

*The 45th General Session of  
the Japanese Society for Dental Materials and Devices (JSDMD)*

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*Nihon Univ. at Matsudo(Place:Tokyo-Tower Hall Funabori)*

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**Hall A**

**Saturday, 16 April 2005**

**9:25-9:30 Opening**

**9:30-12:00 General Presentaion (Oral)**

**Ceramics I**

A-01 Replacement to apatite with zinc phosphate cement

○Masayuki Kon, Shinya Horiuchi, Keiji Moriyama, Kenzo Asaoka  
Tokushima Univ.

A-02 Preparation of carbonate apatite monolith from hardened vaterite-gypsum by hydrothermal treatment in sodium phosphate

○Shigeki Matsuya, Koh-Ichi Udoh, Masaharu Nakagawa, Kunio Ishikawa  
Kyushu Univ.

**Ceramics II**

A-03 Adsorptions of cell binding factors on electrically polarized hydroxyapatite ceramics in early stage

○Satoshi Nakamura, Keiko Handa, Yasutaka Sekijima, Masato Shimizu, Kimihiro Yamashita  
Tokyo Medical and Dental Univ.

A-04 Application of zirconia/alumina nano-composite to all ceramic crowns

○Seiji Ban<sup>1</sup>, Masahiro Nawa<sup>2</sup>  
<sup>1</sup>Kagoshima Univ., <sup>2</sup>Matsushita Electric Works

**Clinical Applications I**

A-05 An evaluation of new bone formation by three-dimensional X-ray Micro Focus CT

○Yasumasa Fukase, Masahiko Honda, Hiroyuki Uehara, Masahiro Kaketani, Michiaki Sasao  
Terumasa Kaneda, Mitsuhiko Matsumoto, Minoru Nishiyama  
Nihon Univ.

A-06 Metalartifact of dental material in MR imaging

○Tomohide Taniyama<sup>1, 3</sup>, Taiji Sohmura<sup>1</sup>, Masaaki Aoki<sup>2</sup>, Takanori Etoh<sup>3</sup>, Junzou Takahashi<sup>1</sup>  
<sup>1</sup>Osaka Univ., <sup>2</sup>NEOMAX CO.,LTD, <sup>3</sup>Osaka Dental Univ.

**Clinical Applications II**

A-07 Application of haptic device to dentistry (part 8) –Fabrication of a surgical stent for flapless implant surgery and a provisional restoration for immediate loading –

○Takafumi Ohtani<sup>1, 2</sup>, Taiji Sohmura<sup>2</sup>, Tamaki Nakano<sup>1</sup>, Naoki Kusumoto<sup>1</sup>, Kazumichi Wakabayashi<sup>1, 2</sup>, Shinichi Yamada<sup>1</sup>, Takashi Nakamura<sup>1</sup>, Junzou Takahashi<sup>2</sup>, Hirofumi Yatani<sup>1</sup>, Masaharu Morishima<sup>3</sup>, Shizuo Higuchi<sup>3</sup>  
<sup>1, 2</sup> Osaka Univ., <sup>3</sup>Wada Precision Dental Laboratories Co.Ltd

A-08 Application of haptic device to dentistry (Part 9) –Support for dental education; Haptic simulation of tooth extraction –

○Taiji Sohmura, Yoshinori Yoshida, Arihiro Yonezawa, Junzou Takahashi  
Osaka Univ.

**Laser**

A-09 Simulation of Laser Welding by the Finite Element Method. Part<sup>1</sup> –Welding of Titanium plate–

- Sakae Nagasawa, Takamitsu Yoshida, Nobuyoshi Terashima, Kaoru Tamura, Shoichi Taira, Toru Niro, Michio Ito  
Matsumoto Dental Univ.

A-10 Prevention of laser welding defects in dental alloy by pulse-shaping – keyhole behavior and porosity formation –

- Kazutoshi Kakimoto, Atsufusa Koishi, Tetsuo Fukuoka, Tadamune Kamemizu, Taro Inoue, Joji Okazaki, Yutaka Komasa  
Osaka Dental Univ.

**15:00 - 17:15 General Presentation (Oral)**

**Titanium**

A-11 Corrosion resistance of Ti-Cr alloys for dental castings

- Shinji Takemoto, Masayuki Hattori, Takashi Kohno, Tatsumi Noguchi, Masao Yoshinari, Eiji Kawada, Yutaka Oda  
Tokyo Dental College

A-12 Mechanical properties of Ti-Cr alloys for dental castings

- Masayuki Hattori, Shinji Takemoto, Hiromichi Ichikawa, Toshiaki Ushigome  
Tokyo Dental College

A-13 Effect of surface oxide films on degradation of titanium

- Kenzo Asaoka<sup>1</sup>, Kunimitsu Maejima<sup>2</sup>, Hidetaka Sezaki<sup>1</sup>  
<sup>1</sup>Tokushima Univ., <sup>2</sup>ESCO, Ltd

**Corrosion**

A-14 Effect of fluoride on corrosion behavior of NiTi orthodontic wire

- Masaharu Nakagawa, Tomoko Kawamura, Toshie Yasunaga, Koichi Udoh, Shigeki Matsuya, Kunio Ishikawa  
Kyushu Univ.

A-15 Influence of temperature on the corrosion behavior of dental casting gold alloy in iodine gargle solution.

- Norio Takasusuki, Kazuhiko Endo, Yukito Hirose, Morio Ochi, Hiroki Ohno  
Health Sciences Univ. of Hokkaido

A-16 Reliability of patch testing for metal hypersensitivity –stability of metal ions and solution pH –

- Kazuhiko Endo, Hiroki Ohno, Isao Kawashima, Yuro Yamane, Tomochika Yanagi  
Health Sciences Univ. of Hokkaido

**Surface Modification and Dental Alloys**

A-17 Surface characterization of Ti-Ni alloy treated by electrolysis

- Osamu Fukushima<sup>1</sup>, Takayuki Yoneyama<sup>1, 2</sup>, Hisasi Doi<sup>1</sup>, Equo Kobayashi<sup>1</sup>, Takao Hanawa<sup>1</sup>  
<sup>1</sup>Tokyo Medical and Dental Univ., <sup>2</sup>Univ. of Tokyo

A-18 Effect of microstructure on tensile properties and static fracture toughness of typeIV gold alloy

- Hisao Fukui<sup>1</sup>, Masashi Touyama<sup>1</sup>, Mitsuo Niinomi<sup>2</sup>, Toshikazu Akahori<sup>2</sup>, Toshio Mizumoto<sup>2</sup>, Yoshiki Nakano<sup>2</sup>, Junji Takeda<sup>2</sup>, Hiroyuki Toda<sup>2</sup>  
<sup>1</sup>Aichi-Gakuin Univ., <sup>2</sup>Toyohashi Univ. of Technology

A-19 Corrosion characteristics of dental Ag-Pd-Cu-Au-Zn alloy under tensile stress

- Toru Nakanishi<sup>1</sup>, Mitsuo Niinomi<sup>1</sup>, Hiroyuki Toda<sup>1</sup>, Toshikazu Akahori<sup>1</sup>, Junji Takeda<sup>1</sup>, Masaki Mori<sup>1</sup>, Hisao Fukui<sup>2</sup>  
<sup>1</sup>Toyohashi Univ. of Technology, <sup>2</sup>Aichi-Gakuin Univ.

**17:20-18:20 Invited Lecture I**

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**Hall B**

**Saturday, 16 April 2005**

**10:00-16:00 General Presentation(Poster I)  
Award challenge posters(No.P-01- No.P-08)**

- P-01 Corrosion of titanium in acidulated phosphate fluoride solution and protection by annealing  
○Hidetaka Sezaki, Kenzo Asaoka, Kenichi Yoshida  
Tokushima Univ.
- P-02 Surface modification of titanium by etching in concentrated acid (Part 5) – effect on apatite formation using an alternate soaking process –  
○Hiroshi Kono, Hideo Sato, Yukari Iwaya, Seiji Ban  
Kagoshima Univ.
- P-03 Acceleration of cell behavior and growth factor adsorption onto titanium implant by polyphosphoric acid treatment  
○Kenji Maekawa<sup>1</sup>, Yasuhiro Yoshida<sup>1</sup>, Isao Hirata<sup>2</sup>, Masayuki Okazaki<sup>2</sup>, Kazuomi Suzuki<sup>1</sup>, Takuo Kuboki<sup>1</sup>  
<sup>1</sup>Okayama Univ., <sup>2</sup>Hiroshima Univ.
- P-04 Chemical surface modification of porous titanium compacts and its strength  
○Yuki Sakamoto, Kenzo Asaoka, Kenichi Yoshida  
Tokushima Univ.
- P-05 Cell response of plasma irradiated filler-added polymer scaffold  
○Masashi Hara, Fumio Teraoka, Takehiro Shimizu, Takahiko Fujiwara, Daisuke Moritani, Junzou Takahashi  
Osaka Univ.
- P-06 Mechanical properties of human and bovine dentin  
○Toshiko Inoue, Takashi Miyazaki, Fumio Nishimura  
Showa Univ.
- P-07 Effect of a metal primer on the bond strength to gold alloy of a resin-modified glass-ionomer cements  
○Mika Nemoto, Akiko Oshima, Hiroyasu Koizumi, Yoshikazu Kawamoto, Yumi Ishikawa, Hideo Matsumura  
Nihon Univ.
- P-08 Ultra-structure of bonding interface to dentin created with a newly developed all-in-one adhesive system Bond Clearfil Tri-S  
○Eiji Yoshida<sup>1</sup>, Shigeru Uno<sup>2</sup>, Jyunpei Sugisaki<sup>2</sup>, Yoshinobu Nodasaka<sup>1</sup>, Toshimoto Yamada<sup>2</sup>  
<sup>1</sup>Hokkaido Univ., <sup>2</sup>Toranomon Hospital Dental Clinic

**10:00-16:00 General Presentation(Poster I)**

**Clinical Applications**

P-09 Surface properties of stone models obtained from agar/alginate combined impressions immersed in disinfectant

○Naoki Tanabe  
Nihon Univ.

P-10 Development of a new jaw-tracking system with neural-network. Part1. Jaw movement will

be presumed from the movement of the perioral tissue.

- Soichiro Kinuta, Kazumichi Wakabayasi, Tetsuya Kojima, Junko Tokunaga, Takahiro Mizumori, Taiji Sohmura, Takashi Nakamura, Junzo Takahashi, Hirofumi Yatani  
Osaka Univ.

P-11 Influence of polishing with PTC paste on surface roughness of restoratives

- Satoru Uyama, Masashi Miyazaki<sup>1</sup>, Hikaru Sato, Tomomi Sato, Takeshi Yoshida, Akitomo Rikuta, Susumu Ando, Takashi Kuroda  
Nihon Univ.

P-12 Trial production of expansive temporary sealing material

- Hiroshi Noguchi, Hidetoshi Okada, Yoshinori Ishida, Yoshimi Kakumoto, Hitoshi Oikawa, Katuya Nagayama  
Ohu Univ.

### Cell and Tissue

P-13 Gene profiling of human mesenchymal stem cells cultured in osteogenic differentiation medium by DNA microarray

- Masayuki Taira, Kaori Sasaki, Setsuo Saitoh, Yoshima Araki  
Iwate Medical Univ.

P-14 Study on apatite-collagen composite part 1 Effect of carbon ion irradiated collagen on bone formation factors

- Ryo Nishikiori, Yuji Nomura, Masahiko Sawajiri, Wataru Teshima, Isao Hirata, Kunio Wakasa, Masayuki Okazaki  
Hiroshima Univ.

P-15 Cytotoxicity test of sintered titanium dioxide

- Yukiko Takei, Yosuke Sato, Michie Ito, Kenta Takahashi, Tatsushi Kwai  
Aichi-Gakuin Univ.

P-16 Cytocompatibility of osteoblast-like cells to fiber-sintered porous titanium

- Akihiro Ueda, Shoji Takeda, Masaaki Nakamura  
Osaka Dental Univ.

P-17 The novel nano-carbonated hydroxyapatite/collagen based materials for dentistry

- Susan Liao<sup>1</sup>, Fumio Watari<sup>1</sup>, Motohiro Uo<sup>1</sup>, Kazuchika Tamura<sup>1</sup>, Wei Wang<sup>1</sup>, Fuzhai Cui<sup>2</sup>  
<sup>1</sup>Hokkaido Univ., <sup>2</sup>Tsinghua Univ.

P-18 Effect of Crude BMP on Mouse Fibroblasts

- Satoshi Jinno, Kenjiro Nakano, Tomoo Suzuki, Kimitoshi Ando, Ayami Nakamura, Tatsuhide Hayashi, Tatsushi Kawai<sup>1</sup>, Toshihide Noguchi<sup>1</sup>  
Aichi-Gakuin Univ.

P-19 Interaction between o-methoxyphenols and thiols

- Seiichiro Fujisawa, Tosiko Atsumi, Yoshinori Kadoma  
Meikai Univ.

P-20 Preparation of carbon nanotube/alginate nanocomposite gel in tissue engineering

- Minoru Kawaguchi<sup>1</sup>, Tadao Fukushima<sup>1</sup>, Shoji Takeda<sup>2</sup>, Toru Hayakawa<sup>3</sup>, Naotoshi Nakashima<sup>4</sup>, Masaaki Nakamura<sup>2</sup>, Koji Miyazaki<sup>1</sup>  
<sup>1</sup>Fukuoka Dental College, <sup>2</sup>Osaka Dental Univ., <sup>3</sup>Nihon Univ. at Matsudo, <sup>4</sup>Kyusyu Univ.

### Dissolution, Others

P-21 The decomposition of methacrylate monomers in human saliva

- Maki Hagio, Minoru Kawaguchi, Hiroko Kuboyama, Yousuke Ga, Wataru Motokawa, Kouji Miyazaki  
Fukuoka Dental College

P-22 Simultaneous determination of leachable substances from self-curing resins for

orthodontics

○Toshio Hongo<sup>1</sup>, Sakari Hikage<sup>2</sup>, Atsushige Sato<sup>3</sup>

<sup>1</sup>Tokyo Medical and Dental Univ., <sup>2</sup>Health Sciences Univ. of Hokkaido, <sup>3</sup>Showa Univ.

P-23 The Wear resistance and kindness of Hybrid composite

○Hiroki Nagatomi, Munenaga Miyasaka, Hiroyuki Miura, Takayuki Yoneyama, Hisashi Doi  
Tokyo Medical and Dental Univ.

P-24 A method to get a high frequency electric current from an electromagnetic wave of a portable telephone –Possibility of washing by oscillator and sterilization by ultraviolet rays LED–

○Kazuo Ohkuma  
The Nippon Dental Univ.

Adhesive

P-25 Evaluation of bonding characteristics of resin cements to cp titanium

○Akihiro Fujishima, Yusuke Shimakura, Yasuhiro Hotta, Takashi Shimizu, Tadaharu Kawawa,  
Takashi Miyazaki  
Showa Univ.

P-26 Surface modification of titanium by etching in concentrated acid –Application to pretreatment for A234veneering of crown and bridge resins–

○Hideo Sato, Seiji Ban, Hiroshi Kono, Yukari Iwaya  
Kagoshima Univ.

P-27 Electrodeposition of adhesive monomer on dental alloy –Electrodeposition of 4–METsolution and type4 gold alloy–

○Tashi Kojima, Masahiro Kaketani, Hideharu Hirose, Masahiro Saitoh, Toshiaki Nakano, Minoru Nishiyama  
Nihon Univ.

P-28 Electrodeposition of Adhesive Monomer on Dental Alloy –Durability of treated surface–

○Masahiro Kaketani, Taishi Kojima, Yasumasa Fukase, Souichirou Kasai, Masashi Narikawa,  
Hideharu Hirose, Minoru Nishiyama  
Nihon Univ.

P-29 Adhesive properties and polymerization reactivity of resins containing adhesion promoting monomers for precious metals

○Yoshinori Kadoma  
Tokyo Medical and Dental Univ.

P-30 Collagen–Adhesive Monomer Interaction in Adhesion to Dentin –quantitative analysis of hydrophilic/hydrophobic interaction of monomer analogues with collagen–

○Tomohiro Morikawa, Takashi Nezu, Yoshihiro Terada  
Kyushu Univ.

P-31 Influence of bond strength in the custody condition and handling time with bonding system

○Hidetoshi Okada, Yshinori Ishida, Hiroshi Noguchi, Hitoshi Oikawa, Katsuya Nagayama  
Ohu Univ.

P-32 Studies of fluoridated One–step adhesive

○Linlin Han, Akira Okamoto, Takashi Okiji  
Niigata Univ.

P-33 Development of the adhesive primer comprised of amide monomer

○Misako Odaki, Norihiro Nishiyama, Kimiya Nemoto, Msahiro Aida  
Nihon Univ. at Matsudo

Resin, Others

P-34 Mechanical properties of soft lining materials based on urethane oligomer

○Takahito Kanie, Hiroyuki Arikawa, Koichi Fujii, Seiji Ban

P-35 Influence of Composition on Temperature Characteristics of Viscoelastic Properties of Tissue Conditioners

○Guang Hong, Hiroshi Murata, Shinsuke Sadamori, Taizo Hamada  
Hiroshima Univ.

P-36 Physical properties of novel silicone rubber relining material: SS-Silicone

○Hideharu Hirose, Kenji Yagihara, Kazunori Shimomura, Setsuko Sakaguchi, Junko Hayashi,  
Nobuyuki Usui, Minoru Nishiyama  
Nihon Univ.

P-37 Shape memory alloy fiber reinforced resin matrix smart composite (Part 11) –primer type effects on interfacial properties–

○Kenichi Hamada, Fumiaki Kawano, Kenzo Asaoka  
Tokushima Univ.

P-38 Application of an ultra sonic pulse measurement on determination of polymerization characteristics of flowable resin

○Hirohiko Inage, Mitsuo Sato, Satoshi Uekusa, Masashi Miyazaki, Hiroyasu Kurokawa, Tomoyoshi Takigawa, Susumu Ando, Takashi Kuroda  
Nihon Univ.

P-39 Light exposure required for optimum conversion of light activated composite resins

○Rie Nomoto<sup>1</sup>, John McCabe<sup>2</sup>, Susumu Hirano<sup>1</sup>  
<sup>1</sup>Tsurumi Unive., <sup>2</sup>Univ. of Newcastle

P-40 Evaluation of filler structures and mechanical properties of flowable resin composites

○Jian Wu, Akihiro Fujishima, Kazuo Ito, Takashi Miyazaki, Hisashi Hisamitsu  
Showa Univ.

P-41 Bi-axial flexure strength of hybrid and flowable composite resin laminate –Effect of hybrid/flowable thickness ratio–

○Yasuhiko Imanishi, Shinji Takemoto, Masayuki Hattori, Masao Yoshinari, Eiji Kawada, Yutaka Oda  
Tokyo Dental College

P-42 Light transmittance and color changes before and after curing of light-cured composite resins

○Hiroyuki Arikawa, Takahito Kanie, Koichi Fujii, Seiji Ban  
Kagoshima Univ.

P-43 Measurement of filler contents and coefficient thermal expansion of light-cured restoratives

○Toshiki Takamizawa, Kanako Yamaguchi, Youhei Asaka, Yasushi Chiba, Masashi Miyazaki,  
Susumu Ando, Takashi Kuroda  
Nihon Univ.

P-44 Mechanical Properties of New Hard Resin for Crown and Bridge

○Akio Izumida, Minoru Ishibashi, Tatsuhiko Konno, Ryouichi Inagaki, Satoshi Yamada, Shin Kasahara, Masanobu Yoda, Kohei Kimura  
Tohoku Univ.

P-45 Effect of storage of alginate impressions following spray with disinfectant solution on the dimensional accuracy and deformation of stone models– Type of tray for allginate impression materials–

○Hisako Hiraguchi, NorihitoHagino, Kohichi Miyanaga, Yoshio Nakajima, Kiyomi Miyazaki, Taro Inoue, Minoru Nishiyama  
Nihon Univ.

## 9:30-12:00 General Presentation (Oral)

### Cell and Tissue

A-20 Cell adhesion and proliferation on electrically polarized hydroxyapatite surface in body fluid  
○Hiroshi Arai, Takayuki Kobayashi, Yasutaka Sekijima, Satoshi Nakamura, Kimihiro Yamashita  
Tokyo Medical and Dental Univ.

A-21 Angiogenic peptide SVVYGLR

○Yoshinosuke Hamada, Kanako Yuki, Norihisa Ogami, Takuya Mastumoto, Junzo Takahashi,  
Nariaki Matsuura  
Osaka Univ.

### Implants

A-22 Properties of sintered carbon nanotubes for biomedical application

○Wei Wang<sup>1</sup>, Hideomi Kondo<sup>1</sup>, Atsurou Yokoyama<sup>1</sup>, Motohiro Uo<sup>1</sup>, Syouji Ohkawa<sup>1</sup>, Tsukasa  
Akasaka<sup>1</sup>, Toshi Sugawara<sup>1</sup>, Mamoru Ohmori<sup>2</sup>, Fumio Watari<sup>1</sup>  
<sup>1</sup>Hokkaido Univ., <sup>2</sup>Tohoku Univ.

A-23 Biomaterial properties of carbide modified titanium

○Yuhe Zhu, Mituo Shimotuma, Atsurou Yokoyama, Motohiro Uo, Syouji Ohkawa, Wei Wang, Fumio  
Watari  
Hokkaido Univ.

### Tissue

A-24 Development of the Biofunctional Implant Materials Part(11)

-Osteoinductive activity of BMP -Resin complex-

○Tomoo Suzuki, Satoshi Jinno, Takashi Ito, Masamitsu Ito, Tatsuhide Hayashi, Tatsushi Kawai,  
Toshihide Noguchi  
Aichi-gakuin Univ.

A-25 Control of decomposition on Poly(L-lactide) Part 2. Annealing effects and morphology

○Fumio Teraoka, Masafumi Nakagawa, Satoshi Hara, Junzo Takahashi  
Osaka Univ.

### Biological Reaction

A-26 Gene expression and super-oxide dismutase (SOD) activities of macrophage-like RAW264  
cells exposed to LD50 high-dose Ni<sup>2+</sup> ions

○Masayuki Taira, Kaori Sasaki, Setsuo Saitoh, Yoshima Araki  
Iwate Medical Univ.

A-27 Effects of experimental alloys containing indium on embryotoxicity and mutagenicity in vitro

○Koichi Imai<sup>1</sup>, Shinichi Gotou<sup>2</sup>, Shoji Takeda<sup>1</sup>, Masaaki Nakamura<sup>1</sup>, Hideo Ogura<sup>2</sup>  
<sup>1</sup>Osaka Dental Univ., <sup>2</sup>The Nippon Dental Univ. at Niigata

### Cell

A-28 XRD and XMA analysis of calcified materials in the oral cavity

○Isao Kawashima, Hiroki Ohno, Kazuhiko Endo, Yuro Yamane  
Health Sciences Univ. of Hokkaido

A-29 Tensile strength and machinability of dentin after irradiation

○Hidekazu Takahashi<sup>1</sup>, Naohiko Iwasaki<sup>1</sup>, Mansuang Arksornnukit<sup>2</sup>  
<sup>1</sup>Tokyo Medical and Dental Univ., <sup>2</sup>Chulalongkorn Univ.

## 13:00-14:00 Invited Lecture II

Optical Properties of Esthetic Restorative Materials  
Yong-Keun Lee (Seoul National University)

## 15:00 - 17:00 General Presentation (Oral)



## Resin I

A-30 Vinyl esters/polymer mixture system (Part 1) – Application to the tissue conditioner –

- Jiro Tanaka<sup>1</sup>, Yoshiya Hashimoto<sup>2</sup>, Masaaki Nakamura<sup>2</sup>, Kazuomi Suzuki<sup>1</sup>  
<sup>1</sup>Okayama Univ., <sup>2</sup>Osaka Dental Univ.

A-31 Molecular biological response of L929 cells on the interaction of methyl methacrylate

- Atsuko Ishikawa, Kenjiro Kuroki, Teruo Higa, Tatsuhide Hayasi, Tatsushi Kawai, Takashi Mori,  
Masami Hattori, Yosinobu Tanaka  
Aichi-gakuin Univ.

A-32 Effect of irradiation using violet LEDs on polymerization behavior of dental resins supplemented with various photoinitiators (Part3) –Leachability of components from polymerized resins–

- Wataru Teshiam, Yuji Nomura, Ryo Nishikiori, Kenisci Shirai, Nobuyuki Tanaka, Masayuki Okazaki, Yukinori Nahara  
Hiroshima Univ.

## Resin II • Adhesive I

A-33 Surface Characteristics of flowable resins with different polishing instruments

- Eriko Tsubaki<sup>1</sup>, Ryuzo Kishikawa<sup>1</sup>, Norimichi Inai<sup>2</sup>, Hidekazu Takahashi<sup>1</sup>, Akihiro Fujishima<sup>3</sup>,  
Takashi Miyazaki<sup>3</sup>, Masayuki Otsuki<sup>1</sup>, Jyunji Tagami<sup>1</sup>  
<sup>1</sup>Tokyo Medical and Dental Univ., <sup>2</sup>M.A.F.F., <sup>3</sup>Showa Univ.

A-34 Adhesion theory in new generation

- Kunio Wakasa<sup>1</sup>, Atsuharu Ikeda<sup>1</sup>, Yuuji Nomura<sup>1</sup>, Isao Hirata<sup>1</sup>, Masayuki Okazaki<sup>1</sup>, Hidehiko Sano<sup>2</sup>  
<sup>1</sup>Hiroshima Univ., <sup>2</sup>Hokkaido Univ.

A-35 Effect of different functional monomers on hydrolytic stability of self-etching priming systems bonded to dentin

- Yasuhiro Yoshida<sup>1</sup>, Satoshi Inoue<sup>2</sup>, Kenichi Koshiro<sup>2</sup>, Hidehiko Sano<sup>2</sup>, Kazuomi Suzuki<sup>2</sup>, Bart Van Meerbeek<sup>3</sup>  
<sup>1</sup>Okayama Univ., <sup>2</sup>Hokkaido Univ., <sup>3</sup>Catholic Univ. of Leuven

A-36 Bonding efficacy of Adper Prompt L-Pop to dentin

- Shigeru Uno<sup>1</sup>, Eiji Yosida<sup>2</sup>, Toshimoto Yamada<sup>1</sup>  
<sup>1</sup>Toranomon Hospital, <sup>2</sup>Hokkaido Univ.

A-37 Bond strength of one-step bond system to intact enamel

- Hiroshi Okada, Hiroyuki Takanashi, Yasushi Shimada, Jyunji Tagami  
Tokyo Medical and Dental Univ.

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## Hall B

Sunday, 17 April 2005

10:00-16:00 General Presentation (Poster I)

## Computer Aided

P-46 Ordered structures of biopolymer solution generated by phase separation – Fourier analysis of the phase structure –

- Takashi Nezu, Tomohiro Morikawa, Yoshihiro Terada  
Kyushu Univ.

P-47 Stress Analysis of Implant using a Three-dimensional Finite Element Model based on the Volume Data

- Kazumichi Wakabayashi<sup>1</sup>, Taiji Sohmura<sup>1</sup>, Naoki Kusumoto<sup>1</sup>, Tamaki Nakano<sup>1</sup>, Shinichi Yamada<sup>1</sup>,



Takashi Nakamura<sup>1</sup>, Atsushi Yamaguchi<sup>2</sup>, Youichi Kumazawa<sup>2</sup>, Junzo Takahashi<sup>1</sup>, Hirofumi Yatani<sup>1</sup>  
<sup>1</sup>Osaka Univ., <sup>2</sup>Wada Precision Dental Lab. Co., Ltd.

P-48 Answer collecting/analysis system for a simultaneous lecture of multiple universities  
○ Tatsushi Kawai, Tatsuhide Hayashi, Hideki Kawai, Yasuaki Uematsu, Masamichi Kabutomori  
Aichi-gakuin Univ.

P-49 withdraw

#### Laser, Others

P-50 The development of the excimer lamps in which the recycling is possible  
○ Koichi Arai<sup>1</sup>, Nobuo Ando<sup>2</sup>  
<sup>1</sup>Meikai Univ., <sup>2</sup>Nippon Dental Univ. at Tokyo

P-51 Application of Nd-YAG laser to Orthodontic Appliance –Welding of finger-like spring to main arch wire–  
○ Kiyoshi Arai, Sayaka Maruyama, Kennsuke Matune, Isao Shibuya, Kimiya Nemoto, Takahide Maeda  
Nihon Univ. at Matsudo

P-52 Laser welding of dental alloy –Effect of defocus on weld pool shape–  
○ Hisaji Kikuchi, Masashi Yui, Mitsuru Wakashima, Masataka Saigoh, Tomoko Kurotani, Minoru Nishiyama  
Nihon Univ.

P-53 Influence of number of cycles of sterilization operation on rotational performances in commercially available air-turbine handpieces.  
○ Masahiro Nagai, Kazuo Takakuda  
Tokyo Medical and Dental Univ.

P-54 The mechanical properties of dental metals welded by the TIG-welder for dental laboratory works  
○ Won Sik Lee, Zutai Zhang, Yukimichi Tamaki, Takashi Miyazaki  
Showa Univ.

#### Ceramics

P-55 Physical properties of Injectable Ceramics “Ceraeste” Hidekazu Takahashi,  
○ Naohiko Iwasaki, Jingyue Jin, Ryo Tokunaga  
Tokyo Medical and Dental Univ.

P-56 Study on fiber reinforced ceramics (Fifth report)–Effect of sintering temperature–  
○ Yasuhiro Tanimoto, Kimiya Nemoto  
Nihon Univ. at Matsudo

P-57 Study of bond strength to dental CAD/CAM ceramic (Part 1) Shear bond strength of seven resin cements to silica ceramic  
○ Yusuke Shimakura, Yasuhiro Hotta, Akihiro Fujishima, Toshihisa Fujiwara, Takashi Miyazaki, Tadaharu Kawawa  
Showa Univ.

P-58 Study of bond strength to dental CAD/CAM ceramic (Part 2) Shear bond strength of resin cements to calcium phosphate ceramic  
○ Yasuhiro Hotta, Yusuke Shimakura, Akihiro Fujishima, Toshihisa Fujiwara, Takashi Miyazaki, Tadaharu Kawawa  
Showa Univ.

P-59 Fabrication of bioceramics by CAD/CAM method using rapid prototyping  
○ Taiji Sohmura, Rungnapa Lowmunkong, Junzou Takahashi  
Osaka Univ.

P-60 Fabrication of distortion carbonate apatite ceramic by superplastic deformation

○Masanori Adachi, Nobukazu Wakamatsu, Hideo Kamemizu, Mayumi Iijima, Takasi Horiguchi, Takayasu Goto, Yutaka Doi  
Asahi Univ.

P-61 Formation of carbonated apatite from set gypsum containing calcite in ammonium phosphate solution

○Koh-ichi Udoh, Chowdhury Tanira Zaman, Shigeki Matsuya, Masaharu, Nakagawa, Kunio Ishikawa  
Kyushu Univ.

P-62 Calcium phosphate deposit on pearl in vitro

○Shozo Tsuruta, Iichiro Yamamoto, Keita Morimoto, Koshin Shinoda, Tatsushi Kawai  
Aichi-gakuin Univ.

P-63 Transformation of 3-D printing gypsum model to HA by treating in ammonium phosphate solution (Part 2) -Effect of HA powder on the transformation to HA-

○Rungnapa Lowmunkong<sup>1</sup>, Taiji Sohmura<sup>1</sup>, Yumiko Suzuki<sup>2</sup>, Shigeki Matsuya<sup>2</sup>, Kunio Ishikawa<sup>2</sup>, Tomoyuki Nakawaki<sup>3</sup>, Junzou Takahashi<sup>1</sup>  
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### Cements and Mold Materials

P-64 Physical properties of of glass-ionomer cement: effect of sperical filler addition (Part 3)

○Kenji Hatanaka, Rosalina Tjandrawinata, Masao Irie, Kazuomi Suzuki  
Okayama Univ.

P-65 Changes in Shear-punch strength with time Glass Ionomer Cements for Luting

○Atsushi Yamazaki, Atsushi Harashima, Muneaki Honda, Yuko Nagasawa, Ken-Ichi Kuramochi, Yoko Takahashi, Ken-Ichi Wada, Taniichirou Yamaga, Yasushi Hibino, Hiroshi Nakajima  
Meikai Univ.

P-66 Effect of storage conditions of specimens on strength of temporary cements

○Yuko Nagasawa, Atsushi Yamazaki, Atsushi Harashima, Muneaki Honda, Minako Niikura, Yoko Takahashi, Taniichirou Yamaga, Yasushi Hibino, Hiroshi Nakajima  
Meikai Univ.

P-67 Reuse of commercial investments for titanium

○Zjtai Zhang, Yukimichi Tamaki, Yasuhiro Hotta, Takashi Miyazaki  
Showa Univ.

P-68 Compressive strength of phosphate-bonded investment including shirasu-balloons

○Koichi Fujii, Hiroyuki Minami, Hiroyuki Arikawa, Takahito Kanie, Seiji Ban, Mitsuko Inoue  
Kagoshima Univ.

P-69 Reuse of experimental investments with glass powder

○Yukimichi Tamaki  
Showa Univ.

### Surface Modificaton

P-70 Preliminary Beta-TCP coating promotes collagen immobilization onto titanium

○Mizuyo Hosaka, Yo Shibata, Hiroki Yamamoto, Yu Kataoka, Yuriko Toda, Takashi Miyazaki, Tadaharu Kawawa  
Showa Univ.

P-71 Surface modification of dental alloy by electron-beam system (part3)

-Effect on the surface properties of cast titanium-

○Junko Tokunaga<sup>1</sup>, Tetsuya Kojima<sup>1</sup>, Taiji Sohmura<sup>1</sup>, Yujirou Nomura<sup>2</sup>, Soichirou Kinuta<sup>1</sup>, Kazumuchi Wakabayashi<sup>1</sup>, Tetsuya Hirata<sup>1</sup>, Takashi Nakamura<sup>1</sup>, Junzou Takahashi<sup>1</sup>, Hirohumi Yatani<sup>1</sup>

P-72 Electrochemical immobilization of polyethyleneglycol to titanium surface

○Takao Hanawa, Takayuki Yoneyama, Hisashi Doi, Ikuo Kobayashi  
Tokyo Medical and Dental Univ.

Titanium

P-73 Observation of Sandblast-treated Titanium and 12%Au-Ag-Pd Alloy

○Takamitsu Yoshida, Nobuyoshi Terashima, Yuji Deguchi, Toshihide Mizoguchi, Kaoru Tamura,  
Naruhiko Shiratori, Sakae Nagasawa, Hiroshi Yagasaki, Michio Ito  
Matsumoto Dental Univ.

P-74 A study of the Titanium oxide film after heat treatment (Part 1) The diffusion of oxygen and nitrogen

○Nobuyoshi Terashima, Takamitsu Yoshida, Kaoru Tamura, Nobuko Horasawa, Ken Takeuti, Keigo Hayano, Sakae Nagasawa, Mitio Itou  
Matsumoto Dental Univ.

P-75 Susceptibility to hydrogen embrittlement of Ti-6Al-4V alloy in fluoride solutions

○Ken'ichi Yokoyama, Kenzo Asaoka  
Tokushima Univ.

P-76 Precipitation of Ti<sub>2</sub>Ag and anodic polarization behavior of Ti-Ag alloys

○Masatoshi Takahashi<sup>1</sup>, Yukyo Takada<sup>1</sup>, Masafumi Kikuchi<sup>1</sup>, Toru Okabe<sup>2</sup>, Osamu Okuno<sup>1</sup>  
<sup>1</sup>Tohoku Univ., <sup>2</sup>Baylor College of Dentistry

P-77 Application of Sintered Metal to Dental Prostheses

○Hideya Oohashi<sup>1</sup>, Tatsuya Hikosaka<sup>1</sup>, Hisashi Yamada<sup>1</sup>, Syouzou Tsuruta<sup>1</sup>, Yosinobu Tanaka<sup>1</sup>,  
Tatsushi Kawai<sup>1</sup>, Kiyotaka Kato<sup>2</sup>  
<sup>1</sup>Aichi-Gakuin Univ., <sup>2</sup>National Institute of Advanced Industrial Science and Technology

Dental Alloys, Casting, Corrosion

P-78 Effect of adhesive functional monomers on bonding to magnetic stainless steels

○Yumi Ishikawa<sup>1</sup>, Yoshikazu Kawamoto<sup>1</sup>, Yoshiyuki Kakehashi<sup>1</sup>, Hideo Matsumura<sup>1</sup>, Kimiya Nemoto<sup>2</sup>  
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P-79 Tensile property of Zr-Nb binary alloy dental castings

○Hisashi Doi<sup>1</sup>, Takayuki Yoneyama<sup>1, 2</sup>, Equo Kobayashi<sup>1</sup>, Takao Hanawa<sup>1</sup>  
<sup>1</sup>Tokyo Medical and Dental Univ., <sup>2</sup>Univ. of Tokyo

P-80 Ion release from gold alloy for metal-fused crowns in 1.0% Lactic Acid

○Kie Watanabe, Shiho Otake, Akiyo Tsuchiya, Hiroyuki Miura, Takayuki Yoneyama, Hisashi Doi  
Tokyo Medical and Dental Univ.

P-81 The studies of metallic allergy from dental alloys. 1. Dissolution and protein adsorption of dental alloys in human saliva

○Hiroshi Oshima<sup>1</sup>, Kazuhiko Endo<sup>2</sup>, Yukyo Takada<sup>3</sup>, Masayasu Nakagawa<sup>4</sup>, Eiji Kawada<sup>5</sup>, Hidekazu Takahashi<sup>6</sup>, Minoru Nishiyama<sup>7</sup>, Sumie Yamanaka<sup>5</sup>, Masaaki Nakamura<sup>1</sup>  
<sup>1</sup>Osaka Dental Univ., <sup>2</sup>Health Sciences Univ. of Hokkaido, <sup>3</sup>Tohoku Univ., <sup>4</sup>Kyushu Univ., <sup>5</sup>Tokyo Dental College, <sup>6</sup>Tokyo Medical and Dental Univ., <sup>7</sup>Nihon Univ.

P-82 Effects of heat treating on corrosion behavior of SUS447J1 stainless steel castings

○Keisuke Nakamura, Yukyo Takada, Kohei Kimura, Osamu Okuno  
Tohoku Univ.

P-83 A method to make metal prosthesis by a microwave oven - Atmospheric pressure casting of a gold-silver-palladium alloy -

