, Y Uchida, K Takeda, H shiba, H Kurihara
   The 97th meeting of Hiroshima University Faculty of Dentistry (Hiroshima), November 2013

35. Immunohistochemical study of periodontal tissue regenerative process by BDNF.
   Akihiro Konishi, Katsuhiko Takeda, Mikihiro Kajiya, Shinji Matsuda, Tsuyoshi Fujita, Hideki Shiba, Hidemi Kurihara
The 97th meeting of Hiroshima University Faculty of Dentistry (Hiroshima), November 2013

36. Examination of stimulated saliva production, caries risk item and number of Candida of mouth
Kitagawa M, Nagasaki A., Shintani T., Ogawa I., Kurihara H.
The 97th meeting of Hiroshima University Faculty of Dentistry (Hiroshima), November 2013

37. Possible IgG Transportation mechanism mediated by Neonatal Fc Receptor (FcRn) expressed in gingival epithelial cells
Kazuhis Ouhara, Mikihi Kajiya, Tsuyoshi Fujita, Hideki Shiba, Hidemi Kurihara
The 53rd General Session of the Korean Academy of Periodontology (Seoul, Korea), November 2013

38. Apoptosis in human gingival epithelial cells is induced via TGF-β type I Receptor-smad2-caspase3 signaling cascade.
Tetsuya Yoshimoto, Tsuyoshi Fujita, Kazuhisa Ouhara, Mikihi Kajiya, Tsuyoshi Miyagawa, Haruka Imai, Hideki Shiba, Hidemi Kurihara
The 53rd General Session of the Korean Academy of Periodontology (Seoul, Korea), November 2013

39. Brain-derived neurotrophic factor (BDNF) modulates pro-inflammatory cytokines induced endothelial barrier dysfunction for periodontal tissue regeneration.
The 53rd General Session of the Korean Academy of Periodontology (Seoul, Korea), November 2013

40. Clumps of MSCs/ECM complex can be a novel tissue engineering therapy for bone regeneration
Mikihi Kajiya, Mizuho Kittaka, Hideki Shiba, Manabu Takewaki, Kei Takeshita, Khung Rathvisal, Nguyen Quon Troung, Kazuhisa Ouhara, Tsuyoshi Fujita, Hidemi Kurihara
The 53rd General Session of the Korean Academy of Periodontology (Seoul, Korea), November 2013

41. Experimental analysis of the expression of Rheumatoid arthritis affected Porphyromonas gingivalis infection
Masahiro Yamakawa, Kazuhisa Ouhara, Mikihi Kajiya, Mizuho Kittaka, Tsuyosi Fujita, Hideki Shiba, Hidemi Kurihara
The 53rd General Session of the Korean Academy of Periodontology (Seoul, Korea), November 2013

42. AUDIT System for prevention of nosocomial infection in dental clinic by Hiroshima Safety Dental Service Support Network – (2) based on the result of first AUDIT test run –
Tomoyuki Iwata, Noriyoshi Mizuno, Miyuki Nakaoka, Yumi Irie, Hideki Shiba, Akihiro Sawa, Koji Kimura, Tomoko Sugata and Hidemi Kurihara
The 34th Hiroshima study meeting for infectious disease (Hiroshima), November 2013
43. Role of lip biopsy in diagnosis of Sjögren’s syndrome and IgG4-related disease
Nagasaki A, Kitagawa M., Shintani T., Ogawa I., Kurihara H., Takata T
The 58th Meeting of Japanese Salivary Gland Society (Tokyo), December 2013

F) Special lectures in academic meetings

1. Hidemi Kurihara ; KPPIKG2013 (Indonesia), March 2013
2. Periodontal regeneration with mesenchymal stem cells: Hidemi kurihara; The 12th Congress of the
Japanese Society for Regenerative Medicine (Tokyo), May 2013
3. Hidemi K.: The 67th Annual Meeting of the Japanese Stomatological Society (Utsunomiya), May
2013
Endodontic Congress (Tokyo), May 2013
5. Special lecture “Investigation of Preventive methods for periodontal disease by regulating gingival
epithelial function.” : Tsuyoshi Fujita: The 56th spring meeting of the Japanese society of
Periodontology (Tokyo), May 2013
6. Symposium “The Role of Junctional epithelial cells on the Initiation of Periodontal disease and
its Regulatoion.”: Tsuyoshi Fujita: The 57th spring meeting of the Japanese society of
Periodontology (Tokyo), May 2013
7. Report “Finish studying abroad in the Forsyth Institute”: Shinji Matsuda: 46th meeting of the
Hiroshima University Dental Society (Hiroshima), June 2013
8. Periodontal/Endodontic regenerative therapy associated with traumatic tooth treatment : Hidemi
Kurihara; The 13th meeting of Japan Association of Dental Traumatology (Saitama), July 2013
9. The basics and common sense for endodontic therapy: Hidemi Kurihara: Staff study
group ”Breakthrough” (Hiroshima), October 2013
10. Special lecture “Investigation of Preventive methods for Periodontal disease by Regulating
junctonal epithelial attachment.”: Tsuyoshi Fujita: Japanese society of periodontology and Japanese
society of Clinical Periodontolgy in Tyygoku/Shikoku area (Hiroshima), October 2013
11. Biological endodontic therapy: Hidemi Kurihara: Update seminar for Dental specialist in Japan
Association of Dental Traumatology (Hiroshima), November 2013
12. Prevention with knowledge for periodontal desease!: Hidemi Kurihara: The year of 2013 Hiroshima
Senior High School education meeting for nursing sectional meeting / The 3rd whole meeting for the
study of Hiroshima north district branch (Hiroshima), November 2013
13. The future prospection of endodontic therapy: Hidemi Kurihara: Staff study group ”Breakthrough”
(Hiroshima), November 2013
meeting for infectious disease  (Hiroshima), November 2013

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

1. Grants-in aid for scientific research: Hidemi Kurihara: #235929235
2. Grants-in aid for scientific research: Noriyoshi Mizuno #235930610
3. Grants-in aid for scientific research: Hidemi Kurihara: #243904670
4. Grants-in aid for scientific research: Hideki Shiba: #245931220
5. Grants-in aid for scientific research: Tsuyoshi Fujita: #245931230
6. Grants-in aid for scientific research: Hidemi Kurihara: #246598775
7. Grants-in aid for scientific research: Shinji Matsuda: #247923300
8. Grants-in aid for scientific research: Mikihito Kajiya: #248901420
9. Grants-in aid for scientific research: Yuushi Uchida: #254629600
10. Grants-in aid for scientific research: Katsuhiro Takeda: #254632180
11. Grants-in aid for scientific research: Hidemi Kurihara: #256708850
12. Grants-in aid for scientific research: Tomoyuki Iwata: #258620490
13. Grants-in aid for scientific research: Takayoshi Nagahara: #258620500
14. Grants-in aid for scientific research: Kazuhisa Ouhara: #258620510
15. General foundation Ryokufukai The year of 2013 education and research prize for encouragement (Grant for young researcher grant): Masahiro Yamakawa
17. Hiroshima University education and research support foundation The year of 2013 grants for education and research (Grants for scientific research and public disclosure of the results by young researcher): Mikihito Kajiya
18. The year of 2013 Japanese Association for Dental Science Project research business: Hidemi Kurihara
19. Hiroshima University education and research support foundation The year of 2013 grants for education and research (Grants for scientific research by students): Haruka Imai
20. Grants on KCB-1D (Phase III) for marginal periodontitis by Kaken Pharmaceutical Co., Ltd.

(5) Award

Kazuhisa Ouhara
Best Poster Presentation Award  2013
Possible IgG Transportation mechanism mediated by Neonatal Fc Receptor (FcRn) expressed in
gingival epithelial cells
The 53rd General Session of the Korean Academy of Periodontology
Department of Advanced Prosthodontics, Applied Life Sciences and Department of Implants and Prosthodontics, Division of Preventive and Restorative Dentistry

(1) Staff and Students

Professor : Yasumasa Akagawa
Associate Professor : Kazuhiro Tsuga, Takayasu Kubo, Mineka Yoshikawa, Yasuhiko Abe, Kyou Hiasa
Assistant Professor : Katsunori Koretake, Kazuhiko Hayashi, Yasunari Miyamoto
Resident : Maho Takeuchi, Mariko Maruyama, Hiroshi Oue, Yohei Okazaki, Hirokazu Tsuchioka
Graduate Student : Shinsuke Okada, Shiho Kajihara, Yusuke Makihara, Takahiro Mori, Chiaki Higa, Aya Hesaka, Kan kato, Keisuke Yasuda, Yoshifumi Oki, Akira kato, Hiromichi kawano, Yukari Kinoshita, Masako Kobayashi, Yoko Shiotani, Yosuke Takeda
Administrative Staff : Rinko Kurumi

(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)


B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting


10: Tongue pressure changes over a 5-year period among community-dwelling elderly: Mori T, Tsuchioka H, Maruyama M, Yoshikawa M, Yoshida M, Tsuga K, Kimura M: 46th meeting of


(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 challenging Exploratory Research: Akagawa Y: Molecular basis of association mechanism between Alzheimer's disease and tooth loss/occlusion. (Grant No. 236599D000). ¥1,700,000

2: MEXT Grant-in Aid for scientific Research (B): Akagawa Y: Development of functional intelligent implant complex using bio-processing. (Grant No. 243904350A). ¥6,985,000

3: MEXT Grant-in Aid for scientific Research (B): Kubo T: Invention of a newly artificial bone used by molecular pharmacology processed with the NF-κB decoy. (Grant No. 23390443). ¥4,300,000

4: 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. 23592850). ¥1,520,000

5: MEXT Grants-in-Aid for Scientific Research (C): Abe Y: Development of high-functioning nanobio-interface control method of apatite surface by ultraviolet (UV). (Grant No. 245929150A). ¥1,686,000
6: MEXT Grants-in-Aid for Scientific Research (C) : Hiasa K : Development of diagnosis system of dental implant immediate load indicated with bone strength. (Grant No. 23502887). ¥1,536,000
7: MEXT Grants-in-Aid for Scientific Research (C) : Koretake K : Development of diagnosis of single implant supported denture for edentulous patients. (Grant No. 25462998). ¥1,200,000
8: MEXT Grants-in-Aid for Scientific Research (C) : yoshikawa M: Assessment of the oral and pharyngeal functions for decision making of the ideal thickness of liquid. (Grant No. 23592849). ¥1,029,000
9: MEXT Grants-in-Aid for Young Scientists (B) : Hayashi K : Development of new bone augmentation using a bFGF/poly(P)/IP-CHA Complex. (Grant No. 247921430). ¥1,929,000

(5) Academic Awards, etc.

1: The American Prosthodontic Society Golden Medallion Award : Akagawa Y
2: International Association for Dental Research Distinguished Scientist Award in Prosthodontics and Implants : Akagawa Y
3: International Association for Dental Research Arthur Frechette Award 2013 Finalist: Oue H
4: Japanese society of oral implantology the 42nd annual meeting excellent research presentation award: Okazaki Y

Return to Contents
Department of Advanced Prosthodontics, Applied Life Sciences and Department of Prosthetic Dentistry, Division of Preventive and Restorative Dentistry

(1) Staff and Students

Professor : Yasumasa Akagawa (until March)
Associate Professor : Shinsuke Sadamori (until March), Hitoshi Abekura
Assistant Professor : Koh-ichi Kuremoto, Kazuya Doi, Kouji Morita, Wataru Mizumachi (since April)
Administrative staff : Michiko Miyagawa
Resident : Kazuko Kagawa (until March), Kouichi Kamada (until March), Hiroki Tsuka, Masahiro Tsuboi, Tomoharu Hori, Tomohisa Okura (since April), Yosifumi Oki (since April), Akira Kato (since April), Hiromichi Kawano (since April)
Graduate Student : Keisuke Nogami, Kazuko Kagawa, Yosifumi Oki (since April), Akira Kato (since April), Hiromichi Kawano (since April)
Clinical Trainee : Isao Fujihara

(2) Main Research Activities

1: The study of relationship between oral habits and psychosomatic stress responses measured by salivary chromogranin A.
2: The antimicrobial efficacy of chlorine dioxide element to add to dental material.
3: Exploration of amelogenic stem/progenitor cells for tissue-engineered tooth.
4: The roles of FGFR2b signaling in the regenerative capacity of tooth and bone.
5: Study of occlusal-supporting ability of individual maxillary and mandibular teeth
6: Relation between prosthetic treatment and general condition in elderly with dementia.
7: Psychiatric disorders in dental practice.
8: Establishment of bone regeneration by using interconnected porous hydroxyapatite and biopolymeric material

(3) Research Achievements

A) Original Papers (including Case Reports)


B) Review

C) Publications

D) Other Publications


E) Presentation at Scientific Meeting


F) Special lectures in academic meetings

1: The newest view for Bruxism: Abekura H: Academic lecture for Hiroshima university Faculty of Dentistry alumni association (Hiroshima), 2013.2.2

2: Metal Free restoration by CAD/CAM system and induction of High technology modern medicine to national health insurance system: Abekura H: Annual Scientific Meeting of Japan Prosthodontic Society Chugoku and Shikoku Branch (Kouchi), 2013.9.1

3: Clinic of metal free restoration by CAD/CAM system: Abekura H: Lecture for Training program of Japan Dental Association (Hiroshima), 2013.10.20

4: Prosthetic treatment for defect and missing teeth caused by trauma: Abekura H: Annual Scientific Meeting of Japan association of dental traumatology western part of the Japan (Hiroshima), 2013.11.10

5: Development of predictable biomaterial using hybridizing with existing technology: Doi K: Program and Abstracts The 122nd Scientific Meeting of the Japan Prosthodontic Society (Fukuoka), 2013.5.18.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.
1 : Grant-in-Aid for Scientific Research (C) : Abekura H, Covariance structure analysis of sleep, diurnal bruxism, sociopsychological and TMD. No. 25462999. 1,900, thousand yen.

2 : Grant-in-Aid for Scientific Research (C) : Doi K, Bone regeneration of applying polyphosphate on bone defect by implantitis. No. 24592918. 2,340 thousand yen.

3 : Grant-in-Aid for Scientific Research (C) : Kuremoto K, Acquisition of amelogenic stem/progenitor cells for tissue-engineered tooth. No. 23592875. 1,100 thousand yen.

4 : Grant-in-Aid for Scientific Research (C) : Mizumachi W, Development of occlusal support ability system in residual teeth based on clinical data processing. No. 23592847. 1,430 thousand yen.

5 : Grant-in-Aid for Young Scientists (B) : Kouji Morita, Bio-active effect of inorganic polyphosphoric to achieve new innovation for bone quality. No. 25861845. 1,300 thousand yen.

6 : Grant-in-Aid for Young Scientists (B) : Hori T, New development of chlorine dioxide-containing denture cleaner. No. 25861847. 1,800 thousand yen.

7 : Grants-in-Aid for Young Scientists (B) : Hiroki Tsuka, Development of the high durability tissue conditioner which has the self-cleansing action suitable for home dentistry medical examination. No. 24792087. 2,100 thousand yen.

(5) Academic Awards, etc.

(6) Patents
Department of Orthodontics and Craniofacial Development Biology, Applied Life Sciences and Department of Orthodontics, Division of Oral Health and Development

(1) Staffs and students

Professor : Kotaro Tanimoto
Lecture : Hiroshi Ueda, Masato Kaku
Assistant Professor : Tadashi Fujita, Masahide Motokawa, Myongsun Koh, Yuki Asakawa, Ryo Kunimatsu, Naoto Hirose, Syunichi Kojima, Keisuke Sumi
Intern : Hidetaka Hayashi, Yayoi Matsuda, Tomomi Mitsuyoshi, Noriko Tsubamoto, Akiko Terao, Yuki Yoshimi, Emi Ishikawa, Kyoko Murasaki
Graduate Student : Yuji Tsuka, Su Shao Ching, Hiromi Sumi, Kaori Takahashi, Tetsuya Awada, Nanae Oki, Hanaka Shikata, Eri Fujii, Fang Zhao, Yuki Okamoto, Tahsin Raquib Abonti, Kazuko Irome, Hirotaka Sugino, Tomomi Date, Yu Matsumura, Aimi Naim Bindi Abdulah, Takaharu Abe, Saki Okita, Yuko Nakao, Cynthia Concepcion Medina
Professor (part-time) : Kazuo Tanne, Ichiro Takahashi
Registered Intern : Kuniaki Tanaka, Kazunori Itatani, Eri Ohtani, Junji Ohtani, Atsushi Horihata, Mashiko Michida
Dental Hygienist : Yano Kanako

(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
14: Development of biomineralization therapy for damaged tooth enamel using enamel matrix proteins
15: Utility of amelogenin peptides for bone regeneration

(3) Research achievement

A) Original article


21. A case of treatment for sleep fragment due to periodic limb movement disorder with obstructive


B) General remarks


C) Books

D) Other publications

E) Presentation at Scientific Meeting


6. A new therapeutic system for for open bite with micro-implant derived from the etiologic


18. The analysis and evaluation after orthodontic treatment for twins (extraction and non-extraction


34. Study of research in UCSF orofacial sciences.: Kunimatsu R: The 46th Hiroshima University Dentistry Meeting (Kurashiki), 2013.


F) Academic society symposium and special lecture


4. Kunimatsu R: Study of research in UCSF orofacial sciences: The 5 Hiroshima Conference on Education and Science in Dentistry (Hiroshima), 2014, young researchers to report the experience of own overseas education.

(4) Scientific research grant -in-aid

2. Grant-in-aid for Scientific Research (C): Kaku M: Long term cryopreservation of mesenchymal stem cells 1,300,000yen.
4. Collaborative research with Forest-one Co., Ltd; Ryo Kunimatsu : Verification of the physical Luce-bracket on orthodontic treatment. 500,000 yen.
5. Collaborative research with Unitak Co., Ltd; Ryo Kunimatsu : Effects of metabolism on the specialized hybrid-diode-laser for orthodontic treatment. 300,000 yen.
6. Collaborative research with Forest-one Co., Ltd; Ryo Kunimatsu : Examination of the effects on cleaning of the tooth surface using oyster shell powdered nano size. 600,000 yen.
7. Grant-in-Aid for Scientific Research (B): Matsuda Y.: investigation of mechanism of root resorption induced by jiggling force and the prediction using GCF. No.258620190. 2,600,000yen
8. Grant-in-Aid for Scientific Research: Sumi K.: Expansion into the establishment of jaw cleft treatment with bone regeneration by use of mesenchymal stem cells with excellent ability to induce blood vessel: No. 2589314810. 1,100,000yen.
9. Support fund for study from Hiroshima University: Terao A.: Examination of the pathogenesis of TMJ-OA : 500, 000yen
10. Support fund for study from Hiroshima University: Kojima S: Logotherapy for articulatory disorder patients by use of electro palatography of study 500,000yen.

(5) Commendation

2. Tsubamoto N: Influences of habitual mouth breathing on general health: The 72th Annual Meeting
of the Japanese Orthodontic Society Excellence Award, 2013.


(6) Patent

Return to Contents
Department of Oral and Maxillofacial Radiology, 
Applied Life Sciences and 
Department of Oral and Maxillofacial Radiology, Division of 
Oral and Maxillofacial Surgery and Oral Medicine

(1) Staff and Students

Professor : Keiji Tanimoto
Associate Professor : Minoru Fujita
Associate Professor/Lecturer : Yoshikazu Suei, Takashi Nakamoto
Assistant Professor : Toshikazu Nagasaki, Masahiko Ohtsuka, Masahiko Sawajiri, Masaru Konishi
Graduate Student : Yukimi Yasuhara, Mitsuko Shimizu, Kiyohito Ota, Md Mahmud Uz Zaman, Satsuki Minamitani, Atia Hossain, Kimio Okada, Preeyaporn Srimawong, Keiji Harada

(2) Main Research Activities

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

(3) Research Achievements

A) Original Papers

2: Radiographic findings of bisphosphonate-related osteomyelitis of the jaw: investigation of the diagnostic points by comparison with radiation osteomyelitis, supplicative osteomyelitis, and


D) Other Publications


E) Presentation at Scientific Meeting


2: An experience of osteoporosis screening system using panoramic radiographs of the jaw after automated selection of region of interest: Takenaka T, Nakamoto T, Taguchi A, Hattori M, Hattori M,


4: A report of two cases showed deep depression of internal aspect of the mandible: Konishi M, Tanimoto K: The 54th annual meeting of Japan Society of Oral and Maxillofacial Radiology(Fukuoka), 2013.


13: Inquest into the maximum tongue pressure and swallowing function in ALS patients: Hiraoka A,


F) Lecture

1: Study of radiographic images from clinical cases: Konishi M, 72th Hiroshima University clinical seminar (Hiroshima), 2013

(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 (Oryziaslatipes). ( no. 23592765) ¥1,430,000

2: Research Grant (Mikasa Shoji Co., Ltd): Sawajiri M. : The effect of electrolysed water on radioactive extraction from internal exposure animal. ( no. 7109) ¥6,000,000

3: Grant-in-aid for scientific research from the Japan Society for the Promotion of Science: Sawajiri M. : Research and development of the dental material having a functional antibacterial action. ( no. 24592917): ¥1,170,000

4: Grant-in-aid for scientific research from the Japan Society for the Promotion of Science: Nagasaki T : Assessment of the oral and pharyngeal functions for decision making of the ideal thickness of liquid. (Grant No. 23592849). ¥92,000

Return to Contents
Department of Dental Science for Health Promotion,
Integrated Health Sciences and
Department of Operative and Conservative Dentistry,
Division of Preventive and Restorative Dentistry

(1) Staff and Students

Professor : 
Associate Professor : 
Associate Professor : Masashi Fujii
Assistant Professor : Makoto Arakawa, Shigeki Suzuki, Naoyo Motoyama, Akiko Yamashita, Misaki Iwashita
Resident : Shintara Nagayasu, Takanori Shinjo
Graduate Student : Seiji Kobuke, Sano (Ganse) Tomomi, Atsushi Hashikata, Hiroaki Hoshino

(2) Main Research Activities

1: Studies on host factors associated with caries susceptibility
2: Studies on relationship between dental disease and systemic 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)


B) Review

C) Publications

D) Other Publications

E) 学会発表


5: Pain relieving effects of platelet-activating factor (PAF) antagonists in a bone cancer pain model.


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

1: Grant-in-Aid for Scientific Research(C): Nagayasu S. Detailed clarification of the molecule machine beginning of cardiovascular event controlling effect by EC and examination of action in living body.. No.2489014300 ¥ 2,660,000

2: Grant-in-Aid for Scientific Research: Mineoka A., Development of photosensitizer with urea-Establishment of periodontal treatment combined with Er:YAG laser. No. 24792329. ¥ 1,200,000

3: Grants-in-Aid for Scientific Research: Iwashita M, Elucidation of amelioration mechanisms of metabolic endotoxemia-induced insulin resistance by valsartan. No. 24792328. ¥ 1,500,000

4: Grants-in-Aid for Scientific Research: Yamashita A., Basic study aimed at the control of insulin resistance induced periodontal inflammation that target miRNA. No. 24792331. ¥ 1,300,000

(5) Academic Awards, etc.  

Return to Contents
Department of Pediatric Dentistry, 
Integrated Health Sciences and 
Department of Pediatric Dentistry, 
Division of Oral Health and Development

(1) Staff and Students

Professor : Katsuyuki Kozai.
Associate Professor : Chieko Mitsuhata
Research Associate : Yasutaka Kaihara,
: Meiko Tachikake(childcare leave, April~)
: Noriko Niizato (childcare leave,~ March )
: Ryoko Hirata (substitute teacher, January, March~ )
: Aya Tsuboi (~ August), Yukari Ohara

Physician : Nami Miyake, Masafumi Kitamoto (~March)
: Yukiko Konishi (April~), Ayumi Shimada(April~)

Graduate Student : Yukiko Konishi (~March), Ayumi Shimada (~March) Aomin , Yuko Iwamoto
: Noriko Goto, Mega Moeharyono Putteri, Nobuyuki Tatsukawa, Kaoru Sakurai

Visiting Research Scholar: Hu Yiqun

Research Student : Akira Yamane

Clinical Trainee : Fumiko Hayashi, Mie Hirakawa,
: Minako Uesige (April~August), Akemi Hirosumi(April~)

(2) Main Research Activities

1 : Bacteriological research of onset mechanism and prevention of dental caries in children
2 : Research in oral environment and dental diseases in abused children
3 : Clinical research in oral care in children suffered from systematic diseases
4 : Evaluation of psychological stress in dental treatment in children
5 : 3-D analysis of dentitional development and analysis
6 : Bacteriological research in periodontal diseases in children
7 : Investigation of oral status of Cambodian children s

(3) Research Achievements

A) Original Papers (including Case Reports)


B) Review


C) Publications


D) Other Publications


E) Presentation at Scientific Meeting


F) Special lectures in academic meetings


9: The 4th annual meeting of sub-committee of health education of the association of junior high school education of Hiroshima prefecture: Healthy teeth and oral cavity promotes our happy life: Kozai K.: Mihara City Hongo Lifelong Learning Center (Mihara), 2013.


11: The 3rd Japan Association of Dental Traumatology Chushikoku Branch: What to see from oral injures in children.: Koujin Kaikan, Hiroshima University (Hiroshima), 2013.


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


2: Grant-in-Aid for Scientific Research (B): Kozai K., Effects of plaque-eco system on gene of cariogenic bacteria. (No. 2239039), 2011 direct expenses: ¥3,800,000, indirect expenses: ¥1,140,000, 2012: direct expenses: ¥3,600,000, indirect expenses: ¥1,080,000.


4: Grant-in-Aid for Scientific Research (C): Mitsuhata C., Effects of endocrine disorders on developing dopaminergic system in Brain (No.19592354), 2011 direct expenses: ¥1,700,000, indirect expenses: ¥510,000, 2012: direct expenses: ¥1,200,000, indirect expenses: ¥360,000.
5: Grant-in-Aid for Scientific Research (B): Tsuboi A., Development of the new valuation basis of mouth complications and oral care program, who underwent medical treatment of childhood cancer.(No. 247922870004), 2012 direct expenses: ¥1,100,000, indirect expenses: ¥300,000.


7: Grant-in-Aid of Futoku-kai: 2013: Ohara Y. ¥300,000.

8: Grant-in-Aid of Futoku-kai: 2012: Mega Moeharyono Putteri. ¥300,000.

9: Ryoku Fuu Kai Research Grant for young investigators: 2013, Goto N., ¥500,000.

10: Hiroshima University Supporting Committee Grant for students: 2013: Iwamoto Y., ¥200,000.

(5) Academic Awards, etc.

1: Noriko Niizato: 2013 JSPD Distinguished Scientists Awards at the 51st Annual Meeting of JSPD, 2013


3: Yuko Iwamoto: The 46th Congress of The Hiroshima University Dental Society Presentation Award, 2013.

4: Noriko Goto The 46th Congress of The Hiroshima University Dental Society Presentation Award, 2013.

5: Yuko Iwamoto: Best Poster Award, 5th Hiroshima Conference on Education and Science in Dentistry, 2013.


(6) Patents

Return to Contents
Department of Dental Anesthesiology, Integrated Health Sciences and Department of Dental Anesthesiology, Division of Oral & Maxillofacial Surgery and Oral Medicine

(1) Staff and Students

Professor: Irifune Masahiro, D.D.S., Ph.D.
Resident: Miyahara Takeshi, D.D.S., Ph.D., Miyauchi Miwa D.D.S., Ph.D.

(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)

2: A clinic-statistical study on the intravenous sedation using midazolam in combination with propofol in

B) Review

C) Publications

D) Other Publications


E) Presentation at Scientific Meeting


4: Selective NMDA channel blockade in combination with dopamine receptor antagonism induces loss of the righting reflex in mice, but not immobility: Irifune M: The 28th Scientific Meeting of Dental Anesthesiology in Chugoku and Shikoku branch (Hiroshima), 2013.


F) Special lectures in academic meetings

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

1: Grant-in-Aid No. 23592992 for Scientific Research (C) from the Ministry of Education, Culture, Sports, Science, and Technology of Japan (Continued): Irifune M: Elucidation of the role of pain and motor neurons of the spinal cord in antinociception, muscle relaxation, and immobility as general anesthetic components. ¥800,000.

2: Grant-in-Aid No. 23792348 for Young Scientists (B) from the Ministry of Education, Culture, Sports, Science, and Technology of Japan (Continued): Doi M: To diagnose lingual pain by imaging: by use of brain functional imaging. ¥600,000.


(5) Academic Awards, etc.

(6) Patents
Department of International Collaboration Development for Dentistry, Integrated Health Sciences

(1) Staffs and Students

Professor: Takashi Takata (Chair of ICDD Committee)
Associate Professor: Ketut Suardita (Specially appointed)
Assistant Professor: Hiroko Oka (Specially appointed)

(2) Main Research Activities

1: Development and evaluation of dental education program cooperated with Asian countries
2: Development and evaluation of Japanese-English dual linguistic education system
3: Study on international exchange program
4: Study on contribution to international community through dentistry
5: Research on the specific mechanisms of destruction in periodontal tissue

(3) Research Achievements

A) Original Papers (including Case Reports)


B) Review

C) Publications

D) Other Publications
E) Presentation at Scientific Meeting

1: An assessment of the class “Basic Practice of Anatomy” from Japanese students with a collaboration of a Short Stay undergraduate international exchange program at HUD: Hiroko Oka, Ketut Suardita, Shinji Hiyama, Mineo Watanabe, Takashi Uchida, Takashi Takata: The 46th Congress of the Hiroshima University Dental Society (Hiroshima), 2013.


3: Assignment of the class “Basic Practice of Anatomy” with a collaboration of a Short Stay undergraduate international exchange program at HUD: Hiroko Oka, Ketut Suardita, Takashi Uchida, Takashi Takata: The 32th Annual Academic Meeting of Japanese Dental Education Association (Hokkaido), 2013.


5: Questionnaire survey on student’s opinion about dual linguistic education system at Faculty of dentistry Hiroshima University: K. Suardita, H Oka, T Takata: the 5th Hiroshima Conference (Hiroshima). 2013.


8: Short-term Visit Program 2012 —Visiting Taipei Medical University—:Short-term Visit Program 2012 students: the 5th Hiroshima Conference (Hiroshima), 2013.


10: International Programs at HUD 2012 –Assessments from Students on Dual Linguistic Education and Exchange Programs Cooperated with the International Dental Course Programs : Hiroko Oka, Ketut Suardita, Takashi Takata, Motoyuki Sugai : The 97th Regular Meeting of the Hiroshima University Dental Society (Hiroshima), 2013.


F) Special lectures in academic meetings and extension lectures

1: Go through International : Ketut Suardita, Hiroko Oka : Hiroshima University Open Lecture for High School-Students : Hiroshima University School of Dentistry (Hiroshima), 2013

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

1: Grant-in-Aid for Young Scientists (B) : Hiroko Oka : Mechanism of hard tissue destruction controlled by F-spondin via LDL receptor family. (No. 23792103). ¥ 900,000.

(5) Academic Awards, etc.

1: Hiroko Oka, Takashi Takata (Motoyuki Sugai) : Incentive Award for the Presentation at international Academic Meetings, Japanese Dental Education Association

(6) Patents

(7) Others

A) The number of the foreign students for the international exchange program

1: Short Stay Program (JASSO) : 6 students (3 students; Airlangga University, Indonesia: 3 students; University of Medicine and Pharmacy at HoChiMinh City, Vietnam) 6 months, Oct. 2012-March 2013.

2: The international short exchange program 2012 January: 9 students (Taipei Medical University, 4th-year, Taiwan) : 5 days, 2013.

3: The international short exchange program 2013 August: 5 students (Taipei Medical University, 4th-year, Taiwan) : 5 days, 2013.

4: Short Stay Program (JASSO) : 6 students (2 students; Airlangga University, Indonesia: 2 students; Khon Kaen University, Thailand: 1 student; Taipei Medical University, Taiwan: 1 student; University of Medicine and Pharmacy at HoChiMinh City, Vietnam) 6 months, Oct. 2013-March 2014.

5: Short Stay Program (JASSO) : 14 students (3 students; Airlangga University, Indonesia: 2 students; Chulalongkorn University, Thailand: 2 students, Khon Kaen University, Thailand: 2 students; University of Medicine and Pharmacy at HoChiMinh City, Vietnam: 2 students; University of Health Science, Cambodia: 1 student; Wonkwang University, Korea): 10 days, 2013.

6: International Dental Course 2014: 3 students (Airlangga University, Indonesia; University of
B) Homepage of International Program

1: http://icdd.hiroshima-u.ac.jp/

C) Supporting the International Research Exchange Program

1: Preparing the documents for sending the research equipment grant from Hiroshima University Faculty of Dentistry to Airlangga University Faculty of Dentistry

D) Synchronization of the educational curriculum with the International Dental Course (IDC) Program

1: The 1st meeting for the International Dental Course (IDC) Program (Hiroshima), 2013.
Department of Public Oral Health, Integrated Health Sciences

(1) Staffs and Students

Professor : Masaru Sugiyama
Associate Professor : Maki Nosou, Atsushi Shimazu (Department)
Assistant Professor : Akemi Naitou
Graduate Student : Rumi Nishimura, Yuko Kimura
Undergraduate Student: Junko Fujiyama, Chie Yoshinaga, Eri Takano, Momomi Terachi, Shiori Matsuura, Yoko Hasegawa, Yuri Kuramoto

(2) Main Research Activities

1 : Study on oral care
2 : Study on the oral functions in the elderly
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)

4 : Relationship between consultation behavior and awareness of various diseases and subjective


B) Review

C) Publications


2 : Chapter 5 Inflammation; Oral Surgery and Dental Anesthesia. Sugiyama M, Quintessence Publisher, Tokyo, p80-93, 2013.

D) Other Publications

E) Presentation at Scientific Meeting


2 : The effect of salivary gland massage in patients with Sjogren's syndrome.: Hara K, Niitani Y,

3: Skip beans or can serve as an indicator of oral function account.: Higashi M, Nishimura R, Iwamoto A, Fukada E, Amano H, Hara K.: The 24rd the Kinki-Chugoku-Shikoku Branch of the Japanese Society for Dental Health (Okayama), 2013.


5 : A program for Preventive Approach in Long Term Care: Eri Fukada, Rumi Nishimura, Akiko Iwamoto, Komori Tetsumori, Kumiko Hara, Tsue Matsumoto, Hiroki Nikawa, Hideaki Amano: International Symposium on Food, Nutrition and Health (Hirshima) 2013.10.14


F) Contribution to Community

1: Nishimura R : Assessment of oral function at special nursing home.(2013)

2: Nishimura R : The services to improve oral function are provided in Hatsukaichi city.(2013)

3: Nishimura R : The services to improve oral function are provided in Saka town.(2013)

4: Nishimura R : The oral care of persons requiring nursing care at Hiroshima University Hospital.(2013)

5: Shimazu A : Dental Support Activity in Cambodia （Cambodia）, 2013.

7 : Shimazu A : Dental Examination for Acidity and Alkalinity (Hiroshima), 2013.
8 : Shimazu A : Dental Examination for Infants (Higashi-Hiroshima), 2013.
9 : Sugiyama M : Refresher course for dental hygienists (Step up course), Hiroshima, 2012.11.22.

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

1 : Grants-in-Aid for Scientific Research (Scientific Research (C)) : Shimazu A : Study for pathology and expression of semaphorin in periodontal tissue. (No. 25463245). ¥1,700,000.

(5) Academic Awards, etc.

1 : Matsuura S. : Best Poster Award : The 24th the Kinki-Chugoku-Shikoku Branch of the Japanese Society for Dental Health (Okayama), 2013.

(6) Patents

Return to Contents
Department of Maxillofacial Functional Development, Integrated Health Sciences

(1) Staff and Students

Professor : AMANO Hideaki
Assistant Professor : HARA Kumiko
Research Associate : TSURUDA Keiko
Graduate Student : IWAMOTO Akiko, FUKADA Eri, SATO Manami, MAEHARA Asako, HIGASHI Mamuka

(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 the development of oral function
7 : Study on education program for graduate dental hygienists
8 : Study on the Mechanism of Aggregatibacter actinomycetemcomitans-CDT complex formation and secretion

(3) Achievements

2: Accuracy of a non-contacted 3D measuring system for dental model analysis: Yasutaka Kaihara, Takuya Kihara, Asami Katayama, Hideaki Amano, Hiroki Nikawa, Katsuyuki Kozai :Pediatric Dental Journal, 23,71-78, 2013.4
3: Comprehensive Oral Management for Collaborative Medical and Dental Care -Practical Approaches for Oral Care Support Team:- Hiromi Nishi, Shinichi Fujimoto, Rumi Nishimura, Akiko Iwamoto, Eri Fukada, Hidemi Kurihara and others: The Journal of Hiroshima Univ. Dental Society, 45(1), 1-6, 2013.6


B) Reviews

C) Books


D) Other Publications

E) Presentations

1 : A Study of the influence that a chewing tempo gives to quantity of salivation : Asami Yuba, Kumiko Hara, Rumi Nishimura, Eri Fukada, Hideaki Amano:  20th annual meeting of the Japanese Society of Health, Fitness and Nutrition.(Osaka) 2013.3.16.


7 : Processing enzyme of Aggregatibacter actinomycetemcomitans-CDTA. Tsuruda K, Ohara M, Sugai M. 2nd Meeting of the International Association for Dental Research Asia pacific Region (Bangkok,


10: The Splash Bean Test will be an index for the evaluation of the oral function?: Mamuka Higashi, Rumi Nishimura, Akiko Iwamoto, Eri Fukada, Hideaki Amano, Kumiko Hara: 24th annual meeting of the Chu-Shikoku-Kinki Oral Health Society (Okayama), 2013.10.6


13: Diets and lifestyles of Cambodian primary school students: Akiko Iwamoto, Yuko Iwamoto, Noriko Niizato, Chea Chanbora, Katsuyuki Kozai, Hideaki Amano: International Symposium on Food, Nutrition and Health (Hiroshima) 2013.10.14

14: Age-related changes of tactile and thermal sensation in the oral cavity: Rumi Nishimura, Kaoru Yamashita, Eri Fukada, Kumiko Hara, Masaru Sugiyama: International Symposium on Food, Nutrition and Health (Hiroshima) 2013.10.14


F) Lectures

1: Amano H.: From Dental Hygienist to Oral Health Manager for the Team Medical Care: Annual meeting of the conference of national university for the dental hygienist (Nagoya), 2013. 5.11
2: Hara K.: Lecture for the class for diabetics: Hiroshima Teishin Hospital (Hiroshima), 2013.7.25
3: Hara K.: Lecture of oral care for staff: Kosei-En(Hiroshima), 2013.9.10/10.10
4: Hara K.: Workshop of oral care for nurse: Kusatsu Hospital (Hiroshima), 2013.10.17

G) Social Contributions

1: Program for kids from elementary schools, Dental Kids, “Let’s Be a Dentist!”: Hiroshima University Faculty of Dentistry, 2013.
2: Program for high school students, Dental Kids: Hiroshima University Faculty of Dentistry, 2013.
3: Cooperate to the assessment of the Program for improvement of oral function in the ambulatory care facility “Kosei-En”, 2013.

(4) Grant-in-Aid for Scientific Research

1: 2013th grant-in-aid for scientific research: AMANO H.: A Study of Intraoral pressure Change for the Clinical Diagnosis System of Ability to Swallow. (No. 24593093)

(5) Awards


(6) Patents

Return to Contents
Department of Oral Health Management, Integrated Health Sciences

(1) Staffs

Professor: Toshinobu TAKEMOTO
Assistant professor: Atsue MATSUMOTO
Research associate: Yoshie NIITANI
Graduate student
  Doctor course: Yukiko NAGATANI (From April)
  Master course: Hinako TSUZUKI (Until March), Takafumi OCHIAI (Until March), Miho KUME (From April)
Graduation thesis student: Kotoko HIROSE, Midori KOHMURA, Akiko OHARA, Yukiko YAMANOI, Manami TATSUMOTO, Kiyomi HARAJIRI, Shoko KATAYAMA, Airi USAMI, Rika MARUYAMA, Sakura UEMUKAI, Shiho FUKISHIMA, Yuuka WAKABAYASHI, Momo YAMAGUCHI.

(2) Research Fields

1: Dental hygienists education
2: Research about dental hygienists occupation
3: Career formation of students
4: The efficacy of 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


2: [Factors affecting the will to continue a job of dental hygienists at private dental clinics –A survey in Hiroshima Prefecture][ja]: Kondo H., Takemoto T., Kume M., Matsumoto A.: Jpn. J. Dent. Prac.


1. [The relation between job continuity will and work-life balance, commitment or vocational motives about dental hygienists.][ja]: Tsuzuki H.

1. [The relation between oral uncomfortable feeling and stress factors.][ja]: Ozeki K.
2. [Survey about factors affecting the progress in the technique of glass ionomer cement preparation of dental hygienist students.][ja]: Ohshita C.
3. [Research about the factors which determines the easiness of communication –A questionnaire paper survey to 3rd and 4th grade dental hygienists students and dental hygienists in university hospitals.][ja]: Ogura S.
4. [The relation between the infection control and “Organizational Climate Scale” of private dental clinic and department of dentistry in general hospitals.][ja]: Hamasuna Y.
5. [The present situation of dental implant and the role of dental hygienists.][ja]: Kotake Y.
6. [The consciousness of private dental clinics about protection against disasters and its regional difference. –Disaster culture and disaster prevention behavior.][ja]: Kume M.
7. [The consciousness of Oral Health Science students about tobacco smoking and smoking prohibition.][ja]: Toyoda M.

Other Publications

Presentations at Scientific Meeting


2: [Comparison of youth and elderly people in the amount of secretion and antioxidative power of saliva, and the influence of medication][ja]: Nakano Y., Matsumoto A., Niitani Y., Nakaoka M., Takemoto T.: The 8th Annual Meeting of the Japan Dental Hygienists Association (Kobe) 2013.


6: [What are expected to the university of dental hygienists education? –A consideration from small scale survey][ja]: Takemoto T.: Annual meeting of Hiroshima Association of Dental Hygienist Education (Hiroshima), 2013.


1. [Research about scattering of splash by polishing of tooth surface with polishing brush.][ja]: Koumura M.

2. [Research about fitting of latex glove for students in Oral Health Science Course.][ja]: Katayama S.

3. [Research about the factors relating to the satisfaction of patients. –Survey to 3rd and 4th grade dental hygienists students and dental hygienists in university hospitals.][ja]: Ohara R.

4. [The effect of reality-shock to students. –Survey about the consciousness to infection control methods during clinical training.][ja]: Hirose K.

5. [Survey about the consciousness for the limitation of dental hygienists job of dental hygienists in private dental clinics.][ja]: Harajiri K.

6. [Survey about the stress of dental hygienists.][ja]: Tatsumoto M.

7. [Survey about the reality-shock and desire of quitting job of newcomer dental hygienists.][ja]: Yamanoi Y.
F）Lectures

1: [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) : 2013.
2: [Oral care for pregnant woman and newborn infant][ja]: Matsumoto A.: School for pregnant women in Gynecology department of Hiroshima University Hospital (Hiroshima), 2013.
3: Outpatient Preventive Long-Term Care Project for Specified elderly person at Hatsukaichi city: Matsumoto A.: (Hiroshima), 2013.
4: [Dental Hygiene 2][ja]: Niitani Y.: JADHE program I for teachers in dental hygienists schools (Gifu) 2013.

G）Social Contributions

1: Program for kids from elementary schools, Dental Kids, “Let’s Be a Dentist!”: Hiroshima University Faculty of Dentistry (Hiroshima), 2013.
2: Renewal seminar for teacher’s license: Takemoto T, Hiroshima University (Hiroshima), 2013.
3: Secretary of the regional association of Kinki, Chugoku and Shikoku area for Japanese Society for Dental Health: Matsumoto A (Okayama), 2013.
6: Member of Dental Hygienists’ National Examination Committee: Niitani Y.: Foundation of Promoting Dental Care and Training(Tokyo), 2013.
8: Member of dental working group in committee of National University Hospital infection control association: Niitani Y., Training seminar at Chugoku-Shikoku Block in 2013(Okayama), 2013.

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

1: Grant-in-Aid for Scientific Research (C): Takemoto T.: The analysis of factors indicating the quit of dental hygienist and settling a plan for the prevention. (No.23593090). ¥650,000

Return to Contents
Department of Anatomy and Functional Restorations, Integrated Health Sciences

(1) Staff and Students

Professor : Takahiro Satoda
Associate Professor : Saiji Shimoe
Graduate Students : Shougo Iwaguro, Kanako Touma
Undergraduate Student : Yuri Kanou, Kou Shintani, Namiko Kayama, Hidehito Nagadouri, Chihiro Ohhira, Mai Ohtaku, Kanae Iwamatsu, Chika Takeda, Akane Taniguchi, Natsumi Ikuta, Memori Minoda, Saki Shiraishi, Yusuke Kobayashi

(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


4 : Analysis of students’ tooth carving proficiency using the three-dimensional image : Saki Shiraishi, Saiji Shimoe, Kanako Touma, Takuya Kihara, Takeshi Murayama, Hiroki Nikawa, Takahiro Satoda : The 5th International Congress of Dental Technology, The 35th the meeting of the Nippon Academy of Dental Technology (Daejeon, Korea), 2013,7,5-7.
5: Influence of air-abrasion and subsequent heat treatment on bonding between Ce-TZP/Al₂O₃ nanocomposite: Kou Shintani, Saiji Shimoe, Yuri Kanou, Shogo Iwaguro, Takahiro Satoda: The 5th International Congress of Dental Technology, The 35th the meeting of the Nippon Academy of Dental Technology (Daejeon, Korea), 2013,7,5-7.


8: Influence of micro mechanical retention with diode laser beam machine on the bond strength of porcelain fused to zirconia: Shogo Iwaguro, Saiji Shimoe, Takeshi Murayama, Hirotaka Ohkura, Takahiro Satoda: The 5th International Congress of Dental Technology, The 35th the meeting of the Nippon Academy of Dental Technology (Daejeon, Korea), 2013,7,5-7.


12: The influence of disinfectants to the dental model: Kanako Touna, Saiji Shimoe, Shogo Iwaguro, Hirotaka Ohkura, Takahiro Satoda: The 8th the meeting of the Nippon Academy of Dental Technology Chugoku-Shikoku regional meeting (Tokushima), 2013,11,23.


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

1: Grant-in-Aid for Scientific Research(C): Shimoe S: Development of tooth-friendly zirconia crown restorations optimized polymer composite resins for the clinical application. (No.24592916). ¥1,400,000
(5) Academic Awards, etc.

1. Shogo Iwaguro, Saiji Shimoe, Yuji Chiba, Takahiro Satoda: The Nippon Academy of Dental Technology Young Researcher’s Best Paper Award in 2013, 2013.9
2. Saiji Shimoe, Yuko Araki, Naomi Tanoue, Hideo Matsumura, Takeshi Murayama, Hiroki Nikawa, Takahiro Satoda: The Nippon Academy of Dental Technology Best Paper Award in 2013, 2013.9
3. Shogo Iwaguro, Saiji Shimoe, Takeshi Murayama, Hirotaka Ohkura, Takahiro Satoda: The 5th International Congress of Dental Technology, The 35th the meeting of the Nippon Academy of Dental Technology Best Presentation Award, 2013.9

(6) Patents

Return to Contents
Department of Medical System and Biomaterial Engineering, Integrated Health Sciences

(1) Staff and Students

Professor : Takeshi Murayama
Associate Professor : Mitsuhiro Tamamoto
Graduate Student : Harumi Kaneishi, Asumi Nagata, Mayumi Nakanodo, Noriko Fujimoto
Graduation Research Students : Kouki Higashi, Mayu Asamura, Ryoma Tsuruta, Yumika Teranishi, Emi Hyougo, Shuntaro Umezaki, Yuya Ishida, Kazumine Ogasawara, Yuta Masuhara

(2) Main Research Activities

1: Application of CAD/CAM and 3d printers to dentistry
2: System biology
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 a motion-capture system
8: Simulation-based analysis of work processes in dental technology
9: Study on sports dentistry (mouthguard)
10: Study on musical dentistry (music splint)

(3) Research Achievements

A) Original Papers (including Case Reports)

3: Job Shop Scheduling with Capacity Adjustment - An efficient search method using the mixture of GA


B) Review

C) Publications

D) Other Publications


E) Presentation at Scientific Meeting


5: Influence of micro mechanical retention with diode laser beam machine on the bond strength of


F) Special Lectures in Academic Meetings

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

1: Grants-in-Aid for Scientific Research (Challenging Exploratory Research): Murayama T (Representative), Health monitoring system using wearable sensors involved in dentures. No. 23650352. 600, 000yen

(5) Academic Awards, etc.

1: Higashi Kouki: Special Award from President of Hiroshima University Dental Society, The 43rd meeting of Hiroshima University Dental Society, 2013.
(6) Patent
Department of Oral Biology & Engineering,
Integrated Health Sciences

(1) Staff and Students

Professor : Hiroki Nikawa
Lecturer : Hisako Sasahara, Tsuyoshi Taji
Assistant Professor : Kazuko Kawahara
Assistant Professor : Yuichi Mine, Takuya Kihara (H25.4-), Sumiyo Mimura (H25.10+)
(Special Appointment)
Administrative Staff : Haduki Yamaguchi (-H25.3)
Education and Research Support Staff : Kaori Taguchi
Graduate Student : Takuya Kihara, Yuichi Mine, Sumiyo Mimura, Yukihiro Takayama,
Sachie Hogaki, Minako Okamura, Kosei Ohno, Asami Katayama,
Megumi Kurose, Yu Tomiyama, Natsumi Yamamoto, Kentaro Takagi
Undergraduate Student : Ayaka Ando, Chika Umemoto, Masahiro Okuni, Chiaki Okada,
Miku Kuimoto, Eri Tanaka, Tetsuo Hatanaka, Yumi Hamamoto,
Megumi Hirooka, Ryutaro Fujimura, Ai Manabe, Satoshi Miyauchi,
Hayato Ichikawa, Kazumi Ofuji, Shiho Kubota, Yuri Sadamitsu,
Yoshika Shozuhara, Nobuko Nishino, Chihiro Noda, Tatsumi Hashida,
Yoshiya Fujikawa, Satoru Yaguchi

(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


5: Reproduction of Occlusal Contacts on a 3-Dimensional Model of Dental Morphology : Kihara T,


E) Symposium and special lecture


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

1: Grants-in-Aid for Scientific Research (Scientific Research (B)): Hiroki Nikawa (Head), Tsuyoshi Taji (Co-investigators), Research Project Number: 243904340A 4,690,000

2: Grants-in-Aid for Scientific Research (Scientific Research (C)): Tsuyoshi Taji (Head), Hiroki Nikawa (Co-investigators), Research Project Number: 23592851 900,000

3: Grants-in-Aid for Scientific Research (Scientific Research (C)): Norihiro Taguchi (Head), Sakiko Sasahara, (Co-investigators), Research Project Number: 25463255 2,600,000

4: Donation from Manac Inc. to Hiroki Nikawa 300,000

5: Donation from Wada Precision Dental Laboratories to Hiroki Nikawa 200,000

(5) Academic Awards, etc.

1: Hiroki Nikawa: The Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology Prizes for Science and Technology Development Category, 2013.4 Commendation of Science and Technology by the MEXT

2: Takuya Kihara: 16th Hiroshima university dental alumni association incentive award, 2013.5


(6) Patents
1: Hiroki Nikawa: (Australian Patent) Solidified detergent composition and method for producing the same (2007-193786) (Hiroshima University)
Central Research Laboratory

(1) Staff and Students

Director : Koichi Kato  (by-work)
Assistant Professor : Ikue Hayashi

(2) Main Research Activities

1 : Proteomic analyses using mass spectrometry
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: Functional analyses of Bacteriocin Protein Bac41 derived from Enterococcus faecalis : Kurushima J., Hayashi I., Sugai M., Tomita H.: 7th WAKATE COLOSSEUM for BACTERIOLOGY (Hiroshima) 2013

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

1: Research project, Grant-in-Aid for Scientific Research (C): Hayashi I: Mechanism of automutanolysin (Aml) for the specific selectivity toward cariogenetic bacteria:(No. 23592702), ¥700,000

(5) Academic Awards, etc.

(6) Patents

Return to Contents
Department of Advanced General Dentistry, General Dentistry

(1) Staff and Students

Professor: Tetsuji Ogawa
Assistant Professor: Yoshihara Tanaka, Masaru Ohara, Hiromi Nishi
Graduate Student: Taiji Obayashi, Kayo Kajitani (until March 2013), Yukiko Nagatani (until March 2013), Takayuki Oto, Nami Kikushige, Yumiko Nishimura (until December 2013)

(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)


B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting


9. Invention of the dental drill to remove the endodontic cervical dentinal triangle: ○ Masaru Ohara, Taiji obayashi, Hiromi Nishi, Yoshiharu Tanaka, Takamune Hino, Tetsuji Ogawa : Research Seminar in General Dental Medicine, Tokyo, 2013.


F) Implementation of Seminars / Workshops

1. Workshop for postgraduate trainees 2013 (Hiroshima)

G)Lecturer · Symposium

3. How to write fruitful scripts about medical education cooperated by not only medical staffs but also other professionals. Tetsuji Ogawa. The 49th workshop of Japanese Society for Medical Education, (Gifu) 2013.

H) Attending of Lectures, Seminars, and Workshops

1. The 46th seminar and workshop on medical education: Attendant : Tetsuji Ogawa, Taiji Obayashi, at Gify Univ. Medical Education Center. (Okinawa), 2013
2. The 46th seminar and workshop on medical education: Attendant : Talayuki Ooto at Gify Univ. Medical Education Center. (Kyoto), 2013
3. The 15th workshop for trainers of dental residents, at Chogoku & Shikoku area. Participant: Takayuki Oto. At Tokushima University Hospital (Tokushima) 2013
I) Implementation of OSCE, CSA

1. 2nd Advanced OSCE for Postgraduate Trainees 2012-2013
2. 1st Advanced OSCE for Postgraduate Trainees 2013-2014

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

1. Grant-in-Aid Scientific Research, Young Scientists (B). Nishi H. : Analysis of Toll-like receptor in oral mucosal disease. Program No. 23792346. 700,000yen
2. Grant-in-Aid Scientific Research, Scientific Research (C). Tanaka T.: Analysis of conversation about medical interview. Program. Program No. 24500257. 400,000yen
3. Grant-in-Aid Scientific Research, Scientific Research (C). Ogawa T.: The theory and measurement methodology of politeness phenomena in the medical interview. Program No. 23520509. 300,000 yen (co-researcher)
4. Grant-in-Aid Scientific Research, Scientific Research (C). Ogawa T.: Building of the Education program for community based professionalism. Program. No. 25463255. 100,000 yen (co-researcher)

(5) Academic Awards, etc.


(6) Patents

1. Invention of the dental drill to remove the endodontic cervical dentinal triangle. (Unity model registration No. 3182420) Masaru Ohara, Tsuyoshi Taji, Osamu Murayama, Takamune Hino, Tetsuji Ogawa, Hiroki Nikawa)
Department of Special Care Dentistry, 
Division of Oral Health and Development

(1) Staffs and Students

Professor : Mitsugi Okada (※) Head of Dentistry
Assistant Professor : Yuki Oda
Clinical Staff : Taro Kojima, Yoko Fujino, Koichiro Matsumoto, Masaki Hayashiuchi
Research Student : Masaki Hayashiuchi, Yoko Fujino, Koichiro Matsumoto, Yaue Ootsuka
Clinical Trainee : Megumi Iwamoto, Masaki Yasusaka, Fumiko Hayashi, Chisato Mantoku

(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

(3) Research Achievements

A) Original Papers (including Case Reports)

1: Prevalence of drug-resistant opportunistic microorganisms in oral cavity after treatment for oral cancer. 
Yamashita K, Ohara M, Kojima T, Nishimura R, Ogawa T, Hino T, Okada M, Toratani S, Kamata 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
Special Dental Clinic Section, Central Clinical Facilities

(1) Staff and Students

Chief Professor : Keiji Tanimoto
Assistant Professor : Yukimi Yasuhara

(2) Main Research Activities

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

(3) Research Achievements

A) Original Papers (including Case Reports)

B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

1. Aspects of Maximal Tongue Pressure and Swallowing Pressure in healthy adults: Yasuhara Y, 19th annual meeting of the Japanese Society of Dysphagia Rehabilitation (Kurashiki), 2013
2. Discussion to put an accurate figure on Tongue Pressure: Yasuhara Y, Hiroshima Speech-Language Hearing Therapists Association, Mihara, 2013

5. Toshikazu Nagasaki, Kiyohito Oota, Satsuki Minamitani, Masaru Konishi, Yukimi Yasuhara, Mineka Yoshikawa, Tetsuji Ogawa, Keiji Tanimoto: Snack eating and Respiration in healthy adult humans, 4th Congress European Society for Swallowing Disorders, MALMO, Sweden 2013

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

(5) Academic Awards, etc.

(6) Patents
**Center of Oral Clinical Examination, Central Clinical Sections**

(1) Staffs and Students

Director: Hidemi Kurihara  
Associate Professor: Ikuko Ogawa (Clinic)  
Lecturer: Masae Kitagawa (Clinic)  
Research Associate: Tomoaki Shintani  
Technician: Keiko Banno, Yuhna Tanaka  
Intern: Atsuhiro Nagasaki, Shunryo Yanagisawa

(2) Main Research Activities

1: Clinical study on endodontal-periodontal therapy.  
2: Diagnostic pathological study on head and neck lesions.  
3: Developmental study of treatment to dysgeusia.  
4: Study on test and treatment in metal allergy and dry mouth.  
5: Molecular pathological study on development and progression of oral squamous cell carcinoma.  
6: Morphological and molecular pathological studies on development and progression of salivary gland tumors  
7: Study on molecular target therapy to oral cancer targeted with HBp17/FGFBP.  
8: Study on function of cementoblast specific genes in human cementoblast.

(3) Research Achievements

A) Original Papers (including Case Reports)


B) Review

1: Pathological Diagnosis of Odontogenic Tumors “Classification and Epidemiology of Odontogenic tumors”. Takata T., Ogawa I.: Pathology and Clinical Medicine. 31(5); 480-5, 2013.

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

1: F-spondin protects cementum from destruction by lipopolysaccharide: Tsukimoto S., Kitagawa M., Miyauchi M., Takata T.: The 2nd Meeting of the International Association of Dental Research-Asia Pacific Region (Bangkok), 2013.

2: Effect of F-spondin on LPS-induced periodontal inflammation and bone destruction: Kitagawa M.,


5: Examination of stimulated saliva production, caries risk item and number of Candida of mouth: Kitagawa M., Nagasaki A., Shintani T., Ogawa I., Kurihara H.: The 52nd Annual Meeting of Hiroshima Dental Association and the 97th Annual Meeting of Hiroshima University Dental Society (Hiroshima), 2013.


1 2: A case of parotid gland tumor with the histopathological characteristics between epithelial-myoepithelial carcinoma and intercalated dust lesion: Tokuyasu Y., Nakamoto S., Ogawa I., Takata T.: The 102nd annual meeting of the Japanese Society of Pathology (Sapporo), 2013.

1 3: Two cases of tongue tumor showing the histological features similar to myoepithelial tumors: Ogawa I., Tsunematsu T., Ohbayashi M., Miyauchi M., Takata T.: The 102nd annual meeting of the Japanese Society of Pathology (Sapporo), 2013.


1 7: Down-regulation of HBp17/FGFBP-1 by 1α,25(OH)2D3 inhibits FGF-2 activity in oral squamous cell carcinoma cell line: Rosli S.N.Z., Shintani T., Toratani S., Usui E., Okamoto T.: The 16th Workshop on Vitamin D (San Francisco), 2013.


F) Special lectures in academic meetings


2: A verrucous lesion of the palate.: Takata T., Ogawa I.: 1st Asian regional consensus meeting on terminology and criteria for oral verrucous papillary lesions of the oral cavity (Kuala Lumpur), 2013.

4 : The basics and common sense for endodontic therapy: Hidemi Kurihara: Staff study group "Breakthrough" (Hiroshima), 2013.

5 : Biological endodontic therapy: Hidemi Kurihara: Update seminar for Dental specialist in Japan Association of Dental Traumatology (Hiroshima), 2013.

6 : The future prospection of endodontic therapy: Hidemi Kurihara: Staff study group "Breakthrough" (Hiroshima), 2013.

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

1 : Grants-in-Aid for Scientific Research (C): Kitagawa M.:Examination about inhibition of alveolar bone resorption by F-spondin, 25462854, 1,900,000 yen.

2 : Grants-in-Aid for Scientific Research (C): Shintani T.:The development of the molecular target diagnosis and therapy HBp17/FGFBP protein to oral cancer. 25463109, 2,200,000 yen


(5) Academic Awards, etc.

(6) Patents

Return to Contents
Dental Technicians Section, Central Clinical Sections

(1) Staff and Students

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

(2) Main Research Activities

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

(3) Research Achievements

A) Original Papers (including Case Reports)

E) Presentation at Scientific Meeting


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

(5) Academic Awards, etc.

1 : Hiroki Nikawa : The Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology Prizes for Science and Technology Development Category, 2013.4 Commendation of Science and Technology by the MEXT
2 : Syogo Iwaguro : Prize for young person researcher excellence article by Nippon Academy of Dental
Dental Hygiene Section,
Central Clinical Sections

(1) Staff and Students

Director of Dental Hygiene Section : Hidemi Kurihara
Chief Dental Hygienist : Miyuki Nakaoka
Supervisor Dental Hygienists : Kayo Kajitani
Dental Hygienists : Yoriko Iwasaki, Megumi Takamoto, Kanako Matsui(June-September Maternity leave, from August Childcare leave), Yumi Irie, Atsuko Wakita, Yukiko Nagatani, Kanako Yano, Tomoko Tokikazu, Kana Dainobu, Miho Okada, Chieko Kawai, Yurie Nakano, Maiko Kawagoe, Mayuko Watari, Ayano Tomoike, Ayumi Yamaguchi(Till August), Kotomi Tetsumori (from April), Tomomi Okino(From July), Ayumi Nakai(From July), Chika Kozono(From August)
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)

3 : Survey of Intellectually Disabled Patients Visiting Department of Pediatric Dentistry of Hiroshima University Hospital : Hayashi F., Mitsuhata C., Arika M., Omoto S., Hirata R., Miyake N., Nakaoka M.,
B) Review

C) Publications

D) Other Publications

1: Feature Assistant work of dental hygienist are really "safe and securit" (Chapter1) Have you ever experienced such a situation? The cause and countermeasures of “Hiyari-Hatto” case lurking in the clinic. (Scene3) Hiyari—Hatto during an assistant work. :Miyuki nakaoka.: The Journal of Dental Hygiene:33(8):820-821,2013.

E) Presentation at Scientific Meeting


6: Two cases of Stenotrophomonas maltophilia was detected from severe oral mucositis: Kajitani K.,Nishi H.,Kimura N.,Mino T.,Nakaoka M.,Kurihara H.:The 16th Journal of the Japanese Society of Clinical studies on Intestinal Microflora(Hiroshima),2013.08.31.

the Japanese Dental Society of Anesthesiology (Yokohama), 2013.10.2-4.


F) Special lectures in academic meetings

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

(5) Academic Awards, etc.

(6) Patent

(7) Special Lecture


Return to Contents
Dental Clinic

(1) Staff and Students

Director : Takamune Hino
Assistant Professor : Masaru Ohara

(2) Main Research Activities

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

(3) Research Achievements

A) Original Papers (including Case Reports)


B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting


F) Seminar, Workshop, etc.
1. A special lecture: Masaru Ohara; The 26th Annual meeting of the Japan Society for Surgical Infection (Kobe), 2013/11/26
2. A special lecture: Masaru Ohara; The 61th Annual meeting of the Japanese Society for Chemotherapy (West Japan Branch), The 56th Annual meeting of the Japanese Association for Infection Diseases, The 83th Annual meeting of the Japanese Association for Infection Diseases (West Japan), (Osaka), 2013/11/8
3. A special lecture and authorized medicine, specialist special lecture: Takamune Hino; The 56th Autumn Meeting of the Japanese Society of Periodontology (Maebashi), 22/September 2013
4. Advanced OSCE for residents: 2013/4/3(Wed) · 10(Wed)

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

(5) Academic Awards, etc.

(6) Patents

【Utility model registration】
1: The registration 3182420th, "Dentistry drill for root canal treatment" Masaru Ohara, Tsuyoshi Taji, Takeshi Murayama, Takamune Hino, Tetsuji Ogawa, Hiroki Nikawa, Registration day : 2013.3.6
Dental Medical Information Section

(1) Staff and Students

Director : Keiji Tanimoto (Co.)
Professor : Hideaki Amano (Co.)
Assistant Professor : 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

1 : K ISHIKAWA, H TSUKUMA, M IKEUCHI and T TANAKA: Medical Information System and
D) Other Publications

E) Presentation at Scientific Meeting


2: Problems in healthcare information security education for multinational students: T TANAKA and H TSUKUMA: The 33rd Joint Conference of Medical Informatics (Kobe), 2013.


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

(5) Academic Awards, etc.

(6) Patents