

## The 56<sup>th</sup> Japanese Peptide Symposium

October 23 (Wednesday)

**9:00–9:15    Opening Remarks** (Hirokazu Tamamura)

**9:15–10:21    Young Investigator's Oral Presentations** (8 min talk, 3 min discussion & exchange)

**Session 1** (chairs: Shugo Tsuda, Yuya Asahina)

**Y-01    Evaluation of the proteolytic activity of 5-mer peptides in BoxA region of Tob/BTG family proteins against Amyloid- $\beta$  fragment peptides**

Rina Nakamura<sup>1,2</sup>, Motomi Konishi<sup>3</sup>, Yusuke Harakawa<sup>4</sup>, Toshiyasu Sakane<sup>4</sup>, Saito Motoaki<sup>2</sup>, Toshifumi Akizawa<sup>1,2</sup> (<sup>1</sup>O-Force Co., Ltd., <sup>2</sup>Laboratory of Pharmacology, School of Medicine, Kochi University, <sup>3</sup>Laboratory of Clinical Analytical Chemistry, Faculty of Pharmaceutical Sciences, Setsunan University, <sup>4</sup>Pharmaceutical Technology, Kobe Pharmaceutical University)

**Y-02    (Z)-Chloroalkene dipeptide isostere can mimic intraresidue hydrogen bonding interaction**

Yuki Kodama<sup>1</sup>, Takuma Nishizawa<sup>2</sup>, Kohei Sato<sup>2</sup>, Nobuyuki Mase<sup>1,2</sup>, Tetsuo Narumi<sup>1,2</sup> (<sup>1</sup>Graduate School of Science and Technology, Shizuoka University, <sup>2</sup>Graduate School of Integrated Science and Technology, Shizuoka University)

**Y-03    Synthetic study for novel Foxo3a inhibitor JBIR-141**

Kotaro Yasoshima<sup>1</sup>, Masahito Yoshida<sup>2</sup>, Teppei Kawahara<sup>3</sup>, Kazuo Shin-ya<sup>3</sup>, Takayuki Doi<sup>1</sup> (<sup>1</sup>Graduate School of Pharmaceutical Sciences, Tohoku University, <sup>2</sup>Department of Chemistry, University of Tsukuba, <sup>3</sup>National Institute of Advanced Industrial Sciences and Technology)

**Y-04    New detection method for peptide N-terminus on resin using *N*-hydroxyphthalimide derivatives**

Rio Suzuki, Miku Kasai, Hiroyuki Konno (Department of Biochemical Engineering, Graduate School of Science and Engineering, Yamagata University)

**Y-05    Chemical synthesis of linker histone H1.2 using one-pot multiple peptide ligation with Ru catalyst**

Naoki Kamo<sup>1</sup>, Gosuke Hayashi<sup>2</sup>, Tomoya Kujirai<sup>3</sup>, Hitoshi Kurumizaka<sup>3,4</sup>, Akimitsu Okamoto<sup>1,5</sup> (<sup>1</sup>Department of Chemistry and Biotechnology, Graduate School of Engineering, The University of Tokyo, <sup>2</sup>Department of Biomolecular Engineering, Graduate School of Engineering, Nagoya University, <sup>3</sup>Laboratory of Chromatin Structure and Function, Institute for Quantitative Biosciences, The University of Tokyo, <sup>4</sup>Department of Biological Sciences, Graduate School of Sciences, The University of Tokyo, <sup>5</sup>Research Center for Advanced Science and Technology, The University of Tokyo)

**Y-06    Structure revision of cyclic depsipeptide MA026 and structure-activity relationship study based on tight junction open activity**

Chihiro Uchiyama<sup>1</sup>, Akane Fukuda<sup>1</sup>, Minagi Mukaiyama<sup>2</sup>, Yoshiaki Nakazawa<sup>1</sup>, Mitsue Arimoto<sup>2</sup>, Koichiro Kako<sup>2</sup>, Akihiro Taguchi<sup>1</sup>, Kentaro Takayama<sup>1</sup>, Atsuhiko Taniguchi<sup>1</sup>, Yoko Nagumo<sup>2</sup>, Takeo Usui<sup>2</sup>, Yoshio Hayashi<sup>1</sup> (<sup>1</sup>Department of Medicinal Chemistry, School of Pharmacy, Tokyo University of Pharmacy and Life Sciences, <sup>2</sup>Graduate School of Life and Environmental Sciences, University of Tsukuba)

**10:21–10:40    Break**

**10:40–11:46 Young Investigator's Oral Presentations** (8 min talk, 3 min discussion & exchange)

**Session 2** (chairs: Kazuya Kobayashi, Yoshiyuki Manabe)

**Y-07 Design and synthesis of novel helical foldamers based on cyclopropane  $\Delta$ -amino acids**

Makoto Nagata<sup>1</sup>, Kou Takeuchi<sup>2</sup>, Ryohei Doi<sup>1</sup>, Tomoshi Kameda<sup>2</sup>, Koichi Fujiwara<sup>1</sup>, Yoshihiro Sato<sup>1</sup>, Mizuki Watanabe<sup>1,3</sup>, Satoshi Shuto<sup>1</sup> (<sup>1</sup>Faculty of Pharmaceutical Sciences, Hokkaido University, <sup>2</sup>National Institute of Advanced Industrial Science and Technology, <sup>3</sup>AMED)

**Y-08 Development of blood-brain barrier permeable oxygenation catalyst of amyloid  $\beta$**

Nozomu Nagashima<sup>1</sup>, Shuta Ozawa<sup>2</sup>, Yukiko Hori<sup>2</sup>, Taisuke Tomita<sup>2</sup>, Youhei Sohma<sup>1</sup>, Motomu Kanai<sup>1</sup> (<sup>1</sup>Synthetic Organic Chemistry Lab., Graduate School of Pharmaceutical Sciences, The University of Tokyo, <sup>2</sup>Neuropathology and Neuroscience Lab., Graduate School of Pharmaceutical Sciences, The University of Tokyo)

**Y-09 Unnatural MUC1 based glycopeptides in new cancer biomarkers discovery**

Pablo A. Guillen Poza<sup>1</sup>, Elena M. Sánchez Fernández<sup>2</sup>, José M. García Fernández<sup>2</sup>, Carmen Ortiz Mellet<sup>2</sup>, Hiroshi Hinou<sup>1</sup>, Shin-Ichiro Nishimura<sup>1</sup>, Fayna Garcia-Martin<sup>1</sup> (<sup>1</sup>Graduate School of Life Science, Hokkaido University, <sup>2</sup>Dept. Organic Chemistry, Faculty of Chemistry, University of Seville)

**Y-10 Octaarginine-drug complexes for drug delivery to microbes and enhanced potency**

Poonam Ratrey, Bhaskar Datta, Sameer V. Dalvi, Abhijit Mishra (Indian Institute of Technology Gandhinagar)

**Y-11 Laminin- $\alpha$ 2 chain derived peptide enable enhanced delivery of plasmid DNA to skeletal muscle cells**

Kei Nirasawa, Keisuke Hamada, Yukiko Naraki, Fumihiko Katagiri, Yoko Takahashi, Yamato Kikkawa, Motoyoshi Nomizu, Yoichi Negishi (Graduate School of Pharmacy, Tokyo University of Pharmacy and Life Sciences)

**Y-12 Development of antibody-tagged boron compounds using Fc-binding peptide for on-demand receptor target in boron neutron capture therapy**

Ayako Aoki<sup>1</sup>, Yuriko Sakai<sup>1,2</sup>, Yoshihide Hattori<sup>2</sup>, Mitsunori Kirihata<sup>2</sup>, Ikuhiko Nakase<sup>1</sup> (<sup>1</sup>Department of Biological Science, Graduate School of Science, Osaka Prefecture University, <sup>2</sup>Research Center for Boron Neutron Capture Therapy, Osaka Prefecture University)

**11:46–12:00 Break**

**12:00–12:50 Luncheon Seminar**

**12:50–13:15 Break**

**13:15–14:21 Young Investigator's Oral Presentations** (8 min talk, 3 min discussion & exchange)

**Session 3** (chairs: Kentaro Takayama, Kohei Sato)

**Y-13 Functional study of polytheonamide mimic, an artificial ion-channel-forming peptide**

Yun-Wei Xue, Atsushi Hayata, Hiroaki Itoh, Masayuki Inoue (Graduate School of Pharmaceutical Sciences, The University of Tokyo)

**Y-14 Intracellular delivery of bioactive molecules via macropinocytosis induction**

Jan Vincent V. Arafiles, Hisaaki Hirose, Misao Akishiba, Shiroh Futaki (Institute for Chemical Research, Kyoto University)

- Y-15     Synthesis and immunological evaluation of self-assembling CH401 epitope peptide and adjuvant as anti-breast cancer vaccine candidate**  
Taku Aiga<sup>1</sup>, Yoshiyuki Manabe<sup>1,2</sup>, Kazuya Kabayama<sup>1,2</sup>, Shino Ohshima<sup>3</sup>, Yoshie Kametani<sup>3</sup>, Koichi Fukase<sup>1,2</sup> (<sup>1</sup>Graduate School of Science, Osaka University, <sup>2</sup>Project Research Center for Fundamental Sciences, Osaka University, <sup>3</sup>School of Medicine, Tokai University)
- Y-16     Artificial protein assembly in living cell by using a designed amphiphilic Yn peptide**  
Takayuki Miki, Taichi Nakai, Masahiro Hashimoto, Hiroshi Tsutsumi, Hisakazu Mihara (School of Life Science and Technology, Tokyo Institute of Technology)
- Y-17     Development of a novel coiled-coil labeling method for heterooligomer detection**  
Jun Takano, Yoshiaki Yano, Katsumi Matsuzaki (Graduate School of Pharmaceutical Sciences, Kyoto University)
- Y-18     Cytosolic antibody delivery by IgG-binding L17E analogue**  
Takahiro Iwata, Misao Akishiba, Kentarou Sakamoto, Hisaaki Hirose, Shiroh Futaki (Institute for Chemical Research, Kyoto University)
- 14:21–14:36   Break**
- 14:36–15:42   Young Investigator's Oral Presentations** (8 min talk, 3 min discussion & exchange)  
**Session 4** (chairs: Kenichi Kawano, Rui Kamada)
- Y-19     Development of ATP-binding protein inhibitor by two-step screening**  
Kazuto Mochizuki<sup>1</sup>, Yuji Ito<sup>2</sup>, Masumi Taki<sup>1</sup> (<sup>1</sup>Department of Engineering Science, The Graduate School of Informatics and Engineering, The University of Electro-Communications (UEC), <sup>2</sup>Department of Chemistry and Bioscience, Graduate School of Science and Engineering, Kagoshima University)
- Y-20     Peptide precursors that acquire collagen-hybridizing ability *via O-to-N* acyl migration**  
Sayaka Kanai<sup>1</sup>, Takaki Koide<sup>1,2</sup> (<sup>1</sup>Department of Chemistry and Biochemistry, School of Advanced Science and Engineering, Waseda University, <sup>2</sup>Waseda Research Institute for Science and Engineering, Waseda University)
- Y-21     Characterization of elastin-like polypeptide-laminin  $\alpha 1$  chain peptide in cell adhesion and spreading**  
Anh Tan Truong<sup>1,2</sup>, Keisuke Hamada<sup>2</sup>, Yuji Yamada<sup>2</sup>, Hao Guo<sup>1</sup>, Yamato Kikkawa<sup>2</sup>, Curtis Toshio Okamoto<sup>1</sup>, John Andrew MacKay<sup>1</sup>, Motoyoshi Nomizu<sup>2</sup> (<sup>1</sup>Pharmacology and Pharmaceutical Sciences, School of Pharmacy, University of Southern California, <sup>2</sup>Laboratory of Clinical Biochemistry, School of Pharmacy, Tokyo University of Pharmacy and Life Sciences)
- Y-22     Development of inhibitors for intracellular protein-protein interactions using peptoids with alanyl backbones**  
Yasuhiro Fukuda<sup>1</sup>, Jumpei Morimoto<sup>1</sup>, Daisuke Kuroda<sup>1,2,3</sup>, Satoru Nagatoishi<sup>4</sup>, Kohei Tumoto<sup>1,2,3,4</sup>, Shinsuke Sando<sup>1,2</sup> (<sup>1</sup>Department of Chemistry and Biotechnology, Graduate School of Engineering, The University of Tokyo, <sup>2</sup>Department of Bioengineering, Graduate School of Engineering, The University of Tokyo, <sup>3</sup>Medical Device Development and Regulation Research Center, School of Engineering, The University of Tokyo, <sup>4</sup>Institute of Medical Science, The University of Tokyo)

**Y-23 Development of aptamer based stimuli-responsive PPM1D inhibitors with cell-penetrating activity**

Atsushi Kaneko<sup>1</sup>, Miyuu Watari<sup>1</sup>, Masataka Mizunuma<sup>1</sup>, Hikaru Saitoh<sup>1</sup>, Kazuhiro Furukawa<sup>2</sup>, Yoshiro Chuman<sup>1</sup> (<sup>1</sup>Laboratory of Biological Chemistry, Department of Chemistry, Faculty of Science, Niigata University, <sup>2</sup>Cell Regulation Laboratory in Biochemistry, Department of Chemistry, Faculty of Science, Niigata University)

**Y-24 Atrial natriuretic peptide may be responsible for bioactivities of geniposidic acid on spontaneously hypertensive rat**

Shohei Yamaguchi<sup>1</sup>, Ryuto Takahashi<sup>2</sup>, Nao Sugiman<sup>3</sup>, Tetsuya Hirata<sup>3</sup>, Yasuyo Yamaguchi<sup>3</sup>, Hiroo Yamasaki<sup>3</sup>, Naoto Minamino<sup>4</sup>, Kozo Nakamura<sup>2,5</sup> (<sup>1</sup>Department of Science and Technology, Graduate School of Medicine, Science and Technology, Shinshu University, <sup>2</sup>Department of Agriculture, Graduate School of Science and Technology, Shinshu University, <sup>3</sup>R&D Center, Kobayashi Pharmaceutical Co., Ltd., <sup>4</sup>Omics Research Center, National Cerebral and Cardiovascular Center, <sup>5</sup>Institute of Agriculture, Academic Assembly, Shinshu University)

**15:42–16:00 Break**

**16:00–17:15 Invited Lectures (20 min talk, 5 min discussion & exchange)**

(chair: Tetsuo Narumi)

**K-1 Discovery of twisted imides on guanidines**

Yan Lee (Department of Chemistry, College of Natural Sciences, Seoul National University)

(chair: Hironobu Hojo)

**K-2 Recent development in targeting polo box domain of polo like kinase 1 for anticancer therapy**

Jeong Kyu Bang, Pethaiah Gunasekaran (Division of Magnetic Resonance, Korea Basic Science Institute)

(chair: Shiroh Futaki)

**I-1 Peptidomimetics inhibitors of multifaceted toxicity in alzheimer's disease**

T. Govindaraju (Bioorganic Chemistry Laboratory, New Chemistry Unit, Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR))

**17:15–17:30 Break**

**17:30–19:00 Poster Presentations ① (P-001–P-055)**

**October 24 (Thursday)**

**9:00–10:40 Oral Presentations** (15 min talk, 5 min discussion & exchange)

**Session 1** (chairs: Hiroyuki Konno, Toru Kawakami)

**O-01 Development of the direct asymmetric indolylolation of imino peptide for synthesis of indolylglycine-containing peptide**

Tsubasa Inokuma, Kana Masui, Kodai Nishida, Akira Shigenaga, Akira Otaka, Ken-ichi Yamada  
(Institute of Biomedical Sciences and Graduate School of Pharmaceutical Sciences, Tokushima University)

**O-02 Study of glycopeptide synthesis for development general method under microwave irradiation at low temperatures**

Izuru Nagashima<sup>1</sup>, Takayuki Yokoe<sup>1</sup>, Yuuta Ohki<sup>2</sup>, Naoyuki Takahashi<sup>2</sup>, Hiroki Shimizu<sup>1</sup> (<sup>1</sup>Life Science and Biotechnology, National Institute of Advanced Industrial Science and Technology (AIST), <sup>2</sup>Tokyo Rikakikai Co., Ltd)

**O-03 Structure-based design of alpha-helix mimetics for disrupting estrogen receptor-coregulator interactions in breast cancer**

Jung-Mo Ahn (Department of Chemistry and Biochemistry, University of Texas at Dallas)

**O-04 NMR analysis of hydrogen bonds in PF1171F, a cyclic hexapeptide with insecticidal activity, under pseudo body's internal environment**

Yuichi Masuda<sup>1</sup>, Moeka Sano<sup>1</sup>, Masaya Honda<sup>1</sup>, Ken-ichi Akagi<sup>2</sup> (<sup>1</sup>Graduate School of Bioresources, Mie University, <sup>2</sup>National Institute of Biomedical Innovation, Health and Nutrition)

**O-05 Development of cell-penetrating foldamers for delivery of biomacromolecules**

Takashi Misawa<sup>1</sup>, Nobumichi Ohoka<sup>1</sup>, Makoto Oba<sup>2</sup>, Masakazu Tanaka<sup>2</sup>, Mikihiro Naito<sup>1</sup>, Yosuke Demizu<sup>1,3</sup> (<sup>1</sup>National Institute of health sciences, <sup>2</sup>Graduate School of Biomedical Sciences, Nagasaki University, <sup>3</sup>Graduate of school of Medical Life Sciences, Yokohama city University)

**10:40–11:00 Break**

**11:00–11:50 Special Lecture**

(chair: Hirokazu Tamamura)

**Development of antiviral therapy of HIV infection: from AZT to darunavir and beyond**

Hiroaki Mitsuya<sup>1,2</sup> (<sup>1</sup>National Center for Global Health & Medicine Research Institute, <sup>2</sup>Center for Cancer Research, National Cancer Institute, National Institutes of Health)

**11:50–12:00 Break**

**12:00–12:50 Luncheon Seminar**

**12:50–13:00 Break**

**13:00–14:00 The Japanese Peptide Society General Meeting**

**14:00–14:10 Break**

**14:10–15:30 Oral Presentations** (15 min talk, 5 min discussion & exchange)

**Session 2** (chairs: Kazuyasu Sakaguchi, Masakazu Tanaka)

**O-06 Concentration dependent coacervation property of nonlinear elastin-derived peptide (FPGVG)<sub>n</sub> analogs**

Keitaro Suyama<sup>1</sup>, Mika Mawatari<sup>2</sup>, Daiki Tatsubo<sup>2</sup>, Iori Maeda<sup>3</sup>, Takeru Nose<sup>1,2</sup> (<sup>1</sup>Faculty of Arts and Science, Kyushu University, <sup>2</sup>Department of Chemistry, Faculty and Graduate School of Science, Kyushu University, <sup>3</sup>Department of Physics and Information Technology, Kyushu Institute of Technology)

**O-07 One-pot saturation mutagenesis of substrate peptides of posttranslationally modifying enzymes**

Yuki Goto, Haruka Takeue, Yamato Komatsu, Alexander A. Vinogradov, Hiroaki Suga (Department of Chemistry, Graduate School of Science, The University of Tokyo)

**O-08 Light-induced condensation of cell-penetrating peptides around targeted living cells to accelerate membrane penetration**

Ikuhiko Nakase<sup>1,2,3</sup>, Moe Miyai<sup>2,3</sup>, Kosuke Noguchi<sup>1,2,3</sup>, Mamoru Tamura<sup>2,3</sup>, Yasuyuki Yamamoto<sup>2,3</sup>, Yushi Nishimura<sup>2,3,4</sup>, Shiroh Futaki<sup>5</sup>, Shiho Tokonami<sup>3,6</sup>, Takuya Iida<sup>2,3</sup> (<sup>1</sup>NanoSquare Research Institute, Osaka Prefecture University, <sup>2</sup>Graduate School of Science, Osaka Prefecture University, <sup>3</sup>Research Institute for Light-induced Acceleration System (RILACS), Osaka Prefecture University, <sup>4</sup>Division of Molecular Materials Science, Graduate School of Science, Osaka City University, <sup>5</sup>Institute for Chemical Research, Kyoto University, <sup>6</sup>Graduate School of Engineering, Osaka Prefecture University)

**O-09 Analysis of anti-cancer mechanism of the soybean peptide, lunasin**

Kilico Iida<sup>1</sup>, Yuriha Suzuki<sup>2</sup>, Miaomiao Sui<sup>2</sup>, Yukie Katayama<sup>2</sup>, Mimin Zhang<sup>2</sup>, Ken Okamoto<sup>2</sup>, Michio Suzuki<sup>2</sup>, Takahito Nakura<sup>2</sup>, Fumihiko Hakuno<sup>2</sup>, Naoyuki Kataoka<sup>2</sup>, Shin-ichiro Takahashi<sup>2</sup>, Hiroshi Kawakami<sup>1</sup>, Koji Nagata<sup>2</sup> (<sup>1</sup>Graduate School of Food Science and Nutrition, Kyoritsu Women's University, <sup>2</sup>Graduate School of Agricultural and Life Sciences, The University of Tokyo)

**15:30–15:45 Break**

**15:45–17:00 Invited Lectures** (20 min talk, 5 min discussion & exchange)

(chair: Yoshio Hayashi)

**I-2 Electrochemical tryptophan-selective bioconjugation of proteins**

Kounosuke Oisaki<sup>1</sup>, Eisho Toyama<sup>1</sup>, Katsuya Maruyama<sup>1</sup>, Tomoya Sugai<sup>2</sup>, Mio Kondo<sup>3</sup>, Shigeyuki Masaoka<sup>3</sup>, Tsuyoshi Saitoh<sup>2</sup>, Motomu Kanai<sup>1</sup> (<sup>1</sup>Graduate School of Pharmaceutical Sciences, The University of Tokyo, <sup>2</sup>International Institute for Integrative Sleep Medicine (WPI-IIIS), University of Tsukuba, <sup>3</sup>Institute for molecular Science, National Institutes of Natural Sciences)

(chair: Youhei Sohma)

**I-3 Site-selective antibody modification using radical-mediated tyrosine click reaction**

Shinichi Sato<sup>1</sup>, Michihiko Tsushima<sup>1,2</sup>, Keita Nakane<sup>1,2</sup>, Hiroyuki Nakamura<sup>1</sup> (<sup>1</sup>Laboratory for Chemistry and Life Science, Institute of Innovative Research, Tokyo Institute of Technology, <sup>2</sup>School of Life Science and Technology, Tokyo Institute of Technology)

(chair: Akira Otaka)

**I-4      Chemical tools for selective recognition of posttranslational modifications**

Monika Raj (Department of Chemistry and Biochemistry, Auburn University)

**17:00–17:15   Break**

**17:15–18:45   Poster Presentations ② (P-101-P-154)**

**19:00–21:00   Banquet (M&D Tower 26F, Faculty Lounge)**

**October 25 (Friday)**

**9:00–10:20 Oral Presentations** (15 min talk, 5 min discussion & exchange)

**Session 3** (chairs: Shinya Oishi, Akira Shigenaga)

**O-10 Inactivation of myostatin using peptide functionalized by photooxygenation catalyst**

Atsuhiko Taniguchi, Hideyuki Okamoto, Shoya Usami, Akihiro Taguchi, Kentaro Takayama, Yoshio Hayashi (Department of Medicinal Chemistry, School of Pharmacy, Tokyo University of Pharmacy and Life Sciences)

**O-11 Development of a highly potent analogue and a long-acting analogue of oxytocin for the treatment of social impairment-like behaviors**

Stanislav Cherepanov<sup>1</sup>, Wataru Ichinose<sup>2</sup>, Shigeru Yokoyama<sup>1</sup>, Haruhiro Higashida<sup>1</sup>, Satoshi Shuto<sup>2</sup>  
(<sup>1</sup>Department of Basic Research on Social Recognition, Research Center for Child Mental Development, Kanazawa University, <sup>2</sup>Faculty of Pharmaceutical Sciences, Hokkaido University)

**O-12 Synthesis of multiple functional peptides-conjugated dendrimers for cancer theranostics**

Chie Kojima, Tatsumi Sato, Kento Nagai (Graduate School of Engineering, Osaka Prefecture University)

**O-13 Light-controllable dithienylethene-modified peptides: towards drugs for photopharmacology**

Sergii Afonin<sup>1</sup>, Oleg Babii<sup>1</sup>, Tim Schober<sup>2</sup>, Anne S. Ulrich<sup>1,2</sup>, Igor V. Komarov<sup>3</sup> (<sup>1</sup>Institute of Biological Interfaces (IBG-2), Karlsruhe Institute of Technology (KIT), <sup>2</sup>Institute of Organic Chemistry (IOC), Karlsruhe Institute of Technology (KIT), <sup>3</sup>Institute of High Technologies (IHT), Taras Shevchenko National University of Kyiv)

**10:20–10:35 Break**

**10:35–11:55 Oral Presentations** (15 min talk, 5 min discussion & exchange)

**Session 4** (chairs: Yuji Hidaka, Takaki Koide)

**O-14 Chemoenzymatic synthesis of biologics-fused hybrid molecules via NEXT-A reaction**

Masumi Taki (The Graduate School of Informatics and Engineering, Dept. of Engineering Science, The University of Electro-Communications (UEC))

**O-15 Chemically modified phage-displayed helix-loop-helix peptide library for targeting protein kinase**

Daisuke Fujiwara, Kousuke Mihara, Ryo Takayama, Yusuke Nakamura, Ikuro Fujii (Department of Biological Science, Graduate School of Science, Osaka Prefecture University)

**O-16 Magnetic alignment of microtubules by encapsulation of cobalt-platinum nanoparticles using a Tau-derived peptide**

Hiroshi Inaba<sup>1</sup>, Mayuki Yamada<sup>1</sup>, Arif Md. Rashedul Kabir<sup>2</sup>, Akira Kakugo<sup>2</sup>, Kazuki Sada<sup>2</sup>, Kazunori Matsuura<sup>1</sup> (<sup>1</sup>Graduate School of Engineering, Tottori University, <sup>2</sup>Graduate School of Science, Hokkaido University)

**O-17 Identification of an antiviral component from the venom of the scorpion *Liocheles australasiae***

Masahiro Miyashita<sup>1</sup>, Naoya Mitani<sup>1</sup>, Atsushi Kitanaka<sup>1</sup>, Mao Yakio<sup>1</sup>, Ming Chen<sup>2</sup>, Sachiko Nishimoto<sup>3</sup>, Hak Hotta<sup>2,3</sup>, Yoshiaki Nakagawa<sup>1</sup>, Hisashi Miyagawa<sup>1</sup> (<sup>1</sup>Graduate School of Agriculture, Kyoto University, <sup>2</sup>Graduate School of Health Sciences, Kobe University, <sup>3</sup>Faculty of Clinical Nutrition and Dietetics, Konan Women's University)



**11:55–12:00 Break**

**12:00–12:50 Luncheon Seminar**

**12:50–14:20 Poster Presentations ③ (P-201–P-253)**

**14:20–15:00 Oral Presentations** (15 min talk, 5 min discussion & exchange)

**Session 5** (chairs: Yuji Ito, Hidehito Mukai)

**O-18 Phase-separated co-assembly between peptide and lipid and shifted phase-transition temperature of lipid domain surrounded by peptides**

Motoki Ueda<sup>1,2</sup>, Md. Mofizur Rahman<sup>2,3</sup>, Yoshihiro Ito<sup>1,2</sup> (<sup>1</sup>Nano Medical Engineering Laboratory, RIKEN Cluster for Pioneering Research, <sup>2</sup>Emergent Bioengineering Materials Research Team, RIKEN Center for Emergent Matter Science, <sup>3</sup>Faculty of Allied Health Sciences, Daffodil International University)

**O-19 Metal-peptide conjugates for photocatalytic CO<sub>2</sub> reduction toward artificial photosynthesis**

Hitoshi Ishida, Toshiya Motegi, Atsushi Ohtsuka, Chiaki Kojima, Jun Itabashi, Masaya Kamiya (Department of Chemistry, Graduate School of Science, Kitasato University)

**15:00–15:10 Break**

**15:10–16:00 Lectures of the Young Investigator Award**

(chair: Yoshiaki Kiso)

**Creation of peptide-tools using intramolecular reactions**

Taku Yoshiya (Peptide Institute, Inc.)

(chair: Akimitsu Okamoto)

**Novel strategies for peptide ligation toward epigenetic research**

Gosuke Hayashi (Department of Biomolecular Engineering, Graduate School of Engineering, Nagoya University)

**16:00–16:15 Break**

**16:15–16:55 Lectures of the Japanese Peptide Society Award**

(chair: Kenichi Akaji)

**Cell adhesion research based on peptide science**

Motoyoshi Nomizu (Department of Clinical Biochemistry, School of Pharmacy, Tokyo University of Pharmacy and Life Sciences)

**16:55–17:05 Closing Remarks** (Hirokazu Tamamura)