

## **The 12<sup>th</sup> International Symposium on Inorganic Phosphate Materials (ISIPM-12) Program**

### **1) 26<sup>th</sup>, August 2026**

13:30-13:50: Opening Ceremony in Liberty Hall (Liberty Tower, 1st Floor)

14:00-15:00: Plenary Lecture (Biomaterials#1) **(Chair: Prof. T. Kasuga)**

#### **O-Bio\_1-01(PL)**

$\beta$ -Tricalcium Phosphate Bioceramics for Bone Regeneration: From Dense Ceramics to Porous Scaffolds

Kazuaki Hashimoto

Chiba Institute of Technology (Japan)

15:00-16:00: Keynote Lectures (Biomaterials#1) **(Chair: Prof. K. Hashimoto)**

#### **O-Bio\_1-02(KL)**

History and Development of Biomaterials for Regenerative Medicine -The story from ancient Rome to the future-

\*Masaru Murata<sup>1</sup>, Toshiyuki Akazawa<sup>2</sup>

1. Health Sciences University of Hokkaido (Japan), 2. Hokkaido Research Organization (Japan)

#### **O-Bio\_1-03(KL)**

Octacalcium Phosphate (OCP) Bone Substitute Materials: Structural and Chemical Relationships with Biomaterials, and Clinical Applications

\*Osamu Suzuki<sup>1</sup>, Ryo Hamai<sup>1</sup>, Tadashi Kawai<sup>2</sup>, Yu Mori<sup>3</sup>

1. Division of Biomaterials Science and Engineering, Tohoku University Graduate School of Dentistry(Japan), 2. Division of Oral and Maxillofacial Surgery, School of Dentistry, Iwate Medical University(Japan), 3. Department of Orthopaedic Surgery, Tohoku University Graduate School of Medicine(Japan)

16:00-16:30: Oral Presentations (Biomaterials#1) **(Chair: Prof. M. Honda)**

#### **O-Bio\_1-04**

Characterization and Cytocompatibility of Calcium Phosphate Ester Salts Prepared from Monoanionic or Dianionic Ethyl Phosphate Monoesters

\*Derong Chen<sup>1</sup>, Taishi Yokoi<sup>2</sup>, Hitoshi Amano<sup>1</sup>, Masaya Shimabukuro<sup>2</sup>, Kazuhiro Aoki<sup>1</sup>, Peng Chen<sup>3</sup>, Yuko Matsukawa<sup>4</sup>, Chikara Ohtsuki<sup>4</sup>, Masakazu Kawashita<sup>2</sup>

1. Graduate School of Medical and Dental Sciences, Institute of Science Tokyo(Japan), 2. Laboratory for Biomaterials and Bioengineering, Institute of Integrated Research, Institute of Science Tokyo(Japan), 3. Graduate School of Dentistry, Tohoku University(Japan), 4. Graduate School of Engineering, Nagoya University(Japan)

#### **O-Bio\_1-05**

Dentin Science and Clinical Application Contributing to Super-Aging Society - Reflecting on Four Decades of Collaborative Research in Medicine, Dentistry, and Engineering –

\*Toshiyuki Akazawa<sup>1</sup>, Naohiro Horie<sup>2</sup>, Kenji Yokoze<sup>2</sup>, Yasuhito Minamida<sup>2</sup>, Masaru Murata<sup>2</sup>, Junichi Tazaki<sup>3</sup>

1. Hokkaido Research Organization(Japan), 2. Health Sciences University of Hokkaido(Japan), 3. Park Dental

Clinic(Japan)

16:30-17:30: Poster Presentations and Exhibitions in Global Front, Multi-purpose Room (1st Floor)

18:00-20:00: Welcome Party in Kishimoto/Miyagi Hall (Liberty Tower, 23F)

## **2) 27<sup>th</sup>, August 2026**

9:30-9:45: Opening Information in Global Front, Global Hall (1st floor)

9:45-11:30: Keynote Lectures (Energy and Environmental Materials#1) **(Chair: Prof. T. Okura)**

### **O-EEM\_1-01(KL)**

Mechanical Instability-Driven Functional Behavior in Rare Earth Orthophosphates

Corinne Packard

University of Southern California (USA)

### **O-EEM\_1-02(KL)**

Direct Synthesis of Phosphate Esters from Phosphoric Acid: Chemical Recycling of Phosphorus-Rich Waste

Yuki Naganawa

National Institute of Advanced Industrial Science and Technology (Japan)

### **O-EEM\_1-03(KL)**

White Phosphorus Production from Crude Phosphoric Acid without Phosphate Rock

\*Shingo Ishihara, Andrey Stephan Siahaan, Ryota Iwahana, Katsutoshi Matsumoto, Yasushi Sasaki, Tetsuya Nagasaka

Tohoku University (Japan)

11:30-12:30: Poster Presentations and Exhibitions in Global Front, Multi-purpose Room (1st Floor)

12:30-13:30: Lunch in Global Front, Global Lounge, 17<sup>th</sup> Floor

13:30-14:30: Plenary Lecture (Biomaterials#2) **(Chair: Prof. M. Aizawa)**

### **O-Bio\_2-01(PL)**

Phosphate-based Ceramics and Glasses –Materials that Underpinned the “Bioceramics Revolution”

Serena Michelle Best

University of Cambridge (UK)

14:30-15:00: Keynote Lecture (Biomaterials#2) **(Chair: Prof. J. Nakamura)**

### **O-Bio\_2-02(KL)**

Calcium Phosphate Biomaterials as Platforms for Engineering the Regenerative Microenvironment

Michiyo Honda

School of Science and Technology, Meiji University (Japan)

15:00-15:15: Break

15:15-15:45: Keynote Lecture (Inorganic Phosphate Materials#1) (**Chair: Prof. T. Takei**)

**O-IPM\_1-01(KL)**

Innovative Phosphorus Upcycling System for the Sustainable Use of High-purity Phosphorus Chemicals

Hisao Ohtake

Phosphorus Industry Development Organization, Japan (Japan)

15:45-16:00: Oral Presentation (Inorganic Phosphate Materials#1) (**Chair: Prof. T. Takei**)

**O-IPM\_1-02**

Synthesis and Structural Characterization of Octacalcium Phosphate With Incorporated Naphthalenetetracarboxylate Ions

\*Taishi Yokoi, Mio Yoshizaki, Masaya Shimabukuro, Masakazu Kawashita

Institute of Science Tokyo (Japan)

16:00-17:00: Keynote Lectures (Energy and Environmental Materials#2) (**Chair: Prof. T. Moriguchi**)

**O-EEM\_2-01(KL)**

Applications of Layered Metal Phosphates via Soft Chemical Reactions

Takahiro Takei

University of Yamanashi (Japan)

**O-EEM\_2-02(KL)**

Preparation of Artificial Phosphate Ore from Steelmaking Slag by CO<sub>2</sub> Blowing

Takeshi Toyama

Nihon University (Japan)

17:00-17:30: Oral Presentations (Energy and Environmental Materials#2) (**Chair: Prof. T. Yokoi**)

**O-EEM\_2-03**

Sacrificial Trimethyl Phosphate Treatment for Phase Stability of Mesoporous  $\gamma$ -Alumina

\*Shingo Machida<sup>1</sup>, Toshimichi Shibue<sup>2</sup>, Yasuo Nagano<sup>1</sup>, Hajime Okawa<sup>1</sup>, Takayuki Nagano<sup>1</sup>

1. Japan Fine Ceramics Center(Japan), 2. Waseda University (Japan)

**O-EEM\_2-04**

Photocatalytic Activity of Composite Sheet Fabricated from Fibrous Octacalcium Phosphate/Titanium Dioxide

\*Shohei Kajiwar<sup>1</sup>, Kiyoshi Itatani<sup>1,2</sup>, Hideki Kuwahara<sup>1</sup>, Takeshi Toyama<sup>2</sup>, Ian Davies<sup>3</sup>, Haruhiko Kuroe<sup>1</sup>

1. Sophia University (Japan), 2. Nihon University (Japan), 3. Curtin University (Australia)

18:00-20:00: Banquet in “RESTAURANT 1899 OCHANOMIZU”

### **3) 28<sup>th</sup>, August 2026**

9:30-9:45: Opening Information in Global Front, Global Hall (1st floor)

9:45-11:30: Keynote Lectures (Inorganic Phosphate Materials#2) (**Chair: Prof. M. Sakurai**)

#### **O-IPM\_2-01(KL)**

Review on Phosphate Glasses

Doris Möncke

New York State College of Ceramics at Alfred University (USA)

#### **O-IPM\_2-02(KL)**

Characterization of Calcium Phosphates and Biological Apatites Using FTIR and Raman Spectroscopy

\*Hiromi Kimura-Suda<sup>1</sup>, Taishi Yokoi<sup>2</sup>, Teppei Ito<sup>1</sup>, Fumiya Nakamura<sup>1</sup>, Miu Murao<sup>1</sup>

1. Chitose Institute of Science and Technology (Japan), 2. Institute of Science Tokyo (Japan)

#### **O-IPM\_2-03(KL)**

First-Principles Insights into Local Structures in Silicophosphate Glasses

Tomoyuki Tamura

Nagoya Institute of Technology (Japan)

11:30-12:00: Oral Presentation (Inorganic Phosphate Materials#2) (**Chair: Prof. T. Toyama**)

#### **O-IPM\_2-04**

High-Purity Phosphorus Recovery from Fermented Chicken Manure via Low-Temperature Smouldering Combustion and Crystallization

\*Moe Myint Thwe<sup>1</sup>, Toshinori Okura<sup>1</sup>, Hideki Hashimoto<sup>1</sup>, Koji Kawada<sup>2</sup>

1. Kogakuin University (Japan), 2. Okamoto Glass Co., Ltd., (Japan)

#### **O-IPM\_2-05**

Design of a Hydrogel with Variable Stiffness and Bone-like Remodeling Capabilities

\*Riku Fukuoka<sup>1</sup>, Takuma Kureha<sup>1,2</sup>

1. Grad. Sch. of Tech., Hirosaki Univ, Japan(Japan), 2. Institute of Global Well-being Science., Hirosaki Univ, Japan(Japan)

12:00-12:30: Keynote Lecture (Energy and Environmental Materials#3) (**Chair: Prof. T. Toyama**)

#### **O-EEM\_3-01(KL)**

Na<sup>+</sup>-Superionic Conductive Glass-Ceramics Pioneered by Oxosate Materials Science for Oxide-Based All-Solid-State Batteries

Toshinori Okura

Kogakuin University (Japan)

12:30-13:30: Lunch in Global Front, Global Lounge, 17<sup>th</sup> Floor

13:30-14:30: Keynote Lectures (Inorganic Phosphate Materials#3) (**Chair: Prof. T. Akazawa**)

**O-IPM\_3-01(KL)**

Development of Analytical Methods for Phosphate Species Using HPLC and <sup>31</sup>P NMR Spectroscopy

Makoto Sakurai

Chubu University (Japan)

**O-IPM\_3-02(KL)**

Photodegradation of Dissolved Organic Matter Using Fe-treated Hydroxyapatite as a Heterogeneous Photo-Fenton Catalyst in Water

\*Takeshi Moriguchi<sup>1</sup>, Souhei Nakagawa<sup>2</sup>, Takumi Matsumoto<sup>2</sup>

1. Department of Liberal Arts, Saitama Medical University (Japan), 2. Taihei Chemical Industrial Co., Ltd. (Japan)

14:30-15:15: Oral Presentations (Biomaterials#3) (**Chair: Prof. T. Yabutsuka • Prof. N. Matsumoto**)

**O-Bio\_3-01**

Ion-Functionalized Apatite Formation on 3D-Printed Porous Yttria Stabilized Zirconia Using Calcium Phosphate Nanoparticles

\*Takeshi Yabutsuka, Yuwei Wu, Shigeomi Takai

Graduate School of Energy Science, Kyoto University(Japan)

**O-Bio\_3-02**

Preparation of Porous Calcium Phosphate Cement Added with Hyaluronate for Promotion of Endochondral Ossification

\*Kazuki Kawabe<sup>1</sup>, Masaki Umetsu<sup>1</sup>, Masanobu Kamitakahara<sup>1</sup>

1. Graduate School of Environmental Studies, Tohoku University (Japan)

**O-Bio\_3-03**

Cellular Response to Zinc-Incorporated Layered Zirconium Phosphate with Controlled (002) Plane Orientation

\*Jin Nakamura, Taro Tomohara, Toshiki Miyazaki

Kyushu Institute of Technology (Japan)

15:15-15:45: Keynote Lecture (Biomaterials#3) (**Chair: Prof. N. Matsumoto • Prof. T. Yabutsuka**)

**O-Bio\_3-04(KL)**

Direct Inverse Analysis of Machine Learning Models for Designing Molecules, Materials, Processes, and Calcium Phosphate Bioceramics with Bone-Forming Ability

Hiromasa Kaneko

Meiji University (Japan)

15:45-16:00: Closing ceremony, including the Young Poster Award presentation in Global Front, Global Hall (1st

floor)

**Poster Presentations in Global Front, Multi-purpose Room (1st Floor)**  
**(Poster Presentations: 26<sup>th</sup> August, 16:30–17:30, and 27<sup>th</sup> August, 11:30–12:30)**

**P-IPM-01**

Synthesis of Octacalcium Phosphate in Aromatic Dicarboxylic Acid Solutions

\*Sarisa Trithipchatsakul<sup>1</sup>, Masaya Shimabukuro<sup>2</sup>, Atsunori Matsuda<sup>3</sup>, Masakazu Kawashita<sup>2</sup>, Charusluk Viphavakit<sup>4</sup>, Taishi Yokoi<sup>2</sup>

1. Graduate School of Medical and Dental Sciences, Institute of Science Tokyo(Japan), 2. Laboratory for Biomaterials and Bioengineering, Institute of Integrated Research, Institute of Science Tokyo(Japan), 3. Department of Electrical and Electronic Information Engineering, Toyohashi University of Technology(Japan), 4. International School of Engineering, Biomedical Materials and Devices for Revolutionary Integrative Systems Engineering Research Unit (BMD-RISE), Faculty of Engineering, Chulalongkorn University(Thailand)

**P-IPM-02**

Post-synthetic Mechanical Reinforcement of Hydrogels via Dynamic Mineralization

\*Riku Fukuoka<sup>1</sup>, Takuma Kureha<sup>1,2</sup>

1. Grad. Sch. of Tech., Hirosaki Univ. (Japan), 2. Institute of Global Well-being Science., Hirosaki Univ, Japan (Japan)

**P-IPM-03**

Effect of Intermediate Oxides on the Wettability of Sodium Phosphate Glasses

Yuya Okuda, \*Hirotaka Maeda

Nagoya Institute of Technology (Japan)

**P-IPM-04**

Production of High-Purity Phosphorus Materials from Phosphates Using Hydrogen Radicals Generated by a Hot-Wire Method

\*Hiroto Kashi<sup>1</sup>, Sasuke Kagawa<sup>1</sup>, Masashi Yamamoto<sup>1</sup>, Hideyuki Katoh<sup>2</sup>, Hisao Ohtake<sup>3</sup>

1. National Institute of Technology, Kagawa College (Japan), 2. Yoneyama Chemical Industry Co., Ltd. (Japan), 3. The Phosphorus Industry Development Organization of Japan (Japan)

**P-IPM-05**

Effect of Cationic Surfactant Template on the Deodorization Performance of Copper(II)-Containing Hydroxyapatite

\*Mirai Nishikawa, Takahiro Kawai

Graduate School of Science and Engineering, Yamagata University (Japan)

### **P-IPM-06**

Antibacterial Property of Calcium Polyphosphate Containing Copper(II) Ion

\*Kaai Kato, Shigekazu Yano, Takahiro Kawai

1. Graduate School of Science and Engineering, Yamagata University (Japan)

### **P-IPM-07**

Development and Application of Aluminum Phosphite

\*Akito Yoshikawa, Ryo Oyama, Hiroyuki Shimomichi

Taihei Chemical Industrial Co.,Ltd. (Japan)

### **P-IPM-08**

Fiber-Structured Apatite Composites for Efficient Phosphorus Utilization

\*Fukue Nagata, Sungho Lee

National Institute of Advanced Industrial Science and Technology (AIST) (Japan)

### **P-IPM-09**

Immobilization of Cs-Adsorbed Montmorillonite Using Zr-Doped Magnesium Phosphate Glass

\*Taiga Suejima<sup>1</sup>, Koji Kawada<sup>2</sup>, Hideki Hashimoto<sup>3</sup>, Toshinori Okura<sup>3</sup>

1. Applied Chemistry and Chemical Engineering Program, Graduate School of Engineering, Kogakuin University (Japan), 2. Okamoto Glass Co., Ltd. (Japan), 3. Department of Applied Chemistry, School of Advanced Engineering, Kogakuin University(Japan)

### **P-IPM-10**

Luminescence Properties of Na<sub>2</sub>O–Tb<sub>2</sub>O<sub>3</sub>–Eu<sub>2</sub>O<sub>3</sub>–P<sub>2</sub>O<sub>5</sub>–SiO<sub>2</sub> Glass-ceramics

\*Ikuto Tsujino<sup>1</sup>, Airi Okuguchi<sup>1</sup>, Yasushi Sato<sup>2</sup>, Kimihiro Yamashita<sup>1,3,4</sup>, Hideki Hashimoto<sup>5</sup>, Toshinori Okura<sup>5</sup>

1. Applied Chemistry and Chemical Engineering, Graduate School of Engineering, Kogakuin University (Japan), 2. Department of Chemistry, Faculty of Science, Okayama University of Science (Japan), 3. Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental University (Japan), 4. Strategic Innovation and Research Center of Material and Science, Teikyo University (Japan), 5. Department of Applied Chemistry, School of Advanced Engineering, Kogakuin University (Japan)

### **P-IPM-11**

Enhanced Fluorescence of Phosphorus-containing Carbon Dots Synthesized by Rapid Domestic Microwave Heating

\*Jun-ichi Hamagami, Danki Yamano

Kanto Gakuin University (Japan)

### **P-IPM-12**

Effects of Phosphate Composition and Cation Species on Ammonia Adsorption Properties of Phosphate Materials

\*Takumi Matsumoto, Ryo Yoneyama, Hiroyuki Shimomichi, Sohei Nakagawa

Taihei Chemical Industrial Co., Ltd. (Japan)

### **P-EEM-01**

Multidimensional Analysis of Charcoal Structure and Microbial Colonization for Functional Biochar Design

\*Naoyuki Matsumoto, Daisuke Kimura, Yuya Sato, Hiroaki Horiyama, Kazuki Imasato, Hirokazu Nosato, Yoshitomo Kikuchi

National Institute of Advanced Industrial Science and Technology (AIST) (Japan)

### **P-EEM-02**

A Novel  $\text{Ag}_3\text{PO}_4/\text{BiOI-rGO}$  Ternary Photocatalyst for Enhanced Visible-light Photocatalytic Activity

\*Rini Larasati<sup>1</sup>, Ayahisa Okawa<sup>1</sup>, Takuya Hasegawa<sup>1</sup>, Shu Yin<sup>1,2</sup>

1. Institute of Multidisciplinary Research for Advanced Materials (IMRAM), Tohoku University (Japan), 2.

Advanced Institute for Material Research (AIMR-WPI), Tohoku University (Japan)

### **P-Bio-01**

Crystal Structure Analysis and in vivo Bioresorbability Study of Unknown  $\beta$ -Tricalcium Phosphate

\*Toshiisa Konishi<sup>1</sup>, Kentaro Mishiba<sup>1</sup>, Tsutomu Takezawa<sup>1</sup>, Shoichi Somekawa<sup>1</sup>, Takuji Ikeda<sup>2</sup>

1. Tokyo Metropolitan Industrial Technology Research Institute (Japan), 2. National Institute of Advanced Science and Technology, AIST Tohoku (Japan)

### **P-Bio-02**

Minor Phase Quantification in Octacalcium Phosphate Using Solid-state  $^{31}\text{P}$  Nuclear Magnetic Resonance Spectroscopy

\*Toshiisa Konishi<sup>1</sup>, Yuka Maruko<sup>2</sup>, Aya Kanauchi<sup>2</sup>, Keizo Hosoya<sup>2</sup>

1. Tokyo Metropolitan Industrial Technology Research Institute (Japan), 2. Japan Fine Ceramics Co., LTD. (Japan)

### **P-Bio-03**

Determination of Adhesive Strength Between Hydroxyapatite-coated Titanium and Soft Tissue Using Tensile Test Method

\*Aoi Kondo<sup>1</sup>, Shoki Iwama<sup>1</sup>, Hidetaka Miyashita<sup>2</sup>, Tomoya Soma<sup>2</sup>, Mana Nasu<sup>2</sup>, Shunichi Shibazaki<sup>2</sup>, Satoru Morikawa<sup>2</sup>, Mamoru Aizawa<sup>1</sup>

1. Meiji University(Japan), 2. Keio University(Japan)

### **P-Bio-04**

Cellular Responses Involved in Bone Remodeling in Relation to Biphasic Calcium Phosphate Scaffolds

\*Kitaru Suzuki<sup>1</sup>, Shota Sakai<sup>2</sup>, Mamoru Aizawa<sup>2,3</sup>, Keishi Nishio<sup>1</sup>

1. Tokyo University of Science (Japan), 2. Meiji University (Japan), 3. Meiji University International Institute for Materials with Life Functions (Japan)

### **P-Bio-05**

Fabrication of Anti-bacterial Cotton-like Artificial Bone Grafts Using Silver-containing  $\beta$ -Tricalcium Phosphate Fine Particles and Their Biological Reactions to Hard Tissue

\*Misato Takabe<sup>1</sup>, Shoki Iwama<sup>1</sup>, Toshiyasu Yamauchi<sup>2</sup>, Nobuyuki Mishiro<sup>2</sup>, Toshihiro Kasuga<sup>3</sup>, Mamoru Aizawa<sup>1,4</sup>

1. Meiji University (Japan), 2. ORTHOREBIRTH Co. Ltd. (Japan), 3. Nagoya Institute of Technology (Japan), 4. Meiji University International Institute for Materials with Life Functions (Japan)

### **P-Bio-06**

Effect of Carbonate Content in Carbonate Apatite Blocks on Early-Stage Osteoclast Differentiation of Bone Marrow-Derived Precursor Cells

\*Taira Sato<sup>1</sup>, Kitaru Suzuki<sup>2</sup>, Michito Maruta<sup>1</sup>, Noboru Kajimoto<sup>1</sup>, Hirogo Minamisawa<sup>3</sup>, Mamoru Aizawa<sup>4</sup>, Kanji Tsuru<sup>1</sup>

1. Fukuoka Dental College (Japan), 2. Tokyo University of Science (Japan), 3. Nihon University (Japan), 4. Meiji University (Japan)

### **P-Bio-07**

Fabrication of Boron-containing Apatite Ceramics for Adoptive Immunotherapy and Verification of Antitumor Effects Using Tumor-bearing Mice

\*Kokono Miyajima<sup>1</sup>, Yuki Oshima<sup>1</sup>, Shigenori Nagai<sup>2</sup>, Mamoru Aizawa<sup>3</sup>

1. Graduate School of Science and Technology, Meiji University (Japan), 2. Laboratory of Microbiology, Department of Food and Life Sciences, School of Food and Nutritional Sciences, University of Shizuoka (Japan), 3. Meiji University International Institute for Materials with Life Functions (Japan)

### **P-Bio-08**

Development of Fiber-reinforced Plastics with Both Anti-bacterial Properties and Aesthetic Appeal through Simultaneous Immobilization of Silver and Zinc Ions Using Inositol Phosphate

\*Kaho Ishikawa<sup>1</sup>, Masaki Ando<sup>1</sup>, Yuta Ito<sup>1</sup>, Atsushi Ogura<sup>1</sup>, Tetsuo Kikuchi<sup>2</sup>, Mamoru Aizawa<sup>1</sup>

1. Meiji University(Japan), 2. TOYUGIKEN. CO, LTD.(Japan)

### **P-Bio-09**

*In vivo* Evaluation of Anti-bacterial Paste-like Artificial Bone with Silver-containing  $\beta$ -Tricalcium Phosphate Using Pig Tibia Defect Model

\*Ayaha Shirai, Minami Kosuge, Yuki Kamaya, Kazuaki Nakano, Masaki Nagaya, Hiroshi Nagashima, Mamoru Aizawa

Meiji University (Japan)

#### **P-Bio-10**

Development of a Machine Learning Model Capable of Simultaneously Predicting Bone Formation and Resorption in Artificial Bone, and Validation of *in vivo* Responses in Different Animal Models

\*Shoki Iwama, Shota Horikawa, Hiromasa Kaneko, Mamoru Aizawa

Meiji University (Japan)

#### **P-Bio-11**

Culture of Osteoclasts on Anisotropically-controlled Apatite Ceramics and Its Evaluation

\*Hayato Takawa, Yuma Kawanaka, Minami Kosuge, Mamoru Aizawa

Meiji University (Japan)

#### **P-Bio-12**

Fabrications of Cation-substituted Hydroxyapatite Ceramics for Control of Reactive Oxygen Species and Their Material Properties

\*Nene Itaya, Mamoru Aizawa

Meiji University (Japan)

#### **P-Bio-13**

Evaluation of Apatite Formation Ability of Apatite Nuclei-Incorporated Polyetherketoneketone in Bio-mimetic Environment

\*Kurumi Yoshinaga, Yuya Yamane, Shigeomi Takai, Takeshi Yabutsuka

Kyoto University (Japan)

#### **P-Bio-14**

Role of Sulfo Groups in the Apatite Encapsulation of Polystyrene Microspheres

\*Ayumu Nakane, Kosei Yamada, Kota Nakanishi, Shigeomi Takai, Takeshi Yabutsuka

Kyoto University (Japan)

#### **P-Bio-15**

Preparation and Property Evaluation of  $\beta$ -Tricalcium Phosphate Sintered Body by Cold Sintering Process

\*Hiroki Sakai, Hirobumi Shibata, Kazuaki Hashimoto

Chiba Institute of Technology (Japan)

#### **P-Bio-16**

Effect of Initial Ca/P Molar Ratio on the Properties of  $\beta$ -Tricalcium Phosphate Ceramics Prepared by Reaction Sintering in the HAp- $\beta$ -Ca<sub>2</sub>P<sub>2</sub>O<sub>7</sub> System

\*Shinji Ishizaki, Hirobumi Shibata, Kazuaki Hashimoto

Chiba Institute of Technology (Japan)

### **P-Bio-17**

Protein Adsorption Properties of Three Types of Strontium-substituted Apatite Ceramics with Different Crystal Orientations

\*Erika Onuma<sup>1</sup>, Yasuaki Ando<sup>1</sup>, Yuma Kawanaka<sup>1</sup>, Takayuki Honda<sup>1</sup>, Mamoru Aizawa<sup>1,2</sup>

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### **P-Bio-18**

Synthesis of Calcium Carbonate Microspheres for Drug Delivery System Via Ultrasonic spray-pyrolysis route and Their Powder Properties

\*Kanon Sugiura<sup>1</sup>, Taiji Inakubo<sup>2</sup>, Mamoru Aizawa<sup>1,3</sup>

1. Graduate School of Science and Technology, Applied Chemistry Program, Meiji University (Japan), 2. Nippon Sheet Glass Co., Ltd (Japan), 3. Meiji University International Institute for Materials with Life Functions (Japan)

### **P-Bio-19**

Fabrications of Anti-bacterial  $\beta$ -Tricalcium Phosphate Porous Ceramics by Immobilization of Silver Ions with Inositol Phosphate and Their Cytotoxicity

\*Masahiro Oguri<sup>1</sup>, Suzumi Enjo<sup>1</sup>, Mamoru Aizawa<sup>1,2</sup>

1. Applied Chemistry Program, Graduate School of Science and Technology, Meiji University (Japan), 2. Meiji University International Institute for Materials with Life Functions (Japan)

### **P-Bio-20**

Impartation of Bioactivity to Dental PMMA Resin by Incorporating Apatite Nuclei

\*Hiroto Matsunaga<sup>1</sup>, Tetsuya Adachi<sup>2</sup>, Shigeomi Takai<sup>1</sup>, Takeshi Yabutsuka<sup>1</sup>

1. Kyoto Univ. (Japan), 2. Kyoto Prefectural University of Medicine (Japan)

### **P-Bio-21**

Basic Properties of Carbonate Apatite Cement Fabricated with Amorphous Calcium Carbonate Powder

\*Hirogo Minamisawa<sup>1</sup>, Taira Sato<sup>2</sup>, Noboru Kajimoto<sup>2</sup>, Michito Maruta<sup>3</sup>, Kanji Tsuru<sup>2</sup>, Hiroyuki Sango<sup>1</sup>

1. College of Science and Technology, Nihon University (Japan), 2. Department of Dental Engineering, Fukuoka Dental College (Japan), 3. Educational Support and Institutional Research Office, Fukuoka Dental College (Japan)

### **P-Bio-22**

Preparation of Hydroxyapatite Layer on Titanium Substrates from a Highly Concentrated Calcium Phosphate Aqueous Solution by CO<sub>2</sub> Blowing

\* Saki Oe, Takafumi Sakuma, Takeshi Toyama

Nihon University