

September, 12th (Thu)

## Presentation (Main Hall)

### 9:00 ~ 9:40 Plenary Lecture 3

**【Chair】** Goro Yoshizaki (Tokyo University of Marine Science and Technology)

**【Speaker】**

**PL3** Masato Kinoshita (Kyoto University, Japan)

**“Production of new breeds in aquaculture fish with genome editing technology”**

### Poster Short Presentation

**【Chairs】** Hiroya Araie (Department of Biosciences, Kanto Gakuin University College of Science and Engineering)  
Shigeharu Kinoshita (Laboratory Aquatic Molecular Biology and Biotechnology, Graduate School of Agricultural and Life Sciences, The University of Tokyo)

### 13:30 ~ 16:00 Innovative approach to sustainable aquaculture and fisheries I : Fusion of molecular genetics and developmental biotechnology

Sponsored by Japan Science and Technology Agency

**【Chairs】** Kiyoshi Kikuchi (Fisheries Laboratory, University of Tokyo)  
Ryosuke Yazawa (Tokyo University of Marine Science and Technology)

**【Speakers】**

**09-1** John Hickey (The Roslin Institute and Royal (Dick) School of Veterinary Studies, The University of Edinburgh, UK)

**“A Strategy To Exploit Surrogate Sire Technology in Livestock Breeding Programs”**

**09-2** Sho Hosoya (Fisheries Laboratory, University of Tokyo, Japan)

**“The possibility of genomic selection for the Heterobothriosis resistance of the tiger pufferfish, *Takifugu rubripes*”**

**09-3** Baolong BAO (Shanghai Ocean University)

**“Molecular basis of malpigmentation in artificial population of flounder *Paralichthys olivaceus*”**

**09-4** Eitaro Sawayama (Department of Marine Science and Resources, College of Bioresource Sciences, Nihon University)

**“Identification of an SNP marker associated with abnormal eye location in Japanese flounder based on genome-wide analysis”**

- 09-5** Ina Dobrinski (Department of Comparative Biology and Experimental Medicine, University of Calgary  
Veterinary Medicine, Calgary, AB, Canada)  
**“Germline gene editing in agricultural animals”**
- 09-6** Goro YOSHIZAKI (Tokyo University of Marine Science and Technology)  
**“Mutant dnd rainbow trout can produce Chinook salmon eggs and sperm  
within a short period of time”**
- 09-7** Tom Levy (Department of Life Sciences, Ben-Gurion University of the Negev, Israel)  
**“ALL-FEMALE REDCLAW CRAYFISH AQUACULTURE”**

## Presentation (Sub Hall)

### 13:30 ~ 16:00 Marine Microbiology and Biotechnology

- [Chairs]** Tetsushi Mori (Tokyo University of Agriculture and Technology)  
Russell T. Hill (University of Maryland)

#### **[Speakers]**

- 010-1** Claire Hellio (LEMAR laboratory, European Institute for Marine Studies (IUEM), France.)  
**“From chemical ecology to marine biotechnology: development of  
innovative and added-value formulation”**
- 010-2** Shawn E McGlynn (Earth-Life Science Institute, Tokyo Institute of Technology)  
**“New insights into microbial iron cycling at a marine ferrous carbonate  
hot spring”**
- 010-3** Natsuko Miura (Grad. Sch. Life & Environm. Sci., Osaka Prefecture Univ.)  
**“Features of antibiotic activity against *Vibrio coralliilyticus* by coral-  
associated *Ruegeria* sp.”**
- 010-4** Raju Rajasabapathy (Department of Marine Science, Bharathidasan University/Department of  
Biotechnology, Goa University)  
**“Antimicrobial profiling of coral reef and sponge symbionts from Gulf of  
Mannar and Palk Bay, India”**
- 010-5** Arnheidur Eythorsdottir (University of Akureyri/University of Iceland)  
**“Effect of prolonged incubation time on production of antimicrobial  
compounds by marine hydrothermal vent bacteria”**
- 010-6** Tamotsu Kanai (Kyoto University)  
**“Engineering of the hyperthermophilic archaeon *Thermococcus kodakarensis*  
for chitin-dependent hydrogen production”**
- 010-7** Pei-sheng YAN (School of Marine Science and Technology, Harbin Institute of Technology, Weihai  
Campus)  
**“Culturable diversity of anti-aflatoxigenic bacteria from deep-sea  
sediments”**

- 010-8** Kenshi Watanabe (Hiroshima University, Higashi-Hiroshima, Japan)  
**“Isolation of high carotenoid-producing *Aurantiochytrium* sp. mutants and improvement of astaxanthin productivity using metabolic information”**

## Presentation (Conference Room)

### 13:35 ~ 15:55 Marine Genomics and Bioinformatics

Sponsored by CBBB-OIL, AIST-Waseda University

- [Chairs]** J. Shook CHUNG (Institute of Marine and Environmental Technology, University of Maryland Center for Environmental Science, USA)  
Kei Yura (Computational Biology Laboratory, Graduate School of Humanities and Sciences, Ochanomizu University)

#### **[Speakers]**

- 011-1** J. Sook CHUNG (Institute of Marine and Environmental Technology, University of Maryland Center for Environmental Science, USA)  
**“Cracking the genetic code of the blue crab, *Callinectes sapidus*”**
- 011-2** Atsuko Sato (Department of Biology, Ochanomizu University, Japan)  
**“Transcriptome analysis investigating maternal factors involved in developmental buffering”**
- 011-3** Martin C. FRITH (Artificial Intelligence Research Center, AIST, Japan/Graduate School of Frontier Sciences, University of Tokyo, Japan/Computational Bio Big-Data Open Innovation Laboratory, AIST, Japan)  
**“Some key concepts for meaningful sequence comparison”**
- 011-4** Sarah Leigh Carroll (University of Cape Town)  
**“Proteomic characterisation of the stress response of *Haliotis midae* to ocean acidification.”**
- 011-5** Kenneth Sandoval (National University of Ireland, Galway)  
**“A Genomics Approach to Identifying the Biosynthetic Origin of 3-Alkylpyridines in Haplosclerid Sponges”**
- 011-6** Shi Wang (MOE Key Laboratory of Marine Genetics and Breeding, College of Marine Life Sciences, Ocean University of China, China)  
**“The evo-devo landscape of molluscan transcriptomes unravels metazoan larval origin and morphological diversification”**
- 011-7** Yusuke Kijima (Laboratory of Aquatic Molecular Biology and Biotechnology, Aquatic Bioscience, the University of Tokyo/Kitasato University School of Marine Biosciences)  
**“Comparative genome analysis in Cyprinidae shows genetic clues for vertebrate lifespan variation”**

**18:30 ~ 19:10 Night Plenary Lecture 3**

**【Chair】** Yonathan Zohar (University of Maryland)

**【Speaker】**

*NPL3* John Buchanan (Center for Aquaculture Technologies)  
**“GENETIC ENGINEERING IN AQUACULTURE”**

**Presentation (Training Room)**

**13:35 ~ 16:00 Biogenic Materials and Mineralization**

Sponsored by Consolidated Research for Biogenic Nanomaterials,  
Hiroshima University

**【Chairs】** Yoshiko Okamura (Hiroshima University)  
David Kisailus (University California, Riverside)

**【Speakers】**

- 012-1* Kenneth H. Nealson (Department of Earth Science, Univ of Southern California, U.S.A.)  
**“Bacterial Formation and Dissolution of Insoluble Metal Complexes, and its Impact on the Global Cycling and Distribution of Iron and Manganese.”**
- 012-2* Sarah S. Staniland (Department of Chemistry, University of Sheffield, UK)  
**“From Biomineralisation of Magnetosome to Biomimetic Magnetic Nanoparticles for Future Application”**
- 012-3* Yoriko Tominaga (Graduate School of Advanced Sciences of Matter, Hiroshima University)  
**“Crystallinity of biogenic compound semiconductors”**
- 012-4* Toshifumi Sakaguchi (Department of Life Sciences, Prefectural University of Hiroshima, Shobara, Japan)  
**“Isolation and characterization of marine selenium-oxyanion-reducers capable of reducing selenate under aerobic condition”**
- 012-5* Mirei Hayashi (Tokyo Institute of Technology)  
**“Peptide array based colourimetric screening of gold nanoparticle synthetic peptide for one-pot green synthesis”**
- 012-6* Katsuhiko Shimizu (Platform for Community-based Research and Education, Tottori University)  
**“A silica particle formation promoting activity in glassin isolated from silica skeleton of hexactinellid sponge”**
- 012-7* Atsushi Arakaki (Tokyo University of Agriculture and Technology)  
**“Regulation of Magnetite Biomineralization in Bacteria by Gene Rearrangement”**

**18:30 ~ 19:10 Night Plenary Lecture 4**

**[Chair]** Haruko Takeyama (Waseda University)

**[Speaker]**

**NPL4** Jean-François Flot (Université libre de Bruxelles, Belgium)

**“Graph-theoretical approaches to (meta)genomics: unleashing the power of short, accurate reads for biotechnological applications”**

**Poster Discussion (Gallery ABCD)**

**16:30 ~ 18:00 Innovative approach to sustainable aquaculture and fisheries I  
: Fusion of molecular genetics and developmental biotechnology**

**[Speakers]**

**P9-1** Gen Hua Yue (Molecular Population Genetics and Breeding Group, Temasek Life Sciences Laboratory)

**“Mapping and validating QTL for fatty acid compositions and growth traits in Asian seabass”**

**P9-2** Taiki Okabe (Department of Marine Science and Resources, Nihon University)

**“Morphological genetic characterizations of the local variety in salmon, *Oncorhynchus masou masou*, from Kanagawa Prefecture, Japan”**

**P9-3** Kensuke Ichida (School of Animal Production Technology, Institute of Agricultural Technology, Suranaree University of Technology)

**“Specific visualization of type A spermatogonia using a fluorescence-conjugated antibody in *Salmo* species”**

**P9-4** Kazuharu Nomura (National Research Institute of Aquaculture, Japan Fisheries Research and Education Agency)

**“Genomic prediction for timing of metamorphosis in captive-bred Japanese eel (*Anguilla japonica*) using GRAS-Di genotyping method”**

**P9-5** Shikai Liu (The Key Laboratory of Mariculture (Ocean University of China), Ministry of Education, Qingdao, China/College of Fisheries, Ocean University of China, China/Laboratory for Marine Fisheries Science and Food Production Processes, Qingdao National Laboratory for Marine Science and Technology, Qingdao, China)

**“Selective breeding of the Pacific oyster for sustainable oyster aquaculture in China”**

**P9-6** Ryosuke Yazawa (Tokyo University of Marine Science and Technology)

**“Production and characteristics of triploid eastern little tuna”**

**P9-8** Wataru Kawamura (Tokyo university of marine science and technology, Japan)

**“Tracking of xenogeneic transplanted bluefin tuna germ cells in surrogate mackerel using a specific monoclonal antibody”**

16:30 ~ 18:00 **Marine Microbiology and Biotechnology**

**[Speakers]**

- P10-3** Kohta Unno (Graduate School of Integrated Science and Technology, Shizuoka University)  
**“Heterologous production of new protease inhibitory peptide marinostatin E”**
- P10-4** Yutaka Tamaru (Graduate School of Bioresources, Mie University/Department of Bioinformatics, Advanced Science Research Center, Mie University/Smart Cell Innovation Research Center, Mie University)  
**“Construction of scFv antibody library in the lymph fluids of goldfish, Bubble Eye”**
- P10-5** Yukino Mizutani (Graduate School of Bioresources, Mie University)  
**“Exploration of uncultured Epsilonproteobacterium in the gills of shallow-water invertebrates”**
- P10-6** Won Je Jang (Department of Biotechnology, Pukyong National University, Republic of Korea)  
**“Improvement of phytase by genetic fusion for use as an additive in plant-based feeds for aquaculture”**
- P10-7** Ryuya Matsuda (Center for Water Cycle, Marine Environment and Disaster Management, Kumamoto University)  
**“Production of indoleacetic acid by the epiphytic bacterium Maribacter sp. BPY-M1 isolated from the red alga Pyropia yezoensis”**
- P10-8** Moeka Uemura (Tokyo University of Marine Science and Technology)  
**“Analysis of transcriptional regulator in antibiotic biosynthetic gene clusters of deep-sea-derived Streptomyces sp.”**
- P10-9** Haruka Yamazaki (Department of Biotechnology and Life Science, Tokyo University of Agriculture and Technology)  
**“The hunt for tetrodotoxin producers from the flatworm, Planocera multitentaculata.”**
- P10-10** Daichi Toyohara (Department of Biotechnology and Life Science, Tokyo University of Agriculture and Technology)  
**“Cell-penetrating-peptides potentially enhances biomolecule delivery in bacteria”**
- P10-11** Maushmi Shailesh Kumar (Shobhaben Pratapbhai Patel School of Pharmacy and Technology Management, SVKM'S NMIMS)  
**“Anti-Inflammatory Activity of selected Marine sponges from Ratnagiri coast”**
- P10-14** Ana Sosa Morfin (Institute of Marine and Environmental Technology, University of Maryland Center for Environmental Science, Baltimore, Maryland, USA /Maryland Sea Grant College, University of Maryland Center for Environmental Science, College Park, Maryland, USA )  
**“Functional and taxonomic diversity of microbial communities in microplastic particles from the Chesapeake Bay”**

- P10-15** Joseph Walker Scott (Department of Synthetic Chemistry and Biological Chemistry, Graduate School of Engineering, Kyoto University)  
**“Genetically characterizing the roles of two endopeptidases involved in the maturation of [NiFe]-hydrogenases of the hyperthermophilic archaeon *Thermococcus kodakarensis*.”**
- P10-16** Akinori Ando (Division of Applied Life Sciences, Graduate School of Agriculture Kyoto University/ Research Unit for Physiological Chemistry, Kyoto University)  
**“A rare  $\omega$ 3-PUFA,  $\omega$ 3-docosapentaenoic acid, production by *Aurantiochytrium* sp. T7 strain”**
- P10-17** Miki Yamazaki (Department of Life Science and Medical Bioscience, Waseda University/CBBB-OIL, AIST-Waseda University)  
**“Tissue-specific gene expression analysis using micro-tissue-picking device”**
- P10-18** Shodai Hirobe (Department of Life Sciences, Graduate School of Bioresources, Mie University)  
**“Development of high-throughput system for recombinant protein production using zebrafish”**
- P10-19** Kiyotaka Y Hara (Graduate Division of Nutritional and Environmental Sciences, University of Shizuoka, Japan/School of Food and Nutritional Sciences, University of Shizuoka, Japan)  
**“Astaxanthin production using *Xanthophyllomyces dendrorhous*”**
- P10-20** Murakami Yu (Department of Pharmacoepidemiology, Graduate School of Medicine and Public Health, Kyoto University, Yoshida-Konoe-cho, Japan)  
**“Establishment of a novel bioreactor system for transporting and accumulating foreign proteins in eggs with a vitellogenin signal in medaka *Oryzias latipes*.”**
- P10-22** Yuki Shibuya (Department of Biotechnology and Life Science, Tokyo University of Agriculture and Technology)  
**“Identification of factors hindering cell-penetrating peptide permeabilization”**
- P10-24** Kyohei Horio (Graduate School of Advanced Sciences of Matter, Hiroshima University)  
**“*in situ* detection of mRNA toward fluorescence-labelled cells”**
- P10-25** Sosei Suzuki (Graduate School of Medical Life Science, Yokohama City University)  
**“Methods for Important Factor Extraction toward Water Quality Evaluation”**
- P10-26** Mingli Zhao (Institute of Marine and Environmental Technology MD USA/University of Maryland, Baltimore County, MD USA)  
**“How is the genetic variation of a blue crab reovirus affected by geography and host life history?”**
- P10-27** Hiroyuki Okamoto (National Research Institute of Aquaculture, Japan Fisheries Research and Education Agency)  
**“Evaluating the optimal timing of fish egg microinjection for genome editing”**
- P10-28** Yoshimoto Saito (Computational Bioscience Research Center, King Abdullah University of Science and Technology)  
**“Identification of cellulase genes from cellulase-producing bacterial strains isolated in the Red Sea”**

**P10-29** Shuwa Yagi (Graduated school of university of Shizuoka integrated Pharmaceutical and Nutritional Sciences)

**“Development of astaxanthin extraction method using its binding protein”**

**P10-31** Mochamad Untung Kurnia Agung (Department of Marine Science, Faculty of Fisheries and Marine Science, Universitas Padjadjaran, Jatinangor, Sumedang, West Java 45363 Indonesia/ Laboratory of Microbiology and Molecular Biotechnology (MICROMOL), Faculty of Fisheries and Marine Science, Universitas Padjadjaran, Jatinangor, Sumedang, West Java 45363 Indonesia)

**“Pseudomonas stutzeri, Millepora-associated Bacteria : Antibacterial Activity and Its Resistance to Chloramphenicol and Rifampicin”**

## 16:30 ~ 18:00 Marine Genomics and Bioinformatics

### [Speakers]

**P11-1** Jia Lv (MOE Key Laboratory of Marine Genetics and Breeding, College of Marine Life Sciences, Ocean University of China, China)

**“Development of genomic tools for systematic study of Pectinidae biology and evolution”**

**P11-2** Chang-Wen Huang (Department of Aquaculture, National Taiwan Ocean University, Taiwan/Center of Excellence for the Oceans, National Taiwan Ocean University, Taiwan)

**“Cold-Tolerance SSR and SNP Markers Based on Transcriptomic Profiles in Taiwan Tilapia Strains”**

**P11-3** Satoshi Kawato (Tokyo University of Marine Science and Technology)

**“Genomic footprints unveil the evolution of obscure crustacean virus family”**

**P11-4** Tzong-Yueh Chen (Department of Biotechnology and Bioindustry Sciences, National Cheng Kung University/Translational Center for Marine Biotechnology, National Cheng Kung University/Agriculture Biotechnology Research Center, National Cheng Kung University)

**“Molecular assisted breeding using potential growth-related markers IGF2 for hybrid grouper (*Epinephelus fuscoguttatus* X *Epinephelus lanceolatus*)”**

**P11-5** Yoshihito Nikaidou (School of Agriculture, Ibaraki University)

**“Genomic analysis of psychrotrophic deep-sea bacterium *Pseudoalteromonas* sp. PSIM3”**

**P11-6** Munetsugu Bam (Department of Anatomy and Structural Biology, Graduate School of Medical Science, University of Yamanashi)

**“Vitellogenin accumulation in yolk during oogenesis in the simplest free living animal placozoans”**

**P11-8** Xiaoting Dai (MOE Key Laboratory of Marine Genetics and Breeding, College of Marine Life Sciences, Ocean University of China, China)

**“Single-cell RNA sequencing of scallop (*Mizuhopecten yessoensis*) adult hemocytes and trochophora larva”**



- P11-9** Milos Havelka (South Ehime Fisheries Research Center, Ehime University)  
**“Construction of linkage map and genome-based chromosome build in a new marine aquaculture species kawakawa *Euthynnus affinis*”**
- P11-10** Masanori Yonezawa (Laboratory of Microbiology, Faculty of Fisheries Sciences, Hokkaido University, Hakodate, Japan)  
**“Comprehensive study on gut microbiome of sea urchin”**
- P11-11** Chunqi Jiang (Laboratory of Microbiology, Faculty of Fisheries, Hokkaido University)  
**“Genomic comparison of *Haliotocoli* clade species, family *Vibrionaceae*”**
- P11-13** Keigo Ide (Department of Life Science and Medical Bioscience, Waseda University, Japan/CBBD-OIL, AIST-Waseda University, Japan)  
**“Different host-endosymbiont relationships of *Endozoicomonas acroporae* with its coral host”**
- P11-15** Ryohei Nakaguro (Department of Life Science and Medical Bioscience, Waseda University/Institute for Advanced Research of Biosystem Dynamics, Waseda Research Institute for Science and Engineering)  
**“Genomic comparison of coral symbiont and marine environmental”**
- P11-17** Songlin Chen (Yellow Sea Fisheries Research Institute, CAFS/Laboratory for Marine Fisheries Science and Food Production Processes, Qingdao National Laboratory for Marine Science and Technology, China)  
**“Progress and Prospect of Fish Genomic Research in China”**
- P11-18** Ha Thi Thu Duong (Graduate School of Humanities and Science, Ochanomizu University, Japan)  
**“Metagenomics identification of infection in swollen siphon of Vietnamese otter clam”**
- P11-19** QIAN ZHOU (Yellow Sea Fisheries Research Institute, Chinese Academy of Fishery Sciences, Key Laboratory for Sustainable Development of Marine Fisheries, Ministry of Agriculture/Laboratory for Marine Fisheries Science and Food Production Processes, Qingdao National Laboratory for Marine Science and Technology)  
**“A chromosome-level genome assembly of the giant grouper (*Epinephelus lanceolatus*) provides insights into its innate immunity and rapid growth”**
- P11-21** Ziniu Yu (South China Sea Institute of Oceanology, Chinese Academy of Sciences)  
**“Comparative genome analysis provides evidences for the evolution of sessile life and asymmetrical shell of oysters”**
- P11-22** Chiho Homma (Faculty of Agriculture and Marine Science, Kochi University, Japan)  
**“Effectiveness of blocking primer and PNA clamp for metabarcoding of herbivorous fish diet”**
- P11-23** Takashi Ishikawa (Japan Fisheries Research and Education Agency, National Research Institute of Aquaculture)  
**“A validation study of genotyping by GRAS-Di sequencing method”**
- P11-24** Naoaki Tsutsui (Department of Marine Bioresources, Faculty of Bioresources, Mie University, Mie, Japan/Ushimado Marine Institute, Faculty of Science, Okayama University, Okayama, Japan)  
**“A transcriptomic search for genes encoding putative hormones expressed in the prawn ovary”**

- P11-26** Meijie Yang (Key Laboratory of Marine Ecology and Environmental Sciences, Institute of Oceanology, Chinese Academy of Sciences/University of Chinese Academy of Sciences)  
**“The responses of digestive tract microflora and digestive enzymes in *Rapana venosa* (Valenciennes, 1846) to different temperatures”**
- P11-27** Tao Zhang (Key Laboratory of Marine Ecology and Environmental Sciences, Institute of Oceanology, Chinese Academy of Sciences/Laboratory for Marine Ecology and Environmental Science, Qingdao National Laboratory for Marine Science and Technology/Center for Ocean Mega-Science, Chinese Academy of Sciences)  
**“Metamorphosis of the veined rapa whelk *Rapana venosa*: from morphological, transcriptomic and proteomic insight”**
- P11-28** Evan W. Barba (Hawaii Institute of Marine Biology, University of Hawaii at Manoa, USA)  
**“AssessPool: a flexible pipeline for population genomic analyses of pooled sequencing data. A case study on salinity acclimation in tilapia.”**
- P11-29** Emily Conklin (Hawai'i Institute of Marine Biology, University of Hawai'i at Mānoa, Kāne'ohe, Hawai'i, USA)  
**“Seanome: A bioinformatics tool for the identification and analysis of shared regions across diverse genomes using high-throughput sequencing data”**
- P11-30** Kelle C. Freel (Hawai'i Institute of Marine Biology, University of Hawai'i at Mānoa, USA)  
**“Approaches to understanding abundant microbial community members over time in Kāne'ohe Bay, O'ahu”**
- P11-31** Zhanjiang Liu (Department of Biology, College of Art and Sciences, Syracuse University)  
**“Channel Catfish Y Chromosome Sequence and Involvement of BCAR1 in Sex Determination”**
- P11-32** Dongya Gao (The Fish Molecular Genetics and Biotechnology Laboratory, School of Fisheries, Aquaculture, and Aquatic Sciences and Program of Cell and Molecular Biosciences, Aquatic Genomics Unit, Auburn University, Auburn, USA)  
**“Genome Sequence of Walking Catfish (*Clarias Batrachus*) Provides Insights into Terrestrial Adaptation”**

## 16:30 ~ 18:00 Biogenic Materials and Mineralization

### [Speakers]

- P12-1** Yuka Narahara (Graduate School of Environmental and life Science, Okayama University)  
**“Expression and characterization of recombinant radular teeth matrix protein 1 (RTMP1) from *Cryptochiton stelleri*”**
- P12-2** Tsubasa Kimura (Keio University)  
**“Crystal arrays with organic frameworks for structural colors of the sapphirinid copepods”**
- P12-3** So Sugiyama (Keio University)  
**“Variation of the mechanical properties of the crossed lamellar structures in the *Murex pecten* shell”**

- P12-4** Kosuke Arai (Division of Biotechnology and Life Science, Institute of Engineering, Tokyo University of Agriculture and Technology)  
**“Comparative Adsorption Study of Mms Proteins from Magnetotactic Bacteria to Metal Oxide Nanoparticles”**
- P12-5** Tomoya Sato (Hiroshima University)  
**“Isolation of the bacteria forming lead sulfide nanoparticles”**
- P12-6** Mariom (Graduate School of Agricultural and Life Science, The University of Tokyo, Japan./Faculty of Fisheries, Bangladesh Agricultural University, Bangladesh.)  
**“Transcriptome analysis reveals stem cell marker genes expressed during the proliferation of mantle epithelial cells into pearl sac in the pearl oyster, *Pinctada fucata*”**
- P12-7** Ren Hirano (Kitasato University School of Marine Biosciences)  
**“Effect of polyamine transport inhibitor on the PH increase in calcifying fluids of juvenile coral polyps possibly associated with calcification processes”**
- P12-8** Michiko Nemoto (Graduate School of Environmental and Life Science, Okayama University, Japan)  
**“Transcriptome and proteome analysis of non-model diatom species toward understanding of silica biomineralization”**
- P12-9** Shihori Iwamoto (Department of Applied Biological Chemistry, Graduate School of Agricultural and Life Sciences, The University of Tokyo, Japan Graduate School of Agricultural and Life Sciences)  
**“Identification of organic matrices regulating the thin platy calcite crystals in the chalky layer of *Crassostrea gigas*”**
- P12-10** Ryo Yamaguchi (Department of Applied Biological Chemistry, Graduate School of Agricultural and Life Sciences, The University of Tokyo, Japan)  
**“Identification of key factors increasing Mg<sup>2+</sup> concentration in calcium carbonate from sea urchin, *Heliocidaris crassispina*.”**

**16:30 ~ 18:00 Innovative approach to sustainable aquaculture and fisheries II : New trends of feed nutrients and pre/probiotics for sustainable aquaculture**

**[Speakers]**

- P14-1** Md Tawheed Hasan (Department of Biotechnology, Pukyong National University, Republic of Korea)  
**“Ratio specific mixtures of *Bacillus* sp. SJ-10 and *Lactobacillus plantarum* enhance growth, and cellular and humoral immunity with infectious disease protection in olive flounder (*Paralichthys olivaceus*)”**
- P14-2** Reiko Watanabe (Faculty of Agriculture, Department of Fisheries, Kindai University)  
**“Optimum biomass ratios in aquaponics of Japanese eel (*Anguilla japonica*) and Chinese water spinach (*Ipomoea aquatica*)”**
- P14-3** Yuto Ushiro (Faculty of Agriculture, Department of Fisheries, Kindai University)  
**“Opsin gene analysis and the effect of light wavelength on feeding and surface death in larval Pacific bluefin tuna (*Thunnus orientalis*)”**

- P14-4** Jen-Leih Wu (Institute of Cellular and Organismic Biology, Academia Sinica, Taiwan/Department of Life Sciences and Biotechnology, College of Life Sciences, National Taiwan Ocean University, Taiwan)  
**“Changes in intestinal microbiota composition and cold tolerance in omega-3 enriched tilapia”**
- P14-5** Binh Trong Phan (Graduate School of Agriculture, University of Miyazaki, Japan)  
**“Evaluation of light-emitting diode irradiation on the inhibitory effect against fish pathogens”**
- P14-6** Yuki Hayami (Department of Marine Biology and Environmental Sciences, Faculty of Agriculture, University of Miyazaki)  
**“Inhibitory effects against pathogenic *Vibrio* by enrichment of *Lactococcus lactis* strain K-C2 on *Artemia*”**
- P14-7** Noriyuki Tai (Department of Marine Biology and Environment, and Faculty of Agriculture, and University of Miyazaki)  
**“Effect of complete fishmeal-free diet with lipid-extracted residue derived from a thraustochytrid *Aurantiochytrium* sp. mem0039 on growth and body composition of Japanese flounder (*Paralichthys olivaceus*)”**
- P14-8** Naoki Kabeya (Department of Marine Biosciences, Tokyo University of Marine Science and Technology)  
**“Genes for *de novo* EPA and DHA biosynthesis are present in the harpacticoid copepod *Tigriopus californicus*”**
- P14-9** Yoshiyuki Matsushita (Tokyo University of Marine Science and Technology)  
**“Structural basis of the trifunctionality of fatty acid desaturase in the freshwater sole *Brachirus villosus* from Papua New Guinea”**
- P14-10** Jun Kikuchi (RIKEN Center for Sustainable Resource Science/Nagoya University/Yokohama City University)  
**“Predictive modeling of red-tide and fish growth by analytical big-data with machine-learning computation”**
- P14-11** Jie Feng (Key Laboratory of Mariculture, Ministry of Education, Fisheries College, Ocean University of China, P. R. China)  
**“Changes in trophic structure and ecosystem function of a *Portunus trituberculatus* polyculture ecosystem over different culture periods”**
- P14-13** Taiga Asakura (RIKEN Center for Sustainable Resource Science, Japan)  
**“Evaluation of fish growth stages from metabolic dynamics of NMR data science”**
- P14-14** Chinh Thi My Dam (Genecology Research Centre, University of the Sunshine Coast, Australia)  
**“The impact of raw material selection on apparent digestibility, the gut microbiome and the expression of digestive enzyme-encoding genes in Yellowtail Kingfish *Seriola lalandi*”**
- P14-15** Kengo Ito (RIKEN Center for Sustainable Resource Science/Graduate School of Medical Life Science, Yokohama City University)  
**“Long-Term Forecast Modeling of Red Tide and Visualizing Complex Environmental Causal Network using Discontinuous Analytical Big-Data”**
- P14-16** Jenn-Kan Lu (National Taiwan Ocean University)  
**“AIOT and biotechnology for development of precision aquaculture”**

**P14-17** Hajime Nakatani (Department of Biomolecular Engineering, Graduate School of Engineering, Nagoya University, Japan)

**“Analysis of the skin bacterial flora of trout in fish farm”**