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

Research Achievements

2014
Contents

Hiroshima University Faculty of Dentistry, Hiroshima University Hospital, Graduate School 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 Preventive and Restorative Dentistry (Periodontics and Endodontics)
  - Department of Molecular Oral Medicine & Maxillofacial Surgery, Department of Oral & Maxillofacial Surgery and Oral Medicine (Oral and Maxillofacial Surgery)
  - Department of Oral and Maxillofacial Surgery, and Department of Oral & Maxillofacial Surgery and Oral Medicine (Oral and Maxillofacial Reconstructive Surgery)
  - Department of Advanced Prosthodontics, and Department of Preventive and Restorative Dentistry (Implants and Prosthodontics)
  - Department of Advanced Prosthodontics, and Department of Preventive and Restorative Dentistry (Prosthetic Dentistry)
  - Department of Orthodontics and Craniofacial Development Biology, and Department of Oral Health and Development (Orthodontics)
  - Department of Oral & Maxillofacial Radiology, Department of Oral & Maxillofacial Surgery and Oral Medicine (Oral and Maxillofacial Radiology)

○ Integrated Health Sciences
  - Department of Biological Endodontics, and Department of Preventive and Restorative Dentistry (Operative and Conservative Dentistry)
  - Department of Pediatric Dentistry, and Department of Oral Health and Development (Pediatric Dentistry)
  - Department of Dental Anesthesiology, and Department of Oral & Maxillofacial
Surgery and Oral Medicine (Dental Anesthesiology)
* 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
○ Division of Advanced General Dentistry, General Dentistry
○ Division of Oral Health and Development, Department of Oral Health
○ Division of Oral Health and Development, Special Care Dentistry
○ Central Clinical Sections, Special Dental Clinic Section
○ Central Clinical Sections, Center of Oral Clinical Examination
○ Central Clinical Sections, Dental Technicians Section
○ Central Clinical Sections, Dental Hygiene Section
○ Dental Clinic
○ Dental Medical Information Section
Basic Life Sciences
Department of Calcified Tissue Biology

(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), Faisal Ahmed

(2) Main Research Activities

1: Bone and tooth formation and mineralization
2: Calcitropic and phosphotropic factors and mineral metabolism
3: Osteonetwork (Cross-talk among bone cells and extraskeletal cells).

(3) Research Achievements

A) Original Papers (including Case Reports)


4: Delphinidin, one of the major anthocyanidins, prevents bone loss through the inhibition of excessive osteoclastogenesis in osteoporosis model mice.: Moriwaki S., Suzuki K., Muramatsu M.,


B) Reviews


C) Books

D) Other Publications

E) Presentation at Scientific Meeting

Fibroblast growth factor (FGF) 10 negatively regulates the formation of caraniomaxillofacial skeleton.: Kagawa K., Yoshioka H., Kuremoto K., Takei Y., Minamizaki T., Tsuga K., Yoshiko Y.: The 98th Annual Meeting of the Hiroshima University Dental Society (Hiroshima), 2014.


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

1: Grants-in-Aid for Young Scientists (B) New: Takei Y., MicroRNA-mediated cellular network in calcified tissue. No.26861548. ¥1,600,000

2: Grants-in-Aid for Scientific Research (C) New: Yoshioka H., Development of bone regeneration strategies by controlling the epigenetic state of bone lining cells. No. 26462785, ¥1,690,000

3: Grants-in-Aid for Scientific Research (C) Continuance: Minamizaki T., Study of regulation of bone/tooth mineralization via downstream factor(s) of Klotho derived from breast cancer cells. No. 25462858, ¥1,820,000

4: Ono Pharmaceutical Co.: Yoshiko Y., A Screen for regulators of mineralization involved in skeletal and extraskeletal organs. ¥4,000,000

5: Drug Discovery Support Network: Yoshiko Y., Development of anti-ectopic mineralization medicine. ¥11,822,598

(5) Academic Awards, etc.

(6) Patents
Basic Life Sciences
Department of Physiology and Oral Physiology

(1) Staff’s and Students

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

(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

D) Other publication

E) Presentation at Scientific Meeting

1 : Activation of the Na⁺-H⁺ exchanger by Ca²⁺ and cAMP signals during bicarbonate secretion from rat
2014


2: Information processing in the brainstem neurons defined by genetic tracing of taste representation: Sugita M., Yamamoto K., Hirono C., Shiba Y.: The 91th Annual Meeting of the Physiological Society of Japan (Kagoshima), 2014.


(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

Return to Contents
Basic Life Sciences  
Department of Molecular Biology and Biochemistry

(1) Staffs and Students

Professor: Chisa Shukunami  
Associate Professor: Mitsuhide Noshiro  
Assistant Professor: Katsumi Fujimoto  
Assistant Professor (Special Appointment): Yuki Yoshimoto  
Researcher: 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)  

B) Review

C) Publications

D) Other Publications
1: Molecular cloning of cytochrome P450 (CYP7A1) involved in bile acid biosynthesis: Mitsuhide Noshiro: Tanjusan, 13, 25, 2014

E) Presentation at Scientific Meeting
2: Screening of the cis-element regulating cartilage-specific expression of zebrafish Chondromodulin-I: Hiroshi Yamashita, Chisa Shukunami, Yuji Hiraki: The 61st meeting of the Japanese Biochemical Society, Kinki Branch (Kyoto), May 17th, 2014
8 : Lineage analysis of cells in the attachment sites of tendons/ligaments into the skeletal tissues: Aki Takimoto, Yuki Yoshimoto, Haruhiko Akiyama, Yuji Hiraki, Chisa Shukunami: The 15th Locomotor Science Meeting (Tokyo), September 5th, 2014


12 : Establishment of an in vivo model to analyze the development of the periodontal ligament: Yuki Yoshimoto, Chisa Shukunami: The 56th Annual Meeting of Japanese Association for Oral Biology (Fukuoka), September 26th-28th, 2014


15 : The improved performance of mesenchymal stem cell cultures by fibronectin and mixed self-assembled monolayers under serum-free conditions: Veronica Sainik Ronald, Masami Kanawa, Isao Hirata, Koichi Kato, Katsumi Fujimoto, Chisa Shukunami, Yukio Kato: The 98th Regular Meeting of the Hiroshima University Dental Society (Hiroshima), November 9th, 2014

F) Special lectures in academic meetings


2 : Molecular mechanisms governing the formation of tendons and ligaments during musculoskeletal development: Chisa Shukunami: The 27th bone metabolism seminar (Tokyo), 6th June, 2014


6: $\text{Sct}^{+}/\text{Sox9}^{+}$ progenitors contribute to the establishment of the junction between cartilage and tendon/ligament: Yuki Yoshimoto: The 17th Annual Meeting of Skeletal Research Meeting (Tokyo), 29th, November, 2014

(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. ¥500,000

2: Grant-in-Aid for Scientific Research (B): Haruhiko Akiyama, Chisa Shukunami, 25293319. ¥100,000

3: Grant-in-Aid for Scientific Research (B): Chisa Shukunami, Haruhiko Akiyama, Aki Takimoto, 26293395. ¥5,600,000

4: Grant-in-Aid for challenging Exploratory Research: Chisa Shukunami, Aki Takimoto, Teruko Yamamoto, 5670871. ¥900,000

5: Grant-in-Aid for Scientific Research Activity Start-up: Yuki Yoshimoto, 26893164. ¥1,500,000

6: Grant-in-Aid for Scientific Research (C): Katsumi Fujimoto, 25462889. ¥1,100,000

(5) Academic Awards, etc.

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

(1) Staffs and Students

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

(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. Lactoferrin inhibits infection-related osteoclastogenesis without interrupting compressive


B) Review
1. Odontogenic infection exerts harmful effects on pathological condition of metabolic syndrome.

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

1) Special lectures in academic meetings

1. Oral and whole body health - dental infection of Porphyromonas gingivalis is a risk factor of non-alcoholic steatohepatitis (NASH). Takata T. 34th Myanmar Dental Conference (Yangon), 2014.
5. Update of odontogenic tumors. Takata T. 30th Meeting of International Academy of Pathology (Bangkok), 2014.
6. Pathology of oral and maxillofacial lesions. 115th meeting of Chugoku-Sikoku division of the Japanese Society of Pathology (Hiroshima) 2014. Takashi Takata

2) Presentation at International Scientific Meeting

3) Presentation at Domestic Scientific Meeting


2014


20. Nagasaki A. Participation of 17th International Congress on Oral Pathology and Medicine. 2th Graduate School of Biomedical & Health Sciences FD (Hiroshima), 2014.


4) Case Reports at Scientific Meeting

T. 113rd Academic Meeting of Chugoku-Shikoku Branch of the Japanese Society of Pathology (Ehime), 2014.

5) Other lectures

2. Is the mouth the gate of evil? – Periodontitis and systemic health condition-T Takata. Open lecture of Hiroshima Prefectural University 「Food and life and community service」 (Hiroshima), 2014.

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.
1. Grants-in-Aid for Scientific Research (Scientific Research (B)) Continuance: Takashi Takata: Control of proliferation and bone invasion of oral cancer.

2. Grants-in-Aid for Scientific Research (Scientific Research (B)) New: Takashi Takata: A large-scale study on odontogenic tumors in Asia aiming for the revision WHO classification of head and neck tumors.


4. 「Base of knowledge –Aichi 」 Joint research project of emphasis research program new: Takashi Takata: Development of gas sensing device and analysis of relationships between human respiratory/skin gas and diseases.

5. Grants-in-Aid for Scientific Research (Scientific Research(C)) Continuance: Mutsumi Miyauch: Clarification of pathological progression mechanisms nonalcoholic steatohepatitis caused by dental infection of periodontal pathogen.


7. Grant-in-Aid for Scientific Research (Young Scientists (B)) New: Hisako Furusho: The role of TLR2 in NASH progression caused by P. gingivalis odontogenic infection.


9. Donated fund from Sanstar Co. Ltd.: Takashi Takata. Study on periodontitis

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


(5) Academic Awards, etc.

1. Karin Harada: 47th annual meeting of the Dental Association of Hiroshima University
Encouragement Award

2. Ajiravudh Subarnhesaj  
   47th annual meeting of the Dental Association of Hiroshima University

Encouragement Award

3. Hisako Furusho  
   25th annual meeting of Japanese society of Oral Pathology

Encouragement Award

4. Mutsumi Miyauchi  
   30th Comprehensive meeting focusing on dental medicine

5. Mayumi Hirata  
   56th annual meeting of Japanese association for Oral Biology

Student Poster Award

6. Syunryo Yanagisawa  
   6th annual meeting of Japanese association for Lactoferrin Tomita Award

7. Aki Mikuriya  
   62nd annual meeting of JADR Joseph Lister Award

Return to Contents
Basic Life Sciences  
Department of Cellular and Molecular Pharmacology

(1) Staff and Students

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

(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.  
7: Studied on the mechanisms of cell migration regulated by a new molecule.  
8: Studies on the molecular mechanisms of thermogenesis in brown adipocytes.  
9: Studies on the relationship immune systems and depression-like behavior.

(3) Research Achievements

A) Original Papers


B) Reviews

C) Publications

D) Other Publications


E) Presentation at Scientific Meeting

1: Elucidating the mechanism of a novel molecule associated with energy metabolism and food


3 : Mice lacking phospholipase C-related but catalytically inactive protein (PRIP) are protected from high-fat diet-induced obesity : Oue K, Irifune M, Kanematsu T : The 47th The meeting of Hiroshima University Dental Society, (Hiroshima), June 21, 2014.


8 : Food intake control by PRIP-mediated GABA signaling : Takashi Kanematsu : The 1th The Study Meeting for Oral Society (Osaka), 2014.


2014


F) Special lectures in academic meeting
1: Elucidation of a new molecule that regulates insulin secretion and lipid metabolism: Takashi Kanematsu: NEXT symposium in Hiroshima University (Hiroshima), 2014.

(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) 15,000,000 (2013-2014).

(5) Academic Awards
Kana Harada, Young Investigator's Award of JSPP 2014, The 19th The Annual meeting of Japanese Society for Proteases in Pathophysiology.

(6) Patents

Return to Contents
Basic Life Sciences
Department of Biomaterials

(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), Ky Try

(2) Main Research Activities

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

(3) Research Achievements

A) Original Papers (including Case Reports)


B) Review


C) Other Publications

1: Effects on bone metabolism of heavy particle beam: Sawajiri M., Nomura Y., Terato H., Maruyama K.: Research report Radiology comprehensive heavy ion beam cancer treatment devices (Treatment
D) Presentation at Scientific Meeting


4: Constitutive cell arrangement for analyzing the epithelial-mesenchymal interactions: Kato K., Kubota C., Sakakitani S., Nishikiori R. The 98th Hiroshima University Dental Society (Hiroshima, Japan), 2014.

5: Radiation effects of heavy ion particles on bone metabolism: Sawajiri M., Nomura Y., Terato H., Maruyama K., Tanimoto K.: 2013 Annual meeting of the research project with heavy ion at NIRS-HIMAC (Chiba), 2014.


11: Antibody arrays for high-throughput assessment of surface markers expressed on mesenchymal stem


14: Surface design for optimizing mesenchymal stem cell culture in a serum-free medium: Yamauchi Y., Hirata I., Kanawa M., Kato Y., Kato: The 47th Hiroshima University dentistry society (Hiroshima), 2014.

E) Special lectures in academic meetings

1: 2-Dimensional antibody display as a platform for cellular analysis: Kato K.: The 2nd Japan-China Symposium on Nanomedicine (Hiroshima, Japan), 2014.

2: A cell culture substrate with antibody micropattern as an analytical platform for modeling epithelial-mesenchymal interactions: Kato K.: 5th Taiwan-Japan Symposium on Nanomedicine (Taipei, Taiwan), 2014.

3: Microarrays for immunophenotyping of mesenchymal stem cells: Kato K.: 7th World Congress on Preventive and Regenerative Medicine (Taipei, Taiwan), 2014.


7: Two dimensional antibody display as cell analysis platform: Kato K.: Institute for Frontier Medical Sciences, Kyoto University, a Joint Research Lecture (Kyoto, Japan), 2014.

8: Regenerative dental medicine: Bioengineering challenges: Kato K.: Seminar for School of Dentistry, Kyushu University (Fukuoka, Japan), 2014.


10: Microfabrication Technology and Regenerative Dental Treatment: Kato K.: Clinical Research
(4) Status of Receiving Grants-in Aid for Scientific Research, etc.

1: Grant-in-Aid for Scientific Research (B), Ministry of Education, Culture, Sports, Science and Technology, Representative Kato K.: Kato K.: Creation of artificial extracellular matrices that mimic biological tissue architecture: No.25293404. 2,700,000JPY

2: Grant-in-Aid for Scientific Research (B), Ministry of Education, Culture, Sports, Science and Technology, Representative Hirata I.: Hirata I.: Development of culture substrates capable of controlling cell growth and differentiation: No. 25293403. 1,250,000JPY


4: Grant-in-Aid for Scientific Research (B), Ministry of Education, Culture, Sports, Science and Technology, Representative Kato K.: Hirata I.: Creation of artificial extracellular matrices that mimic biological tissue architecture: No.25293404. 100,000JPY

5: Grant-in-Aid for Scientific Research (B), Ministry of Education, Culture, Sports, Science and Technology, Representative Kurihara H.: Kato K.: Induction of cementoblasts from mesenchymal stem cells and formation of cementum on dentin surface: No. 24390467. 450,000JPY

6: Grant-in-Aid for Scientific Research (B), Ministry of Education, Culture, Sports, Science and Technology, Representative Hirata I.: Kato K.: Development of culture substrates capable of controlling cell growth and differentiation: No. 25293403. 50,000JPY

7: Grant-in-Aid for Scientific Research (C), Ministry of Education, Culture, Sports, Science and Technology, Representative Shimoe S.: Hirata I.: Toward clinical application of tooth-friendly composite crowns made of zirconia and composite resin: No. 24592916. 50,000JPY

8: Grant-in-Aid for Scientific Research (C), Ministry of Education, Culture, Sports, Science and Technology, Representative Abe Y.: Hirata I.: Development of highly-functional hydroxyapatite surfaces using ultraviolet (UV) light: No. 245929150A. 50,000JPY

9: S-Innovation (Strategic Promotion of Innovative Research and Development): Kato K.: Tissue engineering scaffolds for spatially-controlled tissue regeneration: 2,308,000JPY

10: Terumo Life Science Foundation: Grant for small research meetings: Kato K.: 700,000JPY

11: Grant in Aid for Region-oriented Education and Research: Nishikiori R.: Aggregate analysis of Hiroshima Peace Memorial Museum visitors. Community oriented programs on peace education and research, Center of Community (COC): 400,000JPY
(5) Patents


Return to Contents
(1) Staffs and Students
Professor: Hidemi Kurihara
Associate Professor: Hideki Shiba
Associate Professor, Lecturer: Tsuyoshi Fujita
Assistant Professor: Noriyoshi Mizuno, Yuushi Uchida, Katsuhiro Takeda, Tomoyuki Iwata,
Kazuhsa Ouhara, Mikihito Kajiya, Shinji Matsuda
Assistant Professor (Special Appointment): Takayoshi Nagahara (- March), Khung Rathvisal (October -)
Resident: Yasuko Fumino Ogawa, Mizuho Kittaka (- March/studying abroad), Akihiro Konishi, Tsuyoshi Miyagawa, Kenji Wada(- March), Haruka Imai, Yusuke Obinata, Eri Kaneda, Takako Fujita, Ryoichi Yagi
Graduate Student: Yoshie Niitani (under leave of absence), Shu Ishida, Kei Kashiwai, Masahiro Yamakawa, Tetsuya Yoshimoto, Yusuke Aida, Naoko Tokunaga, Keita Takahashi, Kei Takahashi, NGUYEN QUOC TRUONG, Masahiko Suzukawa, Ai Okanobu, Manabu Takewaki, Shuichi Munenaga, Keichi Akutagawa, Nao Komatsu, Yoko Sato, Shinobu Matsui, Minami Yoshioka
Clinical Trainee: Takeshi Ueda, Tetsutaro Ishigaki (September-), Hiroshi Haraga, Masahiro Takase (December-)

(2) Main Research Activities
1: Immunological study on the onset of periodontics
2: Study on periodontal tissue regeneration using bone marrow mesenchymal stem cells
3: Study on periodontal tissue regeneration using neurotrophines
4: Study on the relationship between periodontal disease and systemic disease
5: Study on physiological function and differentiation of the cells derived from periodontal ligament or dental pulp
6: Study on pathogenicity of periodontopathogenic bacteria
7: Study on interaction between periodontopathgenic bacteria and host cells
8: Clinical study on endodontal-periodontal therapy
9: Study on interaction between stress and periodontics

(3) Research Achievements
A) Original Papers (including Case Reports)

1. The effect of brain-derived neurotrophic factor on periodontal furcation defects.
   Jimbo R, Tovar N, Janal MN, Mousa R, Marin C, Yoo D, Teixeira HS, Anchieta RB, Bonfante EA,
   Konishi A, Takeda K, Kurihara H Coelho PG.
   PLoS One, 2014 Jan, 14(1), e84845

2. BDNF mimetic compound LM22A-4 regulates cementoblast differentiation via the TrkB-ERK/Akt
   signaling cascade.
   Mikihito Kajiya, Kei Takeshita, Mizuho Kittaka, Shinji Matsuda, Kazuhisa Ouhara, Katsuhiro
   Takeda, Takashi Takata, Masae Kitagawa, Tsuyoshi Fujita, Hideki Shiba, Hidemi Kurihara
   International Immunopharmacology 2014 April, 19(2), 245-52

3. miR-584 expressed in human gingival epithelial cells is induced by Porphyromonas gingivalis
   stimulation and regulates interleukin-8 production via lactoferrin receptor
   Ouhara K., Savitri I. J., Fujita T., Kittaka M., Kajiy M., Iwata T., Miyagawa T., Yamakawa M.,
   Shiba H., Kurihara H.
   J. Periodontol., 2014 Jun, 85, 198-204

   Yagi R, Miyamoto R, Morino H, Izumi Y, Kuramochi M, Kurashige T, Maruyama H, Mizuno N,
   Kurihara H, Kawakami H
   Neurobiol Aging, 2014 Jul, 35(7), 1780.e1-5

5. Amphotericin B down-regulates Aggregatibactor actinomycetemcomitans-induced production of
   IL-8 and IL-6 in human gingival epithelial cells
   Haruka Imai, Tsuyoshi Fujita, Mikihito Kajiya, Kazuhisa Ouhara, Tsuyoshi Miyagawa, Shinji
   Matsuda, Hideki Shiba, Hidemi Kurihara
   Cellular Immunology, 2014 August, 290(2), 201-208.

6. Brain-derived neurotrophic factor prevents the endothelial barrier dysfunction induced by
   interleukin-1β and tumor necrosis factor-α
   Matsuda S., Fujita T., Kajiy M., Kashiwai K., Takeda K., Shiba H., Kurihara H.
   J Periodontal Res. 2014 September, in press

7. Irsogladine maleate inhibits Porphyromonas gingivalis-mediated expression of toll-like receptor 2
   and interleukin-8 in human gingival epithelial cells.
   Irma josefina Savitri, Kazuhisa Ouhara, Tsuyoshi Fujita, Mikihito Kajiya, Tsuyoshi Fujita, Mizuho
   Kittaka, Masahiro Yamakawa, Hideki Shiba, Hidemi Kurihara

8. Enhanced TLR-MYD88 signaling stimulates autoinflammation in SH3BP2 cherubism mice and
   defines the etiology of cherubism.
   Yoshitaka T, Mukai T, Kittaka M, Alford LM, Masrani S, Ishida S, Yamaguchi K, Yamada M,
Mizuno N, Olsen BR, Reichenberger EJ, Ueki Y
Cell Rep., 2014 Sep, 8(6), 1752-66

9. Smad2 is Involved in Aggregatibacter actinomycetemcomitans-induced Apoptosis.
Yoshimoto T, Fujita T, Ouhara K, Kajiya M, Imai H, Shiba H, Kurihara H
JOURNAL OF DENTAL RESEARCH, 2014 November, 93(11), 1148-1154

10. Introduction of a Mixture of β-tricalcium Phosphate into a Complex of Bone Marrow Mesenchymal Stem Cells and Type I Collagen can Augment the Volume of Alveolar Bone Without Impairing Cementum Regeneration.
Nagahara T, Yoshimatsu S, Shiba H, Kawaguchi H, Takeda K, Iwata T, Mizuno N, Fujita T, Kurihara H.
J Periodontol., 2014 Dec, 12, Epub ahead of print

11. Nuclear Nrf2 induction by protein transduction attenuates osteoclastogenesis.
Hiroyuki Kanzaki, Fumiaki Shinohara, Mikihito Kajiya, Sari Fukaya, Yutaka Miyamoto, Yoshiki Nakamura
Free Radical Biology and Medicine, 2014 December, 77, 239-248

12. A case of lichen planus suspected of palladium allergy to dental metals

B) Review

C) Publications
1. Environmental and systemic factors: The Periodontology (edited by Yuuichi Izumi, Atsuhiro Kinoshita, Yukihiro Numabe, Matsuo Yamamoto)
   Fujita T., Shiba H., Kurihara H.
   Nagasueshoten (Kyoto), 44-45, 57-58, 2014.

D) Other Publications
2. Medical security asked from the society: Standard precaution: Is your infection countermeasures for infection perfect?
   Noriyoshi Mizuno, Miyuki Nakaoka, Yoshie Niiitani and Hidemi Kurihara
E) Presentation at Scientific Meeting

1. On AUDIT System of Hiroshima Safety Dental service Support network for the prevention of nosocomial infection for the dental clinic
   Iwata T., Mizuno N., Nakaoka M., Irie Y., Nagahara T., Shiba H., Sawa A. and Kurihara H
   The 29th Annual meeting of the Japanese Society for Infection Prevention and Control (2014 February, Tokyo)

2. Porphyromonas gingivalis infection exacerbated RA in mice model
   Masahiro Yamakawa, Kazuhisa Ouhara, Satoshi Yamasaki, Eiji Sugiyama, Hidemi Kurihara
   The 58th Annual General Assembly and Scientific Meeting of the Japan College of Rheumatology (2014 April, Tokyo)

3. BDNF regulates p75-JNK signaling cascade to induce gingival epithelial cells apoptosis.
   Kei Kashiwai, Mikihito Kajiya, Shinji Matsuda, Tsuyoshi Fujita, Katsuhiro Takeda, Hideki Shiba, Hidemi Kurihara
   The 57th spring meeting of the Japanese society of Periodontology (2014 May, Gifu)

4. Porphyromonas gingivalis infection exacerbated RA in mice model
   Masahiro Yamakawa, Kazuhisa Ouhara, Mikihito Kajiya, Mizuho Kittaka, Katsuhiro Takeda, Takako Fujita, Tsuyosi Fujita, Hideki Shiba, Hidemi Kurihara
   The 57th spring meeting of the Japanese society of Periodontology (2014 May, Gifu)

5. BDNF regulates p75-JNK signaling cascade to induce gingival epithelial cells apoptosis.
   Kei Kashiwai, Mikihito Kajiya, Shinji Matsuda, Tsuyoshi Fujita, Katsuhiro Takeda, Hideki Shiba, Hidemi Kurihara
   The 47th meeting of the Hiroshima University Dental Society (2014 June, Hiroshima)

6. The involvement of smad2 in Aggregatibacter actinomycetemcomitans-induced apoptosis in human gingival epithelial cells
   Tetsuya Yoshimoto, Tsuyoshi Fujita, Kazuhisa Ouhara, Mikihito Kajiya, Hideki Shiba, Hidemi Kurihara
   The 47th meeting of the Hiroshima University Dental Society (2014 June, Hiroshima)

7. Porphyromonas gingivalis infection exacerbated RA in mice model
   Masahiro Yamakawa, Kazuhisa Ouhara, Mikihito Kajiya, Mizuho Kittaka, Katsuhiro Takeda, Takako Fujita, Tsuyosi Fujita, Hideki Shiba, Hidemi Kurihara
   The 47th meeting of the Hiroshima University Dental Society (2014 June, Hiroshima)

8. TGF-β1 induces mitochondria-dependent apoptosis in human gingival epithelial cells.
   Tetsuya Yoshimoto, Tsuyoshi Fujita, Mikihito Kajiya, Hideki Shiba, Hidemi Kurihara
   The 92nd General Session & Exhibition of the International Association of Dental Research (2014 June, Capetown/South Africa)

9. Effects of Brain-derived neurotrophic factor on antiinflammation and bone-dentin related proteins expression in human pulp cells
   Tokunaga N., Takeda K., Kajiya M., Matsuda S., Fujita T., Shiba H. and Kurihara H.
10. To establish anti-inflammatory cytokine producing Clumps of MSCs/ECM(C-MSCs) complex ex vivo
Kei Takeshita, Mikihito Kajiya, Manabu Takewaki, Kazuhisa Ouhara, Tomoyuki Ouhara, Tsuyoshi Fujita, Hideki Shiba, Hidemi Kurihara
The 35th Annual Meeting of the Japanese Society of Inflammation and Regeneration (2014 July, Okinawa)

11. Development of novel tissue engineering therapy by using clumps of mesenchymal stem cells/extracellular matrix complex
Mikihito Kajiya, Hideki Shiba, Manabu Takewaki, Kei Takeshita, Khun Rathvisal, Nguyen Quoc Troung, Tomoyuki Iwata, Kazuhisa Ouhara, Katsuhiro Takeda, Tsuyoshi Fujita, Hidemi Kurihara
The 30th Annual meeting of dental medicine to promote comprehensive research (2014 August, Tokyo)

12. BDNF regulates p75-JNK signaling cascade to induce gingival epithelial cells apoptosis.
Kei Kashiwai, Mikihito Kajiya, Shinji Matsuda, Tsuyoshi Fujita, Katsuhiro Takeda, Hideki Shiba, Hidemi Kurihara
The 56th Annual Meeting of Japanese Association for Oral Biology (2014 September, Fukuoka)

13. The involvement of smad2 in bacteria-induced apoptosis of human gingival epithelial cells
Tetsuya Yoshimoto, Tsuyoshi Fujita, Hideki Shiba, Hidemi Kurihara
The 56th Annual Meeting of Japanese Association for Oral Biology (2014 September, Fukuoka)

14. IgG titer against Porphyromonas gingivalis at Center of Oral Clinical Examination, Hiroshima University Hospital
Kazuhisa Ouhara, Tomoaki Shintani, Yuushi Uchida, Mikihito Kajiya, Masae Kitagawa, Ikuko Ogawa, Tsuyoshi Fujita, Takamune Hino, Hideki Shiba, Hidemi Kurihara
The 7th Annual Meeting of The Japanese Society for Evidence and the Dental Professional (2014 September, Okayama)

15. Significance of titanium allergy as preoperative test of implant
The 7th Annual Meeting of Japanese Society for Evidence and the Dental Professional (Okayama), 2014.

16. Development of novel tissue engineering therapy by using clumps of mesenchymal stem cells/extracellular matrix complex
Mikihito Kajiya, Mizuho Kittaka, Hideki Shiba, Manabu Takewaki, Kei Takeshita, Tomoyuki Iwata, Kazuhisa Ouhara, Katsuhiro Takeda, Tsuyoshi Fujita, Hidemi Kurihara
The 64th General Session of the Japanese Society for Dental Materials and Devices (2014 October, Hiroshima)

17. Brain-derived neurotrophic factor / hyaluronic acid complex enhances periodontal tissue regeneration
Takeda K., Konishi A., Kajiya M., Matsuda S., Fujita T., Shiba H. and Kurihara H.
The 64th General sessions of the Japanese society for Dental Materials and Devices (2014 October,
18. Effect of Wnt3a on the cementoblast differentiation of bone marrow-derived mesenchymal stem cells
Yusuke Aida, Hidemi Kurihara, Koichi Kato
The 141st Meeting of the Japanese Society of Conservative Dentistry (2014 October, Yamagata)

19. Elucidation of the mechanisms of drug-induced gingival hyperplasia using the model mice
Ai Okanobu, Shinji Matsuda, Tsuyoshi Fujita, Mikihito Kajiya, Yushi Uchida, Hideki Shiba and Hidemi Kurihara
The 57th fall meeting of the Japanese society of Periodontology (2014 October, Kobe)

20. Effect on the expression and activity of histone deacetylase by humoral factors secreted by periodontal cells
Keita Takahashi, Tomoyuki Iwata, Eri Kaneda, Takayosi Nagahara, Syu Isida, Hideki Shiba, Hidemi Kurihara
The 57th fall meeting of the Japanese society of Periodontology (2014 October, Kobe)

21. Development of novel tissue engineering therapy by using clumps of mesenchymal stem cells/extracellular matrix complex
Mikihito Kajiya, Mizuho Kittaka, Hideki Shiba, Manabu Takewaki, Kei Takeshita, Tomoyuki Iwata, Kazuhisa Ouhara, Katsuhiko Takeda, Tsuyoshi Fujita, Hidemi Kurihara
The 57th fall meeting of the Japanese society of Periodontology (2014 October, Kobe)

22. Control of inflammation by lipid raft in human gingival epithelial cells
Haruka Imai, Tsuyoshi Fujita, Mikihito Kajiya, Kazuhisa Ouhara, Hideki Shiba, Hidemi Kurihara
The 57th fall meeting of the Japanese society of Periodontology (2014 October, Kobe)

23. A case report of tooth transplantation and orthodontic treatment for recovering occlusal function
Tsuyoshi Fujita and Hidemi Kurihara
The 57th fall meeting of the Japanese society of Periodontology (2014 October, Kobe)

24. Effect on the expression and activity of histone deacetylase by humoral factors secreted by periodontal cells
Keita Takahashi, Tomoyuki Iwata, Eri Kaneda, Takayosi Nagahara, Syu Isida, Minami Yoshioka, Hideki Shiba, Hidemi Kurihara
The 98th Hiroshima University Dental Society (2014 November, Hiroshima)

25. To develop Clumps of MSCs/ECM(C-MSCs) complexes for novel allograft cell transplantation therapy
Kei Takeshita, Mikihito Kajiya, Manabu Takewaki, Kazuhisa Ouhara, Tomoyuki Ouhara, Tsuyoshi Fujita, Hideki Shiba, Hidemi Kurihara
The 98th Hiroshima University Dental Society (2014 November, Hiroshima)

Takayoshi Nagahara, Ryoichi Yagi, Katsuhiko Takeda, Hideki Shiba, Hidemi Kurihara
2014 Workshop by Chugoku-Shikoku regional 3 universities of the Japanese society of Periodontology/ Chugoku-Shikoku regional branch of the Japanese academy of clinical periodontology (2014 November, Okayama)

27. Establishment of mice model of drug-induced gingival hyperplasia
2014

The 62th Annual Meeting of Japanese Association for Dental Research (2014 December, Osaka)

28. Regulation of inflammatory cytokines via lipid raft in the gingival epithelial cells
Haruka Imai, Tsuyoshi Fujita, Mikihito Kajiya, Kazuhisa Ouhara, Hideki Shiba, Hidemi Kurihara

The 62th Annual Meeting of Japanese Association for Dental Research (2014 December, Osaka)

29. BMP-2 expression induced by LL37 in human pulp cells
Khung R., Shiba H., Kajiya M., Ouhara K., Kurihara H.

The 62th Annual Meeting of Japanese Association for Dental Research (2014 December, Osaka)

30. Problems clarified from questionnaire after HIV dental clinical system construction business by Hiroshima University Hospital.
Iwata T., Shiba H., Mastui K., Shintani T., Okada M., Hamamoto K., Unei H., Saito S., Takata N.and Fujii T.

The 28th Annual meeting of the Japanese Society for AIDS research (2014 December, Osaka)

F) Special lectures in academic meetings


2. Periodontal Disease during pregnancy and its influence on baby born: Hidemi Kurihara; The 7th National Scientific Meeting in Pediatric Dentistry (2014 Februaly, Surabaya/Indonesia)


4. Hidemi Kurihara; Two-days-symposium (2014 February, Kaohsiung/Taiwan)

5. Periodontal disease and orthodontics: Hidemi Kurihara; ACIDS (Study meeting by Aichi gakuin University division of orthodontics) (2014 March, Nagoya)

6. Gingival Epithelium Regulation: Is it possible to prevent periodontal disease? : Tsuyoshi Fujita ; The International Association for Dental Research (2014 June, Capetown/South Africa)

7. Mesenchymal stem cells and cytokine therapy/ present and prospectiveness: Hidemi Kurihara; BioHorizons The 4th special lecture meeting (2014 July, Osaka)


10. Information concerning performance of countermeasure for HIV infection in the Chugoku and Shikoku areas: Shiba H.; the first Liaison Council of AIDS treatment between AIDS core hospitals in the Chugoku and Shikoku areas (2014 August, Okayama)


13. The actual situation for infection control in dental office: Hidemi Kurihara; Society of Kochi oral science (2014 September, Kochi)
14. Expectation to Dental materials and devices for establishment of Evidence-Based Dentistry: Hidemi Kurihara; The 64th General Session of the Japanese Society for Dental Materials and Devices (2014 October, Hiroshima)
15. Whole concept of dentistry and periodontal therapy in medical and dental cooperation: Hidemi Kurihara; The 57th Fall meeting of the Japanese society of Periodontology (2014 October, Kobe)
16. Hidemi Kurihara; Taiwan Academy of Periodontology (TAP) Annual Meeting of 2014 (2014 November, Kaohsiung/Taiwan)

(4) Status of Receiving Grants-in Aid for Scientific Research.
1. Grants-in aid for scientific research: Hidemi Kurihara: #264630085
2. Grants-in aid for scientific research: Hidemi Kurihara: #243904670
3. Grants-in aid for scientific research: Hideki Shiba: #245931220
4. Grants-in aid for scientific research: Tsuyoshi Fujita: #245931230
5. Grants-in aid for scientific research : Tsuyoshi Miyagawa: # 268618140
6. Grants-in aid for scientific research: Yuushi Uchida: # 254629600
7. Grants-in aid for scientific research: Katsuhiko Takeda: # 254632180
8. Grants-in aid for scientific research: Hidemi Kurihara: # 256708850
9. Grants-in aid for scientific research: Tomoyuki Iwata: # 258620490
10. Grants-in aid for scientific research: Shinji Matsuda: # 268618150
11. Grants-in aid for scientific research : Kazuhisa Ouhara : # 258620510
12. Hiroshima University the year of 2014 Grant for portent research: Tsuyoshi Miyagawa
13. Hiroshima University the year of 2014 Grant for portent research: Haruka Imai
14. Hiroshima University the year of 2014 Grant for portent research: Eri Kaneda
15. Mitsui Sumitomo Insurance welfare foundation the year of 2014 research aid: Mikihito Kajiya
16. GSK Japan Research Grant 2014-2015: Noriyoshi Mizuno
17. Research grants: Grants for research received from Hiroshima Prefecture: Hideki Shiba and others, Study on network-construction of dental practice for HIV infection
18. Grants on KCB-1D (Phase III) for marginal periodontitis by Kaken Pharmaceutical Co., Ltd.
(5) Award.

Tsuyoshi Miyagawa

The 17th prize for encouragement by Hiroshima University school of dentistry class reunion 2014

The irsogladine maleate inhibits the expression of inflammatory factor by the stimulation of *Aggregatibacter actinomycetemcomitans* in human gingival epithelia cell.

Return to Contents
• Applied Life Sciences Department of Molecular Oral Medicine & Maxillofacial Surgery
• Division of Oral & Maxillofacial Surgery and Oral Medicine
  Department of Oral and Maxillofacial Surgery

(1) Staff and Students

Professor:  Tetsuji Okamoto
Associate Professor: Shigeaki Toratani                   Director: Shigeaki Toratani(by-work)
Lecturer: Yasutaka Hayashidou
Assistant Professor: Ryouji Tani, Yukio Yoshioka, Kouichi Koizumi, Kohsei Okamoto, Taku Kanda, Kensaku Suni, Tomoaki Hamana, Yasutaka Ishida, Sachiko Yamasaki
Administrative staff: Michiko Nii
Resident: Koh Nabeshima(~Jul), Yoku Ito, Sachiko Yamasaki(~Sep), Taishi Sakaue, Yuki Taguchi, Takahiko Fujii, Hanae Mukasa(~Dec)
Clinical Trainee: Emiko Usui, Isao Takahashi
Graduate Student: Eri Akagi, Mirei Suematsu, Atsuko Hamada, Shigeru Sakurai, Huuyuyoshi Takatsu, Hirotaka Takatao, Mari Hoshino, Humitaka Oobayashi, Kouji Tsushima, Taeko Yasui, Youji Nakase, Mirai Higaki, Suguru Hirota, Kensaku Matsui, Nguyen Quang Tam, Iwao Katayama, Yuuichi Arita, Tomohiro Sado
Visiting Researcher: Za Wani Rosli, Sirica Chhem

(2) Main Research Activities

1 : Study on genetic diagnosis and therapy of oral cancer and tumor of salivary gland
2 : Study on genetic diagnosis and therapy of craniofacial and congenital anomalies
3 : Induction of Jaw Bone and Tooth Germ from murine embryonic stem cells and human bone marrow stem cells in serum-free defined suspension culture
4 : Search for the bioactive compounds from the marine invertebrates and the basic study of application of them to novel anticancer drugs
5 : Study on Photodynamic therapy for treatment of oral squamous cell carcinomas
6 : Adoptive Immunotherapy of Oral Cancer with Lymphokine-activated Killer (LAK) Cells
7 : Study on tissue engineering of maxilla and jaw bone and teeth using mouse ES cell and iPS cells.
8 : Study on Epidemiology of craniofacial and congenital anomalies near the Nuclear Test Site of Semipalatinsk, Kazakhstan
(3) Research Achievements

A) Original Papers (including Case Reports)


B) Review

1. Kenji Kamiya, Tetsuji Okamoto.: The problem which is radiation education to a health care worker from a nuclear power plant accident: Japan Association on Radiological Protection in Medicine Newsletter(0918-5658)70 Page5-8(2014.07)

C) Publications
1: Diagnosis of injury: Dentistry of sports injury (Keiichi Ishigami, Toshiaki Ueno et al.); Kazuhiro Tsuga, Shigeaki Toratani, Taku Kanda: IGAKUJYOUHOUSYA (Tokyo), P57-61, 2015

D) Other Publications

not applicable

E) Presentation at Scientific Meeting

1: Generation and maintenance of human induced pluripotent stem cells from human peripheral blood mononuclear cells in serum-free and feeder-free culture condition with use of Sendai virus vectors. Eri Akagi, Sachiko Yamasaki, et al. The 68th Annual Meeting of the Japanese Stomatological Society (Tokyo), May 2014.
9: Reprogramming efficiencies of DPCs-derived hiPS cells with various virus vectors in serum- and feeder-free culture conditions. Rie Akagi, Sachiko Yamasaki, Tetsuji Okamoto, et al. 2014 World Forum on Biology (Georgia, USA), May 2014.
10: Generation and maintenance of human induced pluripotent stem cells in serum-free and feeder-free culture conditions using Sendai virus vectors.
Atsuko Hamada, Sachiko Yamasaki, Tetsuji Okamoto, et al.  
2014 World Forum on Biology (Georgia, USA), May 2014

11: Report of Early Clinical Exposure in School of Dentistry, Faculty of Dentistry, Hiroshima University  
  Taku Kanda, Hidemi Kurihara, Motoyuki Sugai, et al  
The 33rd congress of the Japanese Dental Association (Kokura), Jul 2014.

12: Clinical analysis of late-stage elderly oral cancer patients at department of Oral and Maxillofacial  
  Surgery, Hiroshima University hospital  
  Y. Ito, M. Higaki, et al.  
  62th Chugoku-Shikoku Branch Meeting of the Japanese Somatological Society (Tokushima),  
  Oct 2014

13: Clinical analysis of late-stage elderly oral cancer patients at department of Oral and Maxillofacial  
  Surgery, Hiroshima University hospital  
  M. Higaki, Y. Ito, et al.  
  58th Hiroshima Association for Dental Science, 98th Hiroshima University Dental Society  
  (Hiroshima), Nov 2014

  Keita Yoshida, Taku Kanda, Masaharu Irihune, et al.  
The 31th annual meeting of the Japanese Society for Disability and Oral Health (Sendai),  
  Nov (2014)

15: Processing of integrin αv subunit by autophagy in squamous cell carcinoma cells.  
  Mirei Suematsu, Yasutaka Hayashidou, et al.  
  Hiroshima University The 3rd International Symposium (Hiroshima), Feb 2014

16: Generation and maintenance of human induced pluripotent stem cells in serum-free  
  and feeder-free culture conditions using Sendai virus vectors.  
  Atsuko Hamada, Sachiko Yamasaki, et al.  
  Hiroshima University The 3rd International Symposium (Hiroshima), Feb 2014

17: Reprogramming efficiencies of DPCs-derived hiPS cells with various virus vectors in serum- and  
  feeder-free culture conditions.  
  Eri Akagi, Sachiko Yamasaki, et al.  
  Hiroshima University The 3rd International Symposium (Hiroshima), Feb 2014

18: Medical activity of Phoenix Leader Education Program.  
  Hirotaka Nakatao: Hiroshima University The 3rd International Symposium (Hiroshima),  
  Feb 2014

19: Processing of Integrin αV by selective autophagy Relation through sequestome 1 of Oral squamous  
  carcinoma cells.  
  Mirei Suematsu, Yasutaka Hayashidou, et al.  
  The 51st Annual Meeting of Japan Tissue Culture Society for Dental Research (Kokura), Nov 2014

20: Generation and maintenance of human induced pluripotent stem cells from human peripheral blood  
  mononuclear cells in serum-free and feeder-free culture condition with use of Sendai virus vectors  
  Eri Akagi, Sachiko Yamasaki et al.  
The 51st Annual Meeting of Japan Tissue Culture Society for Dental Research (Kokura) Nov 2014

F) Special lectures in academic meetings


2: Director commendation of Hiroshima Univ Hosp.: Taku Kanda, Mar 2014

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

1: JST: Sachiko Yamasaki #:AS262Z01770P.
2: Grants-in aid for scientific research: Tetsuji Okamoto: #26670865.
3: Grants-in aid for scientific research: Tomoaki Hamana: #26463044.
4: Grants-in aid for scientific research: Kohsei Okamoto: #26463008.
5: Grants-in aid for scientific research: Yukio Yoshio: #26463006.
6: Grants-in aid for scientific research: Sachiko Yaasaki: #26861723.
7: Grants-in aid for scientific research: Yasuto Fukui: refuse to accept
8: Grants-in aid for scientific research: Taishi Sakaue: #26893166.
9: Grants-in aid for scientific research: Takahiko Fujii: #26893167.
10: Grants-in aid for scientific research: Hanae Mukasa: #26893168.
11: Grants-in aid for scientific research: Tetsuji Okamoto: #24390456.
12: Grants-in aid for scientific research: Yasutaka Hayashidou: #24390455.
13: Grants-in aid for scientific research: Ryouji Tani: #24593032.
14: Grants-in aid for scientific research: Tomoaki Shintani: #25463109.
15: Grants-in aid for scientific research: Kouishi Koizumi: #24593033.
16: Grants-in aid for scientific research: Yasutaka Ishida: #24792221.
17: Grants-in aid for scientific research: Koh Nabeshima: #25861945.
18: Grants-in aid for scientific research: Yoku Itoh: #25861942.

(5) Academic Awards, etc.


(6) Patents

1. USA PTC: Generation of human induced pluripotent stem (iPS) cells in serum- and feeder-free defined culture and TGF-β1 regulation of pluripotency. Inventors: Tetsuji Okamoto, Sachiko Yamasaki, Applicant: Hiroshima University, Date: December 25, (2013)


Return to Contents
• Applied Life Sciences Department of Advanced Prosthodontics
• Division of Preventive and Restorative Dentistry
Department of Oral Implant

(1) Staff and Students

Professor : Kazuhiro Tsuga
Associate Professor : Takayasu Kubo, Mineka Yoshikawa
Lecturer : Yasuhiko Abe, Kyou Hiasa
Assistant Professor : Katsunori Koretake, Hiroshi Oue, Yohei Okazaki
Resident : Maho Takeuchi, Mariko Maruyama, Shiho Kajihara
Graduate Student : Yusuke Makihara, Takahiro Mori, Chiaki Higa, Aya Hiraoka, Kan kato, Keisuke Yasuda, Yoshifumi Oki, Hiromichi kawano, Yukari Kinoshita, Masako Kobayashi, Yoko Shiotani, Yosuke Takeda, Azusa Kuroki, Miyuki Yokoi

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)

2: Osteoclast Response to Bioactive Surface Modification of Hydroxyapatite: Okazaki Y, Abe Y, Yasuda

B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting


F) Special lectures in academic meetings

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

1: MEXT Grant-in-Aid for Young Scientists (B): Oue H: Molecular biological elucidation for learning and memory impairment by tooth loss. (Grant No.26861641). ¥1,820,000
2: MEXT Grant-in-Aid for Research Activity Start-up: Kajihara S: The development of bFGF/polyphosphoric acid double-processing complex. (Grant No.26893165). ¥1,500,000
3: MEXT Grant-in-Aid for Scientific Research (C): Koretake K: Treatment planning for edentulous patients applied over denture on single standing implant. (Grant No. 25462998). ¥1,400,000
4: MEXT Grant-in-Aid for Scientific Research (C): Tsuga K: Development of functional oral rehabilitation by sucking candy. (Grant No. 26462951). ¥1,300,000
5: The Japanese Society of Dysphagia Rehabilitation Grant-in-Aid for Scientific Research: Yoshikawa M: Relationship between vicarious mandible movement and deterioration of swallowing function with ALS progression. ¥200,000

(5) Academic Awards, etc.

(6) Patents

Return to Contents
(1) Staff and Students

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

(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 : Establishment of bone regeneration by using interconnected porous hydroxyapatite and biopolymeric material

(3) Research Achievements

A) Original Papers (including Case Reports)

1 : Runx/Cbfb signaling regulates postnatal development of granular convoluted tubule in the mouse


B) Review

C) Publications


D) Other Publications

1: Clinic for hybrid resin CAD/CAM crown applied for Japanese health insurance system-Using experience from High technology modern medicine-: Abekura H.: Clinical forum (GC Co., Ltd.), Case Presentation No.1, 2014.

2: For success in treatment by CAD/CAM crown (Japanese health insurance system)-The point for success are abutment tooth preparation and crown setting-: Abekura H.: CAD/CAM NEWS (Wada precision dental laboratories), Vo1.02, 2014.


E) Presentation at Scientific Meeting


5: Fibroblast growth factor (FGF) 10 negatively regulates the formation of caraniomaxillofacial skeleton: Kagawa K., Yoshioka H., Kuremoto K., Takei Y., Minamizaki T., Tsuga K., Yoshiko Y.: The 98th Annual Meeting of the Hiroshima University Dental Society (Hiroshima), 2014.


11: Evaluation of implant stability in implant/interconnected pours hydroxyapatite complex on dog


F) Special lectures in academic meetings

1: Crown applied CAD/CAM system: Abeekura H.: Academic lecture for Kyusyu dental university alumni association (Hiroshima branch) (Hiroshima), 2014.4.10
2: Correspondence to CAD/CAM crown approved by Japanese health insurance: Abekura H.: Academic Lecture of Japan Dental Association of Miyoshi City: The clinical applicability of the CAD/CAM system for dentistry (Miyoshi), 2014.4.12

3: Palatal augmentation prosthesis: New social contribution based on two guidelines: Tsuga K.: Academic Lecture of Japan Dental Association of Hiroshima City (Hiroshima), 2014.5.29

4: CAD/CAM crown: Point from tooth preparation to setting into oral cavity: Abekura H.: Academic Lecture of Japan Dental Association of Hiroshima City (Hiroshima), 2014.5.29

5: Instruction and exercise for patients wearing occlusal splints for TMD treatment -dental mouth rehabilitation 2-: Abekura H.: Academic Lecture of Japan Dental Association of Hiroshima prefecture (Hiroshima), 2014.6.8

6: Points for treatment by CAD/CAM crown: Abekura H.: Academic Lecture of Japan Dental Association of Hiroshima prefecture (Hiroshima), 2014.6.8

7: Novel program for improving oral function considering tongue pressure: Tsuga K.: Open lecture of Japanese Academy of Occlusion and Health (Tokyo), 2014.7.21

8: Instruction and exercise for patients wearing occlusal splints for TMD treatment -dental mouth rehabilitation 2-: Hitoshi Abekura: Academic Lecture of Japan Dental Association of Hiroshima prefecture (Fukuyama), 2014.8.3


10: Proposal of novel program for improving oral function: Tsuga K.: Workshop for staffs of regional comprehensive support center and related dentists (Hiroshima), 2014.8.29

11: Challenges and ripple effects of the department of advanced prosthodontics: Tsuga K.: Special lecture in joint annual meeting of Japan Prosthodontic Society Chugoku-Shikoku and Kansai branches (Kurashiki), 2014.9.7

12: Tongue pressure examination for quantitative evaluation of oral motor function: Tsuga K.: Lecture meeting for social health insurance directors (Tokyo), 2014.9.17


14: Contribution of advanced prosthodontics on programs for improving oral function: Tsuga K.: Academic lecture for Hiroshima University Dental Alumni Society Yamaguchi Branch (Yamaguchi), 2014.10.18

15: Proposal of program for improving oral function utilizing novel tongue pressure examination: Tsuga K.: Academic workshop of Aki Dental Society (Hiroshima), 2014.11.22
17: Correspondence to hybrid resin CAD/CAM crown approved by Japanese health insurance: Abekura H.: Annual Scientific Meeting of Japan Prosthodontic Society of Kanetsu branch (Nigata), 2014.11.23

18: Utilizing tongue pressure measurement and training for improving oral function: Tsuga K.: Workshop for medical-dental collaboration for home medical care in Minami-ward (Hiroshima), 2014.11.26


G) Others

1: Basic technical point of CAD/CAM crown (hybrid resin block) -from abutment tooth preparation to setting into oral cavity-: Production instruction by Abekura H. and editorial supervision by Japan Prosthodontic Society: Video contents on HP of GC Co., Ltd., 2014.5.19

2: Design of crown for decade tooth using a computer and fabrication with resin by machine: Abekura H.: Yomiuri newspaper (Evening paper), 2014.5.22

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

1: Grant-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 thousand yen.

2: Grant-in-Aid for Scientific Research (C): Tsuga K: Development of functional oral rehabilitation by sucking candy. (Grant No. 26462951). 1,300 thousand yen.

3: Grant-in-Aid for Scientific Research (C): Abekura H., Covariance structure analysis of sleep, diurnal bruxism, sociopsychological and TMD. No.25462999. 1,170 thousand yen.

4: 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.

5: Grant-in-Aid for Scientific Research (C): Doi K., Bone regeneration of applying polyphosphate on bone defect by implantitis. No. 24592918. 1,660 thousand yen.

6: Grant-in-Aid for Young Scientists (B): Morita K., Bio-active effect of inorganic polyphosphoric to achieve new innovation for bone quality. No.25861845. 1,600 thousand yen.

7: 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.
8: Grant-in-Aid for Young Scientists (B): Hori T., New development of chlorine dioxide-containing denture cleaner. No. 25861847. 1,800 thousand yen.


(5) Academic Awards, etc.

(6) Patents

Return to Contents
• Applied Life Sciences Department of Orthodontics and Craniofacial Development Biology
• Division of Oral Health and Development Department of Orthodontics

(1) Staffs and students

Professor : Kotaro Tanimoto
Lecture : Hiroshi Ueda, Masato Kaku
Assistant Professor : Masahide Motokawa, Myongsun Koh, Yuki Asakawa, Ryo Kunimatsu, Naoto Hirose, Syunichi Kojima, Keisuke Sumi
Intern : Yayoi Matsuda, Tomomi Mitsuyoshi, Yuki Yoshimi, Yuji Tsuka, Hiromi Sumi
Graduate Student : Tetsuya Awada, Nanae Oki, Hanaka Shikata, Eri Fujii, Yuki Okamoto, Tahsin Raqib Abonti, Hirotaka Sugino, Tomomi Date, Yu Matsumura, Aimi Naim Bindi Abdulah, Takaharu Abe, Saki Okita, Hidemi Gunji, Shoutoku Kojima, Chikako Sumi, Yuko Nakao, Cynthia Concepcion Medina, Aya Kimura, Kengo Nakajima, Makoto Yanoshita, Taeko Yamamoto
Professor (part-time) : Kazuo Tanne, Eiji Tanaka, Ichiro Takahashi
Registered Intern : Kuniaki Tanaka, Kazunori Itatani, Eri Ohtani, Noriko Sano, Emi Ishikawa, Kyoko Mizukami
Dental Hygienist : Yano Kanako, Miho Okada

(2) Main academic activity

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

A) Original article


B) General remarks


C) Books


D) Other publications

E) Presentation at Scientific Meeting


13. A case of adult patient with maxillary protrusion accompanied by periodontitis using skeletal

14. Effects of Low-level Diode Laser Treatment on the Metabolism of Human Dental Pulp Cells:


MAOISCT (Kuching), 2014


F) Academic society symposium and special lecture


3. Tanimoto K.: Orthodontics and temporomandibular disorders – A systematic approach corresponding to the pathological condition -. Academic Meeting of Hiroshima University Faculty of Dentistry Alumni Association, (Hiroshima), 2014.


8. Tanimoto K.: Orthodontic treatment and temporomandibular disorders –Diagnosis and systematic approach corresponding to the pathological condition -. Scientific meeting in Tokushima University, (Tokushima), 2014.


11. Kunimatsu R.: Study of research in UCSF orofacial sciences: The 5 Hiroshima Conference on
(4) Scientific research grant-in-aid

2. Grant-in-aid for Scientific Research (C): Ueda H.: Comprehensive clinical development in newly oral appliance for obstructive sleep apnea syndrome. No.20304446. 260,000yen
3. Grant-in-aid for Scientific Research (C): Kaku M.: Long term cryopreservation of mesenchymal stem cells, 1,200,000yen
5. Grant-in-aid for clinical and Scientific Research of Hiroshima University : Kunimatsu R: Bone regeneration in the treatment of bone defect in the cleft lip and palate by use of mesenchymal stem cells and diode laser. 500,000 yen
7. Collaborative research with Unitak Co., Ltd; Ryo Kunimatsu : Effects of metabolism on the specialized hybrid-diode-laser for orthodontic treatment. 500,000 yen.
8. Grant-in-aid for young researcher of Hiroshima University : Kunimatsu R: Bone regeneration in the treatment of bone defect in the cleft lip and palate by use of mesenchymal stem cells and diode laser. 300,000 yen
9. Grant-in-aid Fujii of Hiroshima University : Kunimatsu R: Bone regeneration in the treatment of bone defect in the cleft lip and palate by use of deciduous dental pulp stem cells and diode laser. 1000,000 yen
10. Grant-in-Aid for Scientific Research (B): Hirose N.: Elucidation of the mechanical stress receptible mechanism by integrins, and establishment of PCR prevention with a integrins inhibitor. No.26861788. 1,600,000 yen
12. Support fund for study from Hiroshima University: Suim H: Irradiation effects of newly developed low temperature multi gas plasma jet on oral bacteria 500,000yen.

13. Grant-in-Aid for Scientific Research: Sumi K.: Expansion to establishment of Jaw Cleft Treatment with Bone Regeneration by Use of MSCs having excellent vascular inducing.: No 2589314810. 1,100,000yen.

14. 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. 1,430,000yen


16. Grant-in-Aid for Scientific Research (B): Mitsuyoshi T.: Clarification of the temporomandibular joint disease and the establishment of new therapeutic method using mechanical stress and high molecular HA to the three-dimensional culture cells. No.26861787. 2600,000yen

17. The Hiroshima University Education and Research Support Foundation: Oki N.: An Establishment Jaw Cleft Treatment and study of vascular-inducing ability with Bone Regeneration by Use of MSCs Derived from Bone Marrow. 200,000yen

(5) Commendation

1. Okamoto Y.: Role of mechanoreceptor in the metabolism of chondrocytes under excessive mechanical stimuli.: The 47th Annual meeting of Hiroshima University Faculty of Dentistry Incentive Award, 2014.


(Tokyo), 2014, Excellent Poster presentation award.


(6) Patent
- **Applied Life Sciences Department of Oral and Maxillofacial Radiology**
- **Division of Oral and Maxillofacial Surgery and Oral Medicine Department of Oral and Maxillofacial Radiology**

(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**: Mitsuko Shimizu, Kiyohito Ota, 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: Ultrasonographic examinations at department of oral and maxillofacial radiology of Hiroshima


D) Other Publications


E) Presentation at Scientific Meeting


4: Early Clinical Exposure at Hiroshima University—Patient Imitation Experience to 2nd Grade

The 10th Asian Congress of Oral and Maxillofacial Radiology (Bali)


F) Lecture

1: Radiographic diagnosis of various clinical cases: Konishi M., 80th Hiroshima university clinical seminar (Hiroshima), 2014.

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

1: 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

2: 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): ¥900,000.

(6) Patents
1: Nomura Y., Sawajiri M., Aqueous solution production technique and water vapor producing device including halogen dioxide: (JP2014-113404) (Medical Environment Techno Co.,Ltd., Mikasa Shoji Co.,Ltd.)

• Integrated Health Sciences Department of Biological Endodontics
• Division of Preventive and Restorative Dentistry
  Department of Operative and Conservative Dentistry

(1) Staff and Students

Professor : Hideki Shiba
Associate Professor :
Associate Professor : Masashi Fujii
Assistant Professor : Makoto Arakawa, Shigeki Suzuki, Shintaro Nagayasu, Akane Mineoka, Naoyo Motoyama
Resident : Seiji Kobuke
Graduate Student : Sano Tomomi, Atsushi Hashikata, Hiroaki Hoshino

(2) Main Research Activities

1:  Studies on biological regeneration of dentin/pulp complex and periapical tissues
2:  Studies on biological obturation of root canals at apical areas.
3:  Relationship between HIV infection and dental caries
4:  Development of new therapeutic agent for intractable pain
5:  Studies on relationship between dental disease and systematic diseases
6:  Development of new laboratory tests for diagnosis of dental diseases
7:  Development of new preventive therapies for dental diseases based on new laboratory tests
8:  Development of new host-noninvasive therapies using lasers

(3) Research Achievements

A) Original Papers (including Case Reports)


B) Review


C) Publications

D) Other Publications


E) Presentation at Scientific Meeting


9: Usefulness of TCV-309, a selective Platelet-Activating Factor (PAF) antagonist, on chemotherapeutic agents-induced painful neuropathy: Naoyo Motoyama, Katsuya Morita, Hidemi


F) Special lectures in academic meetings


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

1: Grant-in-Aid for Scientific Research(C) : Shiba H. Usefulness of the beads which consist of three regenerative elements which can be given a three-dimensional form in the severe destruction of periodontal tissues: No.24593122 ¥ 1,500,000

2: Research grants: Grants for research received from Hiroshima Prefecture: Shiba H. Study on network-construction of dental practice for HIV infection: ¥ 3,000,000

3: Grants-in-Aid for Young scientists(B): Suzuki S. Induction of pulpal wound healing by enhanced integrin-mediated signaling brought about by the amino acid cleavage at the sites close to the integrin-binding domain: No.268615950 ¥ 1,500,000

4: Grant-in-Aid for Scientific Research(C): Fujii M., The development of biological direct pulp capping materials targeting for Wnt signaling: No. 24592868 ¥ 900,000

5: Grant-in-Aid for Young scientists(B) : Nagayasu S., Search of the TNF - α instruction factor produced by dental pulp cell: No. 26861596 ¥ 1,500,000

(5) Academic Awards, etc.

(6) Patents

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

(1) Staff and Students

Professor : Katsuyuki Kozai.
Associate Professor : Chieko Mitsuhata (~February)
Lecturer : Chieko Mitsuhata (~January)
Research Associate : Yasutaka Kaihara, Meiko Tachikake (April~), Noriko Niizato (~ August)
Research Associate : Ryoko Hirata (January~March), Yukari Ohara, Yukiko Konishi (April~)
Research Associate : Ayumi Shimada (October~)
Physician : Nami Miyake, Ryoko Hirata (April~), Yukiko Konishi (~March)
Physician : Ayumi Shimada (~September), Yuko Iwamoto (April~), Noriko Goto (April~)
Graduate Student : Aomin (~March), Yuko Iwamoto (~March), Noriko Goto (~March)
Graduate Student : Mega Moeharyono Putteri (~September), Nobuyuki Tatsukawa, Kaoru Sakurai
Visiting Research Scholar: Hu Yiqun
Research Student : Akira Yamane
Clinical Trainee : Fumiko Hayashi, Akemi Hirosumi (~March), Masafumi Kitamoto (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

(3) Research Achievements
A) Original Papers (including Case Reports)


B) Review

1: Kozai K.: Special Issue Prevention of adult disease and lifestyle disease from childhood:

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting


24: The case report of the malposition of permanent tooth germs associated with the traumatic injure to the deciduous teeth occurred at 3 years of age.: Iwamoto Y., Hirata R., Mitsuhata C., Kozai K.: The 53rd Scientific Meeting of Hiroshima Prefecture Dental Association (Hiroshima), 2014.


F) Special lectures in academic meetings


3: 2014 The seminar for graduate held by the reunion of Faculty of Dentistry, Hiroshima Univerisity: For reliable pediatric dental practice: Kozai K., Nakaoka M.: Essor Hiroshima (Hiroshima), 2014.


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


2: Grant-in-Aid for Scientific Research (B): Niizato N.: Clinical evaluation and Explication of mechanism of the Prevention program adapting 3DS from the systemic bacterial infection. (No. 26861789), 2014 direct expenses: ¥1,500,000, indirect expenses: ¥450,000.

3: Ryokufu Association Education and Research Award (young researchers grant): Tatsukawa N., Isolation and Characterization of *Staphylococcus aureus* from pediatric oral, 2014: ¥500,000.

(5) Academic Awards, etc.

1. Nobuyuki Tatsukawa: Student Excellence Award at the 68th Annual Meeting of the Japanese Society for Bacteriology Chugoku-Shikoku Branch meeting, 2014.

(6) Patents
- Integrated Health Sciences Department of Dental Anesthesiology
- Division of Oral & Maxillofacial Surgery and Oral Medicine Department of Dental Anesthesiology

(1) Staff and Students

Professor: Irifune Masahiro, D.D.S., Ph.D.
Lecturer: Yoshida Mitsuhiro, D.D.S., Ph.D.
Resident: Miyahara Takeshi, 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 involvement of dopamine neurons in awakening from general anesthesia
5: Study on antianxiety effects of sedative drugs
6: Study on effects of nitrous oxide on cardiovascular system
7: Study on chronic pain
8: Study on efficacy of chest compressions in cardiopulmonary resuscitation
9: Study on medical emergency during dental treatments

(3) Research Achievements

A) Original Papers (including Case Reports)

1: Pain control in a patient with central post-stroke pain who suffered from allodynia during feeling of


B) Review

C) Publications


D) Other Publications

E) Presentation at Scientific Meeting


2: Mice lacking phospholipase C-related but catalytically inactive protein (PRIP) are protected from high-fat diet-induced obesity: Oue K, Irifune M, Kanematsu T: The 47th Scientific Meeting of Hiroshima University Dental Society (Hiroshima), 2014.


6: The person feels the pain to be strong by the induced emotion from the anger face: Doi M, Yoshimura S, Tanaka K, Sasahara H, Irifune M: The 42th Annual Meeting of Japanese Dental Society of Anesthesiology (Niigata), 2014.


8: Nociceptive stimulation enhances dopamine release in the nucleus accumbens of mice under pentobarbital sedation, but decreases under loss of the righting reflex: Ishii H, Irifune M: The 42th Annual Meeting of Japanese Dental Society of Anesthesiology (Niigata), 2014.


F) Special lectures in academic meetings

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

1: Grant-in-Aid No. 24593056 for Scientific Research (C) from the Ministry of Education, Culture, Sports, Science, and Technology of Japan (Continued): Shimizu Y: Development of a novel general anesthetic method applying selective dopamine receptor subtype ligands. ¥800,000.

(5) Academic Awards, etc.

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

(1) Staffs and Students
Professor: Koichi Kato (Chair of ICDD Committee)
Takashi Takata (Chair of ICDD Committee; -March)
Associate Professor: Ketut Suardita (Specially appointed; -March)
Lecturer: Hiroko Oka (Specially appointed; April-)
Assistant Professor: Phuong Thao T Nguyen (Specially appointed; April-)
Hiroko Oka (Specially appointed; -March)

(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

(3) Research Achievements
A) Original Papers (including Case Reports)
1: F-spondin Inhibits Differentiation of Clastic Precursors via LRP8: Hiroko Oka, Masae Kitagawa,
   Takashi Takata: Journal of Periodontology [Posted online on October 9, 2014.]
2: The FGFR1 inhibitor PD173074 induces mesenchymal-epithelial transition through the transcription

B) Review

C) Publications
D) Other Publications

E) Presentation at Scientific Meeting

1. Assessment of academic preparation and motivation to create a standard of entry behavior for International Dental Course Program at Faculty of Dentistry Hiroshima University: Ketut Suardita, Hiroko Oka, Takashi Takata, Darmawan Setijanto, Motoyuki Sugai: 16th Ottawa Conference (Ottawa, Canada), 2014.

2. Interim assessment of educational program for undergraduate dental students with Japanese-English dual linguistic education system at Hiroshima University (the first and the second year): Hiroko Oka, Ketut Suardita, Takashi Takata, Hiroki Nikawa, Koichi Kato, Motoyuki Sugai: 16th Ottawa Conference (Ottawa, Canada), 2014.


5. Assessment of Japanese-English dual linguistic education system at HUD-Study on the factors students expect for the present lectures/ practices -: Hiroko Oka, Ketut Suardita, Phuong Thao Nguyen, Takashi Takata: The 33th Annual Academic Meeting of Japanese Dental Education Association (Kitakyushu), 2014.


F) Special lectures in academic meetings and extension lectures


2. Way to enter globalization era in dentistry : Ketut Suardita: Niigata University (Niigata), 2014.
3 : Way to enter globalization era in dentistry : Ketut Suardita: Tohoku University (Sendai), 2014.
7 : Way to Enter Globalization Era in Dentistry-Challenges at Universities in Japan: Hiroko Oka: Tohoku University (Sendai), December 19, 2014.

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


(5) Academic Awards, etc.

1 : Ketut Suardita : Incentive Award for the Presentation at international Academic Meetings, Japanese Dental Education Association, July 4, 2014.
2 : Hiroko Oka : Incentive Award for the Presentation at international Academic Meetings, Japanese Dental Education Association, July 4, 2014.

(6) Patents

(7) Others

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

1 : 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): 6months, Oct. 2013-March 2014.
2 : Short Stay Program (JASSO) : 6 students (2 students; Airlangga University, Indonesia: 2 students; University of Medicine and Pharmacy at HoChimin City, Vietnam: 1 student; Chulalongkorn

3 : The international short exchange program 2014 July: 4 students (Taipei Medical University, Taiwan): 4 days, 2014.

4 : The international short exchange program 2014 August: 11 students (Trisakti University, Indonesia): 2 days, 2014.

5 : Short Stay Program (JASSO+Others): 18 students (5 students; Airlangga University, Indonesia: 2 students; Chulalongkorn University, Thailand: 2 students, Khon Kaen University, Thailand: 3 students; University of Medicine and Pharmacy at HoChiMinh City, Vietnam: 2 students; University of Health Science, Cambodia: 2 students; Wonkwang University, Korea): 10 days, 2014.

6 : International Dental Course 2015: 3 students (Airlangga University, Indonesia; University of Medicine and Pharmacy at HoChiMinh City, Vietnam; University of Health Science, Cambodia): 2014.

7 : International Dental Course 2014: 3 students (Airlangga University, Indonesia; University of Medicine and Pharmacy at HoChiMinh City, Vietnam; University of Health Science, Cambodia): 2014.

8 : International Dental Course 2013: 3 students (Airlangga University, Indonesia; University of Medicine and Pharmacy at HoChiMinh City, Vietnam; University of Health Science, Cambodia): 2014.

9 : International Dental Course 2012: 3 students (Airlangga University, Indonesia; University of Medicine and Pharmacy at HoChiMinh City, Vietnam; University of Health Science, Cambodia): 2014.

10 : Science without Borders: 1 student (University of Sao Paulo, Brazil): 1 year, April 2014-March 2015.

B) Homepage of International Program

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

C) Supporting the International Research Exchange Program

1 : SAKURA Science plan (JST): 10 members: 3 days.

2 : The Staff Exchange Program: 4 members (from Faculty of dentistry Airlangga University, Indonesia): 8 days

Return to Contents
Integrated Health Sciences
Department of Public Oral Health

(1) Staffs and Students

Professor : Masaru Sugiyama
Associate Professor : Maki Nosou, Atsushi Shimazu (Department)
Assistant Professor : Akemi Naitou, Rumi Nishimura
Graduate Student : Yuko Kimura, Chie Yoshinaga
Undergraduate Student: Sayoko Mouri, Yurina Nakagawa, Hitomi Tsurusaki, Hisaka Matsubara, Ayaka Yoshimoto, Yoshino Kamite, Sato Iwasaki (4th grade student), Yoshino Kaneyasu, Nanami Hirano, Chiharu Fujimoto, Sayaka Abe, Nozomi Katou, Miyako Sasaki, Emi Yamashiro, Rina Hayashi, Chika Kuwahara (3rd grade student)

(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)


B) Review

C) Publications


D) Other Publications

E) Presentation at Scientific Meeting

3: Study on educational effects of basic nursing training in medical outpatient department by Hiroshima University School of Dentistry oral health science in school nurse program : Nosou M, Naitou A, Shimazu A, Nishimura R, Sugiyama M: The 98th Hiroshima University Dental Society. (Hiroshima), 2014.
7: Consideration of potential as a screening method of beans skip of oral function.: Higashi M, Maehara T, Nishimura R, Iwamoto A, Fukada E, Amano H, Hara K : The 9th Annual Meeting of the Japan
Dental Hygienists' Association. (Saitama), 2014.


F) Contribution to Community
1: Nishimura R: Assessment of oral function at special nursing home. (2014)
2: Nishimura R: The oral care of persons requiring nursing care at Hiroshima University Hospital. (2014)
3: Nishimura R: Refresher course for dental hygienists (Step up course), Hiroshima, 2014.03.13.
4: Nishimura R: Refresher course for dental hygienists (Oral health course), Hiroshima, 2014.11.27.
6: Shimazu A: Dental Support Activity in Cambodia (Cambodia), 2014.
7: Shimazu A: Oral health activity in Junior High School Students in Hiroshima (Hiroshima), 2014.
8: Shimazu A: Dental Examination for Acidity and Alkalinity (Hiroshima), 2014.
9: Shimazu A: Dental Examination for Infants (Higashi-Hiroshima), 2014.

(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). ¥1,000,000.

(5) Academic Awards, etc.

(6) Patents
Integrated Health Sciences
Department of Maxillofacial Functional Development

(1) Staff and Students

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


B) Reviews

1: Amano H.: Our Education to bring up the Oral Health Manager for the Team Medical Care: J. of the conference of national university for the dental hygienist 3, 2-4, 2014. 3
C) Books

D) Other Publications

E) Presentations

1: Response of the blood pressure by the metabotropic excitatory amino acid receptor agonist L-AP4 injected to caudalis medulla oblongata ventral: Yumi Takemoto, Keiko Tsuruda : 91th annual meeting of the Physiological Society of Japan(Kagoshima) 2014.3.17.

2: Examination of the factor that was able to introduce group fluoride mouth rinse: Sanae Miyoshi, Kumiko Hara : 21th annual meeting of Japanese Society of Dental Welfare(Hiroshima) 2014.6.15.


7: Analysis of the absorption, deglutition by the intraoral pressure measurement - Development of the clinical intraoral pressure measuring equipment- : Eri Fukada : 1st meeting of Health and Science for young researchers (Hiroshima) 2014.7.18.

8: Quantity of optimal deglutition of the water according to the generation and personal changes : Hiromi Ezaki, Yukiko Ogawa, Rumi Nishimura, Eri Fukada, Yoshiko Hatanaka, Kumiko Hara, Yukie Yoshida : 20th annual meeting of Japanese Society of Dysphagia Rehabilitation (Tokyo) 2014.9.6.


10: Examination of the possibility of the Splash Bean Test as the screening method of the oral function : Mamuka Higashi, Asako Maehara, Rumi Nishimura, Akiko Iwamoto, Eri Fukada, Hideaki Amano, Kumiko Hara : 9th annual meeting of the Japan Society for Dental Hygiene(Saitama), 2014.9.13.
11 : A case of the complete denture using a duplicate denture on lower jaw : Yoshihisa Inoue, Akiko Iwamoto, Masaru Hashioka : 53th Hiroshima Prefecture Dental Association(Hiroshima), 2014.11.9.

12 : Analysis of the intraoral air pressure change at the time of the absorption and swallowing - Examination of the new clinical analysis system of oral function : Eri Fukada, Masaru Sugiyama, Hideaki Amano : 53th Hiroshima Prefecture Dental Association(Hiroshima), 2014.11.9.


F) Lectures

1 : Akiko Iwamoto : 「How to take desirable eating between meals/Brushing before going to bed」, Wat-Bo Primary school(SiemReap,Cambodia), 2014.2.27

2 : Akiko Iwamoto : 「How to take desirable eating between meals/Brushing before going to bed」, Provincial Teacher Training College(SiemReap,Cambodia), 2014.3.5

3 : Hara K., Fukada E. : Lecture for the class for diabetics : Hiroshima Teishin Hospital (Hiroshima), 2014.7.24

4 : Hara K. : Lecture of oral care for staff : Kosei-En(Hiroshima), 2014.10.18/11.26

5 : Hara K. : Workshop of oral care for nurse : Kusatsu Hospital (Hiroshima), 2014.10.17

G) Social Contributions

1 : Program for kids from elementary schools, Dental Kids, “Let’s Be a Dentist!” : Hiroshima University Faculty of Dentistry, 2014.

2 : Program for high school students, Dental Kids: Hiroshima University Faculty of Dentistry, 2014.

3 : Cooperate to the assessment of the Program for improvement of oral function in the ambulatory care facility “Kosei-En”, 2014.

4 : 7th Dentistry Activity Support in Cambodia 2104.

(4) Grant-in-Aid for Scientific Research


2 : 2014th grant-in-aid for scientific research : HARA K. : Dental Kids Project (HT26230)

(5) Awards

1 : Kumiko H. : Prize of the Oral Health Society for Excellence poster presentation. 2104. 9

(6) Patents
Integrated Health Sciences
Department of Oral Health Management

(1) Staffs
Professor: Toshinobu TAKEMOTO
Lecturer: Atsue MATSUMOTO
Research associate: Yoshie NIITANI
Graduate student
   Doctor course: Yukiko NAGATANI
   Master course: Miho KUME
Graduation thesis student: Airi USAMI, Rika MARUYAMA, Sakura UEMUKAI, Shiho FUKISHIMA,
   Yuuka WAKABAYASHI, Momo YAMAGUCHI, Tomomi INOUE, Miku ISHIKAWA,
   Yuika MIZOTA, Mayu FUJISHIRO, Reina YANAGI

(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
1: [Examination about the aspect of the reflection of the dental trainee in the midway point of the
   clinical training course][ja]: Obayashi T., Oto T., Nagatani Y., Kajitani K., Tanaka Y., Nishi H.,
2: [Relation between stress marker and mental factor of the student in roll-playing training in the
   dental hygienist education][ja]: Hayashi M., Takemoto T., Matsumoto A., Kume M., Niitani Y.: J.
3: [A survey of the consciousness about career to students in a university of 4-year dental hygienist
   education –The difference between grades-][ja]: Takemoto T., Niitani Y., Matsumoto A., Kume M.

D) Other Publications

E) Presentations at Scientific Meeting
3: [The image that the students of three types of dental hygienists school have each other][ja]: The 98th Regular Meeting of Hiroshima University Dental Society (Hiroshima), 2014.
4: [What is required to dental hygienists’ 4-year university graduates][ja]: The 98th Regular Meeting of Hiroshima University Dental Society (Hiroshima), 2014.
5: [Difference in consciousness about the disaster prevention in the private dental clinic][ja]: The 98th Regular Meeting of Hiroshima University Dental Society (Hiroshima), 2014.
6: [Investigation of contract clinical training of dental hygienists students in the new outpatient clinical building of our hospital][ja]: The 98th Regular Meeting of Hiroshima University Dental Society (Hiroshima), 2014.

1. [Study on patient service improvement in the private dental clinic][ja]: Fukushima S.
2. [Social study on incident by dental hygienist][ja]: Wakabayashi Y.
3. [Research about the vocational disease of the dental hygienist][ja]: Usami A.
4. [Investigation on the extent of dental hygienists job –The difference of consciousness between dentists and dental hygienists-][ja]: Yamaguchi M.
5. [Research about the factors to change motivation of dental hygienists students][ja]: Maruyama R.
6. [Research about face expression and communication.][ja]: Uemukai S.

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) : 2014.
2. [Oral care for pregnant woman and new born infant][ja]: Matsumoto A.: School for pregnant women in Gynecology department of Hiroshima University Hospital (Hiroshima) , 2014.
4. [Dental Hygiene 1][ja]: Niitani Y,: JADHE program I for teachers in dental hygienists schools (Aichi) 2014.
5. Development of theatrical interprofessional education program for “IPW-Dental hygiene Care”:
   Nagatani Y. (symposiast) : Aiming at the education to exert IPW -4-year research result and future problem-, The 55th seminars & workshop on medical education (Gifu), 2014

G）Social Contributions

1. Program for kids from elementary schools, Dental Kids, “Let’s Be a Dentist!”: Hiroshima University Faculty of Dentistry (Hiroshima), 2014.
2. Renewal seminar for teacher’s license: Takemoto T, Hiroshima University (Hiroshima), 2014.
4. Secretary of the regional association of Kinki , Chugoku and Shikoku area for Japanese Society for Dental Health: Matsumoto A(Kobe), 2014.
5. Dental Support Activity in Cambodia: Matsumoto A(Cambodia ), 2014.


10: Member of Dental Hygienists’ Examination committee: Niitani Y.: Foundation of Promoting Dental Care and Training (Tokyo), 2014.

Integrated Health Sciences
Department of Anatomy and Functional Restorations

(1) Staff and Students

Professor : Takahiro Satoda
Associate Professor : Saiji Shimoe
Graduate Students : Shougo Iwaguro, Hidehito Nagadouri
Undergraduate Student : Chihiro Ohhira, Mai Ohtaku, Kanae Iwamatsu, Chika Takeda, Akane Taniguchi, Natsumi Ikuta, Memori Minoda, Saki Shiraishi, Yusuke Kobayashi, Mayaka Ide, Yuka Miyata, Aoi Kawamura, Ayaka Kihara

(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


3: Functional model of Swallowing : Natsumi Ikuta, Memori Minoda, Takahiro Satoda, Saiji Shimoe :

5: Effect of hydrophilic by surface treatments on bonding between zirconia material and indirect composite: Chihiro Ohira, Saiji Shimoe, Shogo Iwaguro, Mai Ohtaku, Akane Taniguchi, Takahiro Satoda: The 36th the meeting of the Nippon Academy of Dental Technology (Hokkaido), 2014, 9. 20, 21.


8: Analysis of chemical interaction of between zirconia materials and functional monomers: Saiji Shimoe, Yuji Chiba, Isao Hirata, Shogo Iwaguro, Hideo Matsumura, Koichi Kato: The 64th the meeting of the Japanese Society for Dental Materials and Devices (Hiroshima), 2014, 10. 8, 9.


F) Special lectures in academic meetings
1: Takahiro Satoda: Understanding Eating and Swallowing Mechanism by using handmade model
(Kochi Association of Insurance doctors seminar) (Kochi) 2014,3,16

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

1: Grant-in-Aid for Scientific Research(C): Saiji Shimoe: Development of tooth-friendly zirconia crown restorations optimized polymer composite resins for the clinical application. (No.24592916). ¥800,000

(5) Academic Awards, etc.

1: Shogo Iwaguro: Excellent Student Award (President's Awards) 2014.3
2: Namiko Kayama: The 16th Student Carving Contest Gold Award 2014.3
3: Kanako Toma, Saiji Shimoe, Takuya Kihara, Mitsuhiro Tamamoto, Tsuyoshi Yaji, Takeshi Murayama, Hiroki Nikawa, Takahiro Satoda: The Nippon Academy of Dental Technology Young Researcher’s Best Paper Award in 2014, 2014.9

(6) Patents
Integrated Health Sciences
Department of Medical System and Biomaterial Engineering

(1) Staff and Students

Professor : Takeshi Murayama
Associate Professor : Mitsuhiro Tamamoto
Graduate Student : Asumi Nagata, Mayumi Nakanodo, Noriko Fujimoto
Graduation Research Students : Shuntaro Umezaki, Yuya Ishida, Kazumine Ogasawara,
                                      Yuuta Masuhara, Shouta Fujimoto, Rina Niioka, Moe Matsuo,
                                      Yuto Tanaka, Shou Higuchi, Waka Harada, Moemi Nishida,
                                      Yuuki Higashiura

(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)

1: Job shop scheduling with capacity adjustment using the mixture of GA and priority rule -
overtime decision based on the critical value of job: Yoda M, Eguchi T, Murayama T:
Proceedings of 2014 Annual Conference of Manufacturing Systems Division, The Japan
2: Efficient job shop scheduling by sequentially fixing partial schedules: Yoda M, Eguchi T,
Murayama T: Proceedings of International Symposium on Flexible Automation(ISCIE /


B) Review

C) Publications


D) Other Publications

E) Presentation at Scientific Meeting


4: Influence of micro mechanical retention with diode laser beam machine on the bond strength of composite resin fused to zirconia: Iwaguro S, Shimoe S, Murayama T, Satoda T: 36th Meeting of the Nippon Academy of Dental Technology(Sapporo), 2014.


F) Special Lectures in Academic Meetings

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

(5) Academic Awards, etc.

(6) Patents
Integrated Health Sciences
Department of Oral Biology & Engineering

(1) Staff and Students

Professor : Hiroki Nikawa
Associate Professor : Tsuyoshi Taji (H26.6-)
Lecturer : Hisako Sasahara
Assistant Professor : Kazuko Kawahara
Assistant Professor : Takuya Kihara, Sumiyo Mimura, Takahiro Shuto (H26.10-), Yuichi Mine (H26.3)
(Special Appointment)
Education and Research Support Staff : Kaori Taguchi, Minako Okamura (H26.11-)
Graduate Student : Sachiko Sawa, Yukihiro Takayama, Minako Okamura, Kentaro Takagi,
Reiko Aimi, Chika Umemoto, Chiaki Okada, Yumi Hamamoto, Satoshi Miyauchi
Undergraduate Student : Shun Ichikawa, Kazumi Ofuji, Shiho Kubota, Yuri Sadamitsu,
Yoshika Shozuhara, Nobuko Nishino, Chihiro Noda, Tatsuki Hashida,
Yoshiya Fujikawa, Satoru Yaguchi, Risa Akagi, Shizuka Gion,
Miyu Kiyama, Mizuki Kodama, Natsumi Saizaki, Saori Sueyama,
Konomi Hirota, Ari Fukano, Ai Fujii, Keisuke Fujita

(2) Main Research Activities

1 : Study on candidal biofilms and denture plaque
2 : Study on dental caries and probiotics
3 : Design for cationic antimicrobial peptides
4 : Study on mechanisms of the alveolar bone resorption and on bone - resorption inhibitors
5 : Study on dental implant materials
6 : collaborative research about allergy

(3) Research Achievements

A) Original Papers (including Case Reports)

1 : Protein Kinase C-Induced Early Growth Response Protein-1 Binding to SNAIL Promoter in Epithelial-Mesenchymal Transition of Human Embryonic Stem Cells : Kinohara M, Kawamura S,


B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting


4: Application of Etak(R) to reduce the risk of spread of infectious disease: Okada C, Taji T, Kawahara K, Nikawa H: 47th The Hiroshima University Dental Society conference (Hiroshima), 2014.


F) Symposium and special lecture

1: A novel product for the general or oral health derived from biofilm study: Nikawa H: 4th Research Week-International Symposium, Taipei (Taiwan), 2014.

(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. ¥3,120,000
2: Challenging Exploratory Research: Hiroki Nikawa, Research Project Number: 26670838. ¥2,340,000
3: Grants-in-Aid for Scientific Research (Scientific Research (C)): Tsuyoshi Taji (Head), Hiroki Nikawa (Co-investigators), Research Project Number: 26462921. ¥1,900,000
4: Grants-in-Aid for Scientific Research (Scientific Research (C)): Norihiro Taguchi (Head), Sakiko Sasahara, (Co-investigators), Research Project Number: 25463255. ¥2,600,000
5: Donation from Manac Inc. to Hiroki Nikawa. ¥350,000
6: Donation from Media Inc. to Hiroki Nikawa. ¥700,000
7: Donation from Shikoku nyugyou corporation to Hiroki Nikawa. ¥300,000
8: Donation from JEX Co., Ltd. to Hiroki Nikawa. ¥1,000,000
9: Donation from JEX Co., Ltd. to Hiroki Nikawa. ¥200,000
10: Donation from JEX Co., Ltd. to Hiroki Nikawa. ¥600,000
11: Hiroshima Industrial Promotion Organization to Hiroki Nikawa. ¥908,292

(5) Academic Awards, etc.

1: Hiroki Nikawa: Hiroshima University President’s Awards in 2014

(6) Patents

1: Hiroki Nikawa: (US Patent Pat) Method of Fixing Antibacterial Agent and Article Obtained by The Method (NO.8859009 B2) (Hiroshima University)
Central Research Laboratory

(1) Staff and Students

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

(2) Main Research Activities

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

(3) Research Achievements

A) Original Papers (including Case Reports)

B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting


Society for Bacteriology (Tokyo) 2014.

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

1 : Research project, Grant-in-Aid for Scientific Research (B): Hayashi I (share holder): Elucidation of the genome stability maintenance mechanism through the chromatin remodeling by nucleolin : (No.2431004) ¥700,000

(5) Academic Awards, etc.

1 : I. Hayashi, : Presentation award : 36th Infectious Disease Meeting in Hiroshima (Hiroshima) 2014.

(6) Patents
General Dentistry
Department of Advanced General Dentistry

(1) Staff and Students

Professor : Tetsuji Ogawa
Assistant Professor : Yoshihara Tanaka (until March 2014), Masaru Ohara, Hiromi Nishi, Taiji Obayashi (from April, 2014)
Graduate Student : Taiji Obayashi (until September 2014), Takayuki Ooto, Nami Kikushige

(2) Main Research Activities

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

(3) Research Achievements

A) Original Papers (including Case Reports)


B) Review


C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

1. The comparison of the depth of reflection: Dental trainees reflect more critically by failure experience: ○Taiji Obayashi, Takayuki Oto, Yukiko Nagatani, Hiroshima University; Kayo Kjitani, Tetsuji Ogawa. : 16th OTTAWA CONFERENCE, (OTTAWA), 2014.


7. A consideration about acquisition of the humanity necessary to a dental hygienist. -Through a narrative of an expert dental hygienist who carried IPW- : ○Yukiko Nagatani, Taiji Obayashi,
Takayuki Oto,


F) Implementation of Seminars / Workshops

1. Workshop for postgraduate trainees 2014(Hiroshima)
2. The 6th Meeting of Japanese Association of Health Communication 2014(Hiroshima)
3. The 1st Oral care seminar due to disease. 2014 (Hiroshima)
4. The 2nd Oral care seminar due to disease. 2014 (Hiroshima)
5. The 3rd Oral care seminar due to disease. 2014 (Hiroshima)
6. The 4th Oral care seminar due to disease. 2014 (Hiroshima)
G) Lecturer • Symposiast

3. What and how dental students should be learn for medical communication, clinical reasoning, and behavior change on the medical interview? 53th MEDC WS, (Gihu), 2014.

H) Attending of Lectures, Seminars, and Workshops

1. The 53th seminar and workshop on medical education: Attendant : Taiji Obayashi, Takayuki Oto.at Gifu Univ. Medical Education Center. (Gifu), 2014
2. The 62th seminar on medical education at Tokyo Univ. : Attendant : Takayuki Oto.at International Research Centre for Medical Education Tokyo Univ. (Tokyo), 2014.
3. The 9th RIAS training workshop : Attendant : Takayuki Oto. at RIAS study group.(Tokyo), 2014.
5. The 8th follow-up session for medical communication facilitators : Attendant : Takayuki Oto. at Japanese Dental Education Association. (Nagoya), 2014.
9. The 17th chugoku-shikokutiku shikaishirinsyoukensyu shidoushikaikousyuukai : Attendant : Takayuki Oto. at Hiroshima University Hospital. (Gifu), 2014.

I) Implementation of OSCE, CSA

1. 2nd Advanced OSCE for Postgraduate Trainees 2013-2014
2. 1st Advanced OSCE for Postgraduate Trainees 2014-2015
(4) Status of Receiving Grants-in Aid for Scientific Research, etc.


2. Grant-in-Aid Scientific Research, Young Scientists (B). Nishi H. : Analysis of Toll-like receptor in oral mucosal disease. Program No. 23792346. 1,200,000yen

3. Grant-in-Aid Scientific Research, Scientific Research (C). Ogawa T. : Building of the Education program for community based professionalism. Program No. 25463255. 100,000yen (co-researcher)

(5) Academic Awards, etc.

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

(1) Staffs and Students

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

(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)


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

Return to Contents
Central Clinical Facilities
Special Dental Clinic Section

(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)

1: Development and Fundamental Evaluation of Cooked Rice Containing Non-Ionic Water Soluble Iodine Contrast Medium (Visipaque270®) for Videofluoroscopic Examination of Swallowing:

B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting

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

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

(1) Staffs and Students

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

(2) Main Research Activities

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

(3) Research Achievements

A) Original Papers (including Case Reports)


B) Review

C) Publications

D) Other Publications

E) Presentation at Scientific Meeting


6. Effort of oral examination center of Hiroshima University Hospital for insurance introduction of oral


F) Special lectures in academic meetings


(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, 900,000 yen


(5) Academic Awards, etc.

1. Shintani T.: Poster award at The 7th Annual Meeting of Japanese Society for Evidence and the Dental Professional

(6) Patents

Return to Contents
Central Clinical Sections
Dental Technicians Section

(1) Staff and Students

Director of Dental Technicians Section: Hiroki Nikawa (Prof.)
Chief Dental Technician: Hirotaka Okura
Supervisor Dental Technician: 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 prosthesis 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: H26th Hiroshima University President’s Awards, 2014
Central Clinical Sections
Dental Hygiene Section

(1) Staff and Students

Director of Dental Hygiene Section : Hidemi Kurihara
Chief Dental Hygienist : Miyuki Nakaoka
Dental Hygienists : Yoriko Iwasaki, Megumi Takamoto, Kanako Matsui(Reinstatement From April),
Yumi Irie, Atsuko Wakita, Yukiko Nagatani, Kanako Yano, Tomoko Tokikazu, Kana Dainobu, Miho
Okada, Chieko Kawai, Yurie Nakano(December Maternity leave, from March Childcare leave), Maiko
Kawagoe, Ayno Tomoike, Kotomi Tetsumori, Tomomi Okino, Ayumi Nakai, Chika Kozono, Yuri
Kuramoto(From April), Eri Takano(From April)
Dental Assistants : Yuri Kijima(Till February), Hisako Ozaki, Yatabe Mayumi(Till June), Keiko
Kodani(From July)

(2) Main Research Activities

1 : A study about the dentistry health guidance that dental hygienist performs.
2 : A study about improvement of local dentistry health.

(3) Research Achievements

A) Original Papers (including Case Reports)

B) Review

C) Publications

D) Other Publications

1 : Standard Precaution IS infection control perfect? ;Quintessence: Noriyoshi Mizuno., Miyuki

E) Presentation at Scientific Meeting


4: Basic infection control dental clinic: Nakaoka M.: Kochi oral surgery study roup(Kochi), 2014


6: The operation situation of the Hiroshima University oral health studies specially graduate and learning in the professional training: Eri Takano, Rumi Nishimura, Chie Yoshinaga, Yuri Kuramoto, Atsushi Shimazu, Masaru Sugiyama: Japanese dental health society (Oomiya), 2014.


9: Research about the dental health awareness of parent and teachers in special needs school: Yuji Ueda, Takashi Arima, Yoshinori Hada, Yumi Hirai, Tomoaki Fujita, Taizou Komatsu, Kazuki Noumi, Yuki

10: Field study of dental hygienist students trust clinical training in the new outpatient department ridge of Hiroshima University Hospital: Tomoko Tokikazu, Yukiko Nagatani, Kanako Matui, Atsuko Wakita, Kana Dainobu, Miho Okada, Chieko Kawai, Miyuki Nakaoka, Noriyoshi Mizuno, Fumino Ogawa, Takayasu Kubo, Mineka Yoshikawa, Kazuya Doi, Kousei Okamoto, Yoshiaki Ninomiya, Hiroshi Ueda Myouzen Koh, Meiko Tachikake, Yuki Oda, Mitsugi Okada, Tetsuji Ogawa: The 98th Hiroshima University Dental Society (Hiroshima), 2014.


F) Symposium

1: Oral health care in Hiroshima university hospital—Activity report of interprofessional oral health care support team—: Tomomi Okino: Hiroshima society of prevention in nosocomial infection (Hiroshima), 2014

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

(5) Academic Awards, etc.

(6) Patents
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. The 57th spring meeting of the Japanese society of Periodontology (Kobe), Oct 2014
2. Advanced OSCE for residents: 2014/2/12(Wed) • 19(Wed)

(4) Status of Receiving Grants-in Aid for Scientific Research, etc.
1. Grant-in-Aid for Scientific Research (C) from the Ministry of Education, Science, Sports and Culture of Japan. Masaru Ohara

(5) Academic Awards, etc.

(6) Patents
1. JP 4857438 B2 2012.1.18, Takamune Hino
2. JP 5007439 B2 2012.8.22, Takamune Hino
3. Utility Model Registration: RN:3182420, Masaru Ohara, Takamune Hino
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

D) Other Publications

E) Presentation at Scientific Meeting

1: Philological Study on Evaluation of Hospital Information Systems -Necessity for Contribution Guidelines which Cover from Case Reports to Original Papers:- H TSUKUMA, T TANAKA and M IKEUCHI: The Japan Association for Medical Informatics Spring Conference 2014 (Okayama), 2014.

2: Simple Tests for Accessibility of Visually Impaired Person to National University Hospital Webpages Based on WCAG 2.0: T TANAKA, H TSUKUMA and M IKEUCHI: The Japan Association for Medical Informatics Spring Conference 2014 (Okayama), 2014.

3: Development of the Out-Patient Navigation System in a Large Dental Clinic in a University Hospital: K HIASA, et al.: The Liaison Conference between Information Management Departments of University Hospital 2014 (Tokushima), 2014.

4: The evaluation of the guiding system for an out-patient with a patient's handy terminal in a large dental clinic in a hospital: T TANAKA, K HIASA, K TANIMOTO and H AMANO: The 34th Joint Conference of Medical Informatics (Chiba), 2014.

5: Development of patient guiding system in dental clinic of hospital using appointment data: K HIASA et al.: The 34th Joint Conference of Medical Informatics (Chiba), 2014.


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

(6) Patents