

Program Schedule

■ Plenary Lectures

Plenary Lecture I

Friday, 13 July, **Room:** Main Hall, 2F

【13PL】 13:30-14:20

Chair: Shigetoh MIYACHI

Biocatalysts from the Sea: Exploration of novel enzymes using genomic approach

Sang-Jin Kim

*Marine Biotechnology Research Centre, Korea Ocean Research and Development Institute
Dept. of Marine Biotechnology, Korea University of Science and Technology, Korea*

Plenary Lecture II

Saturday, 14 July, **Room:** Main Hall, 2F

【14PL】 9:00-9:50

Chair: Sang-Jin KIM

Biofuel Production by Marine Microalgae

Tadashi Matsunaga

Tokyo University of Agriculture and Technology, Japan

Plenary Lecture III

Sunday, 15 July, **Room:** Main Hall, 2F

【15PL】 9:00-9:50

Chair: Nobuhiro FUSETANI

Extending the Options for Marine Natural Products; Scaffolds and Fragments based on Marine Natural Products as Drug Discovery Tools

Ronald J. Quinn

Griffith University Eskitis Institute, AUSTRALIA

Plenary Lecture IV

Monday, 16 July, **Room:** Main Hall, 2F

【16PL】 11:00-11:50

Chair: Song QIN

Two Decades of Progress in Red Algal Biotechnology

John Peter van der Meer

Pan-American Marine Biotechnology Association, CANADA

■ Special Lectures

Special Lecture I

Technology Innovation Award 2012 of the Japanese Society for Marine Biotechnology

Friday, 13 July, **Room:** Main Hall, 2F

【13SL】

Chair: Nobuhiro FUSETANI

17:00-17:40

**Novel Functionality and Molecular Mechanism of Brown Seaweed Carotenoid,
Fucoxanthin**

Kazuo Miyashita

Faculty of Fisheries Sciences, Hokkaido University, Japan

Special Lecture II

Best Paper Award 2012 of the Japanese Society for Marine Biotechnology

Saturday, 14 July, **Room:** Main Hall, 2F

【14SL】

Chair: Naotsune SAGA

16:50-17:20

**The Way Toward Establishment of Genetic Transformation in Marine Red
Macroalgae: Application of PyGUS and sGFP (S65T) reporter systems**

Ryo Hirata¹, Megumu Takahashi¹, Naotsune Saga², Koji Mikami²

¹*Graduate School of Fisheries Sciences, Hokkaido University, Japan;* ²*Faculty of Fisheries Sciences, Hokkaido University, Japan*

■ Special Sessions

Special Session I

10:10-11:50, Saturday, 14 July, **Room:** Main Hall, 2F

The Potential of Marine Microbial Diversity in Biofuel Innovation

Chair: Tomoo SAWABE & Yutaka NAKASHIMADA

【14S1-1】 10:10-10:40 (*Invited Lecture*)

Lessons From Light-Harvesting Heterotrophic Marine Bacteria For Potential Biofuel Innovation

Gary J. Vora

Center for Bio/Molecular Science and Engineering, Naval Research Laboratory, United States of America

【14S1-2】 10:40-11:05

Understanding of Microbial Diversity Required for Efficient Methane Production from Marine Biomass Resources

Yutaka Nakashimada, Naomichi Nishio

Department of Molecular Biotechnology, Hiroshima University, Japan

【14S1-3】 11:05-11:30 (*Invited Lecture*)

Marine Metagenomes as a Source of New Glycoside Hydrolase Genes

Thiago Bruce Rodrigues, Fabiano L. Thompson

Marine Biology Department, Federal University of Rio de Janeiro, Brazil

【14S1-4】 11:30-11:50

Toward the creating marine microbial cell factory for biofuel production

Tomoo Sawabe

Lab. of Microbiology, Fac. of Fisheries Sciences, Hokkaido University, Japan

Special Session II

13:00-14:40, Saturday, 14 July, **Room:** Main Hall, 2F

New Directions of Marine Biotechnology and Marine Natural Products Chemistry 1

Chair: Shigeki MATSUNAGA & Hiyoshizo KOTSUKI

[14S5-1] 13:00-13:40 (*Keynote Lecture*)

Search for Drug Leads Inhibiting the Ubiquitin-proteasome System from the Natural Sources

Sachiko Tsukamoto

Graduate School of Pharmaceutical Sciences, Kumamoto University, Japan

[14S5-2] 13:40-14:20 (*Keynote Lecture*)

Chemoecology Guided Discovery of Drug Leads from South China Sea Marine Invertebrates

Yue-Wei Guo

Shanghai Institute of Material Medica, Chinese Academy of Sciences, China

[14S5-3] 14:20-14:40

A further Search for Bioactive Secondary Metabolites from Marine Dinoflagellates of the Genus *Symbiodinium*

Ken-ichi Onodera

Oceanography Section, Science Research Center, Kochi University, IMT-MEXT, Japan

Special Session III

15:00-16:40, Saturday, 14 July, **Room:** Main Hall, 2F

New Directions of Marine Biotechnology and Marine Natural Products Chemistry 2

Chair: Sachiko TSUKAMOTO & Hiyoshizo KOTSUKI

[14S9-1] 15:00-15:40 (*Keynote Lecture*)

Exploration and exploitation of Marine Uncultivable Microorganisms

Haruko Takeyama

Department of Life Science and Medical Bioscience, Waseda University, Japan

[14S9-2] 15:40-16:20 (*Keynote Lecture*)

Recent Progress on Biosynthesis of Fungal and Bacterial Metabolites

Hideaki Oikawa

Department of Chemistry, Graduate School of Science, Hokkaido University, Japan

[14S9-3] 16:20-16:40

Searching for Polyketide Biosynthetic Genes in Marine Microalgae

Dana Ulanova¹, Masashi Tsuda²

¹Oceanography Section, Science Research Center, Kochi University, IMT-MEXT, Japan; ²Center for Advanced Marine Core Research, Kochi University, Japan

Special Session IV

10:10-11:50, Sunday, 15 July, Room: Main Hall, 2F

Microalgae: sources of useful genes and biofuels

Chair: Katsunori AIZAWA and Shigetoh MIYACHI

【15S1-1】 10:10-10:35 (*Invited Lecture*)

Engineering of Carbon-Concentrating Mechanism, Genomes and Metabolic Pathways in a Green Alga, *Chlamydomonas reinhardtii*

Hideya Fukuzawa, Takashi Yamano, Masataka Kajikawa

Graduate School of Biostudies, Kyoto University, Japan

【15S1-2】 10:35-11:00 (*Invited Lecture*)

***Euglena gracilis* Is A Fascinating Resource For Isolating Useful Genes**

Takahiro Ishikawa¹, Masahiro Tamoi², Kengo Suzuki³, Shigeru Shigeoka²

¹*Faculty of Life and Environmental Science, Shimane University, Japan;* ²*Faculty of Agriculture, Kinki University, Japan;* ³*euglena Co.,Ltd., Japan*

【15S1-3】 11:00-11:25 (*Invited Lecture*)

How Can We Manage the Nitrogen Cost in Algal Biofuel Production?

Tatsuo Omata¹, Makiko Aichi², Kazutaka Ikeda³

¹*Graduate School of Bioagricultural Sciences, Nagoya University, Japan;* ²*Department of Biological Chemistry, Chubu University, Japan;* ³*Institute for Advanced Biosciences, Keio University, Japan*

【15S1-4】 11:25-11:50

Nostoc flagelliforme: A Model Cyanophyte in Cultivation Technology at the Era of Global Warming

Katsunori Aizawa, Shigetoh Miyachi

Institute for Clean Earth, Japan

■ Oral Sessions

Friday, 13 July

13S1

14:40-16:20, **Room:** Main Hall, 2F

Biotechnology of Microalgae 1

Chair: Yoshihiro SHIRAIWA & Masao ADACHI

13S1-1 14:40-15:05

Influence of Ocean Acidification on Coccolithophorids

Shin-ya Fukuda, Yurina Suzuki, Yoshihiro Shiraiwa
Faculty of Life and Environmental Science, University of Tsukuba, Japan

13S1-2 15:05-15:20

Optimization of the culture conditions of microalgae *Navicula incerta* and protective effects of its protein hydrolysate on Carbon Tetrachloride-Induced Liver Damage *in vitro* and *in vivo*

Kyong-Hwa Kang¹, BoMi Ryu², Young-Sang Kim², Se-Kwon Kim^{1,2}
¹*Marine Bioprocess Research Center, Pukyong National University, Republic of Korea;* ²*Department of Chemistry, Pukyong National University, Republic of Korea*

13S1-3 15:20-15:35

Development of a New Screening System Using Pyrimidine Auxotrophy in a Marine Diatom

Toshiro Sakaguchi, Kensuke Nakajima, Yusuke Matsuda
Research Center for Intelligent Bio-Materials, Department of Bioscience, Kwansai Gakuin University, Japan

13S1-4 15:35-15:50

Analysis of the Effects of Low Temperature on the Photosystems in the Coccolithophore, *Emiliania huxleyi*

Manami Satoh¹, Fumihiro Itoh², Naomi Harada³, Iwane Suzuki¹, Yoshihiro Shiraiwa¹
¹*Faculty of Life and Environmental Sciences, University of Tsukuba, Japan;* ²*Graduate School of Life and Environmental Sciences, University of Tsukuba, Japan;* ³*Research Institute for Global Change (RIGC), JAMSTEC, Japan*

13S1-5 15:50-16:05

Analysis of Mechanism for Increase in the Activity of Non-Photochemical Quenching under Low Temperature Conditions in the Coccolithophore *Emiliania huxleyi*

Fumihiro Itoh¹, Manami Satoh², Naomi Harada³, Iwane Suzuki², Yoshihiro Shiraiwa²
¹*Graduate School of Life and Environmental Sciences, University of Tsukuba, Japan;* ²*Faculty of Life and Environmental Sciences, University of Tsukuba, Japan;* ³*Research Institute for Global Change (RIGC), JAMSTEC, Japan*

13S1-6 16:05-16:20

Lipid Accumulation in *Chlamydomonas* and *Chlorella* Under Sulfur Deprivation

Atsushi Sato¹, Mikio Tsuzuki^{1,2}, Norihiro Sato^{1,2}
¹*School of Life Sciences, Tokyo University of Pharmacy and Life Sciences, Japan;* ²*JST, CREST, Japan*

13S2

14:40-16:20, **Room:** Mini Theatre, 2F

Extremophiles & Metagenomics

Chair: Yoshihiko SAKO & Kimio FUKAMI

13S2-1 14:40-14:55

Halomonas sp. BS4- A biosurfactant producing halophilic bacterium isolated from solar salt works in India

Citarasu Thavasimuthu, Birdilla Selva Donio Mariathason, Tnangaviji Vijayaragavan, Adlin Jenifer John, Velmurugan Subramanian, Michael Babu Maiavincent, Ronica Fernando Arul
Centre for Marine Science and Technology, Manonmaniam Sundaranar University, India

- 13S2-2 14:55-15:10
A Novel Carboxydothermic Thermophilic Bacterium isolated from a Marine Sediment Core
Yasuko Yoneda¹, Takashi Yoshida¹, Chiaki Imada², Hisato Yasuda³, Yoshihiko Sako¹
¹Laboratory of Marine Microbiology, Graduate School of Agriculture, Kyoto University, Japan; ²Graduate School of Marine Science and Technology, Tokyo University of Marine Science and Technology, Japan; ³Center for Advance Marine Core Research, Kochi University, Japan
- 13S2-3 15:10-15:25
Mutagenic analysis of *Carboxydothermus hydrogenoformans* CODH-II
Takahiro Inoue¹, Kyosuke Takao¹, Takashi Yoshida¹, Kei Wada², Keiichi Fukuyama³, Yoshihiko Sako¹
¹Division of Applied Biosciences, Graduate School of Agriculture, Kyoto University, Japan; ²Tenure Track Promotion Organization, University of Miyazaki, Japan; ³Department of Biological Sciences, Graduate School of Science, Osaka University, Japan
- 13S2-4 15:25-15:40
Heterologous over-expression of carbon monoxide dehydrogenase-I from *Carboxydothermus hydrogenoformans*
Kyosuke Takao, Takahiro Inoue, Takashi Yoshida, Yoshihiko Sako
 Division of Applied Biosciences, Graduate School of Agriculture, Kyoto University, Japan
- 13S2-5 15:40-16:00
Screening of Neutrophil Activating Factors from a Metagenomic Library of Sponge-Associated Bacteria
Yoshiko Okamura¹, Katsuhiko Suzuki², Haruko Takeyama³
¹Department of Molecular Biotechnology, Graduate School of Advanced Sciences of Matter, Hiroshima University, Japan; ²Faculty of Sport Sciences, Waseda University, Japan; ³Department of Life Science and Medical Bio-Science, Waseda University, Japan
- 13S2-6 16:00-16:15
The Cadmium Accumulation Gene Encoding a Pentapeptide Repeat Protein from Metagenome Libraries of Bacteria Associated with Marine Sponges
Yotaro Kohara¹, Satoshi Wakaoji¹, Koji Iwamoto², Yoshihiro Shiraiwa², Tetsushi Mori¹, Haruko Takeyama¹
¹Department of Life Science and Medical Bioscience, Waseda University, Japan; ²Graduate School of Life and Environmental Sciences, University of Tsukuba, Japan

13S3

14:40-16:20, **Room:** 2nd Gallery, 7F

Marine Bioproducts

Chair: Shugo WATABE & Hyung Joon CHA

- 13S3-1 14:40-15:00
Coacervation in mussel adhesion and its biotechnological application
Hyung Joon Cha¹, Seonghye Lim¹, Yoo Seong Choi²
¹Department of Chemical Engineering, Pohang University of Science and Technology, Korea; ²Department of Chemical Engineering, Chungnam National University, Korea
- 13S3-2 15:00-15:15
Aboveground Biomass and Litterfall in the Mangrove Forests of Iran
Saber Ghasemi¹, Neda Mola¹, Mohamed Zakaria²
¹Faculty of Environmental Science, Islamic Azad University, Bandar Abbas Branch, Iran; ²Faculty of Forestry, University Putra Malaysia (UPM), Malaysia
- 13S3-3 15:15-15:30
Production of Recombinant Alginate Lyase from a Marine Snail *Littorina brevicula*
Mohammad Matiur Rahman, Akira Inoue, Takao Ojima
 Graduate School of Fisheries Sciences, Hokkaido University, Japan
- 13S3-4 15:30-15:45
Molecular and Thermal Stability Characterization of Pepsin-Solubilized Collagen Purified from Sea Cucumber *Holothuria parva*
Nasim Adibzadeh¹, Saeed Aminzadeh², Shahla Jamili³
^{1,2}Department of Animal and Marine Biotechnology, National Institute of Genetic Engineering and Biotechnology (NIGEB), Tehran, IRAN; ³Department of Marine Biology, Marine Science and Technology, Science and Research Branch, Islamic Azad University, Tehran, IRAN

13S3-5 15:45-16:00
Structural Characterization and Tissue-Specific Expression of Disk Abalone *Haliotis discus* Indoleamine Dioxygenase-Like Myoglobin
Muhammad Mehedi Hasan¹, Takenori Sasaki², Hideki Ushio¹, Shugo Watabe^{1,3}, Yoshihiro Ochiai⁴
¹Department of Aquatic Bioscience, The University of Tokyo, Japan; ²The University Museum, The University of Tokyo, Japan; ³School of Marine Biosciences, Kitasato University, Japan; ⁴Department of Marine Science and Technology, Tokai University, Japan

13S3-6 16:00-16:15
Exploring the Lignocellulose Digestion Capacity of a Shipworm *Teredo navalis* Through a 454 GS-FLX Pyrosequencing of its Transcriptome
Karim Honein¹, Gen Kaneko¹, Ichiro Katsuyama², Masaki Matsumoto², Yukio Kawashima², Masao Yamada³, Hideki Ushio¹, Shugo Watabe¹
¹Department of Aquatic Bioscience, Graduate School of Agricultural and Life Sciences, The University of Tokyo, Japan; ²Japan NUS Co. Ltd., Japan; ³Port and Airport Research Institute, Japan

13S4 14:40-16:20, **Room:** 4th Gallery, 7F
Marine Bioactive Compounds 1

Chair: Keiichi ENOMOTO & Se-Kwon KIM

13S4-1 14:40-15:00 (Invited Lecture)
Inhibition of Protein Phosphatases by Prodigiosin Compounds as a Basis for their Mechanisms of Cytotoxicity
Azamjon B. Soliev, Keiichi Enomoto
School of Environmental Science and Engineering, Kochi University of Technology, Japan

13S4-2 15:00-15:20
The HIV Envelope Glycoprotein GP120-Binding Lectin from the Edible Marine Alga *Meristotheca papulosa* Is A New Type of High Mannose N-Glycan-Specific Algal Lectin
Chifumi Teramoto, Makoto Hirayama, Kanji Hori
Graduate School of Biosphere Science, Hiroshima University, Japan

13S4-3 15:20-15:35
The Strong Antioxidant “Selenoneine” in Tuna Blood and Its Roles in Selenium Redox Metabolism
Michiaki Yamashita, Yumiko Yamashita, Tamami Suzuki, Shintaro Imamura, Tatsuro Hara, Md. Anwar Hossain, Takeshi Yabu, Ken Touhara, Kenji Ishihara
National Research Institute of Fisheries Science, Japan

13S4-4 15:35-15:50
Marine notes from seaweeds
Yoshihiko Akakabe, Kensuke Washizu, Miho Takabayashi, Yuuhei Kawanabe, Yasuharu Handa, Tadahiko Kajiwara
Department of Biological Chemistry, Faculty of Agriculture, Yamaguchi University, Japan

13S4-5 15:50-16:05
Anti-proliferative and apoptosis induction of MCF-7 breast cancer cells by fumigaclavine C, isolated from marine-derived fungus, *Aspergillus fumigatus*
Yong-Xin Li¹, Se-Kwon Kim^{1,2}
¹Department of Chemistry, Pukyong National University, Republic of Korea; ²Marine Bioprocess Research Center, Pukyong National University, Republic of Korea

13S4-6 16:05-16:20
In vitro* Antibacterial Activity of Phlorotannins from *Eisenia bicyclis* against Methicillin-resistant *Staphylococcus aureus
Sung-Hwan Eom¹, Young-Mog Kim², Se-Kwon Kim^{1,3}
¹Marine Bioprocess Research Center, Pukyong National University, Republic of Korea; ²Department of Food Science and Technology, Pukyong National University, Republic of Korea; ³Department of Chemistry, Pukyong National University, Republic of Korea

Saturday, 14 July

14S2

10:10-11:50, Room: Mini Theatre, 2F

Biotechnology of Macroalgae & Microalgae 2

Chair: Naotsune SAGA & Mitsufumi MATSUMOTO

- 14S2-1 10:10-10:35 (*Invited Lecture*)
Seaweed Biotechnology: From Sea Farming to Biorefinery
Song Qin¹, Zhengyi Liu¹, Yulin Cui¹, Peng Jiang², Jin Zhao²
¹*Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences, P.R.China;* ²*Institute of Oceanology, Chinese Academy of Sciences, China*
- 14S2-2 10:35-10:50
Identification and Functional Analysis of *Eucheuma denticulatum* Genes
Roohaida Othman^{1,2}, Diana Mohd Nor², Nurul-Huda Abdul Manap², Zeti-Azura Mohamed-Hussein^{1,2}
¹*Institute of Systems Biology, Universiti Kebangsaan Malaysia, Malaysia;* ²*School of Biosciences and Biotechnology, Faculty of Science and Technology, University Kebangsaan Malaysia, Malaysia*
- 14S2-3 10:50-11:05
The development of a luciferase reporter system to test gene silencing mediated by individual miRNAs
Tomohito Yamasaki¹, Heriberto Cerutti², Takeshi Ohama¹
¹*Department of Environmental Systems Engineering, Kochi University of Technology, Japan;* ²*School of Biological Science and Center for Plant Science Innovation, University of Nebraska-Lincoln, USA*
- 14S2-4 11:05-11:20
Construction of novel RNA tools for controlling synthetic cyanobacterial bioprocess
Koichi Abe^{1,2}, Yuta Sakai^{1,2}, Saki Nakashima^{1,2}, Masataka Araki^{1,2}, Koji Sode^{1,2}, Kazunori Ikebukuro^{1,2}
¹*Tokyo University of Agriculture and Technology, Japan;* ²*CREST, JST, Japan*
- 14S2-5 11:20-11:35
The development of an artificial signal transduction system for the synthetic cyanobacterial bioprocess by designing blue light sensor
Mitsuharu Nakajima^{1,2}, Stefano Ferri¹, Katshiro Kojima², Koji Sode^{1,2}
¹*Department of Biotechnology & Life Science, Graduate School of Engineering, Tokyo University of Agriculture & Technology, Japan;* ²*Japan Science and Technology Agency, CREST, Japan*
- 14S2-6 11:35-11:50
Molecular Cloning and Functional Characterization of Two New Fatty Acid Elongases from *Thraustochytrium* sp. ATCC26185
Jun-ichiro Ohara¹, Keishi Sakaguchi¹, Nozomu Okino¹, Makoto Ito^{1,2}
¹*Department of Bioscience and Biotechnology, Graduate School of Bioresource and Bioenvironmental Sciences, Japan;* ²*Bio-Architecture Center, Kyushu University, Japan*

14S3

10:10-11:50, Room: 2nd Gallery, 7F

Aquacultures 1

Chair: Ikuo HIRONO & Han-Ching WANG

- 14S3-1 10:10-10:30 (*Invited Lecture*)
Antimicrobial proteins of shrimp
Ikuo Hirono, Ryo Inoue, Sheryll G Hipolito, Akihiro Kaizu, Hidehiro Kondo
Tokyo University of Marine Science and Technology, Japan
- 14S3-2 10:30-10:45
Serine/arginine (SR)-rich protein B52 is involved in Dscam alternative splicing in *Litopenaeus vannamei*
Yi-An Chiang, Hsin-Yi Hung, Chung-Wei Lee, Han-Ching Wang
Institute of Biotechnology, National Cheng Kung University, Taiwan

14S3-3 10:45-11:00
Identification and expression analysis of cAMP-dependent protein kinase catalytic beta a-like (PKACB) and GTP binding protein alpha subunit Gs (Gas) in the giant tiger shrimp *Penaeus monodon*
Kanchana Sittikankaew¹, Patchari Yocawibun¹, Sirawut Klinbunga^{1,2}
¹National Center for Genetic Engineering and Biotechnology (BIOTEC), Thailand; ²Center of Excellence for Marine Biotechnology, Faculty of Science, Chulalongkorn University, Thailand

14S3-4 11:00-11:15
Characterization and expression of cell division cycle 2 (Cdc2) mRNA and protein during ovarian development of the giant tiger shrimp *Penaeus monodon*
Mahattanee Phinyo¹, Virak Visudtiphole², Padermsak Jarayabhand³, Sirawut Klinbunga^{2,4}
¹Program in Biotechnology, Thailand; ²National Center for Genetic Engineering and Biotechnology (BIOTEC), Thailand; ³Aquatic Resources Research Institute, Thailand; ⁴Center of Excellence for Marine Biotechnology, Faculty of Science, Chulalongkorn University, Thailand

14S3-5 11:15-11:30
Effects of Gutweed (*Ulva intestinalis* L.) on Transformation and Budget of Nitrogen and Phosphorus in Black Tiger Shrimp (*Penaeus monodon* Fabricius) Ponds
Pensri Muangyao¹, Sommai Chiayvareesajja², Saowapa Angsupanich², Putth Songsangjinda³
¹Coastal Aquaculture Research Institute, Department of Fisheries, Thailand; ²Department of Aquatic Science, Faculty of Natural Resources, Prince of Songkla University, Thailand; ³Marine Shrimp Culture Research Institute, Department of Fisheries, Thailand

14S4

10:10-11:50, **Room:** 4th Gallery, 7F

Marine Bioactive Compounds 2

Chair: Tomofumi MIYAMOTO & Wen ZHANG

- 14S4-1 10:10-10:30 (Invited Lecture)
Briarane Deterpenoids: Potential Tumor Cell Growth Inhibitor from Gorgonian Corals
Wen Zhang¹, Cui Li¹, Mei Jiang¹, Tibor Kurtan²
¹Research Center for Marine Drugs, School of Pharmacy, Second Military Medical University, P. R. China; ²Department of Organic Chemistry, University of Debrecen, Hungary
- 14S4-2 10:30-10:50 (Invited Lecture)
Discovery of Bioactive Metabolites from Marine-Derived Microorganisms
Hee Jae Shin, Ji Hye Kim, Min ah Lee, Fakir Shahidullah Tareq, Hyi-Seung Lee, Jong Seok Lee, Yeon-Ju Lee
Marine Natural Products Laboratory, Korea Ocean Research & Development Institute, Korea
- 14S4-3 10:50-11:05
Applications of Dynamic Nuclear Polarization to the Structural and Metabolic Study in Natural Product Chemistry
Keiko Kumagai¹, Mai Akakabe², Masashi Tsuda³
¹Science Research Center, Kochi University, Japan; ²Institute for Laboratory Animal Research, Japan; ³Center for Advanced Marine Core Research, Kochi University, Japan
- 14S4-4 11:05-11:20
Marine Natural Products Isolation Based on the Genome Sequence of Marine *Streptomyces*
Fuchao Li¹, Hongyu Zhang², Peng Jiang¹, Huaxin Chen¹, Song Qin^{1,2}
¹Key Laboratory of Experimental Marine Biology, Institute of Oceanology, Chinese Academy of Sciences, China; ²Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences, China
- 14S4-5 11:20-11:35
Marine bioactive antimicrobial peptides for cosmeceuticals Industry
Jenn-Kan Lu, Sin-Mei Wang
Department of Aquaculture, National Taiwan Ocean University, Taiwan
- 14S4-6 11:35-11:50
An Unusual N-Terminal Blocked Cystine Knot Peptide Enhances Neronal Ca²⁺ Influx
Huayue Li¹, John J. Bowling², Frank R. Fronczek³, Thomas F. Murray⁴, Mark T. Hamann², Jee H. Jung¹
¹College of Pharmacy, Pusan National University, Korea; ²School of Pharmacy, The University of Mississippi, USA; ³Department of Chemistry, Louisiana State University, USA; ⁴Creighton University School of Medicine, Department of Pharmacology, USA

14S6

13:00-14:40, **Room:** Mini Theatre, 2F

Biotechnology for Energy Production 1

Chair: Hideaki MIYASHITA & Takeshi OHAMA

- 14S6-1 13:00-13:20 (*Invited Lecture*)
Isolation and Selection of Microalgae Suitable for Bio-Fuel Production using Open Pond Systems
Hideaki Miyashita¹, Norihide Kurano²
¹Graduate school of human and environmental studies, Kyoto University, Japan; ²DENSO CORPORATION, Research Laboratories, Japan
- 14S6-2 13:20-13:35
Preparation of Single Cells from the Colonial Oil- Producing Green Alga *Botryococcus braunii*
Liyuan Hou¹, Hyunsun Park^{1,2}, Tomohito Yamasaki^{1,2}, Takeshi Ohama^{1,2}
¹School of Environmental Science and Engineering, Kochi University of Technology (KUT), Japan; ²CREST, JST, Japan
- 14S6-3 13:35-13:50
Genetic Manipulation of Methyl-D-erythritol-4-phosphate Pathway for the over Production of Isoprenoids in *Chlamydomonas reinhardtii*
Fantao Kong¹, Tomohito Yamasaki^{1,2}, Hyumsum Park^{1,2}, Takeshi Ohama^{1,2}
¹School of Environmental Systems Engineering, Kochi University of Technology, Japan; ²CREST, JST, Japan
- 14S6-4 13:50-14:05
Directed evolution of *ompC* promoter by applying genetic algorithm
Yuta Sakai^{1,2}, Koichi Abe^{1,2}, Stefano Ferri^{1,2}, Koji Sode^{1,2}, Kazunori Ikebukuro^{1,2}
¹Department of Biotechnology and Life Science, Tokyo University of Agriculture and Technology, Japan; ²Japan Science and Technology Agency, CREST, Japan
- 14S6-5 14:05-14:20
Construction of the Autoaggregation and Autolysis System Controlled by Riboregulator
Masataka Araki^{1,2}, Koichi Abe^{1,2}, Yuta Sakai^{1,2}, Saki Nakashima^{1,2}, Koji Sode^{1,2}, Kazunori Ikebukuro^{1,2}
¹Graduate School of Engineering, Tokyo University of Agriculture and Technology, Japan; ²Japan Science and Technology Agency, CREST, Japan
- 14S6-6 14:20-14:35
Design of Riboregulators that Function in Cyanobacteria
Saki Nakashima^{1,2}, Koichi Abe^{1,2}, Yuta Sakai^{1,2}, Masataka Araki^{1,2}, Koji Sode^{1,2}, Kazunori Ikebukuro^{1,2}
¹Graduate School of Engineering, Tokyo University of Agriculture and Technology, Japan; ²Japan Science and Technology Agency, CREST, Japan

14S7

13:00-14:40, **Room:** 2nd Gallery, 7F

Aquacultures 2

Chair: Tomoo SAWABE & Pinwen P CHIOU

- 14S7-1 13:00-13:15
Immunoregulatory Effects of CpG Oligodeoxynucleotides, a Group of Toll-like Receptor (TLR) 9 Agonists, on *Epinephelus* spp.
Hsiang-Chieh Chuang, Ting-Ling Ji, Fang-Yao Lee, Nai-Yu Chen, Pinwen P Chiou
Marine Research station, Institute of Cellular & Organismic Biology, Academia Sinica, Taiwan
- 14S7-2 13:15-13:30
Development of Artificial Antibodies from the Banded Shark New Antigen Receptor (IgNAR)
Hidehiro Kondo¹, Yuka Honda¹, Satomitsu Suda¹, Maki Ohtani², Jun-ichi Hikima², Tae Sung Jung², Ikuo Hirono¹, Takashi Aoki^{1,2}
¹Laboratory of Genome Science, Tokyo University of Marine Science and Technology, Japan; ²Aquatic Biotechnology Center, College of Veterinary Medicine, Gyeongsang National University, South Korea
- 14S7-3 13:30-13:45
Using Chemokine Gene Expression As A Biomarker For Disease Infection
Yi-Jiou Hsu¹, Chia-Yi Ho¹, John Han-You Lin^{1,2,3}
¹Institute of Biotechnology, National Cheng Kung University, Taiwan; ²Center of Biosciences, National Cheng Kung University, Taiwan; ³Agriculture Biotechnology Research Center, National Cheng Kung University, Taiwan

14S7-5 14:00-14:15
Prevention of Adhesion of *Vibrio anguillarum* to Intestinal Glycosphingolipid Receptors by a Marine Lactobacillus
Haruna Kamada¹, Kohei Shimizu¹, Hideyuki Fujioka¹, Naoyuki Matsunaga¹, Ryo-hei Tokunaga¹, Nozomu Okino¹, Tomoo Sawabe³, Makoto Ito^{1,2}
¹Department of Bioscience and Biotechnology, Graduate School of Bioresource and Environmental Sciences, Kyushu University, Japan; ²Bio-Architecture Center, Kyushu University, Japan; ³Faculty of Fisheries Sciences, Hokkaido University, Japan

14S7-6 14:15-14:30
Identification and characterization of DSCAM isoforms isolated from Orange-Spotted Grouper *Epinephelus coioides*
Ying-Chun Yeh, Yi-Min Chen, Han-You Lin, Tzeng-Yueh Chen, Huey-Lang Yang, Han-Ching Wang
Institute of Biotechnology, National Cheng Kung University, Taiwan

14S8

13:00-14:40, **Room:** 4th Gallery, 7F

Bioactivity of Marine Organisms

Chair: Akira TOMINAGA

14S8-1 13:00-13:20 (*Invited Lecture*)
A privilege of sea and its application for human health – Evaluation of refined deep-seawater (RDSW) for *Helicobacter pylori* colonization and intestinal flora condition in human –
Hiroaki Takeuchi
Department of Clinical Laboratory Medicine, Kochi Medical School, Japan

14S8-2 13:20-13:35
Recovery of Novel Cellulolytic Bacteria from Deep-Sea by Culture-Based Functional Screening Using Nanofibrous Cellulose
Shigeru Deguchi^{1,2}, Mikiko Tsudome¹, Tohru Kobayashi¹, Kohsuke Uchimura¹, Osamu Koide¹, Ryusuke Nabata^{1,2}, Susumu Ito³, Koki Horikoshi¹
¹Japan Agency for Marine-Earth Science and Technology (JAMSTEC), Japan; ²Yokohama City University, Japan; ³University of the Ryukyus, Japan

14S8-3 13:35-13:50
Marine Sponge Associated *Oceanobacillus iheyensis* KDRSSA - A Bioresource For Anti-Microbial Compounds
Visamsetti Amarendra^{1,2}, Kandasamy Dhevendaran¹, Ramachandran S Santhosh^{1,2}
¹School of Chemical and Biotechnology, SASTRA University, INDIA; ²Genetic Engineering Lab, Anusandhan Kendhra, SASTRA University, INDIA

14S8-4 13:50-14:05
A Holin-like peptide from marine derived *Bacillus* sp. and its potential application as an antimicrobial agent
Ratchaneewan Aunpad¹, Siriporn Kaewklom¹, Watanalai Panbangred²
¹Graduate Program in Biomedical Sciences, Faculty of Allied Health Sciences, Thammasat University, Thailand; ²Department of Biotechnology, Faculty of Science, Mahidol University, Thailand

14S8-5 14:05-14:20
Seahorse Bioactive Peptide Protects Neuronal Cells from Amyloid β_{42} -Induced Microglia Neurotoxicity
Ratih Pangestuti¹, BoMi Ryu^{1,2}, Se-Kwon Kim^{1,2}
¹Marine Biochemistry Laboratory, Pukyong National University, South Korea; ²Marine Bioprocess Research Center, Pukyong National University, South Korea

14S10

15:00-16:40, **Room:** Mini Theatre, 2F

Marine Microbiology 1

Chair: Satoru SUZUKI

- 14S10-1 15:00-15:30
Characterization and Evaluation of Phosphate solubilizing ability of *Bacillus* spp. MPB37 Isolated from Mangrove soil of Mahanadi delta, Odisha, India
Hrudaya Nath Thatoi¹, Bikash Chandra Behera², Rashmi Ranjan Mishra³
¹Department of Biotechnology, College of Engineering and Technology, Biju Pattnaik Technical University, India; ²Department of Biotechnology, North Orissa University, India; ³Department of Biotechnology, MITS School of Biotechnology, India
- 14S10-2 15:30-15:50
Characterisation of novel exo-alginate lyases in a marine bacterial strain, *Pseudoalteromonas atlantica* AR06, and generation of unsaturated monosaccharide from alginate.
Ryoji Matsushima¹, Syunpei Ishikawa², Shingo Tsuji², Syogo Yamamoto², Motoharu Uchida³, Kenji Ishihara¹, Ryuichi Watanabe¹, Toshiyuki Suzuki¹
¹National Research Institute of Fisheries Science, Fisheries Research Agency, Japan; ²Genomescience Division, Research Center for Advanced Science and Technology, The University of Tokyo, Japan; ³National Research Institute of Fisheries and Environment of Inland Sea, Fisheries Research Agency, Japan
- 14S10-3 15:50-16:05
Microbiological Studies on the Stable Shrimp Culture with Special Reference to the Suppression of Dinoflagellate *Noctiluca scintillans*
Teeyaporn Keawtawee¹, Kimio Fukami¹, Putth Songsangjinda²
¹Graduate School of Kuroshio Science, Kochi University, Japan; ²Marine Shrimp Culture Research Institute, Coastal Fisheries Research and Development Bureau, Department of Fisheries, Thailand
- 14S10-4 16:05-16:20
Epiphytic Bacteria of The Red Alga, *Porphyra yezoensis*
Midia, LW Handayani¹, Hiroyuki Sasaki¹, Ryuya Matsuda¹, Katsuaki Takechi¹, Hiroyoshi Takano^{1,2}, Susumu Takio^{1,3}
¹Graduate School of Science and Technology, Kumamoto University, Japan; ²Bioelectrics Research Center, Kumamoto University, Japan; ³Center for Marine Environment Studies, Kumamoto University, Japan
- 14S10-5 16:20-16:35
Bioethanol Production from Seaweeds Using Aquatic Yeasts
Toshiyuki Takagi¹, Saki Adachi¹, Misa Higashi¹, Ryo Kawaguchi¹, Motoharu Uchida², Ryoji Matsushima³, Hiroshi Yamakawa¹, Masami Ishida¹, Naoto Urano¹
¹Graduate School of Marine Science and Technology, Tokyo University of Marine Science and Technology, Japan; ²National Research Institute of Fisheries and Environment of Inland Sea, Fisheries Research Agency, Japan; ³National Research Institute of Fisheries Science, Fisheries Research Agency, Japan

14S11

15:00-16:40, **Room:** 2nd Gallery, 7F

Aquacultures 3 (Marine Viruses)

Chair: Syun-ichirou OSHIMA & Chu-Fang LO

- 14S11-1 15:00-15:20
Comparative pathogenesis and systems biology for white spot syndrome virus
Han-Ching Wang
Institute of Biotechnology, National Cheng Kung University, Taiwan
- 14S11-2 15:20-15:40
Shrimp thioredoxin increases WSSV's pathogenicity by rescuing WSSV IE1's DNA binding ability under oxidative conditions
Lo Chu-Fang
Institute of Zoology, National Taiwan University, Taiwan

- 14S11-3 15:40-15:55
The Possible Role Of TBC1D20, A Rab GTPase Activating Protein In Response In White Spot Syndrome Virus Infection
 Wachart Yingvilasprasert¹, Premruethai Supungul^{1,2}, Anchalee Tassanakajon¹
¹Center of Excellence for Molecular Biology and Genomics of Shrimp, Department of Biochemistry, Faculty of Science, Chulalongkorn University, Thailand; ²National Center for Genetic Engineering and Biotechnology (BIOTEC), National Science and Technology Development Agency (NSTDA), Thailand
- 14S11-4 15:55-16:10
Interaction between a Kazal type serine proteinase inhibitor SPIPm2 and the viral early gene WSV477 affects the replication of white spot syndrome virus in the black tiger shrimp *Penaeus monodon*
Sirikwan Ponprateep¹, Saengchan Senapin², Anchalee Tassanakajon¹, Vichien Rimphanitchayakit¹
¹Center of Excellence for Molecular Biology and Genomics of Shrimp, Department of Biochemistry, Faculty of Science, Chulalongkorn University, Thailand; ²National Center for Genetic Engineering and Biotechnology (BIOTEC), National Science and Technology Development Agency (NSTDA), Thailand
- 14S11-5 16:10-16:25
Gene Expression Analysis of Plasmolipins in Response to Viral Pathogens from The Black Tiger Shrimp, *Penaeus monodon*
Tiapchai Vatanavicharn^{1,2}, Siriporn Pongsomboon³, Anchalee Tassanakajon¹
¹Center of Excellence for Molecular Biology and Genomics of Shrimp, Department of Biochemistry, Faculty of Science, Chulalongkorn University, Thailand; ²Department of Chemistry, Faculty of Science, King Mongkut's Institute of Technology Ladkrabang, Thailand; ³National Center for Genetic Engineering and Biotechnology (BIOTEC), National Science and Technology Development Agency (NSTDA), Thailand
- 14S11-6 16:25-16:40
Development of a multiple emulsified oral DNA-based bivalent vaccine against two iridoviruses in grouper
Hsin-I Liu¹, Ming-Wei Lu¹, Hong-Yi Gong¹, Jyh-Jong Sheen², Hsin-Yiu Chou¹
¹Department of Aquaculture, National Taiwan Ocean University, Taiwan; ²Department of Mechanical and Mechatronic Engineering, National Taiwan Ocean University, Taiwan

14S12

15:00-16:40, Room: 4th Gallery, 7F

Biom mineralization & Environmental Marine Biotechnology

Chair: Haruo MIMURA & Shimizu KATSUHIKO

- 14S12-1 15:00-15:20
Recombinant Expression and Functional Analysis of Galaxin, a Coral Skeletal Matrix Protein
 Mayako Kawasaki¹, Hirotooshi Endo¹, Michio Suzuki¹, Toshihiro Kogure², Hiromichi Nagasawa¹
¹Department of Applied Biological Chemistry, Graduate School of Agricultural and Life Sciences, The University of Tokyo, Japan; ²Department of Earth and Planetary Science, Graduate School of Science, The University of Tokyo, Japan
- 14S12-2 15:20-15:35
A protein occluded in biosilica of the hexactinellid sponge *Euplectella aspergillum*
Katsuhiko Shimizu
 Organization for Regional Industrial Academic Cooperation, Tottori University, Japan
- 14S12-3 15:35-15:50
Analysis of the GSP-37 Expression during the Scale Regeneration in Goldfish
Kurin Iimura, Kosei Miyabe, Hirotooshi Endo, Hiromichi Nagasawa
 Department of Applied Biological Chemistry, Graduate School of Agricultural and Life Sciences, The University of Tokyo, Japan
- 14S12-4 15:50-16:05
Prevention of Biofouling on a Ship's Bottom by Microbubbles
Haruo Mimura¹, Kouta Shioda², Akimi Serizawa³
¹Graduate School of Maritime Sciences, Kobe University, Japan; ²Himeji EcoTech Co., LTD., Japan; ³Professor Emeritus, Kyoto University, Japan
- 14S12-5 16:05-16:20
Protective Roles for Ubiquitin Selective Chaperone CDC48 Protein on Developmental Retardation, Oxidative stress, and Apoptosis in Cold Adaptation in Zebrafish
Shintaro Imamura¹, Takeshi Yabu², Michiaki Yamashita¹
¹National Research Institute of Fisheries Science, Japan; ²Nihon University, Japan

14S12-6 16:20-16:35

Application of a Halotolerant Marine Bacterium to the Degradation of Bivalve's Organic Matter

Takuya Shimomura¹, Haruo Mimura¹, Fumie Tanaka¹, Takashi Miwa²

¹Graduate School of Maritime Sciences, Kobe University, Japan; ²Imizu Campus, Toyama National College of Technology, Japan

14S12-7 16:35-16:50

Transcriptome-aided proteomic analysis of growth anomalies in the brain corals *Platygyra carnosus*

Jin Sun¹, Janice C.Y. Lun², Jian-Wen Qiu¹

¹Department of Biology, Hong Kong Baptist University, Hong Kong, China; ²Agriculture, Fisheries and Conservation Department, Hong Kong, China

Sunday, 15 July

15S2

10:10-11:50, **Room:** Mini Theatre, 2F

Marine Microbiology 2

Chair: Chiaki IMADA & Maki TERAMOTO

- 15S2-1 10:10-10:40 (*Invited Lecture*)
Microbial community structures and isolation of useful microorganisms in deep-sea water
Chiaki Imada¹, Katsuhisa Yamada², Michiyasu Nomura², Takeshi Terahara¹, Takeshi Kobayashi¹
¹Graduate School of Marine Science of Technology, Tokyo University of Marine Science and Technology, Japan; ²DHC Corporation, Japan
- 15S2-2 10:40-11:00
Bacterial community in the Strait of Malacca.
Maki Teramoto¹, Kouhei Ohnishi² and Johnny Queck³
¹Oceanography Section, Science Research Center, Kochi University; IMT-MEXT, Japan; ²Research Institute of Molecular Genetics, Kochi University, Japan; ³School of Chemical & Life Sciences, Nanyang Polytechnic, Singapore
- 15S2-3 11:00-11:15
Characterization of Marine Bacteria Producing Wide Spectrum Antimicrobial Compounds Isolated from Sponge *Jaspis* sp
Aris Tri Wahyudi¹, Debbie Rizqoh¹, Dudi Tohir²
¹Department of Biology, ²Department of Chemistry, Faculty of Mathematics and Natural Sciences, Bogor Agricultural University, Indonesia
- 15S2-4 11:15-11:30
Defining the producers of marine natural compounds using the single-cell approach
Tetsushi Mori¹, Yu Sawada¹, Shigeki Matsunaga², Joern Piel³, Haruko Takeyama¹
¹Department of Life Science and Medical Bioscience, Waseda University, Japan; ²Graduate School of Agricultural and Life Science, The University of Tokyo, Japan; ³Kekulé Institute of Organic Chemistry, The University of Bonn, Germany

15S3

10:10-11:50, **Room:** 2nd Gallery, 7F

Aquacultures 4

Chair: Toshiki NAKANO & Hsin-Yiu CHOU

- 15S3-1 10:10-10:30
An Oral Vaccine Delivery Platform for Grouper Larviculture
Hsin-Yiu Chou¹, Hsin-I Liu¹, Yu-Shin Chen¹, Yeong-Torng Chu^{1,2}, Jyh-Jong Sheen³
¹Department of Aquaculture, National Taiwan Ocean University, Taiwan; ²Mariculture Research Center, Fisheries Research Institute, Taiwan; ³Department of Mechanical and Mechatronic Engineering, National Taiwan Ocean University, Taiwan
- 15S3-2 10:30-10:45
Intensive Culture and Efficacy of Marine Copepods for High Quality Fish Seed Production
Perumal Santhanam, Ravichandran Nandakumar, Selvaraj Ananth, Thillainayagam Jayalakshmi, Nagasamy Jeyaraj, Kalimuthu Jothiraj, Barathan Balaji Prasath, Ayyanar Shenbaga Devi, Sundaraj Dinesh Kumar, Palanivelu Ananthi, Piliyan Raju
Marine Planktonology & Aquaculture Division, Department of Marine Science, School of Marine Sciences, Bharathidasan University, India
- 15S3-3 10:45-11:00
Genomic Structure and Transcriptional Characterization of a Manganese Superoxide Dismutase with Potent Antioxidant Activity Identified from *Oplegnathus fasciatus*
Navaneethaiyer Umasuthan, Saranya Revathy Kasthuri, S. D. N K Bathige, Jehee Lee
Jeju National University, School of Marine Biomedical Sciences, Republic of Korea

15S3-4 11:00-11:15
The estimation of genetic breeding value from parentage estimated by microsatellite DNA markers in Red seabream *Pagrus major*
Masamichi Nakajima¹, Yui Sogawa², Tomiaki Ikeda², Nobuhiko Taniguchi³
¹Laboratory of Fish genetics and Breeding Science, Graduate School of Agricultural Science, Tohoku University, Japan; ²Division of Fishery, Yamasaki Giken Co., Ltd., Japan; ³Marine Bio-Center, Faculty of Life Science, Fukuyama University, Japan

15S3-5 11:15-11:30
Identification of tuna species by a real-time polymerase chain reaction technique
Po-Shun Chuang, Meng-I Chen, Jen-Chieh Shiao
Institute of Oceanography, National Taiwan University, Taiwan

15S3-6 11:30-11:45
Species Identification of Shark Fin in Taiwan Markets Using DNA Barcode
Chien-Kang Huang, Po-Shun Chuang, Jen-Chien Shiao
Institute of Oceanography, National Taiwan University, Taiwan

15S4 10:10-11:50, **Room:** 4th Gallery, 7F
Marine Toxins & Marine Bioactive Compounds 3

Chair: Kazuo TACHIBANA & Hee Jae SHIN

15S4-1 10:10-10:40 (*Invited Lecture*)
Protein toxins of the marine animals
Hiroshi Nagai
Department of Ocean Science Tokyo University of Marine Science and Technology, Japan

15S4-2 10:40-11:10 (*Invited Lecture*)
Biologically Active Metabolites from Sponges and Microbes
Masashi Suzuki, Yi Sun, Takuya Akiyama, Kentaro Takada, Shigeru Okada, Shigeki Matsunaga
Laboratory of Aquatic Natural Products Chemistry, Graduate School of Agricultural and Life Sciences, The University of Tokyo, Japan

15S4-3 11:10-11:25
The update research of marine toxin poisoning in Taiwan
Deng-Fwu Hwang
Department of Food Science, National Taiwan Ocean University, Taiwan

15S4-4 11:25-11:40
Characterisation and biomedical properties of nematocyst venom from jelly fish *Chrysaora quinquecirrha*
Bragadeeswaran Subramanian, Suganthi Krishnan
Marine Biotxinology Lab, CAS in Marine Biology Annamalai University, India

15S4-5 11:40-11:50
Iriomoteolide-13A, A 22-Membered Macrolide From Dinoflagellate *Amphidinium* Species
Mai Akakabe¹, Keiko Kumagai¹, Masashi Tsuda²
¹Science Research Center, Kochi University, Japan; ²Center for Advanced Marine Core Research, Kochi University, Japan

Monday, 16 July

16S1

9:00-10:40, Room: Main Hall, 2F

Biotechnology for Energy Production 2

Chair: Hidehiro SAKURAI & Mitsufumi MATSUMOTO

- 16S1-1 9:00-9:20 (*Invited Lecture*)
Characterization of marine diatom, *Fistulifera* sp. JPCC DA0580 Solaris strain as high neutral lipid producer for oil production
Mitsufumi Matsumoto^{1,3}, Tsuyoshi Tanaka^{2,3}
¹*Biotechnology Laboratory, Wakamatsu Institute, Technology Development Center, Electric Power Development Co., Ltd., Japan;* ²*Department of Biotechnology, Tokyo University of Agriculture and Technology, Japan;* ³*JST, CREST, Japan*
- 16S1-2 9:20-9:35
A simple technique for establishing axenic culture of the centric diatoms and measuring oil production
Ken-Ichirou Ishii, Shigeki Sawayama
Laboratory of Marine Environmental Microbiology, Division of Applied Biosciences, Graduate School of Agriculture, Kyoto University, Japan
- 16S1-3 9:35-9:50
A Scheme for Large-scale Photobiological Hydrogen Production Utilizing Mariculture-raised Cyanobacteria
Hidehiro Sakurai¹, Masaharu Kitashima², Hajime Masukawa^{1,3}, Kazuhito Inoue^{1,2}
¹*Research Institute for Photobiological Hydrogen Production, Kanagawa University, Japan;* ²*Department of Biological Sciences, Faculty of Science, Kanagawa University, Japan;* ³*PRESTO, Japan Science and Technology Agency (JST), Japan*
- 16S1-4 9:50-10:05
Construction of a Synthetic Marine Cyanobacterial Host with Controllable Autolysis
Kotone Miyake^{1,2}, Stefano Ferri^{1,2}, Mitsuharu Nakajima^{1,2}, Koichi Abe^{1,2}, Katsuhiko Kojima^{1,2}, Koji Sode^{1,2}
¹*Graduate School of Engineering, Tokyo University of Agriculture and Technology, Japan;* ²*Japan Science and Technology Agency, CREST, Japan*
- 16S1-5 10:05-10:20
Isolation and Functional Analysis of Novel Desaturases Involved in Triglyceride Biosynthesis from Oleaginous Marine Diatom *Fistulifera* sp. Strain JPCC DA0580
Chihiro Kubota^{1,2}, Masaki Muto^{1,2}, Akira Satoh^{2,3}, Mitsufumi Matsumoto^{2,4}, Masayoshi Tanaka¹, Tadashi Matsunaga¹, Tsuyoshi Tanaka^{1,2}
¹*Institute of Engineering, Tokyo University of Agriculture and Technology, Japan;* ²*JST, CREST, Japan;* ³*Yamaha Motor Co., Ltd., Japan;* ⁴*Biotechnology Laboratory, Electric Power Development Co., Ltd., Japan*
- 16S1-6 10:20-10:35
Comprehensive Gene Expression Analysis during Triglyceride Accumulation in Oleaginous Marine Diatom *Fistulifera* sp. strain JPCC DA0580
Yoshihiko Sunaga^{1,2}, Michiko Nemoto¹, Masayoshi Tanaka¹, Mitsufumi Matsumoto^{2,3}, Tomoko Yoshino¹, Tadashi Matsunaga¹, Tsuyoshi Tanaka^{1,2}
¹*Institute of Engineering, Tokyo University of Agriculture & Technology, Japan;* ²*JST, CREST, Japan;* ³*Biotechnology Laboratory, Electric Power Development Co., Ltd., Japan*

16S2

9:00-10:40, Room: Mini Theatre, 2F

Aquacultures 5

Chair: Masamichi NAKAJIMA

- 16S2-1 9:00-9:15
Differences in heat shock-induced stress responses of temperate coho salmon *Oncorhynchus kisutch* and tropical rabbitfish *Siganus guttatus*
Toshiki Nakano¹, Yui Shoji¹, Satoshi Hayashi¹, Toshiyasu Yamaguchi¹, Minoru Sato¹, Nozomi Sugama², Akihiro Takemura²
¹*Graduate School of Agricultural Science, Tohoku University, Japan;* ²*Faculty of Science, University of the Ryukyus, Japan*

- 16S2-2 9:15-9:30
Identification, molecular characterization, and expression pattern of a hepcidin cDNA from kelp grouper, *Epinephelus bruneus*
Ramasamy Harikrishnan, Seung-Hyun Hong, Subramanian Dharaneedharan, Moon-Soo Heo
Department of Aquatic Biomedical Sciences, School of Marine Biomedical Sciences, College of Ocean Sciences & Marine and Environmental Research Institute, Jeju National University, South Korea
- 16S2-3 9:30-9:45
Molecular Insights of a Novel Pattern Recognition Receptor from Rock Bream (*Oplegnathus fasciatus*) As a Potent Inducer in Host Defense
Don Anushka Sandaruwan Elvitigala, H.K A Premachandra, Jehee Lee
Marine molecular Genetics Lab, College of Ocean Science, Department of Marine Life Sciences, School of Marine Bio Medical Sciences, Jeju National University, Republic of Korea
- 16S2-4 9:45-10:00
Involvement of C1q in the Defense of Rock Bream *Oplegnathus fasciatus* Against Bacterial and Viral Infections
S. D. N. K Bathige¹, Jehee Lee^{1,2}
¹*Department of Marine Life Sciences, School of Marine Biomedical Sciences, Jeju National University, Republic of Korea;* ²*Marine and Environmental Institute, Jeju National University, Republic of Korea*

■Poster Sessions

Poster presentations will be divided into 2 Sessions.

Room: 1st Gallery, 7F

Poster Session I: Poster No. Odd number 17:40-18:40 on Friday, July 13, 2012

Poster Session II: Poster No. Even number 17:20-18:20 on Saturday, July 14, 2012

P-001 Change of Enzyme Activities on Sake Brewing and Application to the Fermented Food of the Fish

Yukae Sato¹, Junko Ninomiya¹, Hiroshi Morita²

¹Graduate School of Environmental Engineering, Kitakyushu University, Japan; ²Faculty of Environment Engineering, Kitakyushu University, Japan

P-002 Enzyme production in submerged koji by *Aspergillus oryzae* and *Rhizopus arrhizus* P20

Jun Konomi¹, Junko Ninomiya¹, Hiroshi Morita²

¹Graduate school of Environmental Engineering, Kitakyushu University, Japan; ²Faculty of Environmental Engineering, Kitakyushu University, Japan

P-003 Development of functional spawn of a pollack sauce using the *Makgeolli*

Bo-kyung Kim¹, Min-Sook Kang¹, Myeon-gjeong Jeon¹, Sang-Hyeon Lee², Hee Young Park³, Seok-Oui Jang³, Jong-Su Jang³, Kwang-Tae Kim³, Seok-Zun Jang³, Mi-hyang Kim¹

¹Department of Food and Nutrition, Silla University, Korea; ²Department of Bioscience and Biotechnology, Silla University, Korea; ³Deok Hwa Food Co., Ltd., Korea

P-004 Antiproliferative and Apoptosis-Inducing Activities of an Extract from *Streptomyces* CH54-4 on Human Cancer Cells.

Rattanaporn Srivibool¹, Chantarawan Saengkhae², Keiichi Enomoto³

¹Institute of Marine Science, Burapha University, Thailand; ²Department of Biomedical Science, Faculty of Allied Health Science, Burapha University, Thailand; ³School of Environmental Science and Engineering, Kochi University of Technology, Japan

P-005 Antimycobacterial Activity of the Extracts from Marine Sponges, Thailand

Rawiwan Watanadilok¹, Nisa Siranonthana¹, Anake Kijjoa²

¹Institute of Marine Science, Burapha University, Thailand; ²Instituto de Ciências Biomédicas de Abel Salazar, Universidade do Porto, Portugal

P-006 Antioxidant Activity of the Extracts from Sponge-Associated Bacteria Isolated from Suratthani Province, Gulf of Thailand

Chutiwan Dechsakulwatana

Institute of Marine Science, Burapha University, Thailand

P-007 Effect of different extracts from sea urchin *Tripneustes gratilla* body wall on activities of tyrosinase inhibition and collagen synthesis of human skin fibroblast

Yu-Chun Chen, Deng-Fwu Hwang

Department of Food Science, National Taiwan Ocean University, Taiwan

P-008 Aqueous extract of the seaweed *Gracilaria tenuistipitata* inhibits hepatitis C viral replication via cyclooxygenase-2 suppression and attenuates virus-induced inflammation

Jin-Ching Lee^{1,2}, Hsueh-Wei Chang³, Kuan-Jen Chen¹, Chin-Kai Tseng¹, Fang-Rong Chang², Jin-Long Yang⁴

¹Department of Biotechnology, College of Life Science, Kaohsiung Medical University, Taiwan; ²Graduate Institute of Natural Products, Kaohsiung Medical University, Taiwan; ³Department of Biomedical Science and Environmental Biology, Cancer Center, Kaohsiung Medical University Hospital, Kaohsiung Medical University, Taiwan; ⁴Department of Seafood Science, National Kaohsiung Marine University, Taiwan

P-009 Effects of gametophytes of *Ecklonia kurome* on the regulation of blood glucose and lipid in mice

Febriza Dwiranti¹, Masanori Hiraoka², Takahiro Taguchi¹, Yuko Konishi³, Mari Tominaga⁴, Akira Tominaga¹

¹Division of Human Health and Medical Science, Graduate School of Kuroshio Science, Kochi University, Japan; ²Usa Marine Biological Institute, Kochi University, Japan; ³Life Science and Functional Materials Section, Science Research Center, Kochi University, Japan; ⁴Department of Medical Technology, Kochi Gakuen College, Japan

P-010 Effect of *Ishige okamurae* extracts on the antioxidant activity, total polyphenol contents and inhibition of ACE activity

Bo-Kyung Kim, Min-sook Kang, Myeong-jeong Jeon, Mi-hyang Kim

Department of Food and Nutrition, Silla University, Korea

- P-011 The Effects of *Sargassum thunbergii* on antioxidant activity and ACE inhibition *in vitro***
Min sook Kang, Bo kyung Kim, Myeong jeong Jeon, Mi hyang Kim
 Department of Food and Nutrition, Silla University, South Korea
- P-012 *Spirulina* complex polysaccharides prevents human colon epithelial cells from apoptotic and necrotic cell death induced by TNF- α *in vitro***
Yuko Konishi¹, Takahiro Taguchi², Akira Tominaga²
¹Life Science and Functional Materials Section, Science Res. Center, Japan; ²Kuroshio Science Unit, Kochi University, Japan
- P-013 c-Phycocyanin Inhibits Melanogenesis through Modulation of Mitogen-Activated Protein Kinase Signaling Pathways on Tyrosinase Expression**
Li-Chen Wu¹, Yu-Yun Lin¹, Szu-Yen Yang¹, Yi-Ting Tsai¹, Ja-an Annie Ho²
¹Department of Applied Chemistry, National Chi Nan University, Taiwan; ²Department of Biochemical Science and Technology, National Taiwan University, Taiwan
- P-014 Inhibitory Mechanism of Melanin Biosynthesis by Marine Bacterial Glycosaminoglycan**
Katsuichiro Okazaki¹, Koichi Okutani²
¹Department of Applied Biological Science, Faculty of Agriculture, Kagawa University, Japan; ²SeaBion Co., Ltd., Japan
- P-015 Development of Low Molecular Weight Chondroitin Sulfate**
Kosuke Matsumoto, Akiko Kuwahara, Hayato Kurata, Kazuaki Kikuchi
 R&D Department, Rohto Pharmaceutical Co., Ltd., Japan
- P-016 Novel Application of Alginate Polymer to Make a Flat Membrane and Promising Role of α -L-Guluronic Acid Blocks to Regulate Mass Transfer Capability with High Molecular Size Recognition**
Keita Kashima, Masanao Imai
 Course in Bioresource Utilization Sciences, Graduate School of Bioresource Sciences, Nihon University, JAPAN
- P-017 Desirable Synergetic Network of κ -Carrageenan and Pullulan to Create Marine Polymer Based Membrane: An Excellent Molecular Permeation and Sufficient Mechanical Strength**
Peng Wu, Masanao Imai
 Course in Bioresource Utilization Sciences, Graduate School of Bioresource Sciences, Nihon University, Japan
- P-018 Dominant role of alkali treatment on mass transfer character and mechanical strength of chitosan membrane**
Ryuhei Nomoto, Masanao Imai
 Course in Bioresource Utilization Sciences Graduate School of Bioresource Sciences, Nihon University, Japan
- P-019 Cloning, Expression, and Characterization of an Anti-Viral Lectin from the Carageenophyte *Kappaphycus alvarezii***
Makoto Hirayama¹, Koji Imamura², Kanji Hori¹
¹Graduate School of Biosphere Science, Hiroshima University, Japan; ²GLYENCE Co., Ltd., Japan
- P-020 Chemical Study on the Bioactive Constituents from Marine Bacteria**
Amgad Ibrahim Mansour Khedr, Masumi Yamaguchi, Koji Yamada
 Garden for Medicinal Plants Graduate School of Biomedical Sciences Nagasaki University, Japan
- P-021 An α -proteobacterium from Marine Sediment Produces Didemnins, Tunicate-derived Antitumor Cyclic Depsipeptides**
Moriya Tsukimoto¹, Masato Nagaoka¹, Yoshiyuki Shishido¹, Junji Fujimoto¹, Fukiko Nishisaka¹, Sachiko Matsumoto¹, Enjuro Harunari², Chiaki Imada², Takeshi Matsuzaki¹
¹Yakult Central Institute for Microbiological Research, Japan; ²Graduate School of Marine Science and Technology, Tokyo University of Marine Science and Technology, Japan
- P-022 A new malyncamide from the cyanobacteria *Lyngbya majuscula***
Wei Zhou¹, Weina Jiang¹, Fuminori Kondo¹, Hajime Uchida¹, Toshiyuki Suzuki², Ryuichi Watanabe², Michiya Kamio¹, Hiroshi Nagai¹
¹Tokyo University of Marine Science and Technology, Japan; ²National Research Institute of Fisheries Science, Japan
- P-023 Violacein Production by *Pseudoalteromonas* sp. 520P1: Trials Using a Recombinant *E. coli* and a Variant Strain**
Ryota Fujikawa, Xi Zhang, Keiichi Enomoto
 School of Environmental Science and Engineering, Kochi University of Technology, Japan

- P-024 Siladenoserinols A-L: New Serinolipids Inhibiting the p53-Hdm2 Interaction, Isolated from an Ascidian *Didemnum* sp.**
Yuichi Nakamura, Hikaru Kato, Sachiko Tsukamoto
Graduate School of Pharmaceutical Sciences, Kumamoto University, Japan
- P-025 Hyrtioreticulins A-E, Indole Alkaloids Inhibiting the Ubiquitin-activating Enzyme from the Marine Sponge *Hyrtios reticulatus***
Hikaru Kato, Rumi Yamanokuchi, Kumiko Imada, Mitsue Miyazaki, Sachiko Tsukamoto
Graduate School of pharmaceutical Sciences, Kumamoto University, Japan
- P-026 Synthesis of hamacanthin analogs as antibacterial substances**
Ah-hyun Kim, Baoquan Bao, Bin Xiao, Huayue Li, Mingzhi Su, Jee H. Jung
College of Pharmacy, Pusan National University, Korea
- P-027 Polyhydroxy Secondary Metabolites from Marine Dinoflagellates *Amphidinium carterae***
Chung-Kuang Lu¹, Chih-Ming Kuo²
¹*National Research Institute of Chinese Medicine, Taiwan*; ²*Institute of Marine Biotechnology, National Dong Hwa University, Taiwan*
- P-028 Antiplatelet Effect of Phloroglucinol, an Ingredient of Algae**
Mei-Chi Chang¹, Ru-Hsiu Cheng², Jjiang-Huei Jeng²
¹*Chang Gung University of Science and Technology, Taiwan*; ²*Graduate Institute of Dentistry, National Taiwan University and National Taiwan University Medical College, Taiwan*
- P-029 Anti-inflammatory Effect of Phloroglucinol, an Ingredient of Algae**
Jjiang-Huei Jeng¹, Po-Yuan Jeng¹, Mei-Chi Chang²
¹*Graduate Institute of Dentistry, National Taiwan University and National Taiwan University Medical College, Taiwan*; ²*Chang Gung University of Science and Technology, Taiwan*
- P-030 Antioxidant activity of triterpenoid saponins from the halophyte *Salicornia herbacea***
Youngwan Seo¹, You Ah Kim¹, Chang-Suk Kong², Jung Im Lee¹, Joo Wan Hong¹
¹*Division of Marine Environment and Bioscience, Korea Maritime University, Republic of Korea*; ²*Department of Food and Nutrition, College of Medical and Life Science, Silla University, Republic of Korea*
- P-031 Development of novel chalcone derivatives as angiogenic agents**
Chao-Yuan Chang¹, Ching-Yuh Chern², Yau-Hung Chen¹
¹*Department of Chemistry, Tamkang University, Taiwan*; ²*Department of Applied Chemistry, National Chiayi University, Taiwan*
- P-032 Effects of Ascorbic Acid on the Chemical Tolerance and Swimming Ability of *Daphnia magna* Exposed to Potassium Dichromate.**
Koko Abe¹, Takeru Matumoto², Shiro Itoi¹, Haruo Sugita¹
¹*Department of Marine Science and Resources, Nihon University, Japan*; ²*Mitsubishi Chemical Medience Institute Ltd., Japan*
- P-033 Invertebrate neurons are used as an animal model for drug screening: minocycline inhibits action potential bursts induced by amphetamine and forskolin**
Rong-Wei Wong^{1,2}, Yi-Hung Chen³, Chia-Hsien Lin^{1,2}
¹*Department of Health Industry Management*, ²*Department of Health Developing and Marketing, Kainan University, Taiwan*; ³*Graduate Institute of Acupuncture Science, China Medical University, Taiwan*
- P-034 Fatty Acid Profiles of Marine Sponges from Samui Islands, Suratthani Thailand.**
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Institute of Marine Science, Burapha University, Thailand
- P-035 Comparison of Lipid Class and Fatty Acid Composition between Vegetative Cells and Zoospores of *Aurantiochytrium limacinum* strain mh0186**
Yousuke Taoka¹, Naoki Nagano¹, Yuji Okita², Hitoshi Izumida², Eiji Ohashi², Masahiro Hayashi¹
¹*Department of Marine Biology and Environmental Sciences, Faculty of Agriculture, University of Miyazaki, Japan*; ²*Nippon Suisan Kaisha, Ltd., Japan*
- P-036 Biosynthetic Studies on Yessotoxin, a Marine Ladder-Frame Polyether: Evidence of Monooxygenation and Mechanism of Methylation**
Masatoshi Yamazaki¹, Miho Izumikawa^{1,2}, Masayuki Satake¹, Kazuo Tachibana¹, Yoshiyuki Itoh³
¹*Department of Chemistry, The University of Tokyo, Japan*; ²*Japan Biological Informatics Consortium, Japan*; ³*MS Business Unit, JEOL Ltd., Japan*

- P-037 Fatty acid composition of a cold-seep Lucinid clam, *Mesolinga soliditesta***
Hiroaki Saito, Masakazu Murata
National Research Institute of Fisheries Science, Japan
- P-038 New Marine Toxins from a Red Tide Dinoflagellate in New Zealand**
Masayuki Satake¹, Yuka Hamamoto¹, Kazuo Tachibana¹, Patrick Holland², Tim Harwood², Feng Shi², Veronica Beuzenberg²
¹*Department of Chemistry, School of Science, The University of Tokyo, Japan;* ²*Cawthron Institution, New Zealand*
- P-039 Studies on species identification by PCR-RFLP technique in starfishes and their hemolytic activity**
Chi-Chiu Lee¹, Shyh-Ming Chao², Deng-Fwu Hwang¹
¹*Department of Food Science, National Taiwan Ocean University, Taiwan;* ²*National Museum of Natural Science, Taiwan*
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Shiro Itoi, Shota Kokubo, Saori Yoshikawa, Miwa Suzuki, Kiyoshi Asahina, Haruo Sugita
Department of Marine Science and Resources, Nihon University, Japan
- P-041 Molecular cloning and Characterization of the proteoglycan-like gene of the pearl oyster *Pinctada fucata***
Ryosuke Takagi, Kazuki Kawakami, Tomoyuki Miyashita
Department of Genetic Engineering, Faculty of Biology-Oriented Science and Technology, Kinki University, Japan
- P-042 Molecular Identification of Korean Nudibranchia by Using Mitochondrial Cytochrome c Oxidase I (COI) Gene Sequences**
 Daewui Jung, Chang-Bae Kim
Department of Green Life Science, Sangmyung University, Korea
- P-043 Novel Mussel Adhesive Protein-based Whole Cell Biosensor**
Hogyun Cheong¹, Bong-Hyuk Choi¹, Chang Sup Kim¹, Jeong Hyun Seo¹, Hyung Joon Cha^{1,2}
¹*Department of Chemical Engineering,* ²*Ocean Science and Technology Institute, Pohang University of Science and Technology, Korea*
- P-044 Microbial Formation of Se Nano-particles by Microbes Newly Isolated from Deep Sea Sediment in Japan Trench**
Toshifumi SAKAGUCHI¹, Tatsyma HIRAOKA¹, Nobuyasu TANABE¹, Kaoru NAKASONE², Chiaki KATO³
¹*Department of Environmental Sciences, Prefectural University of Hiroshima, Japan;* ²*Department of Biotechnology and Chemistry, Kinki University, Japan;* ³*Institute of Biogeosciences, JAMSTEC, Japan*
- P-045 Crystallographic analyses of exoskeletal calcium carbonate in terrestrial isopod, *Armadillidium vulgare***
Naoki Yokoo¹, Masako Isobe¹, Michio Suzuki¹, Hiromichi Nagasawa², Toshihiro Kogure¹
¹*Graduate School of Science, The University of Tokyo, Japan;* ²*Graduate School of Agricultural and Life Sciences, The University of Tokyo, Japan*
- P-046 Bioremediation of Aromatic Hydrocarbon and Mercury Ions in Heavy Industry Waste by the Inoculation of *Pseudomonas putida* in the Reactor**
Fakhriy Muhammad Faisal
Department of Biochemistry Faculty of Mathematic and Natural Sciences Bogor Agricultural University, Indonesia
- P-047 Chitosan/Poly-Gamma-Glutamic Acid Nanoparticles for Removal of Heavy Metals**
Beom Soo Kim, Ik-Kyoung Sung, Jae Yong Song, Geummi Lee
Department of Chemical Engineering, College of Engineering, Chungbuk National University, Korea
- P-048 Measurement of Trace Amounts of Cadmium in Water by Immunochromatography**
Tomofumi Nakada¹, Katsuya Imanishi², Tetsushi Mori¹, Hideo Ohkawa³, Haruko Takeyama^{1,3}
¹*Department of Life Science and Medical Bioscience, Waseda University, Japan;* ²*Sumika Chemical Analysis Service, Ltd., Japan;* ³*Advanced Science and Medical Care, Waseda University, Japan*
- P-049 Determination of trace and major elements in Seawater by ICP-DRC-MS**
Osamu Shikino¹, Masao Fukasawa², Toshiyuki Awaji³, Akihisa Kitamura⁴, Tetsuo Shinmura⁵, Hideya Makino⁶, Mieko Kimura⁷
¹*PerkinElmer Japan, Co., Ltd, Japan;* ²*JAMSTEC Japan Agency for Marine-Earth Science and Technology, Japan;* ³*Kyoto University, Japan;* ⁴*Kochi Prefectural Deep Seawater Laboratory, Japan;* ⁵*Toyama Institute of Health, Japan;* ⁶*Makino Laboratory Co., Japan;* ⁷*Takeda Research Institute of Life Science & Preventive Medicine, Japan*

- P-050** *Antrodia camphorata*-fermented product cultured in deep ocean water has more liver protection against thioacetamide-induced cirrhosis
Li-Chun Wang^{1,2}, Iau-Uen Kuo³, Hsueh-Chen Lee⁴, Chun-Lin Lee³
¹Division of Continuing Education, National Taitung Junior College, Taiwan; ²Department of Food Science, Fu Jen Catholic University, Taiwan; ³Department of Life science, National Taitung University, Taiwan; ⁴General Education Center, Wenzao Ursuline College of Languages, Taiwan
- P-051** Effect of deep ocean water and its ions on the growth and the production of monascin, ankaflavin, and citrinin of *Monascus purpureus* NTU 568
Li-Chun Wang^{1,2}, Cha-Li Cheng³, Hsueh-Chen Lee⁴, Chun-Lin Lee³
¹Division of Continuing Education, National Taitung Junior College, Taiwan; ²Department of Food Science, Fu Jen Catholic University, Taiwan; ³Department of Life science, National Taitung University, Taiwan; ⁴General Education Center, Wenzao Ursuline College of Languages, Taiwan
- P-052** Effect of deep ocean water and its ions on the production of biomass, β -1,3 glucan and triterpenoids of *Antrodia camphorata*
Chun-Ding Huang¹, Li-Chun Wang^{2,3}, Hsueh-Chen Lee⁴, Chun-Lin Lee¹
¹Department of Life science, National Taitung University, Taiwan; ²Division of Continuing Education, National Taitung Junior College, Taiwan; ³Department of Food Science, Fu Jen Catholic University, Taiwan; ⁴General Education Center, Wenzao Ursuline College of Languages, Taiwan
- P-053** Nano-immobilization of marine epoxide hydrolase for thermal stability enhancement in enantioselective resolution of racemic styrene oxide
Eun Yeol LEE, Young Hyeon KIM
Department of Chemical Engineering, Kyung Hee University, South Korea
- P-054** Insights into the antibacterial and immunomodulatory functions of the antimicrobial peptide, epinecidin-1, against *Vibrio vulnificus* infection in zebrafish
Chieh-Yu Pan¹, Jen-Leih Wu², Cho-Fat Hui², Cheng-Hui Lin¹, Jyh-Yih Chen³
¹Department of Aquaculture, National Taiwan Ocean University, Taiwan; ²Institute of Cellular and Organismic Biology, Academia Sinica, Taiwan; ³Marine Research Station, Institute of Cellular and Organismic Biology, Academia Sinica, Taiwan
- P-055** MD Simulation of the Structural Fluctuations of Sea Hare *Aplysia limacina* Myoglobin
Yoshihiro Ochiai
Marine Science and Technology Department, Tokai University, Japan
- P-056** The relationship between thermostability and structure of fish trypsins
Gaku Kanno, Hideki Kishimura, Hiroki Saeki
Research Faculty of Fisheries Sciences, Hokkaido University, Japan
- P-057** Inhibitory Activity of Angiotensin I Converting Enzyme in Protein Hydrolysate from Dulse (*Palmaria palmata*)
Hideki Kishimura, Tomoe Furuta, Yoshikatsu Miyabe, Hajime Yasui, Hiroki Saeki
Research Faculty of Fisheries Sciences, Hokkaido University, Japan
- P-058** A Mussel Adhesive Protein Fused with the BC Domain of Protein A for Efficient Immobilization of Antibodies onto Diverse Surfaces
Chang Sup Kim¹, Yoo Seong Choi³, Wooree Ko¹, Jeong Hyun Seo¹, Jieun Lee¹, Hyung Joon Cha^{1,2}
¹Department of Chemical Engineering, ²Ocean Science and Technology Institute, Pohang University of Science and Technology, Korea; ³Department of Chemical Engineering, Chungnam National University, Korea
- P-059** Underwater Silk Fibers-Biochemical Natures for Novel Textile Technology
Kousaku Ohkawa¹, Yumi Miura¹, Takaomi Nomura², Ryoichi Arai², Koji Abe³, Masuhiro Tsukada², Kimio Hirabayashi²
¹Institute of High Polymer Research, ²Division of Applied Biology, ³Division of Chemistry and Materials, Faculty of Textile Science and Technology, Shinshu University, Japan
- P-060** Glycoprotein in scallop shell inhibits differentiation of 3T3-L1 preadipocyte
Koji Takahashi, Masahiro Nakaya, Kazumi Sato, Miku Katagawa, Akane Torita, Yasushi Hasegawa
Division of engineering for composite functions, Muroran institute of technology, Japan
- P-061** Isolation and characterization of protease from scallop shell
Manabu Fukuda, Hiroki Ono, Takuya Mitsuhashi, Yasushi Hasegawa
Division of engineering for composite functions, Muroran Institute of Technology, Japan

- P-062 Distribution of opine dehydrogenase and lactate dehydrogenase activities in benthos at deep-sea hydrothermal vents**
Noriyuki Endo¹, Takefumi Yorisue², Koji Inoue², Naoko Takahashi³, Mitsuru Jinbo³, Hiroshi Miyake³, Ryusuke Kado³, Shigeaki Kojima², Minoru Sato⁴, Nobuhiro Kan-no³
¹Himeji EcoTech Co., Ltd., Japan; ²Atmosphere and Ocean Research Institute, The University of Tokyo, Japan; ³School of Marine Biosciences, Kitasato University, Japan; ⁴Graduate School of Agricultural Science, Tohoku University, Japan
- P-063 Expression of Various Mussel Adhesive Protein Hybrids in *E. coli* and Their Adhesion Ability**
Young Hoon Song¹, Dong Gyun Kang¹, Hyung Joon Cha^{1,2}
¹Department of Chemical Engineering, ²Ocean Science and Technology Institute, Pohang University of Science and Technology, Korea
- P-064 A Novel Silk Protein from Starlet Sea Anemone**
 Yun Jung Yang¹, Yoo Seong Choi³, Dooyup Jung¹, Hyung Joon Cha^{1,2}
¹Department of Chemical Engineering, ²Ocean Science and Technology Institute, Pohang University of Science and Technology, Korea; ³Department of Chemical Engineering, Chungnam National University, Korea
- P-065 Difference in the gene expression patterns of uromodulin in the pufferfish *Takifugu rubripes* and African clawed frog *Xenopus laevis***
Haruna Uekusa, Haruka Miyazawa, Ken-ichi Suto, Shiro Itoi, Tsukasa Mori, Haruo Sugita
 Department of Marine Science and Resources, Nihon University, Japan
- P-066 A Psyllium Seed Gum-degrading Enzyme from *Paenibacillus* sp.**
Shin-ichi Okita, Akira Inoue, Takao Ojima
 Graduate School of Fisheries Sciences, Hokkaido University, Japan
- P-067 Biochemical Characterization of a Novel Alginate Lyase from *Flavobacterium* sp. UMI-01**
Kohei Takadono¹, Yasuoki Murata¹, Mohammad Matiur Rahman¹, Kenji Tajima², Akira Inoue¹, Takao Ojima¹
¹Graduate School of Fisheries Sciences, Hokkaido University, Japan; ²Graduate School of Engineering, Hokkaido University, Japan
- P-068 Purification and Nucleotide Sequence of Laminaranase from the Marine Psychrophile *Pseudoalteromonas haloplanktis* LA**
Shuo Zhang, Yo Takeuchi, Naoto Urano, Massami Ishida
 Graduate School of Marine Science and Technology, Tokyo University of Marine Science and Technology, JAPAN
- P-069 Expression Analysis of a Cadmium Accumulation Protein Screened from Sponge Metagenome Library**
Satoshi Wakaouji¹, Yotaro Kohara¹, Tetsushi Mori¹, Hitoshi Kurumizaka², Yoshihiro Shiraiwa³, Haruko Takeyama¹
¹Department of Life Science and Medical Bioscience, Waseda University, Japan; ²Department of Electrical Engineering and Bioscience, Waseda University, Japan; ³Graduate School of Life and Environmental Sciences, University of Tsukuba, Japan
- P-070 Novel Cationic Antimicrobial Peptides with Enhanced Activity and Selectivity against Marine Pathogens**
 Hung-Ta Chou¹, Tsun-Yung Kuo^{1,2}, Wei-Chen Tsai¹, Wei-Jung Chen¹
¹Institute of Biotechnology, National Ilan University, Taiwan; ²Department of Animal Science, National Ilan University, Taiwan
- P-071 Phospholipases From *Moritella* sp. HFHI0014**
Masazumi Kamata¹, Jun Mochizuki², Kazunaga Yazawa³
¹Yamano College of Aesthetics, Japan; ²TechnoSuruga Laboratory Co. Ltd., Japan; ³Laboratory of Nutraceuticals and Functional Foods Science, Tokyo University of Marine Science and Technology, Japan
- P-072 Development of ELP-tagging marine epoxide hydrolase and its application to preparation of chiral epoxides**
A Leum Kim, Eun Yeol Lee
 Department of Chemical Engineering, Kyung Hee University, Korea
- P-073 Properties and PCR Applications of dUTPase from *Thermococcus pacificus***
 Sung Suk Cho, Younguk Sun, Mi Yu, KangJin Seo, Suk-Tae Kwon
 Department of Biotechnology and Bioengineering, Sungkyunkwan University, Korea
- P-074 Enhanced PCR performance of the mutant *Tpa-S* DNA polymerases from the hyperthermophilic archaeon *Thermococcus pacificus***
HyeWoo Ppyun, Inhye Kim, Sung Suk Cho, KangJin Seo, Suk Tae Kwon
 Department of Biotechnology and Bioengineering, Sungkyunkwan University, Korea

- P-075 Agarases and carrageenases found from deep-sea bacteria**
Yuji Hatada, Masayuki Miyazaki, Yuichi Nogi, Masaaki Konishi, Yuriko Nagano, Taishi Tsubouchi, Yusuke Tsuruwaka, Shinrou Nishi, Kozue Mori, Keiko Usui, Yasuhiro Shimane, Tadashi Maruyama, Yukari Ohta
Japan Agency for Marine-Earth Science and Technology, Japan
- P-076 Isolation of tyrosinase inhibitor and antioxidative substance-producing microorganisms from deep-sea water**
Yuji Shibata¹, Katsuhisa Yamada², Chiaki Imada¹, Takeshi Terahara¹, Takeshi Kobayashi¹
¹*Tokyo university of marine science and technology graduate school, Japan;* ²*DHC Corporation deep seawater laboratory, Japan*
- P-077 Purification of a Hyaluronidase Inhibitor Produced by a *Streptomyces* Isolated from a Sea Squirt**
Enjuro Harunari¹, Chiaki Imada¹, Takeshi Kobayashi¹, Takeshi Terahara¹, Yasuhiro Igarashi²
¹*Graduate School of Tokyo University of Marine Science and Technology, Japan;* ²*Toyama Prefectural University, Japan*
- P-078 Effects of Light Sources on Growth and Carotenoids Content of Photosynthetic Bacteria *Rhodobacter capsulatus***
 Wei-Fan Cheng, Yew-Hu Chien
Department of Aquaculture, National Taiwan Ocean University, TAIWAN
- P-079 Study on reduction of formaldehyde in SMM-7 marine bacterial strain isolated from marginal sea water of Shizuoka prefecture**
Shori Sano, Hiroshi Ishii, Takafumi Maeda, Ryoichi Inoue, Hiroshi Saito
School of Marine Science and Technology, Tokai University, Japan
- P-080 Selective isolation and identification of actinomycetes from island in the Andaman Sea for inhibition activity against *Cryptococcus neoformans***
 Suthinee Sangkanu¹, Pongpaka Thianmontri¹, Nattapong Rattanapan², Ampaitip Sukhoom¹
¹*Department of Microbiology, Faculty of Science, Prince of Songkla University, Thailand;* ²*Tarutao National Park, Thailand*
- P-081 Influence of heavy metals on the sensitivity of a marine luminescent bacterium**
Mariko Era¹, Junko Ninomiya¹, Hiroshi Morita²
¹*Graduate school of Environmental Engineering, The University of Kitakyusyu, Japan;* ²*Faculty of Environmental Engineering, The University of Kitakyusyu, Japan*
- P-082 Sulfur-dependent luminescence in *Vibrio fischeri* under nutrient-starved conditions**
Junko Ninomiya^{1,2}, Yosuke Tabei², Mariko Era², Hiroshi Morita²
¹*Oita national college of technology, Japan;* ²*Faculty of Environment Engineering, Kitakyushu University, Japan*
- P-083 Biological and genetic characteristic of a novel marine propylene- assimilating bacterium, Alteromonadaceae bacterium strain PE-TB08W**
Toshihiro Suzuki¹, Seira Furumatsu², Hiroyuki Fuse^{2,3}
¹*Graduate School of Regional Environment Systems, Shibaura Institute of Technology, Japan;* ²*Graduate School of Systems Engineering and Science, Shibaura Institute of Technology, Japan;* ³*Department of Bioscience and Engineering, Shibaura Institute of Technology, Japan*
- P-084 Genetic analysis of putative ethylene monooxygenase gene clusters in the marine ethylene-assimilating bacteria *Haliea* sp. ETY-M and ETY-NAG**
Atsuki Kato², Toshihiro Suzuki¹, Naonori Morishita³, Hiroyuki Fuse^{2,3}
¹*Graduate School of Regional Environment Systems, Shibaura Institute of Technology, Japan;* ²*Graduate School of Systems Engineering and Science, Shibaura Institute of Technology, Japan;* ³*Department of Bioscience and Engineering, Shibaura Institute of Technology, Japan*
- P-085 Microbial Communities in Intestinal Tracts of Japanese Coastal Fish**
Chia-Hui Chen, Yusuke Tanaka, Kazuyuki Sagara, Shiro Itoi, Haruo Sugita
Department of Marine Science and Resources, Nihon University, Japan
- P-086 Activity and Diversity of Methanogens in a Coastal Marine Sediment, Wakasa Bay, Japan**
Ryota Ishino¹, Masahiro Ueno², Ken-Ichiro Ishii¹, Tetsuro Ajisaka¹, Shigeki Sawayama¹
¹*Laboratory of Marine Environmental Microbiology, Division of Applied Biosciences, Graduate School of Agriculture, Kyoto University, Japan;* ²*Maizuru Fisheries Research Station, Field Science Education and Research Center, Kyoto University, Japan*
- P-087 Bacterial Communities of Marine Biofilm on Cathodically Polarized Stainless Steel Electrodes**
Takeshi Terahara¹, Masashi Miyata², Mihoko Ofusa², Shinichi Motoda², Takeshi Kobayashi¹, Chiaki Imada¹
¹*Graduate School of Marine Science of Technology, Tokyo University of Marine Science and Technology, Japan;* ²*Faculty of Marine Technology, Tokyo University of Marine Science and Technology, Japan*

- P-088 Exploration of lignin-related aromatic compound metabolising bacteria from the deep-sea**
Yukari Ohta, Shinrou Nishi, Emiko Suda, Ryouichi Hasegawa, Takuma Haga, Masaaki Konishi, Yuriko Nagano, Taishi Tsubouchi, Yusuke Tsuruwaka, Yasuhiro Shimane, Kozue Mori, Keiko Usui, Kenta Tsutsui, Yoshihiro Fujiwara, Tadashi Maruyama, Yuji Hatada
Japan Agency of Marine-Earth Science and Technology (JAMSTEC), Japan
- P-089 Enzymatic synthesis of Resveratrol glycosides using Amylosucrase from *Deinococcus geothermalis* and *Alteromonas macleodii* Deep ecotype**
Hyunsu Park¹, Kyoung-Hwa Choi¹, Sungmin Hwang¹, Young-Don Park¹, Dong-Ho Seo², Cheon-Seok Park², Jaeho Cha¹
¹*Department of Microbiology, Pusan National University, South Korea;* ²*Graduate School of Biotechnology and Institute of Life Sciences & Resources, Kyung Hee University, South Korea*
- P-090 Application of response surface methodology for the synthesis of G1-aesculin by β -glucosidase from *Thermotoga neapolitana***
Hyunsu Park, Kyoung-Hwa Choi, Sungmin Hwang, Young-Don Park, Jaeho Cha
Department of Microbiology, Pusan National University, South Korea
- P-091 Taxonomic Classification of Fish-Pathogenic *Mycobacterium* Species by Genetic and Proteomic Approaches**
 Satoru Kurokawa¹, Jun Kabayama¹, Tsuguaki Fukuyasu¹, Seong-Don Hwang², Chan-Il Park², Seong-Bin Park³, Carmelo S. del Castillo³, Jun-ichi Hikima³, Tae-Sung Jung³, Hidehiro Kondo⁴, Ikuo Hirono⁴, Haruko Takeyama⁵, Takashi Aoki^{3,6}
¹*Animal Health Department of Research and Development Agricultural and Veterinary Division, Meiji Seika Pharma, Japan;* ²*Institute of Marine Industry, Department of Marine Biology and Aquaculture, College of Marine Science, Gyeongsang National University, South Korea;* ³*Aquatic Biotechnology Center of WCU Project, College of Veterinary Medicine, Gyeongsang National University, South Korea;* ⁴*Laboratory of Genome Science, Tokyo University of Marine Science and Technology, Japan;* ⁵*Department of Life Science and Medical Bioscience, Waseda University, Japan;* ⁶*Consolidated Research Institute for Advanced Science and Medical Care, Waseda University, Japan*
- P-092 Association of a Marine Sponge Related Bacterium with a Natural Compound at the Single Cell Level**
Yu Sawada¹, Tetsushi Mori¹, Shigeki Matsunaga², Joern Piel³, Haruko Takeyama¹
¹*Department of Life Science and Medical Bio-Science, Waseda University, Japan;* ²*Graduate School of Agricultural and Life Science, The University of Tokyo, Japan;* ³*Kekulé Institute of Organic Chemistry, The University of Bonn, Germany*
- P-093 Microbial communities of subseafloor sediments in deep-sea fields of the Izena Cauldron, Okinawa Trough**
Sanae Kano¹, Yosuke Onishi², Takashi Yoshida¹, Hiroshi Ishida², Nobuhiro Maeda², Manabu Tatsuta³, Tetsuya Miwa³, Nobuhiro Goto⁴, Nobuyuki Okamoto⁵, Yoshihiko Sako¹
¹*Laboratory of Marine Microbiology, Graduate School of Agriculture, Kyoto University, Japan;* ²*The General Environmental Technos Co., Ltd, Japan;* ³*Japan Agency for Marine-Earth Science and Technology, Japan;* ⁴*Deep Ocean Resources Development Co., Ltd, Japan;* ⁵*Japan Oil, Gas and Metals National Corporation, Japan*
- P-094 Bacteria On A Red Alga *Gracilariopsis Chorda***
Hirota Kakita, Hideki Obika, Youji Makita, Akinari Sonoda
Health Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), JAPAN
- P-095 Characterization of Lactic Acid Bacteria Isolated from Intestinal Contents of the Bivalve *Meretrix lamarckii***
Shihori Takanashi¹, Tomoyo Narita¹, Shiro Itoi¹, Satomi Naya², Haruo Sugita¹
¹*Department of Marine Science and Resources, Nihon University, Japan;* ²*Ibaraki Prefecture Sea-Farming Association, Japan*
- P-096 Colonization of *Lactococcus lactis* subsp. *lactis* Strains in the Intestinal Tract of Goldfish**
Junya Uchida, Ai Miura, Shiro Itoi, Haruo Sugita
Department of Marine Science and Resources, Nihon University, Japan
- P-098 Development of high-throughput screening system using microfluidic device**
Yuri Hoshino¹, Tomotada Hirose², Donghyun Yoon², Tetsushi Mori¹, Tetsushi Sekiguchi², Shuichi Shoji², Haruko Takeyama¹
¹*Department of Life Science and Medical Bioscience, Waseda University, Japan;* ²*Department of Nano Science and Engineering, Waseda University, Japan*
- P-099 Study of Specific Gene Amplification with Rolling Cycle Amplification.**
Masahiro Suemitsu¹, Hirokazu Takahashi², Yoshiko Okamura¹
¹*Department of Molecular Biotechnology, Graduate School of Advanced Sciences of Matter, Hiroshima University, Japan;* ²*Nanobiotechnology Laboratory, National Food Research Institute, National Agriculture and Food Research Organization, Japan*

- P-100 Amphioxus Genome Database (AGenDa)**
 Yu-Bin Wang¹, Jr-Kai Sky Yu², Shu-Hwa Chen³, Chung-Yen Lin¹
¹Institute of Information Science, Academia Sinica, Taiwan; ²Institute of Cellular and Organismic Biology, Academia Sinica, Taiwan; ³Computational Biology Research Center, National Institute of Advanced Industrial Science and Technology (AIST), Japan
- P-101 Efficient Bioethanol Production from Paper Shredder Scrap by a Marine Derived Yeast C-19**
Nobuo Obara, Masami Ishida, Naoko Hamada, Naoto Urano
 Graduate School of Marine Science and Technology, Tokyo University of Marine Science and Technology, Japan
- P-102 Gene expression in *Vibrio haliotocoli* during mannitol metabolism**
Kota Kuga¹, Yoshiko Kawahara¹, Syohei Hara¹, Satoshi Nakagawa¹, Fumito Maruyama², Yoshitoshi Ogura³, Tetsuya Hayashi³, Ken Kurokawa⁴, Toko Sawabe⁵, Tomoo Sawabe¹
¹Hokkaido University, Japan; ²Tokyo Medical and Dental University, Japan; ³University of Miyazaki, Japan; ⁴Tokyo Institute of Technology, Japan; ⁵Hakodate Junior College, Japan
- P-103 Comparison of hydrogen productivity among marine vibrios**
Kazumichi Sato¹, Yuta Matsumura¹, Satoshi Nakagawa¹, Fumito Maruyama², Yoshitoshi Ogura³, Tetsuya Hayashi³, Ken Kurokawa⁴, Tomoo Sawabe¹
¹Hokkaido University, Japan; ²Tokyo Medical and Dental University, Japan; ³University of Miyazaki, Japan; ⁴Tokyo Institute of Technology, Japan
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Yutaro Inohara¹, Satoshi Nakagawa¹, Eric Stabb², Tomoo Sawabe¹
¹Hokkaido University, Japan; ²University of Georgia, USA
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Feng Gao¹, Y. Kawahara¹, S. Nakagawa¹, F. Maruyama², Y. Ogura³, T. Hayashi³, K. Kurokawa⁴, T. Sawabe¹
¹Hokkaido University, Japan; ²Tokyo Medical and Dental University, Japan; ³University of Miyazaki, Japan; ⁴Tokyo Institute of Technology, Japan
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Yuta Matsumura¹, Satoshi Nakagawa¹, Fumito Maruyama², Yoshitoshi Ogura³, Tetsuya Hayashi³, Ken Kurokawa⁴, Tomoo Sawabe¹
¹Hokkaido University, Japan; ²Tokyo Medical and Dental University, Japan; ³University of Miyazaki, Japan; ⁴Tokyo Institute of Technology, Japan
- P-107 Bioenrichment and diversity analysis of marine invertebrate gut microflora**
Kotaro Watanabe¹, Tetsushi Mori¹, Naoko Midorikawa¹, Seinen Chow², Haruko Takeyama¹
¹Department of Life Science and Medical Bioscience, Waseda University, Japan; ²National Research Institute of Aquaculture Fisheries Research Agency, Japan
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Takeshi Sato¹, Masaharu Kitashima¹, Hajime Masukawa^{2,3}, Hidehiro Sakurai², Kazuhito Inoue^{1,2}
¹Department of Biological Sciences, Faculty of Science, Kanagawa University, Japan; ²Research Institute for Photobiological Hydrogen Production, Kanagawa University, Japan; ³JST, PRESTO, Japan
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Akira Satoh¹, Kyonosuke Ichii¹, Mitsufumi Matsumoto², Chihiro Kubota³, Michiko Nemoto³, Tsuyoshi Tanaka³
¹BT Development Group, Research and Development Section, Technology Center, Yamaha Motor Co., Ltd., Japan; ²Biotechnology Laboratory, Wakamatsu Research Institute, Technology Development Center, Electric Power Development Co., Ltd., Japan; ³Division of Biotechnology and Life Science, Institute of Engineering, Tokyo University of Agriculture and Technology, Japan
- P-110 Hydrocarbon Production in *Synechococcus* sp. Strain NKBG 15041c through the Expression of Heterogeneous Alkane Synthesis Genes**
Daichi Arai¹, Toru Honda¹, Tomoko Yoshino^{1,2}, Tadashi Matsunaga¹, Tsuyoshi Tanaka^{1,2}
¹Institute of Engineering, Tokyo University of Agriculture & Technology, Japan; ²JST, CREST, Japan
- P-111 Genus-specific quantitative PCR assays of Labyrinthulid protists in marine environments**
Waqar Azeem Jadoon¹, Ryosuke Nakai^{2,3}, Katsuhiko Kashiwara¹, Keiko Nakamura¹, Takeshi Naganuma¹
¹Hiroshima University, Japan; ²National Institute of Genetics, Japan; ³Research Fellow of the Japan Society for the Promotion of Science, Japan

- P-112 The Smaller Cells are the More Suitable for Efficient Transformation of Thraustochytrids**
Yusuke Takaki¹, Naoki Nagano², Yousuke Taoka², Taishi Yanohara², Keishi Sakaguchi³, Makoto Ito³, Daisuke Honda⁴, Yuji Okita⁵, Eiji Ohashi⁵, Masahiro Hayashi²
¹Graduate School of Agriculture, University of Miyazaki, Japan; ²Department of Marine Biology and Environmental Sciences, Faculty of Agriculture, University of Miyazaki, Japan; ³Graduate School of Bioresource and Bioenvironmental Sciences, Kyushu University, Japan; ⁴Department of Biology, Faculty of Science and Engineering, Konan University, Japan; ⁵Nippon Suisan Kaisha Ltd., Japan
- P-113 Isolation and Characterization of Marine Derived *Mucor* sp. Producing Tyrosol as a Major Secondary Metabolite**
Pradeep Dewapriya¹, Yong-Xin Li¹, Se-kwon Kim^{1,2}
¹Department of Chemistry, Pukyong National University, Republic of Korea; ²Marine Bioprocess Research Center, Pukyong National University, Republic of Korea
- P-114 Sporophyte-Specific Expression of Bromoperoxidase Gene in a Red Alga, *Porphyra yezoensis***
Ryuuya Matsuda¹, Rengin Ozguar¹, Katsuaki Takechi¹, Hiroyoshi Takano^{1,2}, Susumu Takio³
¹Graduate School of Science and Technology, Kumamoto University, Japan; ²Bioelectronics Research Center, Kumamoto University, Japan; ³Center for Marine Environment Studies, Kumamoto University, Japan
- P-115 Pigment analysis of a unicellular cyanobacterium KC1**
Daiki Fujinuma¹, Shinya Akutsu¹, Hayato Furukawa¹, Tadashi Watanabe², Mayumi Ohnishi Kameyama³, Hiroshi Ono³, Satoshi Ohkubo⁴, Hideaki Miyashita⁴, Masami Kobayashi¹
¹Institute of Materials Science, University of Tsukuba, Japan; ²Institute of Industrial Science, University of Tokyo, Japan; ³National Food Research Institute, NARO, Tsukuba, Japan; ⁴Graduate School of Human and Environmental Studies, Kyoto University, Japan
- P-116 Technical Improvement for Long-term Preservation of the Chlorophyll *d*-Containing Cyanobacterium *Acaryochloris* by Cryopreservation**
Koji Iwamoto¹, Sohjiro Fukuyo², Masaaki Okuda², Masami Kobayashi², Yoshihiro Shiraiwa¹
¹Faculty of Life and Environmental Sciences, University of Tsukuba, Japan; ²Faculty of Pure and Applied Sciences, University of Tsukuba, Japan
- P-117 Localization and associative strengths of acidic polysaccharides in coccoliths of *Pleurochrysis haptonemofera***
Sho Itayama^{1,4}, Satoru Matsuzuka^{1,4}, Yasutaka Hirokawa^{1,4}, Shoko Fujiwara^{1,2}, Koichi Nakanishi³, Mikio Tsuzuki^{1,2}
¹School of Life Sciences, Tokyo University of Pharmacy and Life Sciences, Japan; ²JST, CREST, Japan; ³Nano-search Technology Group, Laboratory for Core Technology Development, Kirin Beverage, Co.,Ltd, Japan
- P-119 Phylogeography of the ciguatera-causing dinoflagellate *Gambierdiscus* spp. in coastal areas of Japan**
Tomohiro Nishimura^{1,2}, Shinya Sato^{3,4}, Wittaya Tawong^{1,2}, Hiroshi Sakanari¹, Keita Uehara¹, Shah Md Mahfuzur Rhaman^{5,6}, Shoichiro Suda⁵, Takeshi Yasumoto⁷, Yosuke Taira⁸, Haruo Yamaguchi¹, Masao Adachi¹
¹Kochi University, Japan; ²The United Graduate School of Agricultural Sciences, Ehime University, Japan; ³Royal Botanic Garden, United Kingdom; ⁴Cardiff University, United Kingdom; ⁵University of the Ryukyus, Japan; ⁶Jeju Sea Grant, Department of Earth and Marine Science, College of Ocean Science, Jeju National University, S. Korea; ⁷Japan Food Research Laboratories, Tama Laboratory, Japan; ⁸Okinawa Institute of Science and Technology Evolutionary Systems Biology Unit, Japan
- P-120 Vertical zonation of the zooxanthellae within a population of an sea anemone along the intertidal shore**
Osamu Miura
 Oceanography Section, Science Research Center, Kochi University; IMT-MEXT, Japan
- P-121 Conversion of Chl *a* into Chl *d* in vitro.**
Koichi Fujita¹, Keisuke Aoki¹, Shingo Itoh¹, Satoshi Ohkubo², Hideaki Miyashita², Masami Kobayashi¹
¹Institute of Materials Science, University of Tsukuba, Japan; ²Graduate School of Human and Environmental Studies, Kyoto University, Japan
- P-122 Non-destructive measurement of microalgae density by image analysis**
Takumi Yamada¹, Yoko Ono¹, Motohiro Takenaka², Masaki Ota², Hiroshi Inomata²
¹NTT Energy and Environment Systems Laboratories, Japan; ²Research Center of Supercritical Fluid Technology, Tohoku University, Japan
- P-123 Biotransformation of a Herb Plant Metabolite by a Cell Disruptant of *Chlamydomonas reinhardtii***
Hyun-Sun Park^{1,2}, Takeshi Ohama^{1,2}
¹School of Environmental Science and Engineering, Kochi University of Technology (KUT), Tosayamada, Japan; ²CREST, Japan

- P-124 Nitric oxide enhances high light-induced of methionine sulfoxide reductase gene expression in *Chlamydomonas reinhardtii***
Yuan-Ting Hsu¹, Su-Chiung Fang^{1,2}, Ming-Che Shih^{1,2}, Tse-Min Lee^{1,2,3}
¹Doctor Degree Program in Marine Biotechnology, Academia Sinica/National Sun Yat-sen University, Taiwan;
²Agricultural Biotechnology Research Center, Academia Sinica, Taiwan; ³Institute of Marine Biology, National Sun Yat-sen University, Taiwan
- P-125 Hydrogen peroxide and singlet oxygen differentially modulate very high light up-regulation of methionine sulfoxide reductase gene expression in *Chlamydomonas reinhardtii*.**
Hsueh-Ling Chang, Tse-Min Lee
 Laboratory of Marine Botany and Biotechnology, Institute of Marine Biology, Doctoral Program in Marine Biotechnology, National Sun Yat-sen University, Taiwan
- P-126 Downregulation of Methionine Sulfoxide Reductase (MSR) A4 Gene Decreases the Tolerance of *Chlamydomonas reinhardtii* under Oxidative Stress**
Pei-Shan Wu^{1,2}, Shu-Chiu Shie¹, Hsueh-Ling Chang^{1,2}, Cheng-Yang Kang¹, Wen-Yeh Hwang¹, Tse-Min Lee^{1,2}
¹Institute of Marine Biology, National Sun Yat-sen University, Taiwan; ²Doctor Degree Program in Marine Biotechnology, National Sun Yat-sen University, Taiwan
- P-127 Phylogenetic Classification of Closely Relative Green Algae Based on the Intron Sequences within the 18S Ribosomal DNA**
Asuka Ujira, Masaki Muto, Masayoshi Tanaka, Tadashi Matsunaga, Tsuyoshi Tanaka
 Institute of Engineering, Tokyo University of Agriculture and Technology, Japan
- P-128 Effects of external factors on growth of *Chlorococcum littorale***
Motohiro Takenaka¹, Yoko Ono², Takumi Yamada², Masaki Ota¹, Yoshiyuki Sato¹, Hiroshi Inomata¹
¹Research Center of Supercritical Fluid Technology, Tohoku University, Japan; ²NTT Energy and Environment Systems Laboratories, Japan
- P-129 Optimization of saccharification of marine microalgae, *Dunaliella* sp., biomass for bioethanol fermentation**
Ok Kyung Lee, A Leum Kim, Eun Yeol Lee
 Department of Chemical Engineering, Kyung Hee University, South Korea
- P-130 Neuroprotective effects of the aqueous extracts from *Nannochloropsis oculata* evaluated by AAPH-induced oxidative damage of DNA in hippocampal neuronal cells**
Daekyung Kim¹, Kil-Nam Kim¹, Seong Woon Roh¹, Tatsuya Oda²
¹Marine Bio Research Team, Korea Basic Science Institute (KBSI), Korea; ²Division of Biochemistry, Faculty of fisheries, Nagasaki University, Japan
- P-131 Extraction of eicosapentanoic acid (EPA) from *Nannochloropsis* sp.**
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 Research Center of Supercritical Fluid Technology, Tohoku University, Japan
- P-132 Localization of carbonic anhydrases in the marine diatom *Thalassiosira pseudonana***
Mio Samukawa, Kimika Nakao, Yuri Endo, Yusuke Matsuda
 Department of Bioscience, Kwansai-Gakuin University, Japan
- P-133 The structure of iron responsive promoters in two model marine diatoms, *Phaeodactylum tricorutum* and *Thalassiosira pseudonana***
Ryo Yoshinaga, Hiroaki Matsui, Megumi Niwa, Yusuke Matsuda
 Department of Bioscience, Kwansai-Gakuin University, Japan
- P-134 Localization Of Two Carbonic Anhydrases, CA-IX And CA -X, In The Marine Diatom, *Phaeodactylum tricorutum*.**
Hermanus Nawaly^{1,2}, Masaaki Tachibana¹, Yusuke Matsuda¹
¹Department of Bioscience, School of Science and Technology, Kwansai Gakuin University, Japan; ²Beasiswa Unggulan Magister of Biology, Satya Wacana Christian University, Indonesia
- P-135 Transformation of the diatom *Rhizosolenia setigera* using diatom infecting viral promoters**
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 Laboratory of Aquatic Environmental Science, Faculty of Agriculture, Kochi University, Japan
- P-136 TNF α Induction of Apoptotic and Necrotic Death Cascades by IPNV**
Gen-Hwa Lin¹, Wei-Lun Wang^{1,2}, Jiann-Ruey Hong³, Wangta Liu¹, Hong-Yi Gong⁴, Ming-Wei Lu⁴, Ching-Chun Lin¹, Shin-Jie Huang¹, Sung-Yu Wu¹, Jen-Leih Wu¹
¹Institute of Cellular and Organismic Biology, Academia Sinica, Taiwan; ²Institute of Fisheries Science, National Taiwan University, Taiwan; ³Institute of Biotechnology, National Cheng Kung University, Taiwan; ⁴Department of Aquaculture, and Center of Excellence for Marine Bioenvironment and Biotechnology, National Taiwan Ocean University, Taiwan

- P-137 The interference of NNV Viral Protein in IFN system**
Sung-Yu Wu¹, Hsu-Yu Chen^{1,2}, Yen-Chun Chen¹, Wangta Liu¹, Jiann-Ruey Hong³, Horng-Cherng Wu⁴, Jen-Leih Wu^{1,2,3}
¹Laboratory of Marine Molecular Biology and Biotechnology, Institute of Cellular & Organismic Biology, Academia Sinica, Taiwan; ²Institute of Fisheries Science, National Taiwan University, Taiwan; ³Institute of Biotechnology, National Chen Kung University, Taiwan; ⁴Department of Food Science and Technology, Chia Nan University, Taiwan
- P-138 A mTOR activator, Rheb, is partially involved in White Spot Syndrome Virus (WSSV) Pathogenesis**
Mei-An Su, Yun-Tzu Huang, KC Han-Ching Wang
 Institute of Biotechnology, National Cheng Kung University, Taiwan
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Takashi Aoki¹, Seong Don Hwang², Hidehiro Kondo³, Ikuo Hirono³, Naoko Midorikawa⁴, Haruko Takeyama⁴
¹Consolidated Research Institute for Advanced Science and Medical Care, Waseda University, Japan; ²Institute of Marine Industry, Department of Marine Biology and Aquaculture, College of Marine Science, Gyeongsang National University, Republic of Korea; ³Laboratory of Genome Science, Tokyo University of Marine Science and Technology, Japan; ⁴Department of Life Science and Medical Bioscience, Waseda University, Japan
- P-141 Non-specific immune activation against double stranded RNA in kuruma shrimp, *Marsupenaeus japonicus***
Ryo Inoue, Hidehiro Kondo, Ikuo Hirono
 Laboratory of Genome Science, Tokyo University of Marine Science and Technology, Japan
- P-142 Isolation and Characterization of Vitellogenesis-Inhibiting Hormones from the Shiba Shrimp *Metapenaeus joyneri***
 Midori Fukushima¹, Sayaka Kotaka², Naoaki Tsutsui³, Marcy N Wilder³, Kiyoshi Asahina¹, Susumu Izumi², Tsuyoshi Ohira²
¹College of Bioresource Science, Nihon University, Japan; ²Faculty of Science, Kanagawa University, Japan; ³Japan International Research Center for Agricultural Sciences, Japan
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Aiko Shitara¹, Takashi Koyama¹, Kana Goto¹, Yuya Shigenobu², Takuma Sugaya², Motohiko Sano¹, Hidehiro Kondo¹, Ikuo Hirono¹
¹Laboratory of Genome Science, Graduate School of Tokyo University of Marine Science and Technology, Japan; ²Aquatic Genomics Research Center, National Research Institute of Fisheries Science, Japan
- P-144 Effects of dietary fish and vegetable oils on the hepatic transcriptome in Japanese flounder juveniles *Paralichthys olivaceus***
Ubonrat Limtipsuntorn, Yutaka Haga, Hidehiro Kondo, Ikuo Hirono, Shuichi Satoh
 Graduate School of Marine science and Technology, Tokyo University of Marine science and Technology, Japan
- P-145 Study of the microRNA 145 mediated regulatory mechanism for liver development in zebrafish**
Ya-Wen Li^{1,2}, Yen-Hsing Li², Wang-Ta Lu², Zen-Kuei Chang², Jen-Leih Wu²
¹Graduate Institute of Life Sciences, National Defense Medical Center, Taiwan; ²Institute of Cellular and Organismic Biology, Academia Sinica, Taiwan
- P-146 Characterization of the putative antigen-specific receptor, Dscam from *Litopenaeus vannamei***
Tze Hann Ng, Ya-Chu Chuang, KC Han-Ching Wang
 Institute of Biotechnology, National Cheng Kung University, Taiwan
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 Keng-Yu Chiang¹, Yen-Hsing Li², Shin-Jie Huang², Ya-Wen Li², Zen-Kuei Chang², Jen-Leih Wu^{1,2}
¹Institute of Cellular and Organismic Biology, Academia Sinica, Taiwan; ²Institute of Fisheries Science, National Taiwan University, Taiwan
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 Ying-Yan Jiang¹, Chi-Lung Huang¹, Jen-Leih Wu², Shao-Yang Hu¹
¹Department of Biological Science and Technology, National Pingtung University of Science and Technology, Taiwan; ²Institute of Cellular and Organismic Biology, Academia Sinica, Taiwan
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Chang-Wen Huang¹, Yen-Hsing Li¹, Hong-Yi Gong², Fu-Guang Liu³, Jen-Leih Wu¹
¹Institute of Cellular and Organismic Biology, Academia Sinica, Taiwan; ²Department of Aquaculture, and Center of Excellence for Marine Bioenvironment and Biotechnology, National Taiwan Ocean University, Taiwan; ³Freshwater Aquaculture Research Center, Fisheries Research Institute, Council of Agriculture, Taiwan

- P-150 Opsin Gene cloning and Electroretinogram Analysis for the Longtooth Grouper (*Epinephelus bruneus*)**
Taro Matsumoto, Yasunori Ishibashi
 Department of Fisheries, Faculty of Agriculture, Kinki University, Japan
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Hong-Yi Gong^{1,2}, Sheng-Han Wu^{1,2}, Hui-Yen Chin^{1,2}, Hong-Jie Lin^{1,2}, Yen-Hsing Li³, Mark Hung-Chih Chen⁴, Shao-Yang Hu⁵, Chang-Wen Huang³, Jen-Leih Wu³
¹Department of Aquaculture, National Taiwan Ocean University, Taiwan; ²Center of Excellence for Marine Bioenvironment and Biotechnology, National Taiwan Ocean University, Taiwan; ³Institute of Cellular and Organismic Biology, Academia Sinica, Taiwan; ⁴Department of Biotechnology, Research Institute of Biotechnology, Hungkuang University, Taiwan; ⁵Department of Biological Science and Technology, National Pingtung University of Science and Technology, Taiwan
- P-152 Immuno-inhibition myostatin to promote growth rate and decrease of feed conversion ratio in grouper**
 Yi-An Chen^{1,5}, Young-Mao Chen^{1,2,3}, Tzong-Yueh Chen^{1,2,3,4}
¹Institute of Biotechnology, ²Translational Center for Marine Biotechnology, ³Agriculture Biotechnology Research Center, ⁴University Center for Bioscience and Biotechnology, National Cheng Kung University, Taiwan; ⁵Department of Food Nutrition, Chung Hwa University of Medical Technology, Taiwan
- P-153 Transgenic expression of tilapia hepcidin 1-5 and shrimp chelonianin in zebrafish and their resistance to bacterial pathogens**
Chieh-Yu Pan¹, Kuan-Chieh Peng², Cheng-Hui Lin¹, Jyh-Yih Chen²
¹Department of Aquaculture, National Taiwan Ocean University, Taiwan; ²Marine Research Station, Institute of Cellular and Organismic Biology, Academia Sinica, Taiwan
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 Shariza Azizan, Kiew-Lian Wan, Adura Mohd-Adnan
 National University of Malaysia, School of Biosciences & Biotechnology, Faculty of Science & Technology, Malaysia
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 Jen-Kai Yeh, Nancy M. Wang, Chuan-Fu Ken
 Institute of Biotechnology, National Changhua University of Education, Taiwan
- P-156 Preservation of bluefin tuna germ cells by vitrification of whole testis**
Shinsuke Seki¹, Ryosuke Yazawa¹, Yoshiko Iwasaki¹, Tetsuro Morita², Yutaka Takeuchi³, Goro Yoshizaki¹
¹Department of Marine Biosciences, Tokyo University of Marine Science and Technology, Japan; ²Oita Marine Biological Technology Center, Nippon Suisan Kaisha, Ltd., Japan; ³Research Center for Advanced Science and Technology, Tokyo University of Marine Science and Technology, Japan
- P-157 Effects of the water current near the tank bottom on the feeding, growth, and survival rate of Pacific bluefin tuna (*Thunnus orientalis*) larvae**
Takayuki Imagawa¹, Michio Kurata², Tomoki Honryo², Yasuo Agawa², Yoshifumi Sawada², Yasunori Ishibashi¹
¹Department of Fisheries, Faculty of Agriculture, Kinki University, Japan; ²Oshima Station, Fish Nursery Center, Kinki University, Japan
- P-158 Determination of the optimal light wavelength for survival and growth performance and analysis of the opsin gene expression in the larvae of Pacific bluefin tuna (*Thunnus orientalis*)**
Shinichiro Hashimoto¹, Tomoki Honryo², Yasuo Agawa², Yoshifumi Sawada², Taro Matsumoto¹, Yasunori Ishibashi¹
¹Department of Fisheries, Faculty of Agriculture, Kinki University, Japan; ²Oshima Station, Fish Nursery Center, Kinki University, Japan
- P-159 Effects of photoenvironmental control on the feeding, growth, and survival rate of juvenile Pacific bluefin tuna (*Thunnus orientalis*)**
Yasunori Ishibashi¹, Yoshiki Tsutsumi¹, Taro Matsumoto¹, Tomoki Honryo², Yoshifumi Sawada², Yasuo Agawa²
¹Department of Fisheries, Faculty of Agriculture, Kinki University, Japan; ²Oshima Station, Fish Nursery Center, Kinki University, Japan
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Seinen Chow¹, Kentaro Niwa¹, Shunji Okamoto², Yoshiki Murauchi², Rei Hirai², Manabu Hibino², Kunihiro Wakui³, Takeshi Tomiyama³, Yutaka Kobayashi⁴, Mitsuharu Toba⁴, Yasunori Kano⁵
¹National Research Institute of Aquaculture, Fisheries Research Agency, Japan; ²Aichi Prefectural Fisheries Experimental Station, Japan; ³Soma Branch, Fukushima Prefectural Fisheries Experimental Station, Japan; ⁴Chiba Prefectural Fisheries Experimental Station, Japan; ⁵Department of Marine Ecosystems Dynamics, Atmosphere and Ocean Research Institute, The University of Tokyo, Japan
- P-161 Genetic diversity and reproduction structure of ark shell in Japan**
Tomomi Tanaka^{1,2,3}, Futoshi Aranishi^{1,2}
¹The United Graduate School of Agricultural Sciences, Tottori University, Japan; ²Coastal Lagoon Research Center, Shimane University, Japan; ³Research Fellow of the Japan Society for the Promotion of Science, Japan

- P-163 A Novel Zinc-dependent Endo-peptidase in Disk Abalone (*Haliotis discus discus*): Transcriptional Response upon Bacterial and Viral Challenges**
W.D.N. Wickramaarachchi, Jehee Lee
Department of Marine Life Sciences, School of Marine Biomedical Sciences, Jeju National University, Republic of Korea
- P-164 *Coriolus versicolor* polysaccharide peptide (PSP) supplementation diet on innate immune response and disease resistance in *Epinephelus bruneus* against *Listonella anguillarum***
Seung-Hyun Hong, Subramanian Dharaneedharan, Ramasamy Harikrishnan, Moon-Soo Heo
Department of Aquatic Biomedical Sciences, School of Marine Biomedical Sciences, College of Ocean Sciences & Marine and Environmental Research Institute, Jeju National University, South Korea
- P-165 *Styrax japonica* supplementation diet enhances the innate immune response in *Epinephelus bruneus* against bacterial and protozoan infections**
Subramanian Dharaneedharan, Seung-Hyun Hong, Harikrishnan Ramasamy, Moon-Soo Heo
Department of Aquatic Biomedical Sciences, School of Marine Biomedical Sciences & Marine and Environmental Research Institute, Jeju National University, South Korea
- P-166 Effects of chitin and chitosan particles on humoral and cellular immune system in kelp grouper, *Epinephelus bruneus***
Moon-Soo Heo, Ramasamy Harikrishnan, Seung-Hyun Hong, Subramanian Dharaneedharan
Department of Aquatic Biomedical Sciences, School of Marine Biomedical Sciences & Marine and Environmental Research Institute, Jeju National University, South Korea
- P-167 *Prunella vulgaris* extracts enhance the non-specific immune response and disease resistance of *Paralichthys olivaceus* against *Uronema marinum***
Dong-Hwi Kim, Subramanian Dharaneedharan, Ramasamy Harikrishnan, Moon-Soo Heo
Department of Aquatic Biomedical Sciences, School of Marine Biomedical Sciences & Marine and Environmental Research Institute, Jeju National University, South Korea