

ABC2002 Program

2nd Asian BioCeramics Symposium

October 24–26 2002, Gyeongju, Korea

Thursday, October 24, 2002

13:00 REGISTRATION

14:00 WELCOME

President, Su-Chul Chung (KICET, Korea)

DISTINGUISHED LECTURE (Session Chair : W. S. Seo)

14:05 My Life in Ceramic Biomaterials

Prof. Tadashi Kokubo (Kyoto Univ., Japan)

ORAL PRESENTATION I

Inorganic/Organic Hybrid Materials (Session Chair : C.Ohtsuki, S.B.Choo)

15:00 Apatite Formation on Polyamide Film Modified with Sulfonic Groups

T.Kawai¹, C.Ohtsuki¹, T.Miyazaki², M.Tanihara¹, J.Nakao³, Y.Sakaguchi³, S.Konagaya³ (¹NAIST, ²KIT, ³Toyobo Research Center)

15:20 Bioactive and Degradable Organic/Inorganic Hybrid Materials

Sang-Hoon Rhee (KRICT)

15:40 Bioactive Soft Materials Precipitating Nano Anatase Particles

Masanobu Kamitakahara, Masakazu Kawashita, Noboru Miyata, Tadashi Kokubo, Takashi Nakamura (Kyoto Univ.)

16:00 Bioactivity of PMMA Bone Cement Modified with Alkoxysilane and Calcium Salts

C.Ohtsuki¹, T.Miyazaki², M.Tanihara¹, A.Sugino³, A.Mori³, K.Kuramoto³ (¹NAIST, ²KIT, ³Nakashima Propeller)

16:20 COFFEE BREAK

Cell & Biomaterials (Session Chair : Kunio Ishikawa, Kyung-Sik Oh)

16:40 Apatite in Calcified Phyma

Koji Ioku, Giichiro Kawachi, Hirotaaka Fujimori, Seishi Goto (Yamaguchi Univ.)

17:00 Bone-like Layer Formed in Culture Medium as a Scaffold for Cell Activation

Takashi Kizuki^{1,2}, Masataka Ohgaki¹, Satoshi Nakamura¹, Kazuaki Hashimoto², Yoshitomo Toda², Kimihiro Yamashita¹ (¹Tokyo Univ., ²Chiba Institute of Technology)

17:20 Molecular Biologic Detections of Cell Activation Related Proteins on Biomaterials

Miho Nakamura, Yasutaka Sekijima, Takayuki Kobayashi, Akiko Obata, Satoshi Nakamura, Kimihiro Yamashita (Tokyo Univ.)

17:40 Bone Formation Induced by a Synthetic Oligopeptide Derived from a Bone Morphogenetic Protein-2

Shin-ichi Ogata¹, Atsuhiro Saito¹, Yoshihisa Suzuki², Chikara Ohtsuki¹, Masao Tanihara¹ (¹NAIST, ²Kyoto Univ.)

18:00 Biological Behaviors of MC3T3/E1 Cells on Grit-Blasted Ti-Alloy

S.W.Kim¹, M.H.Ahn¹, Y.E.Lee², E.K.Park², S.Y.Kim², S.H.Oh¹, S.Kim¹ (¹Yeungnam Univ. ²Kyungpook Natl. Univ.)

18:20 END OF THURSDAY SCIENTIFIC SESSION

Friday, October 25, 2002

INVITED LECTURE (Session Chair : Kimihiro Yamasita)

09:00 Bio-Enamel Prepared by Coating Bioactive Glass on Titanium
Prof. Cheol-Young Kim (Inha Univ., Korea)

ORAL PRESENTATION II

Glass & Glass Ceramic (Session Chair : T. Miyazaki, Jong-Heon Lee)

09:40 Thermoelectric Properties of Bioactive Glass and Glass-Ceramics
Akiko Obata, Satoshi Nakamura, Kimihiro Yamashita (Tokyo Univ.)

10:00 Evaluation of Bioactivity for Sol-Gel Derived CaO-SiO₂ Gels
S.B.CHO, S.B.KIM, K.J.CHO, Y.J.KIM, T.H.LEE, Y.HWANG (KIGAM)

10:20 Effects of Organic Molecules in the Kokubo's Simulated Body Fluid on Apatite Formation on Glass and Titanium Substrates
K.Tsuru, Y.Higashi, S.Hayakawa, A.Osaka (Okayama Univ.)

10:40 Preparation of Ceramic Microspheres for *In situ* Treatment of Deep-seated Cancer
Masakazu Kawashita, Tadashi Kokubo, Masahiro Hiraoka (Kyoto Univ.)

11:00 COFFEE BREAK

Coating (Session Chair : Masakazu Kawashita, Sang-Hoon Rhee)

11:20 Apatite Formation on Silk Sericin in a Solution Mimicking Extracellular Fluid
A.Takeuchi¹, C.Ohtsuki¹, T.Miyazaki², S.Ogata¹, M.Tanihara¹, H.Tanaka³, Y.Furutani⁴, H.Kinoshita⁴ (¹NAIST, ²KIT, ³KPINI, ⁴CENTMED)

11:40 Inorganic Biofilms for Medical Applications
In-Seop Lee (Yonsei Univ.)

12:00 Structure Refinement of Inside Layers of Calcium Phosphate Coatings by Thin Film X-Ray Diffraction Method
Masataka Ohgaki, Kimihiro Yamashita (Tokyo Univ.)

12:20 INDEPENDENT LUNCH

INVITED LECTURE (Session Chair : S. Y. Kim)

13:20 The Osteoinductivity of Ca-P Bioceramics and the Potential in Clinic
Prof. Zhang Xing Dong (Sichuan Univ., China)

ORAL PRESENTATION III

Tricalcium Phosphate (Session Chair : Koji Ioku, S.R. Kim)

14:00 Porous Ceramics of β -Tricalcium Phosphate with Bimodal Pore Size
Koji Ioku, Hidetoshi Misumi, Hirotaka Fujimori, Seishi Goto (Yamaguchi Univ.)

14:20 Porous Beta-Calcium Pyrophosphate as a Bone Graft Substitute in a Canine Bone Defect Model
J.H.Lee, D.H.Lee, H.S.Ryu, B.S.Chang, K.S.Hong, C.K.Lee (Seoul Natl. Univ.)

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14:40 Phase Transform Process between β and α Tricalcium Phosphate Structures

Satoshi Nakamura, Kimihiro Yamashita (Tokyo Univ.)

15:00 Ingrowth of New Bone on α -TCP-based Bone Filler

Jong-Heon Lee¹, Kang-Sik Lee¹, Woo-Shin Cho¹, Jae-Suk Change¹, Jong-Kyu Lee², Soo-Ryong Kim², Yung-Tae Kim¹ (¹Asan Medical Center, ²KICET)

15:20 Improvement of Chemical Durability of Porous α -TCP by Coating with Organic Polymer

T.Miyazaki¹, C.Ohtsuki², H.Iwasaki², M.Tanihara² (¹KIT, ²NAIST)

15:40 COFFEE BREAK

Hydroxyapatite (Session Chair : Satoshi Nakamura, In-Seop Lee)

16:00 Preparation of OH-Designed Apatite Ceramics

Daisuke Kawagoe, Koji Ioku, Hirotaaka Fujimori, Seishi Goto (Yamaguchi Univ.)

16:20 Influence of Silicon Substitution on the Microstructure and Bioactivity of Hydroxyapatite

Y.H. Kim, D.H. Riu, S.J. Jung, Y.J. Lee, H.Song, S.R. Kim (KICET)

16:40 Water Vapor Effects of Sintering Ambience on Chemical Properties of Ceramic Hydroxyapatite

Reiko Kato, Satoshi Nakamura, Kimihiro Yamashita (Tokyo Univ.)

17:00 Synthesis and Antimicrobial Properties of Nano-Sized Hydroxyapatite and α -Zirconium Phosphate Doped with Silver

Kyung-Sik Oh, Hyun-Kyu Choi, Kyung-Ja Kim, Young-Keun Jeong (KICET)

17:20 Evaluation of Hydroxyapatite Putty as a Local Hemostatic Agent for Bone

Kunio Ishikawa¹, Youji Miyamoto², Yukihiro Momota²
(¹Kyushu Univ., ²Tokushima Univ.)

17:40 The Manipulation of Protein Molecules on the Bone-like Apatite Deposition on the Surface of Calcium Phosphate Ceramics

HS Fan, WW Lu, SX Qu, JCY Leong, JQ Cheng, XD Zhang (Sichuan Univ.)

18:00 END OF FRIDAY SCIENTIFIC SESSION

18:30 BANQUET

Saturday, October 26, 2002

POSTER PRESENTATION

10:00 Implantation of Hydroxyapatite onto Titanium for Hydroxyapatite/Titanium Composites

Akira Watazu¹, Oguchi Hitoshi², Toru Nonami¹, Akira Kamiya¹, Jun Zhu¹, Wen Shi¹, Tsutomu Sonoda¹
(¹NIAIST, ²Tsurumi Univ.)

Preparation of Apatite Hydro-gel and Its Caking

Yoshiyuki Yokogawa¹, Fukue Nagata¹, Tetsuya Kameyama¹, Yoshikazu Shiotsu², Makoto Watanabe² (¹NIAIST, ²Chubu Univ.)

***In Vitro* Biocompatibility Evaluation of Silver Doped Nano-Hydroxyapatite**

Hyun-Min Cho¹, Jung-Won Choi¹, Ji-Eun Kim¹, Kyung-Sik Oh², Kyung-Ja Kim², Young-Keun Jeong², Hong-In Shin¹ (¹Kyungpook Natl. Univ., ²KICET)

Formation of HAp Whiskers by α -TCP Hydrolysis and Influence of Processing Variables

D.J.Baek, T.Y.Yang, Y.B.Lee, S.Y.Yoon, H.C.Park (Pusan Natl. Univ.)

Apatite Formation on CaO-SiO₂ Gel/PEEKTM Composite in Simulated Body Fluid

Y.J.KIM, S.B.CHO, S.B.KIM, K.J.CHO, T.N.KIM (KIGAM)

Behavior of Hydroxyapatite Formation depending on Crystalline Phases in Bioactive Glass Coating Layer on Alumina

Sang-Soo Jee, Cheol-Young Kim (Inha Univ.)

Influence of Etching of Bioglass on the Formation of Hydroxyapatite

Nam-Kwon Cho, Cheol-Young Kim (Inha Univ.)

Development of a Method for Simplified Determination of a Trace of Fluoride in the Air by Using Transform Reaction of Calcium Phosphate

Masamoto Tafu, Tetsuji Chohji (Toyama Natl. Col. of Technology)

Calcium Metaphosphate Enhances Proliferation and Osteoblastic Differentiation of Human Bone Marrow Stromal Cells

Young-Eun Lee¹, Jung-Hwan Kim¹, Sun-Ho Oh², Sukyung Kim², Eui-Kyun Park¹, Shin-Yoon Kim¹
(¹Kyungpook Natl. Univ., ²Yeungnam Univ.)

Preparation of Biodegradation-Controllable Bioactive Glass-Ceramics

Hyun-Seung Ryu¹, Jun-Hyuk Seo¹, Ki-Soo Park¹, Kug-Sun Hong¹, Hwan Kim¹, Duk-Joong Kim², Jae-Hyup Lee¹, Choon-Ki Lee¹ (¹Seoul Natl. Univ., ²Sungkyunkwan Univ.)

Optical, Mechanical Properties and Infiltration Rate of Alumina/Zirconia-glass Dental Composites Prepared by Melt Infiltration

Deuk-Yong Lee¹, Dae-Jun Kim² (¹Daelim Col., ²KIST)

Fabrication of Nano α -Zirconium Phosphate Particles

Hyun-Kyu Choi^{1,2}, Kyung-Sik Oh¹, Kyung-Ja Kim¹, Young-Keun Jeong¹, Young-Do Kim² (¹KICET, ²Hanyang Univ.)

Response of Macrophages to Ceramic Wear Particles

Taek-Rim Yoon¹, Sung-Man Rowe¹, Eun-Sun Moon¹, Young-Lan Park¹, Suk-Young Kim² (¹Chonnam Natl. Univ., ²Yeungnam Univ.)

Design of Magnetic Field System in Drug Delivery using Magnetic Fluids of Cu_xFe_{1-x}OFe₂O₃

Sang-Im Park, Jong-Hee Kim, Yu-Qiang Huang, Chong-Oh Kim (Chungnam Natl. Univ.)

***In Vitro* Biocompatibility Assay of Calcium Metaphosphate with Osteoblastic Cells (MC3T3-E1)**

S.H.Oh¹, J.W.Kim¹, Y.E.Lee², E.K.Park², S.Y.Kim², M.H.Ahn¹, S.Kim¹ (¹Kyungpook Natl. Univ., ²Yeungnam Univ.)

12:00 END OF ABC 2002 SYMPOSIUM