

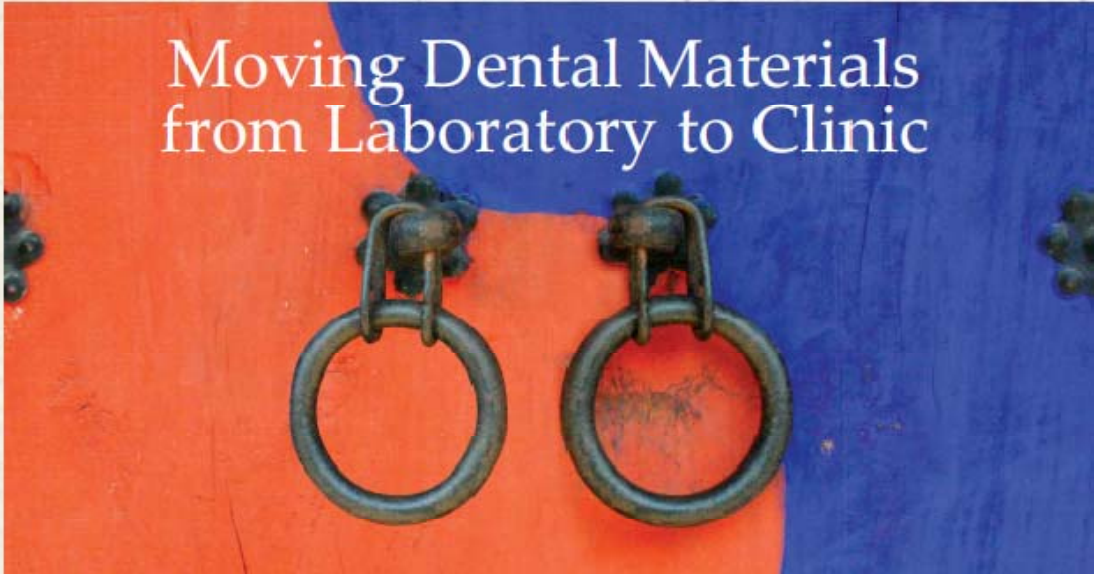
www.idmc2011.com



The International Dental Materials Congress 2011

IDMC 2011 International Dental Materials Congress 2011

Moving Dental Materials from Laboratory to Clinic



Proceedings of the International Dental Materials Congress 2011

In conjunction with



KRSDM
2011 Annual Meeting of
The Korea Research Society
for Dental Materials



JSDMD
57th Meeting of
The Japanese Society
for Dental Materials and Devices

Eun-Myung Auditorium
Yonsei University Severance Hospital

Seoul, Korea
May 27-29, 2011

Proceedings of the International Dental Materials Congress 2011

Moving Dental Materials *from Laboratory to Clinic*

In conjunction with



2011 Annual Meeting of
The Korea Research Society
for Dental Materials



57th Meeting of
The Japanese Society for
Dental Materials and Devices

**Eun-Myung Auditorium,
Yonsei University Severance Hospital**

**Seoul, Korea
May 27–29, 2011**



TABLE OF CONTENTS

Welcome Messages from the IDMC 2011	1
Note from Proceedings Editors	4
Organizing Committee of IDMC 2011	5
Contributors	7
Meeting Schedule	9
General Session Program	
Oral Presentations	11
Poster Presentation Competition	15
Poster Presentation	17
Invited Lecture I: New Concept of Implant Design and Characteristics	
“Recent Changes of Dental Implant Design - AnyRidge” <i>Kwang Bum Park (MegaGen Implant Co., Ltd., Korea)</i>	39
“Implant Surface Treatment” <i>Takao Hanawa (Tokyo Medical and Dental University, Japan)</i>	46
“Bone Graft Materials” <i>Jonathan C Knowles (University College London, United Kingdom)</i>	58
Invited Lecture II: Esthetic Restoration Using CAD/CAM Technology	
“Technical Factors Affecting the Properties of Dental Zirconia” <i>Seiji Ban (Aichi Gakuin University, Japan)</i>	69
“Zirconia: What Consequences with Its Use for Dental Restorations” <i>Michael Swain (The University of Sydney, Australia)</i>	80
“Lifetime Prediction of Dental Implants and Prostheses ” <i>Jason A Griggs (University of Mississippi, U.S.A.)</i>	92
“New Concept of Soft Tissue Management in Anterior Immediate Implants” <i>Hoi Wung Chung (Jeonju Mir Dental Hospital, Korea)</i>	102

Abstracts

Oral Presentation..... 115
Poster Presentation Competition 155
Poster Presentation..... 173

Appendix

Index to Authors/Co-authors 385
Map of Conference Site 396

Meeting Schedule

Friday, May 27

4:00 pm – 8:00 pm Registration

6:00 pm – 8:00 pm Welcome Reception (Allen Hall)

Saturday, May 28

08:00 am – 05:00 pm Registration

08:50 am – 09:00 am Opening Remarks (Eun-Myung Auditorium)

09:00 am – 11:00 am Invited Lecture I (Eun-Myung Auditorium)

“New Concept of Implant Design and Characteristics”

Coordinator: Kyo-Han Kim (Kyungpook National University, Korea)

Satoshi Imazato (Osaka University, Japan)

09:00 am – 09:40 am **“Recent Changes of Dental Implant Design - AnyRidge”**

Speaker: Kwang Bum Park (MegaGen Implant Co., Ltd., Korea)

09:40 am – 10:20 am **“Implant Surface Treatment”**

Speaker: Takao Hanawa (Tokyo Medical and Dental University, Japan)

10:20 am – 11:00 am **“Bone Graft Materials”**

Speaker: Jonathan C Knowles (University College London, United Kingdom)

11:00 am – 12:00 pm Poster Presentation I (Seminar Room 2-3)

12:00 am – 01:00 pm Lunch (3rd Floor)

01:00 pm – 04:00 pm Invited Lecture II (Eun-Myung Auditorium)

“Esthetic Restoration Using CAD/CAM Technology”

Coordinator: Kunio Ishikawa (Kyusyu University, Japan)

Min-Ho Lee (Chonbuk National University, Korea)

01:00 pm – 01:40 pm **“Technical Factors Affecting the Properties of Dental Zirconia”**

Speaker: Seiji Ban (Aichi Gakuin University, Japan)

01:40 pm – 02:20 pm **“Zirconia: What Consequences with Its Use for Dental Restorations ”**

Speaker: Michael Swain (The University of Sydney, Australia)

02:20 pm – 02:40 pm **Coffee Break**

Coordinator: Hae-Hyoung Lee (Dankook University, Korea)

Masao Yoshinari (Tokyo Dental Collage, Japan)

02:40 pm – 03:20 pm **“Lifetime Prediction of Dental Implants and Prostheses ”**

Speaker: Jason A Griggs (University of Mississippi, U.S.A.)

03:20 pm – 04:00 pm **“New Concept of Soft Tissue Management in Anterior Immediate Implants”**

Speaker: Hoi Wung Chung (Mir Dental Hospital, Korea)

- 04:00 pm – 05:00 pm Poster Presentation II (Seminar Room 2-3)
- 04:00 pm – 06:00 pm Poster Presentation Competition(YIA) (Seminar Room 4)
- 07:00 pm – 10:00 pm Banquet (optional) (boarding time 6:30 pm)

Sunday, May 29

- 08:00 am – 09:00 am Registration
- 08:30 am – 10:30 am

Oral Presentation I (Eun-Myung Auditorium)

Coordinator: Isao Hirata (Hiroshima University), Jin-Soo Ahn (Seoul National University),
Seung-Han Oh (Wonkwang University), Yoshiya Hashimoto(Osaka Dental University)

Oral Presentation II (Lecture Hall A)

Coordinator: Takuya Matsumoto (Osaka University), Han-Cheol Choe (Chosun University)
Hyeong-Cheol Yang (Seoul National Univ.), Takashi Nezu (Iwate Medical University)

Oral Presentation III (Lecture Hall B)

Coordinator: Naoyuki Nomura (Tokyo Medical and Dental Univ.), Yong-Keun Lee (Yonsei Univ.),
Hae-Won Kim (Dankook University), Yukimichi Tamaki (Showa University)

- 10:30 am – 11:30 am Poster Presentation III (Seminar Room 2-3)
- Poster Presentation Competition(YIA) (Seminar Room 3: open to the public)
- 11:30 am – 11:40 am Closing Remarks (Eun-Myung Auditorium)
- 11:40 am – 12:30 pm Lunch (3rd Floor)

IDMC 2011 Schedule								
Time&Date	May 27,2011(Fri)	May 28,2011(Sat)		May 29,2011(Sun)				
am	08:00-08:30	Registration	Opening Remarks		Exhibition			
	08:30-08:50		Invited Lecture I "New Concept of Implant Design and Characteristics"	Recent Changes of Dental Implant Design		Oral Presentation I Adhesion Composite Polymer Miscellaneous	Oral Presentation II Implant Metal CAD-CAM Biocompatibility	Oral Presentation III Ceramics
	08:50-09:00			Implant Surface Treatment				
	09:00-09:40		Poster Presentation I Implant Metal Biocompatibility	Bone Graft Materials		Poster Presentation III Adhesion Composite Polymer YIA Competition Posters (recommended)		
	09:40-10:20					Closing Remarks		
	10:20-10:30		Lunch	Invited Lecture II "Esthetic Restoration Using CAD/CAM Technology"		Lunch		
	10:30-11:00					Technical Factors Affecting the Properties of Dental Zirconia	Lunch	
	11:00-11:30		Poster Presentation II Ceramics CAD/CAM Miscellaneous Devices	Zirconia: What consequences with its use for dental restorations		Lunch		
	11:30-11:40			Coffee Break		Lunch		
	11:40-12:00		Poster Presentation Competition (YIA)	Lifetime Prediction of Dental Implants and Prosthesis		Lunch		
12:00-12:30	New Concept of Soft Tissue Management in Anterior Immediate Implants	Lunch						
12:30-01:00	Registration	Banquet		Lunch				
01:00-01:40		Banquet		Lunch				
pm	01:40-02:20	Welcome Reception	Banquet		Lunch			
	02:20-02:40		Banquet		Lunch			
	02:40-03:20		Banquet		Lunch			
	03:20-04:00		Banquet		Lunch			
	04:00-05:00		Banquet		Lunch			
05:00-06:00	Banquet		Lunch					
06:00-07:00	Banquet		Lunch					
07:00-08:00	Banquet		Lunch					
08:00-10:00	Banquet		Lunch					

General Session Program

Oral Presentation I (O1–O12): Sunday, May 29, 8:30 am – 10:30 am, Eun-Myung Auditorium

**Chair: Isao Hirata (Hiroshima University), Jin-Soo Ahn (Seoul National University),
Seung-Han Oh (Wonkwang University), Yoshiya Hashimoto (Osaka Dental University)**

- O1-Adh01 TEM Characterization of a Silorane Composite Bonded to Enamel/Dentin.
*Mine A¹, De Munck J², Kuboki T¹, Yoshida Y¹, Suzuki K¹, Van Meerbeek B²
(¹Dentistry and Pharmaceutical Science, Graduate School of Medicine, Okayama Univ., Okayama, Japan, ²Catholic University of Leuven, Leuven, Belgium)
- O1-Com01 Biopolymer-coated Glass Nanofibers with Bioactivity for Use as Tissue Regenerative Matrices.
Kim JJ^{1,2}, Won JE^{1,2}, Shin US^{1,2}, Kim HW^{1,2,3}
(¹Department of Nanobiomedical Science & WCU Research Center, ²Institute of Tissue Regeneration Engineering, ³Department of Biomaterials Science School of Dentistry, Dankook Univ., Cheonan, Korea)
- O1-Com02 Contraction Stresses in Direct and Indirect Resin Composite Restorations Evaluated by Crack Analysis.
*Yamamoto T¹, Nakamura Y², Nishide A¹, Kubota Y¹, Momoi Y¹
(¹Dept. of Oper. Dent., ²Dept. of Fixed Pros., Tsurumi Univ., Yokohama, Japan)
- O1-Com03 Biocompatible-modified Magnetic Nanoparticles for Biomedicine.
Singh RK¹, Eltohamy M¹, El-Fiqi AM^{1,2}, Shin US^{1,2}, Kim HW^{1,2,3}
(¹Department of Nanobiomedical Science & WCU Research Center, ²Institute of Tissue Regeneration Engineering, ³Department of Biomaterials Science School of Dentistry, Dankook Univ., Cheonan Korea)
- O1-Com04 Curing Efficiency of Three Different Curing Modes at Different Distances for Four Composites.
*Zhu S¹, Platt JA²
(¹JiLin Univ., ChangChun, China, ²Indiana Univ., Indianapolis, USA)
- O1-Pol01 The Influence of Film-forming Materials on the Properties of Fluoride Varnish.
*Zhao XY, Li ZH, Wang JQ, Li SB
(The 4th Military Medical Univ., Xi'an 710032, China)
- O1-Pol02 Development of 4-META/MMA-based Adhesive Resin with FGF-2 Releasing Property - Influences of Resin Monomers on Functions of FGF-2.
*Takeda K¹, Imazato S², Kiba W¹, Ebisu S¹
(¹Department of Restorative Dentistry and Endodontology, ²Department of Biomaterial Science, Osaka Univ., Osaka, Japan)
- O1-Pol03 Effect of Polymer-based Rotary File in Root Canal Irrigation on Smear Layer Removal: A SEM Study.
*Masudi SM, Thauk M, Ariffin Z, Tin Oo MM
(Universiti Sains Malaysia, Kubang Kerian, Kelantan, Malaysia)
- O1-Mis01 Analysis of Strengthening Mechanisms of Human Dentin by UV Irradiation.
*Furuya Y, Hayashi M, Takeda Y, Ebisu S
(Graduate School of Dentistry, Osaka Univ., Suita, Japan)
- O1-Mis02 Biomechanics of Viscoelastic Masticatory Mucosa.
*Wakabayashi N¹, Ona M¹, Takaichi A¹, Sawada A², Suzuki T², Igarashi Y¹
(¹Tokyo Medical and Dental Univ., Tokyo, Japan, ²Iwate Medical Univ., Morioka, Japan)

- O1-Mis03 Tooth Whitening, Heat and Cytocompatibility of the Mixture of Self-heating Zeolite and 34.5% Hydrogen Peroxide.
*Lee JM¹⁾, Kim KM^{1,2)}, Kim MJ^{1,2)}, Lee YK¹⁾, Roulet JF³⁾, Kim KN^{1,2)}
(¹Department and Research Institute of Dental Biomaterials & Bioengineering, ²Research Center for Orofacial Hard tissue Regeneration, College of Dentistry, Yonsei Univ., Seoul, Korea, ³Ivoclar-Vivadent Co., Lichtenstein)
- O1-Mis04 Bone-like Tissue Induced by rhBMPs *in vitro* has Ossification Potential *in vivo*.
*Hayashi T, Asai T, Asakura M, Sasaki K, Uematsu Y, Mieki A, Kataoka H, Kawai T
(Department of Dental Materials Science School of Dentistry, Aichi Gakuin Univ., Nagoya, Japan)

Oral Presentation II (O13 – O25): Sunday, May 29, 8:30 am –10:30 am, Lecture Hall A

**Chair: Takuya Matsumoto (Osaka University), Han-Cheol Choe (Chosun University)
Hyeong-Cheol Yang (Seoul National University), Takashi Nezu (Iwate Medical University)**

- O2-Imp01 Immobilization of Ag Nanoparticles/FGF-2 on Modified Titanium Implant Surface and Behavior of Human Gingival Fibroblasts.
Ma QL, Mei SL, Ji K, *Zhang YM
(School of Stomatology, Fourth Military Medical Univ., Xi'an, China)
- O2-Imp02 Enhancement of Fibroblast Growth on Microgroove-surfaced Pure Titanium Substratum.
*Furuhashi A, Ayukawa Y, Atsuta I, Okawachi H, Koyano K
(Section of Implant and Rehabilitative Dentistry, Division of Oral Rehabilitation, Faculty of Dental Science, Kyushu Univ., Fukuoka, Japan)
- O2-Imp03 Application of Carbon Nanotube Coated 3D Scaffold for Bone Tissue Engineering.
*Hirata E, Uo M, Watari F, Yokoyama A
(Hokkaido Univ., Sapporo, Japan)
- O2-Imp04 *In vitro* and *in vivo* Evaluation of Ca-modified Titanium with Ca-ozone Treatment.
*Tsuru K¹⁾, Sakaguchi M¹⁾, Ayukawa Y¹⁾, Moriyama Y¹⁾, Maruta M¹⁾, Matsuya S²⁾, Koyano K¹⁾, Ishikawa K¹⁾
(¹Kyushu Univ., Fukuoka, Japan, ²Fukuoka Dental College, Fukuoka, Japan)
- O2-Imp05 Effects of Granular Size on the Tissue Response to Carbonate Apatite Granules in Rabbit.
*Ishikawa K¹⁾, Miyamoto Y²⁾, Fujisawa K²⁾, Nagai H²⁾, Tsuru K¹⁾, Maruta M¹⁾, Matsuya S³⁾
(¹Kyushu Univ., Fukuoka, Japan, ²Tokushima Univ., Tokushima, Japan, ³Fukuoka Dental College, Fukuoka, Japan)
- O2-Imp06 Osteoinductive Activity of BMP-Metal Composite Material.
*Kawai T, Hayashi H, Tsuruta S, Taniyama M, Hamajima S, Sato Y, Kobayashi S, Ohno Y, Uematsu Y
(School of Dentistry Aichi-gakuin Univ., Nagoya, Japan)
- O2-Met01 Unique Hardening Behavior of Dental Ag-Pd-Au-Cu Alloys with Different Cu Contents Through Solution Treatment.
*Kim Y-H¹⁾, Niinomi M²⁾, Nakai M²⁾, Fukui H³⁾
(¹Graduate Student of Tohoku Univ., Sendai, Japan, ²Institute for Materials Research, Tohoku Univ., Sendai, Japan, ³Aichi-Gakuin Univ., Nagoya, Japan)
- O2-Met02 Electrochemical Impedance Spectroscopy Analyses of Titanium Alloys in Peroxide- or Fluoride-containing Solutions.
*Oda Y, Takemoto S, Hattori M, Hasegawa K, Yoshinari M, Kawada E
(Tokyo Dental College, Chiba, Japan)

- O2-CAD01 Influence of Nb and Fe Additions on Microstructure, Mechanical Properties of Ni-Cr-Mo Alloy for CAD/CAM.
*Kang YH¹, Lee SB¹, Cho SW², Park KJ², Kim GM¹, Kim KN¹
(¹Yonsei Univ., Seoul, Korea, ²CeragemBiosys, Ilsan, Korea)
- O2-Bio01 Bisphosphonate Immobilization to Apatite Coated Titanium Web for Bone Regeneration.
*Hayakawa T¹, Ametani A², Yoshinari M³, Hara H⁴, Sato M⁴
(¹Tsurumi Univ., Yokohama, Japan, ²Hilex Corp, Amagasaki, Japan, ³Tokyo Dental College, Chiba, Japan, ⁴Kogakuin Univ.,Tokyo, Japan)
- O2-Bio02 Room-temperature Ionic Liquids (RTILs)-assisted Preparation of Polymeric Porous Scaffolds.
Lee HY^{1,2}, Bang SH^{1,2}, Shin US^{1,2}, Kim HW^{1,2,3}
(¹Department of Nanobiomedical Science & WCU Research Center, ²Institute of Tissue Regeneration Engineering, ³Department of Biomaterials Science School of Dentistry, Dankook Univ., Cheonan, Korea)
- O2-Bio03 *In vitro* Evaluation of Osteoclastic Resorption on Carbonate Apatite Block Derived from Dicalcium Phosphate and Calcium Carbonate.
*Daitou F¹, Tsuru K¹, Maruta M¹, Matsuya S², Terada Y¹, Ishikawa K¹
(¹Kyushu Univ., Fukuoka, Japan, ²Fukuoka Dent. College, Fukuoka, Japan)
- O2-Bio04 The Cytotoxicity Evaluation of the Polyvinyl Siloxane Impression Materials using the Agar Diffusion Test as a Function of Time.
* Kwon JS¹, Lee SB^{1,2}, Kim KM^{1,2}, Kim KN^{1,2}
(¹Research Center for Orofacial Hard Tissue Regeneration, Seoul, Korea, ²Department and Research Institute of Dental Biomaterials and Bioengineering, College of Dentistry, Yonsei Univ., Seoul, Korea)

Oral Presentation III (O26–O37): Sunday, May 29, 8:30 am –10:30 am, Lecture Hall B

Chair: Naoyuki Nomura (Tokyo Medical and Dental Univ.), Yong-Keun Lee (Yonsei University), Hae-Won Kim (Dankook University), Yukimichi Tamaki (Showa University)

- O3-Cer01 A Comparison of the Bond Strengths of Layered and Pressed-on Veneering Porcelains to Zirconia.
*Hata U¹, Uehara Y², Sakurai Y², Wakamatsu N¹, Yamamura O¹, Fujiwara S¹, Doi Y¹
(¹Asahi Univ., Gifu, Japan, ²Fine Co. Inc., Osaka, Japan)
- O3-Cer02 Calcium Phosphate Hollow Spheres for Hard Tissue Repair.
*Hong MH, Kim KM, Lee YK
(Department and Research Institute of Dental Biomaterials and Bioengineering, Yonsei Univ. College of Dentistry, Seoul, Korea)
- O3-Cer03 β -Tricalcium Phosphate with Macropores and Micropores.
*Kim SM, Kim KM, Lee YK
(Yonsei Univ., Seoul, Korea)
- O3-Cer04 Esthetic Rehabilitation of Bi-arch Anterior Teeth Utilizing Zirconia-based-ceramic Restorations: a Case Report.
*Zhao K, Pan Y
(Sun Yat-sen Univ., Guangzhou, China)
- O3-Cer05 Assessment of Osteogenic Responses to Zinc-incorporated Bioactive Glasses.
Oh SA^{1,2}, Won JE^{1,2}, Kim JJ^{1,2}, Shin US^{1,2}, Lee HH^{1,3}, Kim HW^{1,2,3}
(¹Department of Nanobiomedical Science & WCU Research Center, Korea, ²Institute of Tissue Regeneration Engineering, Korea, ³Dankook Univ., Cheonan, Korea)

- O3-Cer06 Self-setting Calcium Phosphate Microspherical Carriers for the Reconstruction of Hard Tissues.
Park JH^{1,2)}, Lee GS^{1,2)}, Shin US^{1,2)}, Lee HH^{1,3)}, Kim HW^{1,2,3)}
(¹Department of Nanobiomedical Science & WCU Research Center, ²Institute of Tissue Regeneration Engineering, ³Department of Biomaterials Science, School of Dentistry, Dankook Univ., Cheonan, Korea)
- O3-Cer07 Bonding Strength between Zirconia and Dental Porcelain (Part 4) Interaction of Surface Roughness with Firing Temperature.
*Tsuruki J¹⁾, Noda M¹⁾, Okuda Y¹⁾, Miyamoto M¹⁾, Ban S²⁾
(¹Kagoshima Univ., Kagoshima, Japan, ²Aichi Gakuin Univ., Nagoya, Japan)
- O3-Cer08 Porosity of Dental Gypsum Investments in Setting and Heating Process.
*Asaoka K
(Tokushima Univ., Tokushima, Japan)
- O3-Cer09 Fabrication of β TCP Foam using Magnesium Oxide as Stabilizer.
*Nikaido T^{1,2)}, Tsuru K¹⁾, Daitou F¹⁾, Munar M¹⁾, Maruta M¹⁾, Matsuya S³⁾, Nakamura S²⁾, Ishikawa K¹⁾
(¹Department of Biomaterials, ²Section of Oral and Maxillofacial Surgery, Kyushu Univ., Fukuoka, Japan, ³Fukuoka Dental College, Fukuoka, Japan)
- O3-Cer10 Effect of Surface Treatment on Bonding Strength of Zirconia Ceramics to Resin Cements.
*Sato H, Yamasaki Y
(Kagoshima Univ., Kagoshima, Japan)
- O3-Cer11 PMMA-ZrO₂ Composite with Excellent Machinability Used for Dental CAD/CAM System.
*Shibao Li, Xinyi Zhao, Yimin Zhao, Lihui Tang, Cheng Xie
(School of Stomatology, The Fourth Military Medical Univ., Xi'an, China)
- O3-Cer12 Dynamic Fatigue Behaviour and Numerical Life of Dental Ceramic Material.
*Zhao K¹⁾, Cheng QT¹⁾, Wu WQ¹⁾, Zhang XP²⁾
(¹Department of Prosthodontics, Guanghua School of Stomatology, Sun Yat-sen Univ., Guangzhou, China, ²School of Mechanical Engineering, South China University of Technology, Guangzhou, China)

Poster Presentation Competition (YIA01–YIA15)

: **Saturday, May 28**, 04:00–06:00 pm , Seminar Room 4: Closed-door Presentation (Recommended)
Sunday, May 29, 10:30–11:30 am, Seminar Room 3: open to the public

- YIA01 Synthesis of Hydroxyapatite Nanocrystals and Their Application as Coating Agents for Biodegradable Polymers.
*Okada M¹⁾, Takeda S¹⁾, Furuzono T²⁾
(¹Osaka Dent. Univ., Osaka, Japan, ²Kinki Univ., Wakayama, Japan)
- YIA02 Calcium Phosphate Nucleation Ability on the Titanium Surface Modification via Alkylphosphonic Acid with Carboxyl Group.
*Wu Jiang^{1,2)}, Hirata Isao¹⁾, Zhao Xianghui²⁾, Okazaki Masayuki¹⁾
(¹Hiroshima Univ., Hiroshima, Japan, ²Fourth Military Medical Univ., Xi'an, China)
- YIA03 Cytotoxicity Test using Polyurethane Disc as Dentin-substitutes in a Dentin Barrier Test.
*Kim MJ^{1,2)}, Kim KN^{1,2)}, Lee YK¹⁾, and Kim KM^{1,2)}
(¹Department & Research Institute of Dental Biomaterials & Bioengineering, ²Research Center for Orofacial Hard Tissue Regeneration, College of Dentistry, Yonsei Univ., Seoul, Korea)
- YIA04 The Effect of N-Acetylcysteine on Cytotoxicity and Anti-differentiation Activity of Dentin Bonding Agents.
*Son KM, Kim NR, Park HC, Zhu TT, Lim BS, Yang HC
(Seoul National Univ., Seoul, Korea)
- YIA05 Evaluation of Antibacterial Effects of an Experimental Primer Containing MDPB for Resin-based Root Canal Filling System.
*Yoshikawa R¹⁾, Izutani N¹⁾, Imazato S²⁾, Kitagawa H¹⁾, Ebisu S¹⁾
(¹Department of Restorative Dentistry and Endodontology, ²Department of Biomaterials Science, Osaka Univ., Suita, Japan)
- YIA06 Effect of Sodium Ascorbate on Bond Strength to Bleached Enamel.
*Leetrakulwanna C, Vongphan N, Senawongse P
(Department of Operative Dentistry and Endodontics, Faculty of Dentistry, Mahidol Univ., Bangkok, Thailand)
- YIA07 Nanocomposites Scaffolds Reinforced with Modified Multi-walled Carbon Nanotubes for Hard Tissue Engineering.
Bilgizaya D^{1,2)}, Shin US^{1,2)}, Lee HH^{1,3)}, Kim HW^{1,2,3)}
(¹Department of Nanobiomedical Science & WCU Research Center, ²Institute of Tissue Regeneration Engineering, ³Department of Biomaterials Science School of Dentistry, Dankook Univ., Cheonan, Korea)
- YIA08 Effects on Bone Regeneration When Collagen Model Polypeptides Are Combined with Various Sized Alpha-tricalcium Phosphate Particles.
*Sakai K¹⁾, Hashimoto Y¹⁾, Baba S²⁾, Nishiura A¹⁾, Matsumoto N¹⁾
(¹Osaka Dent Univ., Osaka, Japan, ²Institute of Biomedical Research & Innovation, Kobe, Japan)
- YIA09 Surface Property and Streptococcal Adherence of Ce-TZP/Al₂O₃ Nanocomposite.
*Sawada Tomofumi, Sawada Tomoji, Hamada N, Kumasaka T, Kimoto K
(Kanagawa Dental College, Yokosuka, Japan)
- YIA10 Mechanical Retention for Low-fusion Porcelain and the Sponge-like Surface of 14K Gold Alloy.
*Ida Y, Nagano F, Hashimoto M, Ohno H, Endo K
(Health Sciences University of Hokkaido, Tobetsu, Japan)

- YIA11 Mecahnical and Biological Performances of Nanocomposite Fibrous Membranes for Guided Bone Regeneration.
Park JH^{1,2)}, Jegal SH^{1,2)}, Kim TH^{1,2)}, Kim JH^{1,2)}, Lee HH^{1,3)}, Kim HW^{1,2,3)}
(¹Department of Nanobiomedical Science & WCU Research Center, ²Institute of Tissue Regeneration Engineering, ³Department of Biomaterials Science School of Dentistry, Dankook Univ., Cheonan, Korea)
- YIA12 Dependence of Silane Coupling Agent on Shear Bonding Strength between Titanium Alloy and Segmented Polyurethane after Immersion in Water.
*Nakai M¹⁾, Niinomi M¹⁾, Kamura H²⁾, Hanawa T³⁾
(¹Tohoku Univ., Sendai, Japan, ²Graduate Student of Tohoku Univ., Sendai, Japan, ³Tokyo Medical and Dental Univ., Tokyo, Japan)
- YIA13 Flexural Properties of a New Face Guard Core Material Measured by Three Point Bending Test.
*Abe K¹⁾, Churei H¹⁾, Kobayashi M²⁾, Takahashi H¹⁾, Ueno T¹⁾
(¹Tokyo Medical and Dental Univ., Tokyo, Japan, ²Chiba Institute of Technology, Chiba, Japan)
- YIA14 Electrical Polarization Characteristics and BSA Binding Capability of Hydrothermally Treated CaTiO₃ Powder.
*Hong SB¹⁾, Seo YW²⁾, Jeong SH²⁾, Kim JW¹⁾, Park YJ¹⁾, Song HJ¹⁾
(¹Department of Dental Materials, School of Dentistry, Chonnam National Univ., Gwangju, Korea, ²KBSI, Gwang-Ju Center, Gwangju, Korea)
- YIA15 Incorporation of Silver Nanoparticles to Chitosan Gel and Evaluation of Its Bactericidal Effect.
*Carolina Sámano-Valencia, Gabriel Alejandro Martínez-Castañón, Nuria Patiño-Marín, Rita Elizabeth Martínez-Martínez, Juan Pablo Loyola-Rodríguez, Nereyda Niño-Martínez
(Advanced Education General Dentistry Program, San Luis Potosi Univ., Mexico)

Poster Presentation I: Saturday, May 28, 11:00 am – 12:00 pm, Seminar Room 2-3

Implant

- P1-Imp01 Surface Modification of Titanium Implant by Anodic Oxidation Treatment and Bisphosphate Immobilization.
*Kim WG¹, Lee SJ¹, Soh YJ¹, Lee MH¹, Kim HS¹, Kim BI², Bae TS¹
(¹Chonbuk National Univ., Jeonju, Korea, ²Sunchon National Univ., Suncheon, Korea)
- P1-Imp02 Bioactivity of Precalcified Nanotubular TiO₂ Layer on Titanium Implant.
*Yang EJ¹, Park IS¹, Chung HW^{1,2}, Watari F³, Uo M³, Lee MH¹, Bae TS¹
(¹Chonbuk National Univ., Jeonju, Korea, ²Jeonju Mir Dental Hospital, Jeonju, Korea, ³Hokkaido Univ., Sapporo, Japan)
- P1-Imp03 Biomechanical Considerations of Different Collar Structured Implants Supporting 3-Unit Fixed Partial Denture.
*Meriç G¹, Erkmén E², Kurt A³
(¹Near East Univ., Nicosia Mersin-10, Turkey, ²Gazi Univ., Ankara, Turkey, ³Atılım Univ., Ankara, Turkey)
- P1-Imp04 Influence of Prosthesis Type and Material on the Biomechanical Behaviour of Implant Retained Fixed Partial Dentures.
*Meriç G¹, Erkmén E², Kurt A³
(¹Near East Univ., Nicosia Mersin-10, Turkey, ²Gazi Univ., Ankara, Turkey, ³Atılım Univ., Ankara, Turkey)
- P1-Imp05 Surface Characteristics of Titanium Implant Modified by Blasting and Acid-etching.
*Lee KJ¹, Park IS¹, Choi SK², Ryoo GH², Park KB², Lee MH¹, Bae TS¹
(¹Chonbuk National Univ., Jeonju, Korea, ²MegaGen implant, Gyeongsan, Korea)
- P1-Imp06 Characteristics and Osteoblastic Cells Responses of Thermally Oxidated Surface.
* Lee YJ, Jeon HR, Park KD, Lee BA, Kim YJ
(Department of Dental Science, Graduate School, Chonnam National Univ., Gwangju, Korea)
- P1-Imp07 Titania Nanotubes Supported Gelatin Stabilized Gold Nanoparticles for Medical Implants.
*Neupane MP, Yu B, Kim YK, Park IS, Park HH, Bae TS, Lee MH
(Chonbuk National Univ., Jeonju, Korea)
- P1-Imp08 The Basic Experiment about the Effective of Sintered Titanium Dioxide as a Bone Filling Material.
*Asai T, Hayashi T, Kuroki K, Mieki A, Kataoka H, Kawai T
(Aichi Gakuin Univ., Nagoya, Japan)
- P1-Imp09 Bioactivity of Ti-6Al-4V Alloy Implant Treated with Ibandronate.
*Moon SH¹, Bae TS¹, So YJ¹, Lee MH¹, Kim BI², Kim HS¹
(¹Chonbuk National Univ., Jeonju, Korea, ²Sunchon National Univ., Suncheon, Korea)
- P1-Imp10 A Finite Element Analysis of Two Different Collar Structured Implants Supporting Cantilever Fixed Partial Denture.
*Erkmén E¹, Meriç G², Kurt A³
(¹Gazi Univ., Ankara, Turkey, ²Near East Univ., Nicosia Mersin-10, Turkey, ³Atılım Univ., Ankara, Turkey)
- P1-Imp11 Influence of Shape and Loading Direction of Zirconia Abutment on Bending Fracture Strength.
*Mashio G, Takahashi A, Sakamoto Y, Takayama M and Sakuma T
(R&D Dept. GC Corporation, Tokyo, Japan)
- P1-Imp12 Development of the Carbon Nanotube-coated Anodized Titanium.
*Inoue S¹, Uo M¹, Hirata E¹, Lee MH², Bae TS², Watari F¹, Yokoyama A¹
(¹Hokkaido Univ., Sapporo, Japan, ²Chonbuk National Univ., Jeonju, Korea)

- P1-Imp13 Surface Analysis of Titanium Influenced by Plasma Glow Discharge.
*Muraji N¹⁾, Iwata T¹⁾, Kawai T²⁾, Ueda N³⁾, Miyazawa K³⁾, Goto S³⁾, Tanaka Y¹⁾
(¹Department of Removable Prosthodontics, Aichi-Gakuin Univ., Nagoya, Japan, ²Department of Dental Materials Science, Aichi-Gakuin Univ., Nagoya, Japan, ³Department of Orthodontics, Aichi-Gakuin Univ., Nagoya, Japan)
- P1-Imp14 Enhancements of Bone-titanium Integration by NaOCl- mediated Biofunctionalization of Titanium.
*Kono M¹⁾, Ichioka Y¹⁾, Kado T¹⁾, Fukumoto M²⁾, Sakata M²⁾, Aita H¹⁾, Furuichi Y¹⁾, Endo K¹⁾, Koshino H¹⁾
(¹Health Sciences University of Hokkaido, Toubetsu, Japan, ²University of Hokkaido, Sapporo, Japan)
- P1-Imp15 Effect of Attachment Design on the Retention of Implant Retained Auricular Prosthesis: An *in vitro* Study.
*Wonglamsam A, Puttipisitchet O, Srithavaj T, Urapepon S, Thaworanunta S
(Mahidol Univ., Bangkok, Thailand)
- P1-Imp16 Analysis of Abutment Fracture on a Single Standing Implant.
*Yamaguchi Y¹⁾, Shiota M²⁾, Ahn K¹⁾, Nagao H³⁾, Kasugai S²⁾
(¹Clinic for Implant Dentistry, Dental Hospital, Tokyo Medical and Dental Univ., Tokyo, Japan, ²Oral Implantology and Regenerative Dental Medicine, Tokyo Medical and Dental Univ., Tokyo, Japan, ³Yurigaoka Dental Clinic, Kanagawa, Japan)
- P1-Imp17 Study on the Biomolecular Adsorption on Titanium Implant Retrieved from Rat Bone.
*Watanabe K, Okawa S, Kanatani M, Ito K, Kaneko H, Yamaga Y
(Niigata Univ., Niigata, Japan)
- P1-Imp18 Enhancement of Initial Cell Attachment to a Titanium Surface Cleaned by Simple Chemical and Physical Treatments.
*Ichioka Y, Kado T, Ida Y, Aita H, Furuichi Y, Koshino H, Endo K
(Health Sciences University of Hokkaido, Ishikari-Tobetsu, Japan)
- P1-Imp19 Surface Characteristics of Oxide Films on Titanium-based Metals Formed by AC-type Microarc Oxidation Combined with Hydrothermal Treatment.
*Min KK, Lee SH, Lee DS, Park YJ, Song HJ
(Department of Dental Materials, School of Dentistry, Chonnam National Univ., Gwangju, Korea)
- P1-Imp20 Characteristics of BSA Release from Bone-like Apatite on Titanium Coated by Coprecipitation Method.
*Song HJ¹⁾, Kim HY¹⁾, Kohn DH²⁾, Lee SH¹⁾, An JH¹⁾, Park YJ¹⁾
(¹Department of Dental Materials, School of Dentistry, Chonnam National Univ., Gwangju, Korea, ²Biologic & Materials Sciences, School of Dentistry, University of Michigan, Ann Arbor, USA)

Metal

- P1-Met01 Metastable Phase Formation by Miscibility Limit of Ag-Cu System in an Au-Ag-Cu-Pd Alloy during Aging Process.
*Lee SH, Lim IS, Pyo AR, Cho SY, Kwon YH, Seol HJ, Kim HI
(Pusan National Univ., Yangsan, Korea)
- P1-Met02 Bioactivity of Precalcified Nanotubular TiO₂ Layer on Ti-6Al-4V Alloy.
*Oh HJ¹⁾, Ji JH¹⁾, Park IS¹⁾, Yoon DJ²⁾, Kim BI²⁾, Lee MH¹⁾, Bae TS¹⁾
(¹Chonbuk National Univ., Jeonju, Korea, ²Sunchon National Univ., Suncheon, Korea)

- P1-Met03 XAFS Analysis of TiO₂ Nanotube Formed on Pure Titanium Surface.
*Uo M¹, Nitani H², Abe S¹, Akasaka T¹, Lee MH³, Park IS³, Bae TS³, Watari F¹
(¹Hokkaido Univ., Sapporo, Japan, ²High Energy Accel. Res. Org., Tsukuba, Japan, ³Chonbuk Univ., Jeonju, Korea)
- P1-Met04 Corrosion and Cyto-toxicity Properties of Anodized Mg Alloys.
*Kim YK¹, Jang YS¹, Park IS¹, Park HH¹, Yun YH², Bae TS¹, Lee MH¹
(¹Chonbuk National Univ., Jeonju, Korea, ²North Carolina Agricultural & Technical State Univ., Greensboro, USA)
- P1-Met05 Effect of AOT-assisted Multi-walled Carbon Nanotubes on Antibacterial Activity.
*Bai Y¹, Neupane MP¹, Park IS¹, Kim YK¹, Watari F², Uo M², Bae TS¹, Lee MH¹
(¹Chonbuk National Univ., Jeonju, Korea, ²Hokkaido Univ., Sapporo, Jaan)
- P1-Met06 Effects of Cold-rolling on Microstructure and Magnetic Susceptibilities of Zr-14Nb Alloy.
*Kondo R¹, Shimizu R², Suyalatu¹, Nakagawa S², Doi H¹, Tsutsumi Y¹, Noda K², Nomura N¹, Hanawa T¹
(¹Tokyo Medical and Dental Univ., Tokyo, Japan, ²Shibaura Institute of Technology, Tokyo, Japan)
- P1-Met07 Bioactivity of Precalcified Nanotubular TiO₂ Layer on Titanium Mesh.
*Song JJ¹, Ji JH², Park IS², Park HH², Lee MH², Bae TS²
(¹Chongam Univ., Suncheon, Korea, ²Chonbuk National Univ., Jeonju, Korea)
- P1-Met08 Effects of Heat Treatment on Magnetic Susceptibility and Mechanical Properties of Zr-3Mo Alloy That Prevents the MRI Artifacts.
*Suyalatu, Kondo R, Tsutsumi Y, Doi H, Nomura N, Hanawa T
(Tokyo Medical and Dental Univ., Tokyo, Japan)
- P1-Met09 Surface Characterization of Titanium Alloys Immersed in Denture Cleanser.
*Takemoto S, Hattori M, Ichikawa H, Yoshinari M, Kawada E, Oda Y
(Tokyo Dental College, Chiba, Japan)
- P1-Met10 Microstructure of MRI Compatible Au-Pt-8Nb Alloy for Biomedical Application.
*Uyama E, Inui S, Hamada K, Honda E, Asaoka K
(Institute of Health Biosciences, the University of Tokushima, Tokushima, Japan)
- P1-Met11 Castability of MRI Compatible Au Alloy for Biomedical Application.
*Inui S, Uyama E, Hamada K, Honda E, Asaoka K
(Institute of Health Biosciences, the University of Tokushima, Tokushima, Japan)
- P1-Met12 Calcium Phosphate Formation on Zr with Micro-arc Oxidation and Chemical Treatments.
*Tsutsumi Y¹, Ha JY², Doi H¹, Nomura N¹, Kim KH², Hanawa T¹
(¹Tokyo Medial and Dental Univ., Tokyo, Japan, ²Kyungpook National Univ., Daegu, Korea)
- P1-Met13 Antibacterial Properties of Titanium Castings Modified by Experimental Mold Materials.
*Zhang ZT¹, Ding N¹, Ren L¹, Li JL¹, Tamaki Y² and Miyazaki T²
(¹Capital Medical Univ., School of Stomatology, Beijing, China, ²Showa Univ., Tokyo, Japan)
- P1-Met14 An Evaluation Method with Radiographic Image Quality Indicator for Internal Defects of Dental Casting Crown
*Li Y, Zheng G, Lin H
(¹Dental Materials Laboratory, Peking Univ. School and Hospital of Stomatology, Beijing, China)
- P1-Met15 Application to Telescopic Dentures of Non-precious Alloys: Evaluation of Static Frictional Coefficients in Dental Alloys.
*Ohida M, Nomura N, Hanawa T, Igarashi Y
(Tokyo Medical and Dental Univ., Tokyo, Japan)

- P1-Met16 The Interrelated Study of Chemical Composition and Corrosion Resistance of Dental Casting Base Alloys.
*Bai W, Lin H, Zhang D, Zheng G
(Dental Materials Laboratory, Peking Univ. School and Hospital of Stomatology, Beijing, China)
- P1-Met17 Microstructures and Mechanical Properties of Co-29Cr-6Mo Alloy Fabricated by Selective Laser Melting Process.
*Takaichi A¹, Suyalatu¹, Nomura N¹, Nakamoto T², Doi H¹, Tsutsumi Y¹, Kurosu S³, Chiba A³, Hanawa T¹, Wakabayashi N¹, Igarashi Y¹
(¹Tokyo Medical and Dental Univ., Tokyo, Japan, ²Technology Research Institute of Osaka Prefecture, Osaka, Japan, ³Tohoku Univ., Sendai, Japan.)
- P1-Met18 Synthesis of Silver Incorporated Hydroxyapatite Coating on Anodic TiO₂ Nanotubes under Magnetic Field.
*Rautray TR¹, Kwon TY², Kim KH²
(¹BK 21 Project and ²Department of Dental Biomaterials, School of Dentistry, Kyungpook National Univ., Daegu, Korea)
- P1-Met19 Synthesis of Mg²⁺ Incorporated Hydroxyapatite by Ion Implantation and Their Cell Response.
Rautray TR, Kwon TY, *Kim KH
(Department of Dental Biomaterials and BK 21 Project, School of Dentistry, Kyungpook National Univ., Daegu, Korea)
- P1-Met20 Improvement in Sag Resistance and Color of Noble Alloy for Metal -ceramic Restoration.
*Doi Y¹, Imai Y¹, Oda Y²
(¹Ishifuku Metal Industry Co., Ltd., Soka, Japan, ²Tokyo Dental College, Chiba, Japan)
- P1-Met21 Effect of Cr and N Contents on the Mechanical Properties of Co-Cr-Mo Alloys for Dental Applications.
*Yoda K¹, Nomura N¹, Chiba A², Hanawa T¹, Igarashi Y¹
(¹Tokyo medical and dental Univ., Tokyo, Japan, ²Tohoku Univ., Sendai, Japan)
- P1-Met22 Electronic Structures of the L-cysteine Film on Dental Gold-silver-copper-palladium Alloys.
*Tsujiabayashi T¹, Kakimoto K², Toyoda K¹, Komasa Y²
(¹Dept. of Physics, ²Dept. of Geriatric Dentistry, Osaka Dental Univ., Hirakata, Japan)
- P1-Met23 Effect of Cu Content and Heat Treatment on Hardness and Corrosion Resistance in Ag-Pd-Au-Cu Alloys.
*Kawashima I¹, Koiso K¹, Ryukata I¹, Berzins DW², Kumakura M¹
(¹Ohu Univ., Koriyama, Japan, ²Marquette Univ., Milwaukee, USA)
- P1-Met24 Microstructure Analysis of Cast Titanium Surface Modified by Nd:YAG Laser.
*Watanabe I¹, Poulon-Quintin A², Bertrand C², McBride M³, Shiraishi T¹, Watanabe E¹
(¹Nagasaki Univ., Nagasaki, Japan, ²Université de Bordeaux, ICMCB, Pessac, France, ³Baylor College of Dentistry, Dallas, USA)
- P1-Met25 Electrochemical Impedance Analysis of Silicon-Hydroxyapatite Coatings on the Ti-35Nb-xZr Alloy.
Jeong YH^{1,2}, Kim YJ¹, Ko YM¹, *Choe HC¹
(¹School of Dentistry, Chosun Univ., Gwangju, Korea, ²College of Dentistry, The Ohio State Univ., Columbus, USA)
- P1-Met26 Corrosion Behavior of Si/HA/Ti Film on Porous Ti-29Nb-xZr Alloy Surface.
Kim EJ¹, Jeong YH^{1,2}, Ko YM¹, *Choe HC¹
(¹School of Dentistry, Chosun Univ., Gwangju, Korea, ²College of Dentistry, The Ohio State Univ., Columbus, USA)

- P1-Met27 Electrochemical Behavior of Silicon-doped Hydroxyapatite Film on Femtosecond Laser Textured Ti-35Ta-xHf Alloys.
Moon BH¹⁾, Jeong YH^{1,2)}, Ko YM¹⁾, Eun SW³⁾, *Choe HC¹⁾
(¹School of Dentistry, Chosun Univ., Gwangju, Korea, ²College of Dentistry, The Ohio State Univ., Columbus, USA, ³Department of Applied Advanced Materials, Korea Polytechnic V Colleges, Gwangju, Korea)
- P1-Met28 Grain Interior Precipitation and Related Lamellar-forming Grain Boundary Reaction in an Ag-Pd-Cu-Au-Zn Alloy.
*Cho MH¹⁾, Cho SY²⁾, Kwon YH²⁾, Seol HJ²⁾, Kim HI²⁾
(¹Wonkwang Health Science Univ., Iksan, Korea, ²Pusan National Univ., Yangsan, Korea)
- P1-Met29 The Effect of Recasting of Precious Metal Ceramic Alloy with Oxygen-propane Torch on the Compositions of Alloy Elements and Shear Bond Strength.
*Cho YJ, Lim HN
(Department of Dental Materials, Division of Dentistry, Graduate School, Kyung Hee Univ., Seoul, Korea)
- P1-Met30 Evaluation of Experimental Paste Type Phosphate-bonded Investments using Sol-gel Reaction.
*Yamaki R¹⁾, Yagi S¹⁾, Chou H-C¹⁾, Osawa K¹⁾, Hotta Y¹⁾, Tamaki Y¹⁾, Zhang Z²⁾ and Miyazaki T¹⁾
(¹Showa Univ., Tokyo, Japan, ²School of Stomatology Capital Medical Univ., Beijing, China)
- P1-Met31 Soda-lime Glass Can Be Available for the Binder Material of the Experimental Reusable Investment for Dental Castings.
*Yagi S¹⁾, Chou H-C¹⁾, Aida Y¹⁾, Tamaki Y¹⁾, Hotta Y¹⁾, Zhang Z²⁾ and Miyazaki T¹⁾
(¹Showa Univ., Tokyo, Japan, ²Capital Medical Univ., School of Stomatology, Beijing, China)
- P1-Met32 Microstructural and Physical Property Changes of Titanium by Alloying with Varying Amounts of Gold.
*Park YJ, Lee YR, Kim JY, Kim MK, Park KH, Song HJ
(Department of Dental Materials, School of Dentistry, Chonnam National Univ., Gwangju, Korea)
- P1-Met33 Effects of Alloying Element Mn on the Microstructure and Physical Properties of Ti-Mn Alloys.
*Kim JW, Kim MK, Cho JH, Lee EB, Lim JB, Song HJ, Park YJ
(Department of Dental Materials, School of Dentistry, Chonnam National Univ., Gwangju, Korea)

Biocompatibility

- P1-Bio01 Evaluation of Ion Releasing and Uptake Properties of a Prototype S-PRG Filler-containing Endodontic Material.
*Han L, Okiji T.
(Niigata Univ, Niigata, Japan)
- P1-Bio02 Bioactivity and Histologic Response to a Novel Calcium Phosphate/Calcium Silicate/Bismutite Cement for Dental Pulp Capping.
*Sun J, Shen QY
(Shanghai Biomaterials Research & Testing Center, Shanghai Key Laboratory of Stomatology, Ninth People's Hospital, Shanghai Jiaotong Univ., Shanghai, China)
- P1-Bio03 Carbon Nanotube-coated Silicone as a Flexible Biomedical Material.
*Matsuoka M¹⁾, Akasaka T¹⁾, Hashimoto T²⁾, Totsuka Y¹⁾, Watari F¹⁾
(¹Hokkaido Univ., Sapporo, Japan, ²Meijo Nano Carbon Co., Ltd., Nagoya, Japan)

- P1-Bio04 Fabrication of Spherical Hydroxyapatite Granules with Interconnected Pore Channels using Camphene by Emulsion Method.
*Yang JH¹⁾, Kim KH^{1,2)}, Kwon TY^{1,2)}
(¹Department of Medical & Biological Engineering, Graduate School, Kyungpook National Univ., Deagu, Korea, ²School of Dentistry, Kyungpook National Univ., Deagu, Korea)
- P1-Bio05 Histological and TEM Observation of Subcutaneous Tissues Exposed to Particulate Pure Metals.
*Saitoh S, Sasaki K, Nezu T, Taira M
(Iwate Medical Univ., Morioka, Japan)
- P1-Bio06 Development of an *in vitro* Embryotoxicity Screening System Include the Human Metabolic Factor.
*Imai K¹⁾, Takashima M²⁾, Tanoue A³⁾, Nakamura K³⁾, Takeda S¹⁾
(¹Osaka Dental Univ., Osaka, Japan, ²Hatano Res. Inst., FDSC, Kanagawa, Japan, ³National Res. Inst. for Child Health and Development, Tokyo, Japan)
- P1-Bio07 Involvement of Fenton Reaction in Cytotoxicity of TEGDMA and HEMA.
*Zhu TT, Kim NR, Son KM, Park HC, Lim BS, Yang HC
(Seoul National Univ., Seoul, Korea)
- P1-Bio08 Self-assembling Peptide Scaffolds and Dedifferentiated Fat Cells for Bone Tissue Engineering.
*Hashimoto Y¹⁾, Kishimoto N¹⁾, Momota Y¹⁾, Omasa T²⁾, Kotani J¹⁾, Takeda S¹⁾
(¹Osaka Dent Univ., Osaka, Japan, ²Tokushima Univ., Tokushima, Japan)
- P1-Bio09 Photocatalytic Activity of Synthetic Oxyapatite.
*Kamemizu H, Komada Y, Iijima M, Wakamatsu N, Adachi M, Shibutani T, Doi Y
(Asahi Univ., Gifu, Japan)
- P1-Bio10 Effects of Genistein on the Proliferation and Differentiation in Rat Dental Pulp Cells.
*Hayashi K, Handa K, Koike T, Polan MA, Saito T
(Division of Clinical Cariology and Endodontology, Department of Oral Rehabilitation, School of Dentistry, Health Sciences University of Hokkaido, Tobetsu, Japan)
- P1-Bio11 Application of High Frequency Radio Wave Generator in Direct Pulp Capping.
*Handa K, Koike T, Hayashi K, Saito T (Division of Cariology and endodontology, Department of oral rehabilitation, School of Dentistry, Health Sciences University of Hokkaido, Tobetsu, Japan)
- P1-Bio12 Micro Morphological Study of Reparative Dentin Induced by Phosphophoryn in Rats.
*Koike T, Handa K, Hayashi K, Polan MA, Saito T
(Division of Clinical Cariology and Endodontology, School of Dentistry, Health Sciences University of Hokkaido, Tobetsu, Japan)
- P1-Bio13 Cell Proliferation on Carbon Nanotubes Coated Dishes in Different Cell Lines.
*Akasaka T, Abe S, Uo M, Watari F
(Hokkaido Univ., Sapporo, Japan)
- P1-Bio14 *In vitro* and *in vivo* Evaluation of Biocompatibility of Partially Stabilized Zirconia.
*Choi YR^{1,2)}, Odontuya DORJ³⁾, Lee YK⁴⁾, Koh YH⁴⁾, Kim KN^{1,2)}, Kim KM^{1,2)}
(¹Reserch Center for Orofacial Hard Tissue Regeneration, Seoul, Korea, ²Yonsei Univ., Seoul, Korea, ³Mongolia National Univ., Ulaanbaator, Mongolia, ⁴Korea Univ., Seoul, Korea)
- P1-Bio15 Osteoinduction with Non-sintered Porous Carbonate Apatite in Dog Dorsal Muscle.
*Shibatsuji A, Kanayama K, Takagi M, Shiraki M, Kitago M, Shibutani T, Doi Y
(Asahi Univ., Gifu, Japan)
- P1-Bio16 Chemical Deposition of Carbonate-containing Apatite after Introducing Various Functional Groups to the SAM-processed Ti Surface.
*Adachi M, Yamaguchi Y, Kamemizu H, Wakamastu N, Iijima M, Horiguchi T, Doi Y
(Asahi Univ., Gifu, Japan)

- P1-Bio17 Effect of Multi-walled Carbon Nanotubes and Saliva on Streptococcus Mutans Biofilm Formation.
*Kim GR¹, Yu B¹, Park IS¹, Jeon WY², Akasaka T³, Uo M³, Watari F³, Lee MH¹, Bae TS¹
(¹Chonbuk National Univ., Jeonju, Korea, ²Gwangyang Health College, Gwangyang, Korea, ³Hokkaido Univ. Sapporo, Japan)
- P1-Bio18 Influence on Osteogenesis of Titanium Immobilized with Heparin-coated Hydroxyapatite particles.
Yang DH, Bae MS, Lee WJ, Kim JE, Park HN, *Kwon IK,
(Dept. of Maxillofacial Biomedical Engineering, School of Dentistry, Kyung Hee Univ., Seoul, Korea)
- P1-Bio19 An *in vitro* Assessment of BMP-2 and GDF-5 Loaded Photo-crosslinkable Hydrogel Conjugated with Zirconium Surface for Enhanced Osseointegration.
*Bae MS, Moon HJ, Yang DH, Kim JH, Lee JB, Kwon IK
(Dept. of Maxillofacial Biomedical Engineering, School of Dentistry, Kyung Hee Univ., Seoul, Korea)
- P1-Bio20 Biodistribution of Micro-/Nano-sized Particles and Their Cytotoxicity.
*Abe S, Iwadera N, Ishikawa K, Itoh S, Akasaka T, Uo M, Yawaka Y, Kuboki Y, Yonezawa T, and Watari F
(Hokkaido Univ., Sapporo, Japan)
- P1-Bio21 Hard Tissue Compatibility on GRGDS Peptide Immobilized on Titanium through Electrodeposited NH₂-PEG-COOH.
*Oya K¹, Tsutsumi Y², Doi H², Nomura N², Hanawa T²
(¹Kogakuin Univ., Tokyo, Japan, ²Tokyo Med. and Dent. Univ., Tokyo, Japan)
- P1-Bio22 Controlled CaCO₃ Formation using Biomimetic Macromolecules.
*Abe S¹, Fujii Y¹, Kusahara A¹, Yamatoya E¹, Ishida T¹, Akasaka T¹, Uo M¹, Watari F¹, Hayashi D², Takada T²
(¹Hokkaido Univ., Sapporo, Japan, ²Asahikawa Natl College Tech., Asahikawa, Japan)
- P1-Bio23 Formation of Hydroxyapatite Film on TiO₂ Nano-network.
Lee K, Lee SJ, Kim BH, *Ko YM
(Department of Dental Materials, School of dentistry, MRC center, Chosun Univ., Gwangju Korea)
- P1-Bio24 Immobilization of Hyaluronic Acid and Carboxymethyl Chitosan onto Functionalized Titanium Surfaces.
*Kim BH
(Department of Dental Materials, School of Dentistry, Chosun Univ., Gwangju Korea)
- P1-Bio25 Hyaluronic Acid Immobilization on the Plasma-modified TiO₂ Nano-network Surface.
Shim JW, Lee WG, Kim BH, *Ko YM
(Department of Dental Materials, School of Dentistry, MRC Center, Chosun Univ., Gwangju Korea)
- P1-Bio26 Influence of Mg Ions on Hydroxyapatite Formation to the TiO₂ Nano-network Surface.
*Ko YM, Kim BH, Lim SS, Park JH
(Department of Dental Materials, School of Dentistry, MRC Center, Chosun Univ., Gwangju Korea)
- P1-Bio27 Electrochemical Deposited Hydroxyapatite Film on the Anodized Titanium.
Kwon SS, Park CH, Kim BH, *Ko YM
(Department of Dental Materials, School of Dentistry, MRC Center, Chosun Univ., Gwangju Korea)

- P1-Bio28 The Biocompatibility of RGD Peptide onto the Plasma-modified Acrylic Acid (AA) Surfaces.
Ko JH, Seo KW, Kim BH, *Ko YM
(Department of Dental Materials, School of Dentistry, MRC Center, Chosun Univ., Gwangju
Korea)
- P1-Bio29 Effect of Periosteum and Absorbable Membrane on Resorption of Iliac Bone Graft in Rabbit
Calvarium.
*Yang JW¹⁾, Jeoung YW¹⁾, Kim KR¹⁾, Park YJ²⁾, Kook MS¹⁾
(¹Department of Oral & Maxillofacial Surgery, ²Department of Dental Materials, School of
Dentistry, Chonnam National Univ., Gwangju, Korea)
- P1-Bio30 Cytocompatibility Evaluation of Ti-based Alloys and Fourteen Kinds of Alloying Elements.
*Song YH, Jung YH, Han OS, Choi HR, Song HJ, Park YJ
(Department of Dental Materials, School of Dentistry, Chonnam National Univ., Gwangju,
Korea)

Poster Presentation II: Saturday, May 28, 04:00 pm – 05:00 pm, Seminar Room 2-3

Ceramics

- P2-Cer01 UV Irradiation Effect of TiO₂ Nanotubes on the Osteogenic Differentiation of Human Mesenchymal Stem Cells.
*Moon KS, Bae JM, Oh SH
(Department of Dental Biomaterials, College of Dentistry, Wonkwang Univ., Iksan, Korea)
- P2-Cer02 The Effect of Surface Treatment on the Shear Bonding Strength between Zirconia Core and Veneering Ceramic.
*Jung SH, Bae JM, Oh SH
(Dept. of Dental Biomaterials, Wonkwang Univ, Iksan, Korea)
- P2-Cer03 Effect of Abrasive and Fiber Component in Medium on Occlusal Wear of Antagonist and Porcelain.
*Kakuta K, Ogura H
(Nippon Dental Univ., Niigata, Japan)
- P2-Cer04 The Application of Zirconia to the Major Connector Part 3. The Influence of Water on Maximum Load.
*Sanaoka S, Iwahori M, Sawada T, Goto T, Miyao M
(Asahi Univ., Gifu, Japan)
- P2-Cer05 Influence of Vacuum Ultra-violet Irradiation on the Bond Strength of Zirconia Ceramics to Resin Composites.
*Yamaguchi Y, Hata U, Hotta M, Fujiwara S, Doi Y
(Asahi Univ., Gifu, Japan)
- P2-Cer06 Toughening of Dental Ceramics by Silver Carbonate Paste.
*Uno M, Ito T, Nonogaki R, Kurachi M, Wakamatsu N, Doi Y
(Asahi Univ., Gifu, Japan)
- P2-Cer07 Influence of Silver Carbonate Slurry on the Strength of Dental Ceramics.
*Ito T, Fujieda T, Uno M, Kurachi M, Wakamatsu N, Doi Y
(Asahi Univ., Gifu, Japan)
- P2-Cer08 Deposit Behavior of Calcium Phosphate on Titanium Plate under Anodic and Cathodic Electrolysis.
*Okawa S, Ito K, Kaneko H, Yamaga Y, Watanabe K, Kanatani M
(Niigata Univ., Niigata, Japan)
- P2-Cer09 Porosity of Dental Gypsum Products during Setting and Heating Process.
*Bae J-Y^{1,2}, Hamada K¹, Lee H-H², Asaoka K¹
(¹Tokushima Univ., Tokushima, Japan, ²Dankook Univ., Cheonan, Korea)
- P2-Cer10 Analysis of Bonding Interface in Veneering Porcelain/ Zirconia Composite.
*Ozawa M¹, Aoyagi H¹, Kazama M¹, Ueda K², Watanabe F¹
(¹The Nippon Dental Univ. School of Life Dentistry at Niigata, Niigata, Japan, ²The Nippon Dental Univ. Niigata Hospital, Niigata, Japan)
- P2-Cer11 Effect of Various Crystals and Its Supernatant on Hardening of Dental Plaster.
*Umemoto K, Aoyagi Y, Kurata S, Yamada M, Nakahara S
(Kanagawa Dental College, Yokosuka, Japan)
- P2-Cer12 Effect of Soluble Ions Released from OCP on Osteoblastic Differentiation.
*Shiraishi N^{1,2}, Anada T¹, Honda Y¹, Sasaki K², Suzuki O¹
(¹Division of Craniofacial Function Engineering, ²Division of Advanced Prosthetic Dentistry, ^{1,2}Tohoku Univ., Sendai, Japan)

- P2-Cer13 Effect of Fiberglass Length on Diametral Tensile Strength of Calcium Phosphate Cement.
*Asakawa Y¹⁾, Takahashi H¹⁾, Kobayashi M²⁾, Iwasaki N¹⁾, Shiozawa M¹⁾, Koottathape N¹⁾
(¹Tokyo Medical and Dental Univ., Tokyo, Japan, ²Chiba Institute of Technology, Chiba, Japan)
- P2-Cer14 Comparison of Translucency of Ceramic Core Materials at Different Thickness.
*Wang F, Takahashi H, Yasue T, Iwasaki N, Shiozawa M, Asakawa Y, Zoljargal P,
Koottathape N
(Tokyo Medical and Dental Univ., Tokyo, Japan)
- P2-Cer15 Fracture Toughness of 3Y-TZP Ceramics Sintered by Microwave Furnace.
*Kim NS¹⁾, Choi BJ¹⁾, Park SB²⁾, Asaoka K³⁾, Lee HH¹⁾
(¹Dankook Univ., Cheonan, Korea, ²SB-Dental Ceramic Co., Korea, ³University of Tokushima,
Tokushima, Japan)
- P2-Cer16 Fracture Resistance of Ceramic MOD Inlays Machined from Three Dental CAD-CAM
Ceramics.
*Choi BJ¹⁾, Kim NS¹⁾, Park JG²⁾, Lee HH¹⁾
(¹Dankook Univ., Cheonan, Korea, ²Dankook Univ., Yongin, Korea)
- P2-Cer17 Apatite Forming Ability *in vitro* of HA-containing Glass Powders for Coating on Zirconia.
*Noda M¹⁾, Okuda Y¹⁾, Tsuruki J¹⁾, Miyamoto M¹⁾, Ban S²⁾
(¹Kagoshima Univ., Kagoshima, Japan, ²Aichi Gakuin Univ., Nagoya, Japan)
- P2-Cer18 Change in the Stress Induced Transformation of Dental Zirconia with Firing Temperature.
*Okuda Y¹⁾, Noda M¹⁾, Tsuruki J¹⁾, Miyamoto M¹⁾, Ban S²⁾
(¹Kagoshima Univ., Kagoshima, Japan, ²Aichi Gakuin Univ., Nagoya, Japan)
- P2-Cer19 *In vitro* and *in vivo* Evaluation of Strontium-substituted Apatite Bone Cement.
*Sekine K, Hamada K, Uyama E, Yamashita K, Kawano F, Asaoka K
(The University of Tokushima Graduate School, Tokushima, Japan)
- P2-Cer20 Evaluation of Silica-doped Y-TZP for Dental Restorations.
*Usami H¹⁾, Nakamura T¹⁾, Nishida H²⁾, Sekino T³⁾, Onishi H⁴⁾, Takeuchi M⁴⁾, Yatani H¹⁾
(¹Osaka Univ., Osaka, Japan, ²Osaka Dental Univ., Osaka, Japan
³Tohoku Univ., Sendai, Japan, ⁴NIKKATO Co., Osaka, Japan)
- P2-Cer21 Effect of Fluoride Dose in Calcium Phosphates Obtained from OCP Co-precipitation on
Osteoblastic Cellular Response and Solubility.
*Shiwaku Y^{1,2)}, Anada T²⁾, Honda Y²⁾, Morimoto S²⁾, Sasaki K¹⁾, Suzuki O²⁾
(¹Division of Advanced Prosthetic Dentistry, ²Division of Craniofacial Function Engineering,
Tohoku Univ., Graduate School of Dentistry, Sendai, Japan)
- P2-Cer22 Examination of Porcelain Veneering Procedure for Zirconia-based Nanocomposites.
*Terui Y, Sato K, Kuriyama S, Kunii J, Hotta Y, Goto D, Miyazaki T
(Showa Univ., Tokyo, Japan)

CAD/CAM

- P2-CAD01 Push-shear Bond Strength between CAD/CAM Zirconia Ceramic Core and Zirconia Veneering
Ceramics.
*Lee JH¹⁾, Jung JH¹⁾, Kim YK²⁾, Ji JH²⁾, Park IS²⁾, Lee MH²⁾, Bae TS²⁾ (¹Gwang-Ju Health
College, Gwangju, Korea, ²Chonbuk National Univ., Jeonju, Korea)
- P2- CAD 02 Clinical Application and Possibility of Nano Zirconia.
*Suese K
(Osaka Dental Univ., Osaka, Japan)

P2- CAD 03 Dental Implant Surgical Navigation System by Retinal Imaging Display.
*Yamaguchi S¹), Yamanishi Y^{1,2}), Ono S^{1,2}), Yatani H²), Imazato S¹)
(¹Dept. of Biomaterials Science, ²Dept. of Fixed Prosthodontics, Osaka Univ. Graduate School of Dentistry, Osaka, Japan)

Miscellaneous

P2-Mis01 Changes of Crystallinity of Hydroxyapatite Powder and Structure of Enamel Treated with Several Concentrations of Ammonium Hexafluorosilicate.
*Suge T, Shibata S, Matsuo T
(University of Tokushima Graduate School, Tokushima, Japan)

P2-Mis02 Development of Tetracycline Loaded Dental Varnish and Antibacterial Effect.
*Park JY¹), Choi KH²), Bae JM¹), Oh SH¹)
(¹Dept. of Dental Biomaterials, Wonkwang Univ., Iksan, Korea,
²Dept. of Oral microbiology, Wonkwang Univ., Iksan, Korea)

P2-Mis03 Light Transmittance and Reflectance Characteristics of Restorative Composite Resins.
*Arikawa H, Kanie T, Fujii K
(Kagoshima Univ., Kagoshima, Japan)

P2-Mis04 Metal Component Analyses of Metal-ceramic Crowns Circulated in Four Regions of the World.
*Yoshinari M¹), Matsumoto N¹), Abe S²), Igarashi T²)
(¹Tokyo Dental College, Chiba, Japan, ²Kanagawa Dental College, Yokosuka, Japan)

P2-Mis05 Analyses of Stress Distributions and Fracture Strength of Pulpless Teeth Restored with Fiber Posts.
*Takeda Y¹), Hayashi M¹), Furuya Y¹), Ebisu S¹), Huang H²), Fok A²) (¹Osaka Univ. Graduate School of Dentistry, Suita, Japan, ²University of Minnesota, Minnesota, USA)

P2-Mis06 Development of Polydimethylsiloxane-based Three Dimensional Cell Culture Chip.
*Anada T, Suzuki O
(Tohoku Univ., Sendai, Japan)

P2-Mis07 Ability of CPP-ACP Paste and Arginine in Calcium Carbonate Toothpaste to Occlude Dentinal Tubules.
*Kanchanasantikul P, Hanirattisai C, Banomyong D
(Mahidol Univ., Bangkok, Thailand)

P2-Mis08 Surface Properties of Denture Base Resin after Several Disinfection Methods.
*Sawada T, Odagiri K, Hori N, Hoshi N, Hamada N, Kimoto K
(Kanagawa Dental College, Yokosuka, Japan)

P2-Mis09 The Physical Properties of Recycled Gypsum in Different Heating Processes.
*Sinlaparatsami S, Urapepon S
(Mahidol Univ., Bangkok, Thailand)

P2-Mis10 Dental Restorations Found in Food as Foreign Substances during Dining.
*Goto S¹), Ohkuma K¹), Ogura H¹), Onozaki S²)
(¹Nippon Dental Univ., Niigata, Japan, ²Zensho Co., Tokyo, Japan)

P2-Mis11 Influence of Whitening Material on Enamel to Hardness of Bovine Teeth.
*Zhang D, Lin H, Zheng G, Zheng R
(Dental Materials Laboratory, Peking Univ. School and Hospital of Stomatology, Beijing, China)

P2-Mis12 Influence of Conditioning Agents for a Resin-based Sealer on the Root Canal Wall.
*Ogura Y, Maeda M, Katsumi I
(Nippon Dental Univ., Tokyo, Japan)

- P2-Mis13 Diffusion of an Antimicrobial Acriflavine through a Concentrated Solution of Hyaluronic Acid as a Matrix Component of Biofilms.
*Nezu T, Sasaki K, Saitoh S, Taira M
(Iwate Medical Univ., Morioka, Japan)
- P2-Mis14 Influence of Dentin and Enamel Porcelain Thickness on Layered All-ceramic Restoration Color.
*Ju SW¹, Choi YS², Kim MJ², Ahn JS¹
(¹Seoul National Univ., Seoul, Korea, ²Korea Univ., Seoul, Korea)
- P2-Mis15 Evaluation of Behavior of Dust in Dental Clinic Office and Laboratory using Particle of Noble Metal Alloy as Marker.
*Kanatani M, Okawa S, Watanabe K, Kimura I, Kobayashi M, Ito K, Yamaga Y, Kaneko H
(Niigata Univ., Niigata, Japan)
- P2-Mis16 Flexural Strength of Experimental HEMA-free Resin-modified Glass Ionomer.
*Hibino Y, Nagasawa Y, Omatsu J, Shimano I, Nakajima H
(Meikai Univ., Saitama, Japan)
- P2-Mis17 Sr Enriched Teeth; Structural Analysis and Mechanical Properties.
*Uo M¹, Asakura K¹, Honda S², Kogo Y², Soga K², Nakatsuka T³, Watari F¹
(¹Hokkaido Univ., Sapporo, Japan, ²Tokyo Univ. Sci., Noda, Japan, ³Shofu Inc., Kyoto, Japan)
- P2-Mis18 Disinfection of Dental Stone Casts: Effect on Surface Morphology.
*Nishikiori R¹, Watanabe K², Nomura Y¹, Hirata I¹, Sawajiri M¹, Okazaki M¹
(¹Graduate School of Biomedical Sciences, Hiroshima Univ., Hiroshima, Japan, ²Faculty of Dentistry, Hiroshima Univ., Hiroshima, Japan)
- P2-Mis19 Fluoride Release and Mechanical Properties of Restorative Glass Ionomer Cements.
*Shiozawa M, Takahashi H, Iwasaki N, Koottathape N, Asakawa Y, Zoljargal P, Wang F
(Tokyo Medical and Dental Univ., Tokyo, Japan)
- P2-Mis20 In-office Power Bleaching Preserves the Microstructural Integrity of Enamel against Acidic Deterioration.
*Tanaka R, Shibata Y, Ogura K, Manabe A, Hisamitsu H, Miyazaki T
(Showa Univ., Tokyo, Japan)
- P2-Mis21 Physical Properties Evaluation of Face Guard Materials
- Effect of Cushioning Materials on Shock Absorption.
*Churei H¹, Abe K¹, Kobayashi M², Takahashi H¹, Ueno T¹
(¹Tokyo Medical and Dental Univ., Tokyo, Japan, ²Chiba Institute of Technology, Chiba, Japan)
- P2-Mis22 Influence of Acidic and Slightly Acidic Electrolyzed Water on Dental Unit Components.
*Aoki H, Suzuki I, Maruta K, Miyasaka T
(Nippon Dental Univ., Tokyo, Japan)
- P2-Mis23 S9 Fraction Broke Down Bis-GMA to Its Metabolites without Metabolic Activation.
*Hongo T¹, Hikage S², Takahashi H¹
(¹Tokyo Medical & Dental Univ., Tokyo, ²Health Sciences University of Hokkaido, Ishikari-gun, Japan)
- P2-Mis24 Effect of Helium Plasma Needle Treatment on Disinfection of Microorganisms Contaminated Surfaces. Han IH¹, Lee DH¹, Kim HY¹, Kwon BJ^{1,2}, Kang JK¹, Lee MH^{1,2}, Kim HH¹, *Park JC^{1,2}
(¹Cellbiocontrol Laboratory, Department of Medical Engineering, ²Brain Korea 21 Project for Medical Science, Yonsei Univ. College of Medicine, Seoul, Korea)

Devices

- P2-Dev01 Comparison of Cutting Aspect of Stainless Steel Gates-Glidden Bur and Peeso Reamer.
*Maeda M, Ogura Y, Katsuumi I
(Nippon Dental Univ., Tokyo, Japan)
- P2-Dev02 Effects of Self-ligation on Stainless Steel Archwires.
*Choi S, Joo HJ, Cheong Y, Lee SH, Kwon ER, Paek JH, Park YG, Park HK
(Kyung Hee Univ., Seoul, Korea)
- P2-Dev03 Development of a Small Isotonic Ozone Water Generator.
*Arai K^{1,3,4}, Hosoya M², Sasao M³, Akashi Y³, Hirose H³, Yoneyama T³, Tamaki T⁴,
Miyazaki T⁴, Ando N⁵
(¹Nippon Makisen Kogyo, ²Hosoya Dental Clinic, ³Nihon Univ., ⁴Showa Univ., ⁵Nippon Dental Univ. at Tokyo, Japan)
- P2-Dev04 A Method for Analyzing Alloy Composition of Metallic Restorations and Protheses Placed in a Patient's Mouth by Sampling an Ultra Small Amount of Metal Powders.
*Nagano F, Ida Y, Hashimoto M, Ohno H, Endo K
(Health Sciences Univ., of Hokkaido, Ishikari-Tobetsu, Japan)

Poster Presentation III: Sunday, May 29, 10:30 pm – 11:30 am, Seminar Room 2-3

Adhesion

- P3-Adh01 Water Resistance of Novel Silane having Hydrophobic and Polymerizable Group.
*Nihei T¹, Kunzelmann KH², Shimizu T¹, Ohashi K¹, Miyake K¹, Kurata S¹, Kondo Y³, Umemoto K¹, Yoshino N³, Teranaka T¹
(¹Kanagawa Dental College, Kanagawa, Japan, ²Dental School of LMU, Munich, Germany, ³Tokyo University of Science, Tokyo, Japan)
- P3-Adh02 Effect of HEMA in Bonding Agent on Adhesion of Resin to Enamel and Dentin.
*Hirabayashi S, Hayakawa T
(Tsurumi Univ., Yokohama, Japan)
- P3-Adh03 Ag₂O-doped Bioglass as an Inhibitor of Matrix Metalloproteinases.
*Hashimoto M, Nagano F, Ida Y, Endo K
(Health Sciences University of Hokkaido, Ishikari-Tobetsu, Japan)
- P3-Adh04 Relationship between Thin-film Bond Strength and Indentation Hardness for One-step Bonding Agents.
*Kusakabe S, Hotta M
(Asahi Univ., Gifu, Japan)
- P3-Adh05 Application of Various Lining Materials to Dental Hard Tissues Irradiated by Er:YAG Laser.
*Yasuo K, Yoshikawa K, Onda K, Zennyu K, Sunada K, Yamamoto K
(Department of Operative Dentistry, Osaka Dental Univ., Osaka, Japan)
- P3-Adh06 Study of Newly-developed High Power LED Curing Light Unit - Influence on Bonding Resin.
*Ouchi S, Hatsuoka Y, Nishida H, Matsuda T, Inoue M, Yamamoto K
(Department of Operative Dentistry, Osaka Dental Univ., Osaka, Japan)
- P3-Adh07 H₂O₂ Production from Different Types Metal Plates Adherent Human Polymorphonuclear Leukocytes.
*Moriguchi K¹, Takahashi Y², Kawai T², Ohno N¹
(¹Oral Anatomy, ²Dental Materials, Aichi-Gakuin Univ., Nagoya, Japan)
- P3-Adh08 The Influence of Creep Properties and the Shear Bond Strength of Dental Resin Cement.
*Kim YZ, Oh MH
(Vericom CO., LTD., Anyang-Si, Korea)
- P3-Adh09 Effect of Silane and Alkali Treatment on the Shear Bonding Strength between Alloys and PMMA Resin.
*Ha JY¹, Kwon TY^{1,2}, Kim KH^{1,2}
(¹Department of Medical & Biological Engineering, Graduate School, Kyungpook National Univ., Daegu, Korea ²Department of Dental Biomaterials, School of Dentistry Kyungpook National Univ., Daegu, Korea)
- P3-Adh10 An Evaluation of the Brazilian Disc Test for Bond Strength Measurement.
*Huang SH, Lin L, Fok A
(Minnesota Dental Research Center for Biomaterials and Biomechanics, School of Dentistry, University of Minnesota, Minneapolis, USA)
- P3-Adh11 Adhesion of Putty Condensation Silicone and Light Body Addition Silicone.
*Aerarunchot S, Prunkngarmpun C, Amornporncharoen M, Julnithi A, Santipipat C
(Khon Kaen Univ., Khon Kaen, Thailand)
- P3-Adh12 Development of One-step Bonding Agent.
*Nishiyama N, Iwai H, Fujita K, Tanimoto Y, Uchida R, Takahashi H, Yaguchi T, Teshima M, Ikemi T
(Nihon Univ., Matsudo, Japan)

- P3-Adh13 Restoration of Vertically Fractured Teeth by Adhesion and Replantation - Adhesive Strength of Resin Cements for Root Dentin.
*Onda K, Hatsuoka Y, Yasuo K, Matsuda T, Yamamoto K
(Osaka Dental Univ., Osaka, Japan)
- P3-Adh14 Bonding Characteristics of Orthodontic Adhesives to Experimental Zirconia Bracket Applied with Several Pre-treatments for the Bonding.
*Fujishima A, Tanabe S, Manabe A, Maki K, Miyazaki T
(Showa Univ., Tokyo, Japan)
- P3-Adh15 A Study on Shear Bond Strength and Adhesive Durability of Self-adhesive Resin Cements According to Wet Conditions of Dentin Surface.
*Kim YH, Lim HN (Department of Dental Materials, Division of Dentistry, Graduate School, Kyung Hee Univ., Seoul, Korea)
- P3-Adh16 Nanostructure Evaluation of Healthy and Fluorotic Dentin by AFM after Etching with Phosphoric Acid.
*Juan Pablo Loyola-Rodriguez¹, Rafael Rene Aguilera-Flores¹, Veronica Zavala-Alonso¹, Nuria Patiño-Marin¹, Gabriel A. Martinez-Castañon¹, Kenneth J. Anusavice²
(¹Advanced Education General Dentistry Program, San Luis Potosi Univ., Mexico, ²Center for Dental Biomaterials, College of Dentistry, University of Florida, USA)
- P3-Adh17 Tensile Bond Strength Evaluation of Bonded Molar Tubes on Fluorotic Enamel.
*Alejandra Loyola-Leyva, Erika Silva-Benitez, Veronica Zavala-Alonso, Alejandro Martiínez-Castañon, Juan Pablo Loyola-Rodriguez, Nuria Patiño-Marin, Irene Ortega-Pedrajo
(Advanced Education General Dentistry Program, San Luis Potosi Univ., Mexico)

Composite

- P3-Com01 Effect of Thermal Cycling on the Bi-axial Flexural Strengths of Dental Nano-Filled Composite Resin.
*Kwon HM¹, Kim GR², Ji JH², Park IS², Jin GC³, Lee MH², Bae TS²
(¹Hallym College., Chuncheon, Korea, ²Chonbuk National Univ., Jeonju, Korea, ³Binzhou Medical Univ., Yantan, China)
- P3-Com02 Effect of Thermal Cycling on the Transverse Strength of Nano-filled Composite Resin for Dental Restoration.
*Kim KS¹, Park JE², Ji JH², Park IS², Jin GC³, Lee MH², Bae TS²
(¹Jeonju Kijeon College, Jeonju, Korea, ²Chonbuk National Univ., Jeonju, Korea, ³ Binzhou Medical Univ., Yantan, China)
- P3-Com03 Effect of Filler Particle Size and Morphology on the Mechanical Properties of Nanofiller Containing Resin Composites.
*LIN J¹, Shinya A¹, Gomi H¹, Shinya A¹, Zheng G², Lin H², Han JM²
(¹The Nippon Dental Univ., Tokyo, Japan, ²Dental Materials Laboratory, Peking Univ., Beijing, China)
- P3-Com04 Depth of Cure of Light-activated Nanofiller Containing Resin Composites.
*Kanehira M¹, Hoshino T¹, Utterodt A², Finger WJ¹, Komatsu M¹
(¹Tohoku Univ., Graduate School of Dentistry, Sendai, Japan, ²Heraeus Kulzer GmbH, Wehrheim, Germany)
- P3-Com05 Effect of Different Core Stiffness on Fracture Resistance of Endodontically Treated Teeth with Flared Root .
*Varauboln C¹, Takahashi H², Arksornnukit M¹
(¹Faculty of Dentistry, Chulalongkorn Univ., Bangkok, Thailand, ²Advanced Biomaterials, Graduate School, Tokyo Medical and Dental Univ., Tokyo, Japan)

- P3-Com06 Comparative Study of Wear Resistance and Surface Roughness of the Nanofiller Containing Composites and Microhybrid Composites. Jianmin Han¹), Hong Lin¹), *Gang Zheng¹), Akiyoshi Shinya²), Harunori Gomi²), Akikazu Shinya²), Jie Lin²)
(¹Peking Univ., Beijing, China, ²The Nippon Dental Univ., Tokyo, Japan)
- P3-Com07 Color Stability of Resin Cements after Ultraviolet Artificial Aging.
*Lueangwattanakij R¹), Takahashi H²) and Arksornnukit M¹)
(¹Faculty of Dentistry, Chulalongkorn Univ., Bangkok, Thailand, ² Advanced Biomaterials, Graduate School, Tokyo Medical and Dental Univ., Tokyo, Japan)
- P3-Com08 Fracture Resistance of Endodontically Treated Teeth Restored with Different Fiber Reinforced Composite Post Lengths.
*Jiangkongkho P¹), Takahashi H²) and Arksornnukit M¹)
(¹Faculty of Dentistry, Chulalongkorn Univ., Bangkok, Thailand, ² Advanced Biomaterials, Graduate School, Tokyo Medical and Dental Univ., Tokyo, Japan)
- P3-Com09 Effect of Different Silane Coupling Agent Amounts Silanized on Alumina Filler on Flexural Strength of Methacrylate Denture Base.
*Chaijareenont P¹), Takahashi H²) and Arksornnukit M¹)
(¹Faculty of Dentistry, Chulalongkorn Univ., Bangkok, Thailand, ²Advance Biomaterials, Graduate School, Tokyo Medical and Dental Univ., Tokyo, Japan)
- P3-Com10 Optimum Design of Glass Fiber Reinforced Resin Bridge: Part1 Effect of Glass Fiber Reinforce for Flexural Strength.
*Gomi H¹), Akikazu Shinya^{1,2}), Yokoyama D¹), Akihiro Shinya¹), Akiyoshi Shinya¹)
(¹Nippon Dental Univ., Tokyo, Japan, ²University of Turku, Turku, Finland)
- P3-Com11 Effect of Filler Particle Alloy of Magnetic Composite Resin and Magnet Type on Magnetic Attractive Force.
*Soma H, Miyagawa Y
(The Nippon Dental Univ., Niigata, Japan)
- P3-Com12 Optical and Mechanical Properties of Poly (Methyl Methacrylate)/Montmorillonite Nanocomposites.
*Yamagata S, Akasaka T, Uo M, Iida J, Watari F
(Hokkaido Univ., Sapporo, Japan)
- P3-Com13 Effect of Light Sources on Vickers Hardness of Resin Composites.
*Hasegawa M, Kita D, Okada I, Ishikawa A
(Nippon Dental Univ. Hospital, Tokyo, Japan)
- P3-Com14 Flexural Behavior of Collagenous Matrix Consolidated by a Warm Isostatic Pressing.
*Iijima M, Wakamatu N, Kamemizu H, Adachi M, Doi Y
(Asahi Univ., Dental Materials and Science, Mizuho, Gifu 501-0296, Japan)
- P3-Com15 Porous Zirconia/Hydroxyapatite Scaffolds for Bone Reconstruction Combined with Bone Regeneration.
*An SH¹), Matsumoto T¹), Miyajima H¹), Kim KH²), Imazato S¹)
(¹Osaka Univ., Osaka, Japan, ²Kyungpook Univ., Daegu, Korea)
- P3-Com16 Study of the Toothbrush Abrasion of Composite Resin.
*Komasa R, Yoshikawa K, Takeuchi O, Komasa N, Miki H, Yamamoto K
(Department of Operative Dentistry, Osaka Dental Univ., Osaka, Japan)
- P3-Com17 Fatigue Strength of Filler Hybrid Type Resin Composite - Effect of Filler Size on Fatigue Strength.
*Nishikawa I¹), Toyama T¹), Takahashi H²)
(¹Osaka Inst. Tech., Osaka, Japan, ²Tokyo Med. Dent. Univ., Tokyo, Japan)

- P3-Com18 Effect of Chitosan Addition on the Mechanical Properties of Glass Ionomer Cement.
*Kim DA, Kim GR, Kim HH, Lee HH
(Dankook Univ., Cheonan, Korea)
- P3-Com19 Correlation between Color Change of Resin Composites and Exposure Time to Xenon Lamp Radiation.
*Saito W, Ikejima I, Yamamoto T, Momoi Y
(Tsurumi Univ., Yokohama, Japan)
- P3-Com20 Influence of the Home Whitening to the Discolored Resin Composite.
*Maseki T¹), Itagaki Y²), Sakamoto M²), Shino W²), Sugawa Y²), Furumoto H²), Yamakawa D²)
(¹Dept of Endodontics and Operative Dentistry, Nippon Dental Univ., Tokyo, Japan, ²Nippon Dental Univ., Tokyo, Japan)
- P3-Com21 Study on Newly High Power LED Curing Light Unit - Influence of Curing of Composite Resins.
*Yokota K, Iwata N, Suzuki K, Yoshikawa K, Miyaji H, Yamamoto K
(Department of Operative Dentistry, Osaka Dental Univ., Osaka, Japan)
- P3-Com22 Characteristics of Recent Veneering Composite Resins.
*Zoljargal P, Takahashi H, Masuda T, Koottathape N, Shiozawa M, Asakawa Y, Iwasaki N, Wang F
(Advanced Biomaterials, Graduate School of Medical and Dentistry, Tokyo Medical and Dental Univ., Tokyo, Japan)
- P3-Com23 Development of New Hybrid Resins for Crown (Part 6): Impact Resistance.
*Kato T^{1,2}), Saigo K¹), Yamada B²), Yamauchi J²), Nagai M²), Yamamoto S²)
(¹Kochi University of Technology, Kochi, Japan, ²Yamamoto Precious Metal Co., Ltd., Japan)
- P3-Com24 Influence of Third Body Media on Wear of Composite Resins.
*Koottathape N¹), Takahashi H¹), Iwasaki N¹), Finger WJ²), Angwarawong T³), Arksornnukit M³)
(¹Tokyo Medical and Dental Univ., Tokyo, Japan, ²Tohoku Univ., Sendai, Japan, ³Chulalongkorn Univ., Bangkok, Thailand)
- P3-Com25 The Effect of Three Different Surface Treatments on the Retention of Composite Core Material on Prefabricated Post-heads.
*Youssef S. Al Jabbari
(Dental Biomaterials Research and Development Chair, College of Dentistry, King Saud Univ., Riyadh, Saudi Arabia)
- Polymer**
- P3-Pol01 Influence of Sericin Powder on the Water Absorption Characteristics of Tissue Conditioners.
*Hong G¹), Dillinur MS¹), Sasaki K¹), Hamada T¹), Zhao XY²)
(¹Tohoku Univ., Sendai, Japan, ²The Fourth Military Medical Univ., Xi'an, China)
- P3-Pol02 Bone Regeneration Ability of Silk Fibroin Membrane for the Guided Bone Regeneration Technique.
*Song JY¹), Kim SG¹), Kweon HY²)
(¹Gangneung-Wonju National Univ., Gangneung, Korea, ²RDA, Suwon, Korea)
- P3-Pol03 Time-dependent Changes in the Hardness of Elastomeric Impression Materials.
*Im SY, Lee SB, Kim KM, Kim KN
(Department and Research Institute of Dental Biomaterials and Bioengineering and Research Center for Orofacial Hard Tissue Regeneration, College of Dentistry, Yonsei Univ., Seoul, Korea)
- P3-Pol04 *In vitro* Wear Resistance of Artificial Denture Teeth.
*Suwannaroop P¹), Chaijareenont P¹), Koottathape N¹), Takahashi H²) and Arksornnukit M¹)
(¹Faculty of Dentistry, Chulalongkorn Univ., Bangkok, Thailand, ²Advanced Biomaterials, Graduate School, Tokyo Medical and Dental Univ., Tokyo, Japan)

- P3-Pol05 The Effect of Repairing Methods on Reinforcing Fractured Denture Base Resin.
*Park DR¹, Bae JM¹, Oh HJ², Oh SH¹
(¹Dept. of Dental Biomaterials, Wonkwang Univ, Iksan, Korea, ²Korean Food & Drug Administration, Chungbuk, Korea)
- P3-Pol06 The Effect of Aramid Fiber Orientation on the Mechanical Properties of Denture Base Resin.
*Yu SH, Oh SH, Bae JM
(Dept. of Dental Biomaterials, Wonkwang Univ., Iksan, Korea)
- P3-Pol07 Cell Viability and Tissues Response of DNA/Protamine Complexes with Different DNA Length.
*Mori N¹, Shinozaki Y¹, Ohno J¹, Hayakawa T², Mitarai M³, Sakagami R¹, Fukushima T¹
(¹Fukuoka Dental College, Fukuoka, Japan, ²Tsurumi Univ., Yokohama, Japan, ³Maruha-Nichiro, Tsukuba, Japan)
- P3-Pol08 Annealing Effect on the Mechanical Behaviour of PLA/TCP Composite.
*Kim DA, Kim GR, Kim NS, Kim HH, Lee HH
(Dankook Univ., Cheonan, Korea)
- P3-Pol09 Mineralization of Biopolymer Scaffolds and Culturing of Bone Marrow Mesenchymal Stem Cells.
Oh SA^{1,2}, Shin US^{1,2}, Kim HW^{1,2,3}
(¹Department of Nanobiomedical Science & WCU Research Center, Cheonan, Korea, ²Institute of Tissue Regeneration Engineering, Cheonan, Korea, ³Dankook Univ., Cheonan, Korea)
- P3-Pol10 Depth of Cure of Resin Composite Cured by Light through a Translucent Fiber Post.
*Urapepon S¹, Ekgasit S²
(¹Mahidol Univ., ²Chulalongkorn Univ., Bangkok, Thailand)
- P3-Pol11 Mechanical Properties of a New Hybrid Hard Resin for Crowns and Bridges.
*Izumida A, Ishibashi M, Inagaki R, Okuyama Y, Yoda M
(Tohoku Univ., Sendai, Japan)
- P3-Pol12 Demineralization Resistance and Shear Bonding Strength of Light-cured Glass Ionomer Cement after the Addition of Nano Beta-Tricalcium Phosphate in Various Ratio.
*Kim J¹, Kim HO², Lee YK³, Choi HJ¹
(¹Pediatric Dentistry, Yonsei Univ. Dental Hospital, Seoul, Korea, ²Graduate School, Yonsei Univ., Seoul, Korea, ³College of Dentistry, Yonsei Univ., Seoul, Korea)
- P3-Pol13 Radio-opacity and Sensitivity to Ambient Light Test of Polymer-based Restorative Materials.
*Kim KM^{1,2}, Kim MJ^{1,2}, Lee YK¹, Roulet JF³, Kim KN^{1,2}
(¹Department and Research Institute of Dental Biomaterials & Bioengineering, ²Research Center for Orofacial Hard tissue Regeneration, Yonsei Univ., Seoul, Korea, ³Ivoclar-Vivadent Co., Lichtenstein)
- P3-Pol14 Effects of Resin Cements on Hardness, Thickness and Bond Strength with Titanium Post: An Intraradicular Assessment.
*Reza F, Peng LS
(Universiti Sains Malaysia, Kubang Kerian, Malaysia)
- P3-Pol15 Shear Bond Strength of Each Layer of Artificial Teeth to Denture Base Resin.
*Chun JN¹, Ha JY¹, Kwon TY^{1,2}, Kim KH^{1,2}
(¹Department of Medical & Biological Engineering, Graduate School, Kyungpook National Univ., Daegu, Korea ²Department of Dental Biomaterials, School of Dentistry, Kyungpook National Univ., Daegu, Korea)
- P3-Pol16 The Flowability of the Light Body Silicone Impression Material Used by a Double-mix Technique, and the Hydrophilicity of the Light Body Impression Material.
Tsunooka M, Fukushima S, *Usuki D, Kamohara H, Sakuma T
(GC Corporation, Tokyo, Japan)

- P3-Pol17 An Analysis of the Surface Properties of Orthodontic Plastic Bracket Materials by Plasma Irradiation at Atmospheric Pressure.
*Ueda N¹⁾, Miyazawa K¹⁾, Muraji N²⁾, Masuda T¹⁾, Hida M¹⁾, Hata Y¹⁾, Mieki A³⁾, Kataoka H³⁾, Kawai T³⁾, Tanaka Y²⁾, Goto S¹⁾
(¹Department of Orthodontics, ²Department of removable Prosthodontics and ³Department of Dental Materials Science, School of Dentistry Aichi Gakuin Univ., Nagoya, Japan)
- P3-Pol18 Tubular Calcium Phosphate Nanomaterials as a Drug Carrier for Bone and Tooth Repair.
Kim JJ^{1,2)}, Kim MK^{1,2)}, Lee HY^{1,2)}, Shin US^{1,2)}, Lee HH^{1,3)}, Kim HW^{1,2,3)}
(¹Department of Nanobiomedical Science & WCU Research Center, ²Institute of Tissue Regeneration Engineering, ³Department of Biomaterials Science School of Dentistry, Dankook Univ., Cheonan, Korea)
- P3-Pol19 Novel Approach to Produce Nanofibrous Membranes of Biopolymers.
Lee HY^{1,2)}, Bang SH^{1,2)}, Dashnyam K^{1,2)}, Kim TH^{1,2)}, Shin US^{1,2)}, Lee HH^{1,3)}, Kim HW^{1,2,3)}
(¹Department of Nanobiomedical Science & WCU Research Center, ²Institute of Tissue Regeneration Engineering, ³Department of Biomaterials Science School of Dentistry, Dankook Univ., Cheonan, Korea)
- P3-Pol20 Surface Modification of PMMA by LEB Irradiation.
*Ito K¹⁾, Okawa S¹⁾, Kanatani M¹⁾, Yamaga Y¹⁾, Kaneko H¹⁾, Nomura A²⁾, Nomura S¹⁾, Watanabe K¹⁾
(¹Niigata Univ., Niigata, Japan, ²Meirin College, Niigata, Japan)
- P3-Pol21 Application of a Noble Metal Cluster for the Denture Base Resin.
*Aoyagi Y, Miyasaka T, Ando N, Nakayama M
(Nippon Dental Univ., Tokyo, Japan)
- P3-Pol22 Effect of Nano Silver Acrylic Resin against Adhesion of Candida Albicans.
*Prunkngarnpun C, Vongpetch R, Ingpanjalap S, Kunchoun S
(Faculty of Dentistry, Khon Kaen Univ., Khon Kaen, Thailand)
- P3-Pol23 Flexure Strengths of Acrylic Denture Resins Measured by Ring-on-Ring Biaxial Test.
*Kim GR¹⁾, Lee CJ²⁾, Kim DA¹⁾, Lee HH¹⁾
(¹Dankook Univ., Cheonan, Korea, ²Shinheung College, Uijeongbu, Korea)
- P3-Pol24 Evaluation on Physical Properties of Experimental Fluorinated, Acrylic-based, and Silicone Rubber-based Soft Lining Materials.
*Kasuga Y¹⁾, Takahashi H²⁾, Inoue M¹⁾, Hoshino Y¹⁾, Minakuchi S¹⁾, Nakajima H³⁾
(¹Complete Denture Prosthodontics, Tokyo Medical & Dental Univ., Tokyo, Japan, ²Advanced Biomaterials, Tokyo Medical & Dental Univ., Tokyo, Japan, ³Dental Biomaterials Science, Meikai Univ., Sakado, Japan)
- P3-Pol25 Assessment of Evolution of Resistance to Antibacterial Agents and an Antibacterial Monomer MDPB in Oral Bacteria.
*Kitagawa H¹⁾, Izutani N¹⁾, Imazato S²⁾, Yoshikawa R¹⁾, Ebisu S¹⁾
(¹Department of Restorative Dentistry and Endodontology, ²Department of Biomaterials Science, Osaka Univ., Suita, Japan)
- P3-Pol26 Flexural Properties of Thermo-polymerized PMMA/Ethylene Glycol Dimethacrylates Pastes.
*Tanaka J¹⁾, Stansbury JW²⁾, Antonucci JM³⁾, Suzuki K¹⁾
(¹Okayama Univ., Okayama, Japan, ²University of Colorado, Aurora, USA, ³NIST, Gaithersburg, USA)
- P3-Pol27 Dimensional Stability and Tensile Strength of the New Vinyl Polysiloxane Impression Material for Home-visit Dental Care.
*Aoyagi Y¹⁾, Umemoto K¹⁾, Takahashi H²⁾, Iwasaki N²⁾, Tanaka M³⁾
(¹Kanagawa Dental College, Yokosuka, Japan, ²Tokyo Medical and Dental Univ., Tokyo, Japan, ³Osaka Dental Univ., Hirakata, Japan)

- P3-Pol28 Bond Strength and Viscoelasticity of MMA-based and Silicone-based Denture Liners.
*Iwasaki N, Kasuga Y, Takahashi H, Minakuchi S, Suzuki T
(Tokyo Medical and Dental Univ., Tokyo, Japan)
- P3-Pol29 Effect of Buff Polishing on the Fundamental Properties of Commercial Thermoplastic Resins.
*Yamaguchi N, Yamaguchi M, Manabe A, Tamaki Y, Miyazaki T
(School of Dentistry, Showa Univ. , Tokyo, Japan)