

Annual Meeting 2007

The Society for Biotechnology, Japan

September 25–27, 2007

Higashi-Hiroshima Campus, Hiroshima University

1-3-1 Kagamiyama, Higashi-Hiroshima, Hiroshima, Japan

The 1st Day (Sep. 25)

Room S1 Morning (9:30~12:30)

Symposium (Challenges to create new sustainable economic systems based on Biotechnologies)

Opening time	No.	Title	co-authors (affiliation)	○ indicates the presenter.
9:30		Opening remarks		
9:35	1S1AM1	The latest development in amino acid fermentation processes	.....○Hisashi YASUEDA (Ajinomoto LifeScience Lab.)	
10:00	1S1AM2	Save the earth by R&D of biotechnology from Japan.	.....○Hideharu ANAZAWA (Kyowa Hakko Kogyo Co.,Ltd.)	
10:25	1S1AM3	Biocatalytic Technology of Mitsubishi Chemical Group	.....○Makoto UEDA (Biotechnology Lab., Mitsubishi Chemical Group Science and Technology Research Center, INC.)	
10:50	1S1AM4	New movements and issues on industrial applications of bio-technology	.....○Hideo NODA ^{1,2} (¹ Bio-energy Corp., ² Kansai Chemical Engineering Co., Ltd)	
11:15	1S1AM5	For the practical application of microbial polyester	.....○Keiji MATSUMOTO, Yuji OKUBO (Life Science Res. Lab., Kaneka Corp.)	
11:40	1S1AM6	Development of efficient bioremediation process by halorespiring bacterium and guideline	.....○Ryuichiro KURANE (KUBOTA Corporation)	
12:05		Panel discussion		
12:25		Closing remarks		

Room S2 Morning (9:30~12:20)

Symposium (Career path of Ph.D., a view point from industrial-academic cooperation)

9:30		Opening remarks		
9:35	1S2AM1	Uncertain career path of Ph.D.	.....○Jun SUGIMORI (The Yomiuri Shimbun)	
10:00	1S2AM2	Professional Science Master; new graduate degree in science or mathematics aims at business	.....○Ichiro SUZUKI (Grad. Sch. Eng., Yokohama Nat. Univ.)	
10:25	1S2AM3	Employment of Ph.D. in the case of Takeda Pharmaceutical Company	.....○Iwao MII (Takeda Pharmaceutical Company Ltd.)	
10:50		Break		
11:00		Panel discussion		

Room A Morning (9:30~12:30)

General Presentation (Metabolic Engineering, Metabolomics)

9:30	1A09-1	Metabolomics of yeast longevity mutants	.....○Ryo YOSHIDA ¹ , Kazuo HARADA ¹ , Shunnsuke HAYASHI ¹ , Chika TAKAOKA ¹ , Takayuki TAMURA ² , Yukio MUKAI ² , Akio KOBAYASHI ¹ , Eiichiro FUKUSAKI ¹ (¹ Dept. Mat. Life Sci., Osaka Univ., ² Dept. Biosci., Nagahama Bio Univ.)
9:42	1A09-2	Metabolome analysis of zebrafish	○Shunsuke HAYASHI ¹ , Yutaka TAMARU ² , Shiniti AKIYAMA ³ , akio KOBAYASHI ¹ , Eiichiro FUKUSAKI ¹ (¹ Dept. Biotech., Grad. Sch. Eng., Osaka Univ., ² Fac. Biores., Mie Univ., ³ SVBL, Mie Univ.)
9:54	1A09-3	Metabolomic analysis of <i>Catharanthus roseus</i> with methyl jasmonate treatment	.....○Tetsuya TABUSHI, Kazuo HARADA, Akio KOBAYASHI, Eiichiro FUKUSAKI (Dept. Biotech., Grad. Sch. Eng., Osaka Univ.)
10:06	1A10-1	Development of anionic metabolite profiling using capillary electrophoresis/mass spectrometry with sulfonated capillary	.....○Kazuo HARADA, Yoko OHYAMA, Tetsuya TABUSHI, Akio KOBAYASHI, Eiichiro FUKUSAKI (Dept. Biotech., Grad. Sch. Eng., Osaka Univ.)

- 10:18** 1A10-2 Development of sensitivity analysis module in metabolic simulator WinBEST-KIT
○Yuuki KURIYA¹, Hideaki SHINTO¹, Kenji SONOMOTO^{1,2},
 Fumihide SHIRAIISHI², Masahiro OKAMOTO^{2,3}
 (¹Grad. Sch. Biores. Bioenviron. Sci., Kyushu Univ., ²Bio-Arch., Kyushu Univ.,
³Grad. Sch. Systems Life Sci., Kyushu Univ.)
- 10:30** 1A10-3 Effect of nicotinic acid on the metabolism in *arcB* gene knockout *Escherichia coli* for NADH oxidation.
○Syed NIZAM, Kazuyuki SHIMIZU (Kyushu Inst. Tech.)
- 10:42** 1A10-4 Effect of *cra* gene knockout together with *edd* and *iclR* gene knock out on the metabolism of *Escherichia coli*
○Dayanidhi SARKAR, Kazuyuki SHIMIZU (Kyushu Inst. Tech.)
- 10:54** 1A10-5 Improvement of ethanol productivity of a novel alcohol-producing bacterium, *Zymobacter palmae*
 ...○Aya OGINO, Miyuki SHINOMIYA, Kenji OKAMOTO, Hideshi YANASE (Dept. Biotech., Tottori Univ.)
- 11:06** 1A11-1 Cellulose degradation by genetically engineered *Zymobacter palmae*
○Motoki KOJIMA, Tomohiro AKAHOSHI, Kenji OKAMOTO, Hideshi YANASE
 (Dept. Biotech., Tottori Univ.)
- 11:18** 1A11-2 Improvement of xylose fermentation by genetically engineered alcohol-producing bacterium, *Zymomonas mobilis*
○Kentaro NISHIMURA, Akinori KAWAKAMI, Toshio HAGA, Kenji OKAMOTO, Hideshi YANASE
 (Dept. Biotech., Tottori Univ.)
- 11:30** 1A11-3 Evolutionary pathway engineering of carotenoid/ terpenoid pathways
 ○Yosuke NAKATANI, Hiroki KANAZAWA, Akinori KATABAMI, Kyoichi SAITO, Daisuke UMENO
 (Grad. S. Sci. Tech., Chiba Univ.)
- 11:42** 1A11-4 Sulfide accumulation in CoQ deficient fission yeast
Shuso WAKITANI, ○Makoto KAWAMUKAI (Life & Env. Sci., Shimane Univ.)
- 11:54** 1A11-5 Metabolic regulation of *Aspergillus nidulans* under anaerobic conditions
○Takashi ITO, Motoyuki SHIMIZU, Tatsuya FUJII, Naoki TAKAYA
 (Grad. Sch. Life Env. Sci., Univ. Tsukuba)
- 12:06** 1A12-1 Exploration of metabolic biomarkers to characterize the delay of leaf senescence in *Brassica rapa* L. (Yamato-
 mana).
○Tomoko DANSAKO¹, Yasuharu OCHI², Sueo KAJITA², Hiroshi ASAO³
 (¹Nara Pref. Small and Medium-sized Enterprises Support Corporation, ²Nanto Seed,
³Nara Pref. Agricultural Experiment Station)
- 12:18** 1A12-2 *in silico* screening of multiple knock out gene targets
 ○Kohei MIYAOKU, Takeshi TANIGUCHI, Katsuya KANDA, Miki KOBAYASHI, Yukimitsu NAKAGAWA
 (Mitsubishi Chemical Research Center)

Room B Morning (9:30~12:30)

General Presentation (Enzymology, Enzyme, Protein Engineering)

- 9:30** 1B09-1 Application of silica-binding protein to immobilize biomolecule on the silicon surface
○Yumehiro HATA, Masanori WAKI, Kenichi NINOMIYA, Ryuichi HIROTA, Akio KURODA
 (Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 9:42** 1B09-2 Immobilization of streptavidin-conjugated materials on silica surface by the biotinylated silica-binding protein
○Takeshi IKEDA^{1,2}, Ryuichi HIROTA², Akio KURODA^{1,2}
 (¹SORST, JST, ²Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 9:54** 1B09-3 Layering of silica particle using silicon-binding protein and its application for highly-sensitive detection.
○Kenichi NINOMIYA, Yumehiro HATA, Ryuichi HIROTA, Akio KURODA
 (Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 10:06** 1B10-1 Detection of bacteria using a cell wall binding domain of autolysin
○Abo BAKR AHMED, Yasuo ASAMI, Ryuichi HIROTA, Kenichi NODA, Akio KURODA
 (Hiroshima University)
- 10:18** 1B10-2 Application of the immobilizing method of bacteria on silica surface
○Asashi TAGURO, Ryuichi HIROTA, Akio KURODA, Yasuo ASAMI
 (Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 10:30** 1B10-3 Purification and characterization of chitinase from the seaweed *Phyllospadix japonica*
○Takashi OHSHIRO, Yuumi MATSUDA, Yoshikazu IZUMI (Dept. Biotech., Tottori Univ.)
- 10:42** 1B10-4 Development of a flow-through ATP amplification reactor
○Tetsuya SATOH, Yasuharu SHINODA, Shiho TOKONAMI, Yuji MURAKAMI, Akio KURODA
 (Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 10:54** 1B10-5 Stabilization of enzymes and antibodies using sericin hydrolysate
○Yoshiaki NISHIYA¹, Takahide KISHIMOTO², Kayoko KAJITANI³, Kazuo KAJITANI¹,
 Atsushi TODA¹, Masahiro SASAKI⁴, Hideyuki YAMADA⁵
 (¹Tsuruga Inst. Biotech., Toyobo, ²Biochemical Dep., Toyobo, ³Tsuruga Plant, Toyobo,
⁴Technology Dep., Seiren, ⁵Technology Dep., Seiren)
- 11:06** 1B11-1 Analysis of amyloid fibril formation based on the surface property of protofibrils
○Toshinori SHIMANOUCI, Azusa HIROIWA, Keiichi NISHIYAMA,

- Hiroshi UMAKOSHI, Ryoichi KUBOI (Grad. Sch. Eng. Sci., Osaka Univ.)
- 11:18 1B11-2 Cross-linked beta-casein micelles as thermoresponsive proteinaceous nanoparticles for bioseparation
.....○Masamichi TOKUNAGA, Yoshiaki SHIOTARI, Noriho KAMIYA, Hirokazu YAMANOUCHI,
Hideshi MATUNAGA, Koji NAKANO, Masahiro GOTO (Dept. Appl. Chem., Kyushu Univ.)
- 11:30 1B11-3 Enzymatic saccharification of plant residues for ethanol fermentation
.....○Eri ISHIKAWA¹, Kohei NAKAMURA¹, Takayosi TAMURA², Kazuhiro TAKAMIZAWA¹
(¹Fac. Agric., Gifu Univ., ²Meiji seika com.)
- 11:42 1B11-4 Development of an ATP detection system using His-tagged enzyme-DNA conjugate and DNA aptamer
.....○Josui SHIMADA, Tatsuo MARUYAMA, Takuya HOSOGI, Jo TOMINAGA,
Tsuayoshi MOURI, Noriho KAMIYA, Masahiro GOTO (Dept. Appl. Chem., Kyushu Univ.)
- 11:54 1B11-5 Pretreatment of lipase with organic solvents and its application in reverse micellar systems
.....○Muhammad MONIRUZZAMAN¹, Yoshishige HAYASHI², Noriho KAMIYA¹, Masahiro GOTO¹
(¹Dept. Appl. Chem., Kyushu Univ., ²Fac. Eng., Kanazawa Univ.)
- 12:06 1B12-1 An external stimuli-responsive hybrid enzyme tethered by a small functional molecule
.....○Yukito TSURUDA, Motohiro NISHI, Noriho KAMIYA, Masahiro GOTO
(Dept. Appl. Chem., Kyushu Univ.)
- 12:18 1B12-2 Reduction and autoproteolysis in preparation of starting material for refolding of bovine pancreatic trypsin
.....○Yuji OHSHIMA, Daisuke NOHARA (Dept. Biomol. Sci., Gifu Univ.)

Room C Morning (9:30~12:30)

General Presentation (Enzymology, Enzyme, Protein Engineering)

- 9:30 1C09-1 Gene structure of analysis, calcium carbonate crystal-regulating protein from *Bacillus amyloliquefaciens*
.....○Hiromi TSUCHIYA, Ayaka SATOU, Hidehisa KAWAHARA, Hitoshi OBATA
(Dept. Biotech., Fac. Eng., Kansai Univ.)
- 9:42 1C09-2 Influence of signal peptide on the construction of cell surface display system by autotransporter
.....○Wataru TATSUMOTO, Hiroyuki IMANAKA, Koreyoshi IMAMURA, Kazuhiro NAKANISHI
(Grad. Sch. of Natur. Sci. & Tech., Okayama Univ.)
- 9:54 1C09-3 Cell Surface Display System on Lactic Acid Bacteria Using AcmA Protein
.....○Kenji OKANO¹, Qiao ZHANG², Sakurako KIMURA², Hideki FUKUDA³, Akihiko KONDO²
(¹Grad. Sch. Sci. Tech., Kobe Univ., ²Grad. Sch. Eng., Kobe Univ., ³Org. Adv. Sci. Tech., Kobe Univ.)
- 10:06 1C10-1 A substrate-binding mode of bleomycin *N*-acetyltransferase
.....○Kosuke ODA, Yasuyuki MATOBA, Takanori KUMAGAI, Masanori SUGIYAMA
(Grad. Sch. Biomed. Sci., Hiroshima Univ.)
- 10:18 1C10-2 Mutational analysis of BPSA, a single module type NRPS catalyzing indigoidine synthesis
.....○Takanori KUMAGAI, Kyoko KITANI, Yasuyuki MATOBA, Masanori SUGIYAMA
(Grad. Sch. Biomed. Sci., Hiroshima Univ.)
- 10:30 1C10-3 Structural analysis of 6-aminohexanoate-cyclic-dimer hydrolase-substrate complex
.....Kengo YASUHIRA¹, Naoki SHIBATA², ○Go MONGAMI¹, Yoshiki HIGUCHI², Dai-ichiro KATO¹,
Masahiro TAKEO¹, Seiji NEGORO¹ (¹Grad. Sch. Eng. Univ. Hyogo, ²Grad. Sch. Life Sci. Univ. Hyogo)
- 10:42 1C10-4 3D-structure of endo-type 6-aminohexanoate-oligomer hydrolase
.....Kengo YASUHIRA¹, Naoki SHIBATA², ○Hiroshi SHIBATA¹, Yasuhiro TANAKA¹,
Yoshiki HIGUCHI², Masahiro TAKEO¹, Dai-ichiro KATO¹, Seiji NEGORO¹
(¹Grad. Sch. Eng. Univ. Hyogo, ²Grad. Sch. Life Sci. Univ. Hyogo)
- 10:54 1C10-5 Synthesis of L-aspartic acid by aspartate dehydrogenase and malate dehydrogenase
.....○Norika KAWAKAMI, Hiroyuki ASHIDA, Takahiro ISHIKAWA, Hitoshi SHIBATA, Yoshihiro SAWA
(Life & Env. Sci., Shimane Univ.)
- 11:06 1C11-1 Characterization and cloning of long-chain aminoacylase and short-chain aminoacylase from *Streptomyces mobaraensis*
.....○Yasuyuki NAKATANI, Mayuko KOREISHI, Hiroyuki IMANAKA, Koreyoshi IMAMURA,
Kazuhiro NAKANISHI (Grad. Sch. of Natur. Sci. & Technol., Okayama Univ.)
- 11:18 1C11-2 Enzymatic synthesis of functional compounds by the acyl-transfer reaction catalyzed by penicillin V acylase from *Streptomyces mobaraensis*
.....○Mayuko KOREISHI, Yuuichi ISE, Kazuha TANI, Hiroyuki IMANAKA, Koreyoshi IMAMURA,
Kazuhiro NAKANISHI (Dept. Biotech., Okayama Univ.)
- 11:30 1C11-3 Production and characterization of mutant enzyme C49K of antitumor enzyme L-methionine gamma-lyase
.....○Daizou KUDOU¹, Takashi TAMURA¹, Akio TAKIMOTO², Tomoaki TAKAKURA², Kenji INAGAKI¹
(¹Grad. Sch. of Nat. Sci. and Tech., Okayama Univ., ²Disc. Res. Lab. of Shionogi and Co., Ltd)
- 11:42 1C11-4 Relationship between the structure of L-glutamate oxidase and its enzymological characteristics
.....○Jiro ARIMA¹, Chiduko SASAKI², Chika SAKAGUCHI³, Takashi TAMURA³,
Hitoshi KUSAKABE⁴, Shigetoshi SUGIO², Kenji INAGAKI³
(¹Res. Inst. Biol. Sci., Okayama Pref., ²Mitsubishi Kagaku Inst. Biotech., ³Fac. Agric., Okayama Univ.,
⁴Enzyme Micro Biosensors LLP)
- 11:54 1C11-5 Cloning of high enantioselective hydantoinase gene from *Aneurinibacillus* sp. and D-amino acid production by

- recombinant *E. coli*.
○Makoto UEDA, Masakatsu NISHIHACHIGO, Hirokazu NANBA (Kaneka Corp.)
12:06 1C12-1 Development of specific detection method of bacteria using recombinant luciferase
○Masaaki URATA¹, Ken-ichi NODA¹, Akio KURODA²
 (¹Interdisciplinary Research on Integration of Semiconductor and Biotechnology, Hiroshima University,
²Graduate School of Advanced Sciences of Matter, Hiroshima University)
12:18 1C12-2 Cloning of a gene encoding cyanide-degrading enzyme from *Klebsiella pneumoniae*
○Kazuki INOUE, shinnsuke TOKUDA, Kenji OKAMOTO, Hideshi YANASE
 (Dept. Biotech., Tottori Univ.)

Room D Morning (9:30~12:30)

General Presentation (Bioinformatics / Fermentation Physiology, Fermentation Technology)

- 9:30** 1D09-1 Improved expression analysis using oligonucleotide microarrays based on a thermodynamical model
○Naoaki ONO¹, Tomoharu AGATA², Shingo SUZUKI², Akiko KASHIWAGI²,
 Chikara FURUSAWA^{2,3}, Tetsuya YOMO^{2,3,4}, Hiroshi SHIMIZU²
 (¹ERATO, JST, ²Dept. Bioinfo. Eng., Grad. Sch. IST, Osaka Univ., ³ERATO, JST,
⁴Grad. Sch. Frontier. Biosci, Osaka Univ.)
9:42 1D09-2 Genome-wide analysis of yeast deletion mutants under stress conditions
○Katsunori YOSHIKAWA, Tadamasu TANAKA, Keisuke NAGAHISA, Takashi HIRASAWA,
 Chikara FURUSAWA, Hiroshi SHIMIZU (Dept. Bioinfo. Eng., Grad. Sch. IST, Osaka Univ.)
9:54 1D09-3 Computational method for exploring and designing functional enzyme
○Yasuyuki TOMITA¹, Masahiro KIMURA², Hideo NAKANO², Tomoya NORITAKE³,
 Youichi YOSHIDA³, Ryuji KATO¹, Mina OKOCHI¹, Hiroyuki HONDA^{1,4}
 (¹Dept. Biotech., Grad. Sch. Eng., Nagoya Univ., ²Grad. Sch. Biol. Agr. Sci., Nagoya Univ.,
³UBE INDUSTRIES, LTD., ⁴MEXT Innovative Research Center for Preventive Medical Engineering)
10:06 1D10-1 Gene expression analysis for formation of a symmetric flat leaf lamina in plants.
○Sachiko NAKAO¹, Hiro TAKAHASHI¹, Nobuo SATO², Takahiro OJIO¹, Satomi MORIKAWA¹,
 Ryo MORISHITA¹, Hidekazu IWAKAWA², Shoko KOJIMA^{1,2}, Chiyoko MACHIDA^{1,2}, Takeshi KOBAYASHI^{1,2}
 (¹Dept. Biol. Chem., Chubu Univ., ²Plant Biol. Res. Center, Chubu Univ.)
10:18 1D10-2 Gene expression analysis of cancer tissue using a new method combined with boosting and projective adaptive
 resonance theory.
○Hiro TAKAHASHI^{1,2}, Takeshi KOBAYASHI^{1,2}, Hiroyuki HONDA³
 (¹Dept. Biol. Chem., Chubu Univ., ²Plant Biol. Res. Center, Chubu Univ.,
³Dept. Biotech., Grad. Sch. Eng., Nagoya Univ.)
10:30 1D10-3 Multi time-laps imaging of *in vitro* differentiation of oligodendrocyte precursor cells
○Yasuhito TOKUMOTO¹, Kazumi HAKAMADA^{1,2}, Takanori KIHARA¹, Teruyuki NAGAMUNE¹,
 Jun MIYAKE^{1,2} (¹Dept. Bioeng., Grad. Sch. Eng., Univ. Tokyo, ²RICE, AIST)
10:42 1D10-4 Single cell time series analysis for cellular state
○Kazumi HAKAMADA¹, Takanori KIHARA², Yasuhito TOKUMOTO¹, Satoshi FUJITA³,
 Teruyuki NAGAMUNE¹, Jun MIYAKE⁴
 (¹Dept. Bioeng., Univ. Tokyo, ²Univ. Tokyo, CNBI, ³RICE, AIST, ⁴Dept. Bioeng., Univ. Tokyo, RICE, AIST)
10:54 1D10-5 Comparison of MAP Kinases in Algae
○Shingo KASHIHARA, Mie OZAWA, Makoto FUJIE, Takashi YAMADA, Shoji USAMI
 (Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
11:06 1D11-1 Regulation of amino acid metabolism of *Aspergillus oryzae*
○Hideaki KOIKE¹, Yasunobu TERABAYASHI¹, Noriko YAMANE¹, Motoaki SANO²,
 Shinichi OHASHI², Masayuki MACHIDA¹ (¹AIST, ²KIT)
11:18 1D11-2 Efficient bioethanol production from xylose by recombinant yeast transformed with XR, NADP⁺-dependent XDH
 and XK
○Akinori MATSUSHIKA¹, Seiya WATANABE^{2,3}, Tsutomu KODAKI², Keisuke MAKINO²,
 Hiroyuki INOUE¹, Katsuji MURAKAMI¹, Shigeki SAWAYAMA¹
 (¹BTRC, AIST, ²Ene. Sci., Kyoto Univ., ³Grad. Sch. Eng., Kyoto Univ.)
11:30 1D11-3 Breeding of *Clostridium saccharoperbutylaceticum* N1-4 for 2-propanol production
Sadazo YOSHINO¹, ○Tadaaki KAWABE², Yu ISHIBASHI³, Syunichi NAKAYAMA⁴,
 Kensuke HURUKAWA⁵, Masahiro OKAMOTO²
 (¹Fac. Agric., Kyushu Univ., ²Lab. Bioinfo., Grad. Sch. Systems Life Sci., Kyushu Univ.,
³Grad. Sch. Biores. Bioenviron. Sci., Kyushu Univ., ⁴AIST, ⁵Fac. Food Sci. Nut., Beppu Univ.)
11:42 1D11-4 Efficient ethanol production process from raw starch by recombinant *Saccharomyces cerevisiae*
○Ryosuke YAMADA¹, Yohei BITO¹, Tsutomu TANAKA², Hideki FUKUDA², Akihiko KONDO³
 (¹Grad. Sch. Sci. Tech., Kobe Univ., ²Org. Adv. Sci. Tech., Kobe Univ., ³Grad. Sch. Eng., Kobe Univ.)
11:54 1D11-5 Continuous fermentation of fuel ethanol by flocculating yeast using Philippines molasses as raw substrate
○Mingzhe AN, Yueqin TANG, Shigeru MORIMURA, Kenji KIDA
 (Grad. Sch. Sci. Tech., Kumamoto Univ.)

- 12:06** 1D12-1 Continuous Ethanol Fermentation by *Saccharomyces cerevisiae* X33
○Takayuki KATO, Naoki FUKUSHIMA, Kohtaro KIRIMURA, Kuniki KINO
 (Dept. Appl. Chem., Sch. Sci. Eng., Waseda Univ.)
- 12:18** 1D12-2 Isolation and characterization of yeast suitable for membrane separation process
○Shunichi NAKAYAMA, Tomotake MORITA, Hideyuki NEGISHI, Toru IKEGAMI,
 Dai KITAMOTO, Keiji SAKAKI (AIST)

Room E Morning (9:30~12:42)

General Presentation (Genetic Engineering, Nucleic Acid Engineering)

- 9:30** 1E09-1 Screening, characterization and utilization of bacteriophages infecting *Ralstonia solanacearum*.
○Takeru KAWASAKI, Akiko FUJIWARA, Hideki SATSUMA, Soichi SATO, Makoto FUJIE,
 Shoji USAMI, Takashi YAMADA (Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 9:42** 1E09-2 DNA sequence analysis and characterization of *Ralstonia solanacearum* phage, RSL1
○Soichi SATO, Takeru KAWASAKI, Makoto FUJIE, Shoji USAMI, Takashi YAMADA
 (Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 9:54** 1E09-3 Genomic manipulation and utilization of RSS1 and RSM1, bacteriophages infecting *Ralstonia solanacearum*.
○Hideki SATSUMA, Takeru KAWASAKI, Makoto FUJIE, Shoji USAMI, Takashi YAMADA
 (Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 10:06** 1E10-1 Genomic analysis of RSA1, a P2-like bacteriophage infecting *Ralstonia solanacearum*
○Akiko FUJIWARA, Takeru KAWASAKI, Makoto FUJIE, Shoji USAMI, Takashi YAMADA
 (Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 10:18** 1E10-2 Characterization of aromatics-degrading gene in *Escherichia coli* K-12
○Shuhei SIRONO, Takashi HATTA (Grad. Sch. of. Sci., Okayama Univ. Sci.)
- 10:30** 1E10-3 Characterization of the PQQ-dependent dehydrogenase gene involved in degradation of beta-aryl ether by *Sphingomonas paucimobilis* SYK-6
○Kazuki ISHIHARA¹, Daisuke KASAI¹, Yoshihiro KATAYAMA², Eiji MASAI¹, Masao FUKUDA¹
 (¹Dept. Bioeng., Nagaoka Univ. Technol., ²Tokyo Univ. Agric. and Technol.)
- 10:42** 1E10-4 Visual Expression Analysis of the Heat Shock Response of the Alternative Oxidase Gene (*aox1*) in the Conidia of Citric Acid-Producing *Aspergillus niger*
Takasumi HATTORI, ○Yuki HONDA, Kuniki KINO, Kohtaro KIRIMURA
 (Dept. Appl. Chem., Sch. Sci. Eng., Waseda Univ.)
- 10:54** 1E10-5 Overexpression of NADP⁺-Specific Isocitrate Dehydrogenase Gene (*icdA*) in Citric Acid-Producing *Aspergillus niger*
○Rie HAYASHI, Takasumi HATTORI, Kuniki KINO, Kohtaro KIRIMURA
 (Dept. Appl. Chem., Sch. Sci. Eng., Waseda Univ.)
- 11:06** 1E11-1 Essential factors for high-frequency transformation in the yeast *Yarrowia lipolytica*
○Takayoshi YAMANE, Kazuhiro NAGAHAMA, Takahira OGAWA, Masayoshi MATSUOKA
 (Dept. Appl. Microb. Technol., Fac. Biotech. Life Sci., Sojo Univ.)
- 11:18** 1E11-2 Basic study on the transcription and transition of a bacterial group II intron, *B.me.11*
○Meifang CHIEN¹, Saeko TOSA², Ryo ASANO³, Chiehchen HUANG⁴, Tomonobu KUSANO¹,
 Ginro ENDO³ (¹Grad. Sch. Life Sci., Tohoku Univ., ²Grad. Sch. Eng., Tohoku-gakuin Univ.,
³Dept. Eng., Tohoku-gakuin Univ., ⁴Dept. Life Sci., Chung Hsing Univ., Taiwan)
- 11:30** 1E11-3 Study on the splicing of a bacterial group II intron for application to *in situ* molecular breeding
○Saeko TOSA¹, Meifang CHIEN², Keisuke MIYAUCHI³, Ginro ENDO³
 (¹Grad. Sch. Eng., Tohoku-gakuin Univ., ²Grad. Sch. Life Sci., Tohoku Univ., ³Dep. Eng., Tohoku-gakuin Univ.)
- 11:42** 1E11-4 Action mechanism of *E. coli* RNase G on *adhE* mRNA
○Koushin HAMASAKI, Phuong Anh Thi NGUYEN, Aya KAYAMARI, Kaoru AMAGAI,
 Tarou SAKAI, Masaaki WACHI (Dep. Bioen., Tokyo Inst. Technol.)
- 11:54** 1E11-5 Sequence-based approach to isolate novel genes from environmental samples
○Takeshi TERAHARA¹, Kazutaka YAMADA², Shinya KURATA², Toyokazu YOKOMAKU²,
 Shigeaki HARAYAMA³, Satoshi TSUNEDA¹ (¹Dept. Appl. Chem., Sch. Sci. Eng., Waseda Univ.,
²Nippon Steel Kankyo engineering Co.Ltd., ³NITE)
- 12:06** 1E12-1 Expression analysis of metal responsive genes in the moderately halophilic bacterium, *Halomonas elongate* OUT30018
○Ayumi KOGA¹, Koudai SUSUKI¹, Taku OSHIMA², Shu ISHIKAWA², Ken KUROKAWA²,
 Naotake OGASAWARA², Atsuhiko SHINMYO¹, Kazuya YOSHIDA¹, Hideki NAKAYAMA¹
 (¹Grad. Sch. Biol. Sci., NAIST, ²Grad. Sch. Info. Sci., NAIST)
- 12:18** 1E12-2 The significance of cell wall in transformation of budding yeast
○Shigeyuki KAWAI, Kousaku MURATA (Grad. Sch. Agric., Kyoto Univ.)
- 12:30** 1E12-3 Property of Succinoyl Trehalose lipid and the Production pathway in *Rhodococcus* sp.
○Yuta TOKUMOTO¹, Hideo MATSUMURA², Nobuhiko NOMURA¹,
 Tosiaki NAKAJIMA¹, Hiroo UCHIYAMA¹ (¹Grad. Sch. Life Env. Sci., Univ. Tsukuba, ²AIST)

Room F Morning (9:30~12:42)

General Presentation (Biomedical Engineering, Artificial Organs)

- 9:30** 1F09-1 Development of Bio-nanocapsule displaying cell-penetrating peptides for efficient drug delivery
○Daisaku YONEZAWA¹, Takuya SHISHIDO¹, Masakazu UEDA², Masaharu SENO³, Hiroko TADA³,
 Katuyuki TANIZAWA⁴, Syunichi KURODA⁴, Tsutomu TANAKA⁵, Hideki HUKUDA⁵, Akihiko KONDO⁶
 (¹Grad. Sch. Sci. Tech., Kobe Univ., ²Sch. Med., Keio Univ., ³Grad. Sch. Sci. Tech., Okayama Univ.,
⁴Ins. sci. Ind. Res., Osaka Univ., ⁵Org. Adv.Sci.Tech., Kobe Univ., ⁶Grad. Sch. Eng., Kobe Univ.)
- 9:42** 1F09-2 Development of the pinpoint protein delivery system using bio-nanocapsule displaying antibodies
○Naoya KURATA¹, Takuya SHISHIDO¹, Masakazu UEDA², Masaharu SENO³, Hiroko TADA³,
 Katsuyuki TANIZAWA⁴, Shun-ichi KURODA⁴, Tsutomu TANAKA⁵, Hideki FUKUDA⁵, Akihiko KONDO⁵
 (¹Grad. Sch. Sci. Tech., Kobe Univ., ²Sch. Med., Keio Univ., ³Grad. Sch. Sci. Tech., Okayama Univ.,
⁴Ins. Sci. Ind. Res., Osaka Univ., ⁵Org. Adv. Sci. Tech., Kobe Univ.)
- 9:54** 1F09-3 Cell culture behavior on cellulosic nano-layers designed by vectorial chain immobilization via self-assembly
○Shingo YOKOTA¹, Kei ESAKI¹, Shizuka EGUSA¹, Takuya KITAOKA¹, Hiroyuki WARIISHI¹,
 Junji SUGIYAMA² (¹Grad. Sch. Biores. Bioenviron. Sci., Kyushu Univ., ²RISH, Kyoto Univ.)
- 10:06** 1F10-1 Magnetic concentration of retroviral vectors using magnetite cationic liposomes
○Tetsuya TAKAHASHI¹, Yoshinori KAWABE², Akira ITO², Masamichi KAMIHIRA²
 (¹Grad. Sch. Sys. Life Sci., Kyushu Univ., ²Dept. Chem. Eng., Fac. Eng., Kyushu Univ.)
- 10:18** 1F10-2 Fabrication of elastin model polypeptide nanoparticles by gamma-irradiation
○Mari FUJIMOTO¹, Masakazu FURUTA², Masayuki HARA², Mituhiro MURATA³, Masamichi IWAMA⁴,
 Urry Dan W.⁵ (¹Graduate School of Science, Osaka prefecture University, ²Graduate School of Science,
 Osaka Prefecture University, ³JSR Co.Ltd., ⁴Bioelastic Japan, ⁵Department of Chemical Engineering
 and Materials Science, University of Minnesota)
- 10:30** 1F10-3 Chitin binding domain-FGF2 : local delivery to chitin biomaterials
○Tomohisa SHIOTANI, Kazuki SAWA, Akira TACHIBANA, Toshizumi TANABE
 (Dept. Appl. Bioappl. Chem., Grad. Sch. Eng., Osaka City Univ.)
- 10:42** 1F10-4 Cellulose binding domain-FGF2 fusion protein for patterned cell culture
○Kazuki SAWA, Akira TACHIBANA, Toshizumi TANABE
 (Dept. Appl. Bioappl. Chem., Grad. Sch. Eng., Osaka City Univ.)
- 10:54** 1F10-5 Histological and antigenic evaluation of keratin sponge using guinea pig
○Toshizumi TANABE¹, Akira TACHIBANA¹, Minoru TSUKADA², Junnichi KASHIHARA²,
 Takashi YUUKI² (¹Dept. Appl. Chem. Bioeng., Grad. Sch. Eng., Osaka City Univ., ²Benesis)
- 11:06** 1F11-1 Optimization of cystic embryoid body (EB) formation from mouse ES cells and expression of marker genes in dif-
 ferentiating EBs.
○Emiko YASUDA¹, Yuji SEKI¹, Shujiro SAKAKI², Hiroshi KUROSAWA¹
 (¹Dept. Biotech., Grad. Sch. Med. Eng., Univ. Yamanashi, ²NOF Co)
- 11:18** 1F11-2 Graphical presentation of gene expression pattern in various types of embryoid bodies from mouse ES cells.
○Mikiko KOIKE¹, Shujiro SAKAKI², Yoshifumi AMANO¹, Hiroshi KUROSAWA¹
 (¹Dept. Biotech., Grad. Sch. Med. Eng., Univ. Yamanashi, ²NOF Co)
- 11:30** 1F11-3 2D and 3D cell patterning on a Vitrigel sheet using cell transfer printing method
○Toshiaki TAKANO¹, Masashige SHINKAI¹, Nanako KUDO¹, Chikako YONEYAMA¹,
 Toshiaki TAKEZAWA², Teruyuki NAGAMUNE¹ (¹Dept. Chem. Biotech., Univ. Tokyo, ²NIAS)
- 11:42** 1F11-4 Development of a method to isolate and culture podocytes as clinical materials
○Shunsuke KOMURO¹, Yusuke MURASAWA¹, Jun-ichi EDAHIRO², Kimio SUMARU²,
 Toshiyuki KANAMORI², Pi-chao WANG¹ (¹Grad. Sch. Life Env. Sci., Univ. Tsukuba, ²RCAB, AIST)
- 11:54** 1F11-5 Free microenvironment on nephrogenesis
○Yusuke MURASAWA, Pi-Chao WANG (Grad. Sch. Life Env. Sci., Univ. Tsukuba)
- 12:06** 1F12-1 Construction of *in vitro* three-dimensional tumor model using radial-flow bioreactor
○Tamayo KAWASUMI¹, Ryuji KATO¹, Masanori WADA², Youichi ISHIKAWA³, Hiroyuki HONDA^{1,4}
 (¹Dept. Biotech., Grad. Sch. Eng., Nagoya Univ., ²Biott Corporation, ³Able Corporation, ⁴PME Center)
- 12:18** 1F12-2 Informatic quality control with cell morphology for the industrialization of regenerative medicine
○Wakana YAMAMOTO¹, Ryuji KATO¹, Ebisawa KATSUMI², Hideaki KAGAMI²,
 Minoru UEDA², Hiroyuki HONDA^{1,3} (¹Dept. Biotech., Grad. Sch. Eng., Nagoya Univ.,
²Nagoya Univ. Sch. Med., ³PME Center)
- 12:30** 1F12-3 Expression of liver specific functions of primary rat hepatocytes co-cultured with hepatic non-parenchymal cells
 in collagen gel or spheroid culture
Yasuo KAKEYA, Toru YOKONUMA, Ryohei OGATA, Shinji SAKAI, ○Hiroyuki IJIMA,
 Koei KAWAKAMI (Dept. Chem. Eng., Fac. Eng., Kyushu Univ.)

Room G Morning (9:30~12:30)

General Presentation (Biosynthesis, Natural Organic Chemistry)

- 9:30** 1G09-1 Novel pathway of NAD biosynthesis in budding yeast *Saccharomyces cerevisiae*
○Kazuto OHASHI, Shigeyuki KAWAI, Kousaku MURATA (Grad. Sch. Agric., Kyoto Univ.)
- 9:42** 1G09-2 Expression of genes encoding astaxanthin-synthetic enzymes in *Saccharomyces cerevisiae*
Keisuke HASHIDA, ○Ken UKIBE, Tohoru KATSURAGI, Hiroshi TAKAGI
 (Grad. Sch. Biol. Sci., NAIST)
- 9:54** 1G09-3 Non-enzymatic catharanthine oxidation for synthesis of anti-tumor bisindole alkaloids in *Catharanthus roseus*
 under irradiation of near-ultraviolet light
○Mamiko ASANO¹, Takeshi BAMB¹, Eiichirou FUKUSAKI², Kazumasa HIRATA¹
 (¹Grad. Sch. Pharm. Sci., Osaka Univ., ²Dept. Biotech., Grad. Sch. Eng., Osaka Univ.)
- 10:06** 1G10-1 Antimycin A provides endoplasmic reticulum stress and releases AIF in HL-60 cells
○Masaki OGITA¹, Akira OGITA², Ken-ichi FUJITA¹, Toshio TANAKA¹
 (¹Grad. Sch. Sci., Osaka City Univ., ²Res. Center for Urban Health & Sports, Osaka City Univ.)
- 10:18** 1G10-2 Comparison with microbial classifications and bioactivities in microbial resources preserved at NITE.
○Takuji NAKASHIMA, Natsumi KUWAHARA, Kozue ANZAI, Rieko SUZUKI,
 Hisayuki KOMAKI, Shigeki INABA, Michiyo ONO, Ju-Young PARK, Shinzou MAYUZUMI,
 Hideki YAMAMURA, Shigeaki HARAYAMA (NITE)
- 10:30** 1G10-3 Inhibition of amyloid fibrillation formation by PQQ modified partial peptide fragments of alpha-synuclein
○Natsuki KOBAYASHI, Masaki KOBAYASHI, Jihoon KIM, Kazunori IKEBUKURO, Koji SODE
 (Dept. Biotech., Tokyo Univ. Agric. Tech.)
- 10:42** 1G10-4 Pyrroloquinoline quinone and its derivatives inhibit fibrillation of Amyloid proteins.
○Masaki KOBAYASHI¹, Jihoon KIM¹, Makoto HUKUDA¹, Natsuki KOBAYASHI¹,
 Daisuke OGASAWARA¹, SungWoong HAN², Chikashi NAKAMURA², Toshitsugu IGUCHI¹,
 Kazuo NAGASAWA¹, Kazunori IKEBUKURO¹, Koji SODE¹
 (¹Dept. Biotech., Tokyo Univ. Agric. Tech., ²RICE/AIST)
- 10:54** 1G10-5 Substrate specificity characterization of (*R*)-specific enoyl-CoA hydratases from *Pseudomonas putida* KT2440
○Hiromi KANAZAWA¹, Shun SATO¹, Hideki ABE^{1,2}, Takeharu TSUGE¹
 (¹Dept. Innov. Eng. Mat., Tokyo Inst. Technol., ²RIKEN)
- 11:06** 1G11-1 Synergistic effect of double mutation in *Aeromonas caviae* PHA synthase on PHA biosynthesis.
○Daisuke SHIMADA¹, Shinko WATANABE¹, Hideki ABE^{1,2}, Seiichi TAGUCHI³, Takeharu TSUGE¹
 (¹Dept. Innov. Eng. Mat., Tokyo Inst. Technol., ²RIKEN, ³Div. Mol. Chem., Grad. Sch. Eng., Hokkaido Univ.)
- 11:18** 1G11-2 Effect of poly(ethylene glycol) on molecular weight of PHB synthesized by recombinant *Escherichia coli*
○Satoshi TOMIZAWA¹, Agus JUNIARTI¹, Hideki ABE^{1,2}, Takeharu TSUGE¹
 (¹Dept. Innov. Eng. Mat., Tokyo Inst. Technol., ²RIKEN)
- 11:30** 1G11-3 Type III polyketide synthases in *Aspergillus oryzae*
○Yasuyo SESHIME¹, Katsuhiko KITAMOTO², Yutaka EBIZUKA³, Isao FUJII¹
 (¹Sch. Pharm., Iwate Med. Univ., ²Dept. Biotech., Univ. Tokyo, ³Grad. Sch. Pharm. Sci., Univ. Tokyo)
- 11:42** 1G11-4 Accumulation of antimicrobial glycoside Tuliposides in Tulip under different cultivation conditions
Hiroyuki YOSHIDA¹, Kazuaki SHOJI², Yukio SATO³, Noriyuki NAKAJIMA¹, Shinjiro OGITA¹,
 ○Yasuo KATO¹ (¹Grad. Sch. Biotech., Toyama Pref. Univ., ²Toyama Agric. Res. Cent.,
³Dept. Liberal Arts Sci., Toyama Pref. Univ.)
- 11:54** 1G11-5 Investigation of lactam hydrolysis activity in actinomycetes origin isochorismatase superfamily enzymes.
○Chitose MARUYAMA¹, Yoshimitsu HAMANO²
 (¹Fac. Med. Sci., Fukui Univ., ²Dept. Biosci., Fukui Pref. Univ.)
- 12:06** 1G12-1 Purification and characterization of the epsilon-Poly-L-lysine (epsilon-PL) biosynthetic enzyme
○Kazuya YAMANAKA¹, Yoshimitsu HAMANO² (¹Chisso, ²Dept. Biosci., Fukui Pref. Univ.)
- 12:18** 1G12-2 Cloning and functional analysis of the epsilon-Poly-L-lysine (epsilon-PL) biosynthetic gene
○Yoshimitsu HAMANO¹, Kazuya YAMANAKA², Chitose MARUYAMA³
 (¹Dept. Biosci., Fukui Pref. Univ., ²Chisso, ³Fac. Med. Sci., Fukui Uni.)

Room H Morning (9:30~12:42)

General Presentation (Food Science, Food Technology)

- 9:30** 1H09-1 Characterization of a bacteriocin-producing lactic acid bacterium isolated from *Tsuda*-turnip pickle
○Yuji ASO, Ai TAKEDA, Masako SATO (Edu., Shimane Univ.)
- 9:42** 1H09-2 Characterization of lactic acid bacteria with high resistance against nisinA in natural cheeses
○Ai TAKEDA, Masako SATO, Yuji ASO (Edu., Shimane Univ.)
- 9:54** 1H09-3 Screening of bacteriocin-producing lactic acid bacteria
○Hiromi MATSUSAKI, Hiromi MAEDA, Tomomi KUMAGAE
 (Fac. Environ. Sym. Sci., Pref. Univ. Kumamoto)
- 10:06** 1H10-1 Identification of spoilage bacteria in fish meal products and inhibition of their growth by bacteriocins from lactic

- acid bacteria.
○Yusuke KOISO¹, Toshihiro NAKANISHI¹, Takaaki TANAKA², Masayuki TANIGUCHI²
 (¹GS of Natural Sci. Technol., Niigata Univ., ²Fac. of Natural Sci. Technol., Niigata Univ.)
- 10:18** 1H10-2 Utilization of rice protein with protease inhibitors as a functional food material.
○Yoko SAIKAWA¹, Rika YAMAZAKI¹, Yasuyuki SHITOMI², Tomokazu KAWASE¹,
 Takaaki TANAKA³, Masayuki TANIGUCHI³ (¹GS of Natural Sci. Technol., Niigata Univ.,
²VBL, Niigata Univ., ³Fac. of Natural Sci. Technol., Niigata Univ.)
- 10:30** 1H10-3 Studies on development of the purple sweet potato lactic acid bacteria drink
Richiro OHBA¹, ○Yoshinori TANAKA¹, Hirotaka HIRATA²
 (¹Dept. Appl. Microb. Technol., Fac. Eng., Sojo Univ., ²Kumamoto Dairy Co-Operative Association)
- 10:42** 1H10-4 New functional foods of *P. pentosaceus* isolated from fermented vegetables produced in Hokkaido
○Qi WANG¹, Benjamas JONGANURAKKUN¹, Shanhua XU¹, Yuuya TADA¹, Masahito SUGI¹,
 Daisuke YASOKAWA², Hiroshi HARA³, Kouzou ASANO³ (¹NISSEI BIO CO.,LTD.,
²HOKKAIDO FOOD PROCESSING RESEARCH CENTER, ³HOKKAIDO UNIVERSITY)
- 10:54** 1H10-5 Size fractionation of *Shoyu* polysaccharides and its anti-allergic activity *in vivo*
○Tadaaki HASHIMOTO¹, Hiroaki MATSUSHITA¹, Makio KOBAYASHI¹, Ryo-ichi TSUKIYAMA¹,
 Naoya KASAI² (¹Res. Lab. of Higashimaru Shoyu, ²Dept. Appl. Biol. Chem., Osaka Pref. Univ.)
- 11:06** 1H11-1 Development of sugarcane extract by solid state fermentation of *Aspergillus niger*
○Naoto HIROSE¹, Ryou TERUYA¹, Masaru KURASHIMA², Koji WADA³, Takahiro MITSUE⁴
 (¹Okinawa Pref. Agric. Res. Center, ²Okinawa kenko Sougyo Co. Ltd., ³Ryukyuu Univ., ⁴Okinawa Col. Tech.)
- 11:18** 1H11-2 alpha-EG hydrolysis activity of alpha-glucosidase having transference or condensation activity
Ryosuke KAWATA¹, Yukiko ABE¹, ○Masataka UCHINO¹, Kotoyoshi NAKANISHI², Katsumi TAKANO¹
 (¹Dept. Appl. Biol. Chem., Tokyo Univ. Agric., ²Dept. Ferment. short., Tokyo Univ. Agric.)
- 11:30** 1H11-3 Screening and properties of antimicrobial proteins from rice against *Porphyrromonas gingivalis*.
○Yuki NIWA¹, Akira IGARASHI¹, Yasuyuki SHITOMI², Tomokazu KAWASE¹, Takaaki TANAKA³,
 Masayuki TANIGUCHI³ (¹GS of Natural Sci. Technol., Niigata Univ., ²VBL, Niigata Univ.,
³Fac. of Natural Sci. Technol., Niigata Univ.)
- 11:42** 1H11-4 Isolation of caffein-degrading bacterium and selective degradation of caffein in a coffee extract with remaining chlorogenic acids
 ○Tadao OIKAWA¹, Junko SHIRAE¹, Mayo ISODA¹, Kazuya IWAI², Taiji FUKUNAGA²
 (¹Dept. Life Sci. &Tech., Fac. Chem., Materials & Bioeng., Kansai Univ.,
²UCC Ueshima Coffee Co.,Ltd., R&D Center)
- 11:54** 1H11-5 Effect of Symbiotic Microorganisms to Phenolics Concentration in Lettuce
○Norio AKITSU, Yukihiko YOSHIMI, Junko YAMANOUE, Hiroyuki MIZUNO
 (Taki Chemical Co., Ltd.)
- 12:06** 1H12-1 Study for vanilla flavor production by fermentation
○Yoshihiro ENOMOTO, Chie SAWAI, Keita IKAI, Hitoshi SHINDO, Kojiro TAKAHASHI,
 Takeo KOIZUMI (Dept. Ferment. Sci., Tokyo Univ. Agric.)
- 12:18** 1H12-2 Growth of *Alicyclobacillus acidoterrestris* under the control of oxygen
○Tomoyuki KINOUCHI¹, Yumi ONOZEKI², Toshihiro KOMEDA², Koichi NAKANISHI¹
 (¹R&D Lab. Kirin Beverage Co, ²Central Lab. Kirin Hold Co., Ltd.)
- 12:30** 1H12-3 Kinetics of Molecular Encapsulation of 1-Methylcyclopropene into alpha-Cyclodextrin
○Hidefumi YOSHII, Tze Loon NEOH, Kousuke YAMAUCHI, Takeshi FURUTA
 (Dept. Biotech., Tottori Univ.)

Room I Morning (9:30~12:42)

General Presentation (Animal Cell, Tissue Engineering)

- 9:30** 1I09-1 Characteristics of production of triglyceride and adipocytokine in mouse adipocyte
○Naofumi SHIOMI, Minori MIMIRA, Risako NABESHIMA (Dept. Human Sci., Kobe Coll.)
- 9:42** 1I09-2 Characteristics of accumulation of triglyceride and metabolic rate of glucose in mouse hepatocyte
○Risako NABESHIMA, Minori MIMURA, Naofumi SHIOMI (Dept. Human Sci., Kobe Coll.)
- 9:54** 1I09-3 Differentiation induction of human neural stem cells for evaluation of multipotency
○Hideki MORI¹, Masahiro KINO-OKA², Masahito TAYA², Mami YAMASAKI¹, Yonehiro KANEMURA¹
 (¹Inst. Clin. Res. Osaka Natl. Hosp., ²Grad. Sch. Eng. Sci. Osaka Univ.)
- 10:06** 1I10-1 Proliferation of ES cells and formation of ES cell colonies
○Yuya MIYAZAWA, Ayako KITAZAWA, Norio SHIMIZU (Grad. Sch. Life Sci., Toyo Univ.)
- 10:18** 1I10-2 Cultivation of neurons using neurotrophin-coated nanoscale magnetic beads
○Hiroko YAMAGUCHI, Norio SHIMIZU (Grad. Sch. Life Sci., Toyo Univ.)
- 10:30** 1I10-3 Characterization of neurons differentiated from mouse embryonic stem cells by DRG conditioned medium
○Ayako KITAZAWA, Norio SHIMIZU (Grad. Sch. Life Sci., Toyo Univ.)
- 10:42** 1I10-4 Development of the intelligent cell culture system for cell therapy
○Norihiko HATA¹, Masahiro KINO-OKA², Hiroshi KUROSAWA³, Masahito TAYA²
 (¹Medical Inst., MEDINET Co., ²Grad. Sch. Eng. Sci., Osaka Univ., ³Grad. Sch. Med. Eng., Univ. Yamanashi)

- 10:54** II10-5 HOS cells cultured on a gamma-crosslinked collagen gel
.....Takako TAKITOH, ○Masayuki HARA (Grad. Sch. Science, Osaka Prefect.Univ.)
- 11:06** II11-1 Establishment of cell lines producing small complement receptor type 1
.....○Atsushi YAMAGUCHI¹, Hiroaki TAKAGAWA¹, Noriyuki ISHII², Wang PI-CHAO¹
(¹Grad. Sch. Life Env. Sci., Univ. Tsukuba, ²AIST BIRC)
- 11:18** II11-2 Development of a Comprehensive GR Reporter Gene Assay using a Genetically Modified Stable *HeLa* Cell Line
.....○Tetsushi MORI¹, Fumiyo SAITO², Tomoko YOSHINO¹, Haruko TAKEYAMA¹, Tadashi MATSUNAGA¹
(¹Dept. Biotech., Tokyo Univ. Agric. Technol., ²Chem. Assess. Center, Chem. Eval. Res. Inst.)
- 11:30** II11-3 Cell culture array using magnetic force-based cell patterning method
.....○Kosuke INO¹, Mina OKOCHI¹, Nao KONISHI¹, Rentaro IMAI², Mitsuhiro SHIKIDA²,
Hiroyuki HONDA^{1,3} (¹Dept. Biotech., Grad. Sch. Eng., Nagoya Univ., ²Dept. Micro-Nano Systems Eng.,
Grad. Sch. Eng., Nagoya Univ., ³MEXT Innovative Research Center for Preventive Medical Engineering
(PME Center))
- 11:42** II11-4 Development of Cell Chip for Cell Motility
.....○Reiko NAGASAKI-ONUKE¹, Akira NAGASAKI¹, Satoshi FUJITA^{1,2}, Kouta TAKANO¹,
Masato MIYAKE^{1,2}, Jun MIYAKE^{1,2} (¹AIST, ²Tokyo Univ.)
- 11:54** II11-5 Relationship between plasmalemmal undercoat of living cells and mechanical force response of nanoneedle insertion
.....○Hideki KAMIISHI¹, Chikashi NAKAMURA^{1,2}, Noriyuki NAKAMURA^{1,2}, Jun MIYAKE^{1,2}
(¹Dept. Biotechnol., Tokyo Univ. Agric. Technol., ²RICE/AIST)
- 12:06** II12-1 Surface modification on Nano-needle with 2-methacryloyloxyethyl phosphorylchlorine polymers.
.....○Takanori KIHARA^{1,2}, Narutoshi YOSHIDA², Kyoko FUKAZAWA³, Chikashi NAKAMURA⁴,
Kazuhiko ISHIIHARA^{3,1}, Jun MIYAKE^{1,2,4} (¹CNBI, Univ. Tokyo, ²Dept. Bioeng., Grad. Sch. Eng., Univ. Tokyo,
³Dept. Material, Grad. Sch. Eng., Univ. Tokyo, ⁴RICE, AIST)
- 12:18** II12-2 Selective expansion of genetically modified T cells using a chimeric IL-2 receptor
.....○Takahiro SOGO, Masahiro KAWAHARA, Hiroshi UEDA, Teruyuki NAGAMUNE
(Dept. Chem. Biotech., Univ. Tokyo)
- 12:30** II12-3 On-demand separation of adhering animal cells by using the photo-induced enhancement of cell adhesion under the microscopic observation
.....○Jun-ichi EDAHIRO¹, Kimio SUMARU¹, Kyoko KIKUCHI¹, Masumi YANAGISAWA²,
Toshio SHINBO¹, Toshiyuki KANAMORI¹ (¹RCAB, AIST, ²Engineering System Co.)

Room J Morning (9:30~12:42)

General Presentation (Analytical Chemistry, Physical Chemistry, Generally Bioengineering)

- 9:30** 1J09-1 Removal of heavy metals using the recovery type porous ceramic immobilized with photosynthetic bacteria
.....○Chihiro HARA¹, Kenji TAKENO¹, Hitoshi OKUHATA², Hitoshi MIYASKA², Ken SASAKI¹
(¹Grad. Sch. Hiroshima Kokusai Gakuin Univ., ²KEP Co., Inc.)
- 9:42** 1J09-2 Development of a hypersensitive bio-sensing method using hollow bio-nano particles
.....○Katsuyuki TANIZAWA¹, Chizuko FUJITA¹, Masumi IIZIMA¹, Shun'ichi KURODA¹, Ichiro YAMADA²,
Akihiko KONDO², Masaharu SENO², Satoko HATAHIRA³, Shingo HIRAMATSU³, Giman JUNG³
(¹ISIR, Osaka Univ., ²Beacle, Inc., ³Toray)
- 9:54** 1J09-3 Analysis of the formation of human condensin hinge domain
.....○Yosuke FUKADA¹, Hiroto TAKINOWAKI², Tadayasu OHKUBO², Susumu UCHIYAMA¹,
Sachihiko MATSUNAGA¹, Kiichi FUKUI¹ (¹Dept. Biotech., Grad. Sch. Eng., Osaka Univ.,
²Grad. Sch. Pharm. Sci., Osaka Univ.)
- 10:06** 1J10-1 Simple DNA Extraction from *Cryptosporidium parvum* Oocysts with N-Lauroylsarcosine Sodium Salt
.....○Takahiro SEKIKAWA (Ebara Jitsugyo Co.,Ltd.)
- 10:18** 1J10-2 Quantitative method for specific nucleic acid sequences without using calibration curves
.....○Hidenori TANI^{1,2}, Takahiro KANAGAWA³, Nao MORITA^{1,2}, Shinya KURATA⁴,
Kazunori NAKAMURA^{1,5}, Satoshi TSUNEDA², Yuji SEKIGUCHI¹, Naohiro NODA¹
(¹IBRF, AIST, ²Dept. Appl. Chem., Sch. Sci. Eng., Waseda Univ., ³Fac. Bioenviron. Sci., Kyoto Gakuen Univ.,
⁴J-Bio 21, ⁵Grad. Sch. Life Env. Sci., Univ. Tsukuba)
- 10:30** 1J10-3 Cloning and functional characterization of a novel eelgrass (*Zostera marina* L.) gene that encodes a plasma membrane H⁺-ATPase(*zha2*)
.....○Dai SHINTANI, Abbas ALEMZADEH, Makoto FUJIE, Shoji USAMI, Takashi YAMADA
(Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 10:42** 1J10-4 ¹H NMR based metabolic profiling in the quality evaluation of japanese green tea
.....○Lucksanaporn TARACHIWIN¹, Koichi UTE², Akio KOBAYASHI³, Eiichiro FUKUSAKI³
(¹Nara Prefectural Small & Medium Sized Enterprises Support Corporation, Nara, Japan,
²Department of Chemical science and technology, Faculty and school of Engineering,
The University of Tokushima, Tokushima, Japan, ³Department of Biotechnology,
Graduate school of Engineering, Osaka University, Osaka, Japan)
- 10:54** 1J10-5 Development of sensing system of glycosylated proteins using fructosamine kinase

-○Miho KAMEYA¹, Akane SAKAGUCHI^{2,3}, Wakako TSUGAWA¹, Koji SODE^{1,3}
(¹Dept. Biotech., Tokyo Univ. Agric. Tech., ²NIMS, ³Ultizyme International Ltd.)
- 11:06** 1J11-1 Development of novel Bound/Free separation system using aptamer.
.....Kazunori Ikebukuro¹, ○Daisuke OGASAWARA¹, Kiyotoshi KANEKO², Koji SODE¹
(¹Dept. Biotech., Tokyo Univ. Agric. Tech., ²Dept. Neuro. Physiol., Tokyo Med. Univ.)
- 11:18** 1J11-2 Homogeneous IgE sensing using aptameric enzyme subunit
.....○Wataru YOSHIDA, Koji SODE, Kazunori Ikebukuro (Dept. Biotech., Tokyo Univ. Agric. Tech.)
- 11:30** 1J11-3 Novel fructosyl amino acid binding protein from gram positive bacteria
.....○Satoshi KATAYAMA¹, Akane SAKAGUCHI^{2,3}, Ferri STEFANO¹, Koji SODE^{1,3}
(¹Dept. Biotech., Tokyo Univ. Agric. Tech., ²NIMS, ³Ultizyme International Ltd.)
- 11:42** 1J11-4 Determination of gamma-aminobutyric acid (GABA) by using immobilized GABA oxidase
.....○Akira YAMAMURA¹, Yuta KIMURA¹, Ayako KUBOTA¹, Kunio MATSUMOTO²
(¹Dep. Appl. Chem., Kanagawa Inst. Technol., ²Dep. Appl. Biosci., Kanagawa Inst. Technol.)
- 11:54** 1J11-5 Fabrication of semiconductor nano-particles in the apoferritin and the mechanism of bio-mineralization
.....○Kenji IWAHORI¹, Takahiro ENOMOTO², Ichiro YAMASHITA^{1,2,3}
(¹CREST, JST, ²Grad. Sch. Mater. Sci., NAIIST, ³ATRL, Panasonic)
- 12:06** 1J12-1 Characterization of cell membrane lipid raft domain
.....○Kentarō YAMAGUCHI, Eriko SUZUKI, Tsutomu HAMADA, Masahiro TAKAGI
(Sch. Mat. Sci., JAIST)
- 12:18** 1J12-2 Shaking Dynamics by interaction with surfactants of lipid bilayer membranes
.....○Yuuichi HIRABAYASHI, Tsutomu HAMADA, Masahiro TAKAGI (Sch. Mat. Sci., JAIST)
- 12:30** 1J12-3 Photo-induced transformation in a cell-sized lipid vesicle
.....○Ken-ichi ISHII¹, Tsutomu HAMADA¹, Takeshi NAGASAKI², Masahiro TAKAGI¹
(¹Sch. Mat. Sci., JAIST, ²Dept. Appl. Bioappl. Chem., Grad. Sch. Eng., Osaka City Univ.)

Room Z Afternoon (14:00~16:25)

Society Award of the Society for Biotechnology, Japan, Achievement Award of the Society for Biotechnology, Japan, Young Asian Biotechnologist Prize

- 14:55** 1Z-PM1 Production of useful materials by anaerobes and its application to environmental protection and energy recovery
.....○Naomichi NISHIO (Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 15:30** 1Z-PM2 Deciphering On-Off mechanism of microbial secondary metabolism
.....○Takuya NIHIRA (International Center for Biotechnology, Osaka University)
- 16:05** 1Z-PM3 The development and potential on microbial degradation of sulfur, nitrogen and oxygen heterocycles
.....○Ping XU (State Key Lab. Microb. Technol., Shandong Univ., P.R. China)

The 2nd Day (Sep. 26)

Room S1 Morning (9:30~12:40)

Symposium (Novel development of fusion of nano-biotechnology and combinatorial bioengineering to construct "LIFE SURVEYOR")

- 9:30 Opening remarks
- 9:35 2S1AM1 Development of new life surveyers for environmental biosensing
.....○Akio KURODA, Kenichi NODA, Yuji MURAKAMI, Ryuichi HIROTA (Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 10:05 2S1AM2 Cell-surface display as a method to isolate metal-binding domains from the moderately halophilic bacterium, *Halomonas elongata*, to be used as tools for metal-bioremediation at high salinity environments
.....○Hideki NAKAYAMA, Atsuhiko SHINMYO, Kazuya YOSHIDA (Grad. Sch. Biol. Sci., NAIST)
- 10:35 2S1AM3 Spectroscopic analyses by using optical trapping of metallic nanoparticles and their application to nano-biosensing
.....○Hiroyuki YOSHIKAWA (Dept. Appl. Phys., Osaka Univ.)
- 11:05 2S1AM4 Potential of supercritical fluid chromatography
.....○Takeshi BAMBA (Grad. Sch. Pharm. Sci., Osaka Univ.)
- 11:35 2S1AM5 DNA-templated chemical reactions for RNA detection in living cells
.....○Hiroshi ABE (RIKEN)
- 12:05 2S1AM6 Development of highly integrated multi-functional single-cell devices
.....○Shohei YAMAMURA (Sch. Mat. Sci., JAIST)
- 12:35 Closing remarks

Room S1 Afternoon (13:30~17:30)

Symposium (Metagenomics and environmental biotechnology)

- 13:30 Opening remarks
- 13:40 2S1PM1 What are uncultured microbes?
.....○Yoichi KAMAGATA (AIST)
- 14:15 2S1PM2 Metagenomics for better understanding of whole environmental
.....○Hideto TAKAMI (JAMSTEC)
- 14:50 2S1PM3 Isolation and characterization of functional genes for degradation of environmental pollutants from soil samples by cultivation-independent techniques
.....○Masataka TSUDA, Akira ONO, Ryo MIYAZAKI, Genki FUCHU, Yuji NAGATA (Grad. Sch. Life Sci., Tohoku Univ.)
- 15:25 2S1PM4 Metagenome approaches based on gene expression regulation
.....○Kazuya WATANABE (MBI)
- 16:00 2S1PM5 Protein Engineering of DNA Polymerase by using Genetic Resources from Metagenomes
.....○Yoshizumi ISHINO, Takeshi YAMAGAMI, Hiroaki MATSUKAWA, Naoko ONIZUKA, Kengo NABE, Seiya KOOROGI (Grad. Sch. Biores. Bioenviron. Sci., Kyushu Univ.)
- 16:35 2S1PM6 Chemotaxis transducers in *Pseudomonas* and application of metagenome approach for development of novel biosensors
.....○Junichi KATO, Hye-Eun KIM (Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 17:10 Discussion
- 17:25 Closing remarks

Room S2 Morning (9:30~12:20)

Symposium (Exploration of new targets for functional lipid production)

- 9:30 Opening remarks
- 9:35 2S2AM1 Lipid metabolism and common disease/metabolic syndrome
.....○Teruo KAWADA¹, Tsuyoshi GOTO¹, Nobuyuki TAKAHASHI² (¹Grad. Sch. Agric., Kyoto Univ., ²Natl. Inst. Physiol. Sci.)
- 10:00 2S2AM2 Molecular mechanism of ABC proteins involved in lipid homeostasis
.....○Kazumitsu UEDA (Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto Univ.)
- 10:25 2S2AM3 Production of glycolipid biosurfactants and their functional developments
.....○Dai KITAMOTO (AIST)

- 10:50 2S2AM4 Regulation of lipid accumulation in microorganisms
○Yasushi KAMISAKA (National Institute of Advanced Industrial Science and Technology (AIST))
- 11:15 2S2AM5 Physiological function of arachidonic acid and dihomo-gamma-linolenic acid
○Hiroshi KAWASHIMA (Institute for Health Care Science, Suntory Ltd.)
- 11:40 2S2AM6 Biological Function of Docosahexaenoic Acid
○Tadakazu TAMAI¹, Takashi BABA¹, Kiyoshi OWADA^{2,3}
 (¹Central Research Institute, Maruha Group Inc., ²Tokyo Medical and Dental University, ³Akihabara Eki Clinic)
- 12:05 Discussion
 12:15 Closing remarks

Room S2 Afternoon (13:30~16:30)

Symposium (Mammalian cell culture engineering for antibody therapeutics; coming medicine development led by biotechnologists)

- 13:30 Opening remarks
- 13:35 2S2PM1 Biopharmaceuticals - present and future
○Shunjiro SUGIMOTO (The Chemo-Sero-Therapeutic Research Institute)
- 14:05 2S2PM2 Antibody production by genetic immunisation
○Takeshi KOBAYASHI (NOSAN Corporation Bio Dept.)
- 14:35 2S2PM3 Development and application of serum-free medium containing sericin as mitogenic factor
○Satoshi TERADA¹, Akiko SAKUMA², Masahiro SASAKI³
 (¹Univ. of Fukui, ²JST Satellite Shiga, ³SEIREN CO., LTD.)
- 15:05 2S2PM4 Antibody production in yeast
○Kazuo KOBAYASHI (Kirin Pharma Co., Ltd., CMC R&D Laboratories)
- 15:35 2S2PM5 Construction and its application of CHO genomic BAC library
○Takeshi OMASA (Dept. Biotech., Grad. Sch. Eng., Osaka Univ.)
- 16:05 Discussion

Room S3 Morning (9:30~12:35)

Symposium (Analyses of characteristics of jozo microorganisms using their genome sequence data)

- 9:30 Opening remarks
- 9:35 2S3AM1 Genotyping, based on the genome sequence of *Aspergillus oryzae* is an essential roadmap toward the *koji* mold genome science.
○Kazuhiro IWASHITA (Natl. Res. Inst. Brewing)
- 10:00 2S3AM2 Post-Genome Analysis of *Aspergillus oryzae* -Using Gene Disruption Techniques-
○Motoaki SANO¹, Koichi TAMANO², Ken ODA¹, Akiko KOBAYASHI¹, Harue KITAGAWA¹,
 Tomoko ISHII², Junichiro MARUI³, Keietsu ABE³, Masayuki MACHIDA², Shinichi OHASHI¹
 (¹KIT, ²AIST, ³Tohoku Univ., NICHE)
- 10:25 2S3AM3 Metabolomics of *Aspergillus oryzae*
○Hiroko TSUTSUMI (Res. Inst., Gekkeikan Sake Co.)
- 10:50 2S3AM4 Characterization of sake yeast using genome data
○Hitoshi SHIMOI (Natl. Res. Inst. Brewing)
- 11:15 2S3AM5 Analysis of stress-tolerant mechanism and its application in brewer's yeast
○Hiroshi TAKAGI (Grad. Sch. Biol. Sci., NAIST)
- 11:40 2S3AM6 QTL analysis of a bottom fermenting yeast using meiotic segregants.
○Osamu KOBAYASHI¹, Keiko KANAI¹, Shoko NAKAGAWA¹, Kaori HASHIMOTO¹,
 Shigehito IKUSHIMA¹, Shinji KAWASAKI², Hanneke WITSENBOER³
 (¹Kirin Brewery Co., Ltd. Central Lab. for Key Technology,
²Natinal Institute of Agrobiological Sciences, ³Keygene N.V.)
- 12:05 2S3AM7 Dissection of genetic architecture underlying ethanol tolerance in budding yeast
Xiaohua HU, ○Zewei LUO (Institute of Genetics & Biostatistics, Fudan University)
- 12:30 Closing remarks

Room S3 Morning (13:30~17:20)

Symposium (Structural analysis of proteins based on biotechnological application)

- 13:30 Opening remarks
- 13:35 2S3PM1 Structural Analysis of Hyperthermostable Aldorase

-○Haruhiko SAKURABA¹, Toshihisa OHSHIMA²
(¹Grad. Sch. Sociotech., Tokushima Univ., ²Fac. Agric., Kyushu Univ.)
- 14:05** 2S3PM2 Application of hyperthermophilic enzymes from archaea
.....○Kazuhiko ISHIKAWA, Koshiki MINO (Res Inst Cell Eng, AIST)
- 14:35** 2S3PM3 Modulating flower color -Structure and function of anthocyanin acyltransferases-
.....○Toru NAKAYAMA (Grad. Sch. Eng., Tohoku Univ.)
- 15:05** 2S3PM4 Firefly luciferase and acyl-activating enzymes -Rational design, synthesis and applications of acyl-adenylate intermediate analogue inhibitors-
.....○Jun HIRATAKE (Inst. Chem. Res., Kyoto Univ.)
- 15:45** 2S3PM5 Structures and Functions of Enzymes used in Biochemical Diagnosis
.....○Takashi TAMURA, Kenji INAGAKI (Grad. Sch. Nat. Sci. Tech., Okayama Univ.)
- 16:15** 2S3PM6 Structural Analysis of Peptidases Targeted for New Drugs against Infectious Diseases
...Kiyoshi ITOH, Yoshitaka NAKAJIMA, ○Tadashi YOSHIMOTO (Grad. Sch. Biomed. Sci., Nagasaki Univ.)
- 16:45** 2S3PM7 Structure of Drug Target Protein and Contribution to Basic Research and Drug Development
.....○Kazumi NISHIJIMA (Mochida Pharmaceutical Co., Ltd.)
- 17:15** Closing remarks

Room A Morning (9:30~12:06)

General Presentation (Environmental Technology)

- 9:30** 2A09-1 Dry Anaerobic Ammonia Fermentation of Chicken Manure
.....○Fatma ABOULENIEN, Naomichi NISHIO (Hiroshima univ.)
- 9:42** 2A09-2 Hydrogen production from acetic acid and lactic acid by fermentation
.....○Mitsufumi MATSUMOTO, Yasuhiko NISHIMURA (Electric Power Development Co.)
- 9:54** 2A09-3 Study of the compost made from a pruning branch.
.....○Naoki ISHIBASHI¹, Hiroyuki NAKASHIMA¹, Chihiro NOZAKI²
(¹Kurume Natl.Col.Tech., ²Kyoei Resource Development Inc.)
- 10:06** 2A10-1 Detection of pathogens in river water using DNA microarray
.....○Kazunari SEI, Masaki INABA, Rahul UPADHYE, Daisuke INOUE, Michihiko IKE
(Div. Sustain. Energy & Environ. Eng., Osaka Univ.)
- 10:18** 2A10-2 Metal-binding bacteria isolated from metal-corrosive environment
.....○Satoshi WAKAI, Shigeaki HARAYAMA (NBRC, NITE)
- 10:30** 2A10-3 Study of Microbiologically Influenced Corrosion (MIC) by Anaerobic Microorganisms.
.....○Koji MORI, Shigeaki HARAYAMA (NBRC, NITE)
- 10:42** 2A10-4 Effects of acid on the microbiologically influenced corrosion in a natural gas plant
.....○Kazuhiko MIYANAGA, Takuya HANDA, Sayaka OHNO, Yasunori TANJI
(Grad. Sci. Biosci. Biotechnol., Tokyo Tech.)
- 10:54** 2A10-5 Characterization of the biological control of silica cycle by terrestrial microorganisms
.....○Ryuichi HIROTA, Yumehiro HATA, Akio KURODA
(Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 11:06** 2A11-1 Development of a novel asbestos detection method using asbestos-binding protein.
.....○Tomoki NISHIMURA¹, Takenori ISHIDA^{1,2}, Akio KURODA^{1,2}
(¹Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ., ²JST SORST)
- 11:18** 2A11-2 Screening of an asbestos-binding protein and its application to conventional detection of asbestos
.....○Takenori ISHIDA^{1,2}, Tomoki NISHIMURA², Akio KURODA^{1,2}
(¹SORST, JST, ²Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 11:30** 2A11-3 Isolation of TBTC degrading bacteria and evaluation of the electrochemical method for monitoring TBTC degradation rate
.....○Bong geun Jeong¹, Chang ho Choi¹, Kil koang, Ko Kwon¹, Seok min Yoon¹,
Yong su Choi², Hyung joo Kim¹, Seok won Hong³, Mia Kim⁴, Sang hyup, Lee²
(¹Dept. of Microbial Engineering, Konkuk Univ, ²Water Environment & Remediation center, KIST,
³Department of Civil, Urban & GeoSystem Engineering,
Seoul National University, ⁴Dept. of Microbiology, Pusan National University)
- 11:42** 2A11-4 Extraction of decomposing enzyme for synthetic rubber from rubber-decomposing bacteria
.....○Keisuke INAKAZU, Hirokazu OIKI (Kurume Col. Tech.)
- 11:54** 2A11-5 Construction of the System Decomposed Natural Rubber Waste by Microorganism
.....○Hirokazu OIKI (Kurume National College of Technology)

Room A Afternoon (13:30~17:54)

General Presentation (Environmental Technology / Wastewater Treatment)

- 13:30** 2A13-1 Development of phytoremediation system using *Portulaca oleracea* for removal of endocrine disruptors from

- wastewater
○Kazuaki GAMO¹, Ippei WATANABE¹, Sofue IMAI¹, Hitoshi MIYASAKA², Hirohumi OKUHATA², Kazunori IKEDA³, Kazuhiro FUKUDA³, Hidekazu OHTA³, Yoshihiro IZUMI⁴, Eiichiro FUKUSAKI⁴, Akio KOBAYASHI⁴, Takeshi BAMBA¹, Kazumasa HIRATA¹
 (¹Grad.Sch.Pharm.Sci.,Osaka Univ., ²KEP Co.,Inc., ³THE GENERAL ENVIRONMENTAL TECHNOS Co.,LTD., ⁴Dept. Biotech., Grad. Sch. Eng., Osaka Univ.)
- 13:42** 2A13-2 Advanced wastewater treatment system using the miniature rose with high-ability of the endocrine disrupting compounds degradation
○Kazuya YOSHIDA¹, Kazuaki GAMO², Takeshi MATSUI¹, Sofue IMAI², Masanao TSUJIMOTO³, Hideki NAKAYAMA¹, Atsuhiko SHINMYO¹, Takeshi BAMBA⁴, Kazumasa HIRATA²
 (¹Grad. Sch. Biol. Sci., NAIST, ²Grad. Sch. Pharm. Sci., Osaka Univ., ³The General Environmental Technos Co., Ltd., ⁴Sch. Pharm. Sci., Osaka Univ.)
- 13:54** 2A13-3 Isolation and characterization of genes having functions of environmental stress tolerant in marine green alga, *Chlamydomonas* sp. W80
○Yuko OKUDA¹, Mei TSUNEMOTO¹, Yoshito SUDA¹, Satoshi TANAKA², Hitoshi MIYASAKA², Kazunori IKEDA³, Hirotaka UEFUJI^{1,4}, Takeshi BAMBA¹, Kazumasa HIRATA¹
 (¹Grad.Sch.Pharm.Sci.,Osaka Univ., ²KEP Co.,Inc., ³THE GENERAL ENVIRONMENTAL TECHNOS Co.,LTD., ⁴Hitachi Zosen Co.Inc.)
- 14:06** 2A14-1 Biosynthetic mechanism of proline ,compatible solute, in *Chlamydomonas reinhardtii*
○Keita MATSUDA¹, Takao KUMON¹, Hirotaka UEFUJI^{1,2}, Takeshi BAMBA¹, Kazumasa HIRATA¹
 (¹Grad. Sch. Pharm. Sci., Osaka Univ., ²HitachiZosen Co. Ltd.)
- 14:18** 2A14-2 Mechanism of phytochelatin synthesis-Analysis of relationship between primary structure and activity of phytochelatin synthase ,and its application to toxic heavy metal sensor
○Noriyuki HAMADA¹, Yasuhisa HORI¹, Masahiro HASEGAWA¹, Hirotaka UEFUJI², Hitoshi MIYASAKA³, Takeshi BAMBA¹, Kazumasa HIRATA¹ (¹Grad.Sch.Pharm.Sci.,Osaka Univ., ²Hitachi Zosen CO.Inc, ³KEP Co.,Inc.)
- 14:30** 2A14-3 Methanogenic community structure and pathway in a thermophilic anaerobic digester degrading organic solid waste
○Daisuke SASAKI¹, Shin HARUTA¹, Yoshiyuki UENO², Masaharu ISHII¹, Yasuo IGARASHI¹
 (¹Dept. Biotech., Univ. Tokyo, ²Kajima Tech. Res. Inst.)
- 14:42** 2A14-4 Structural and metabolic responses of a methanogenic community to the organic loading changes in an anaerobic digester
○Tomoyuki HORI¹, Shin HARUTA¹, Yoshiyuki UENO², Masaharu ISHII¹, Yasuo IGARASHI¹
 (¹Dept. Biotech., Univ. Tokyo, ²Kajima Tech. Res. Inst.)
- 14:54** 2A14-5 Impact of mediator modified anode to microbial fuel cell
○Masanori ADACHI, Tatsuo SHIMOMURA, Akiko MIYA (Ebara Research)
- 15:06** 2A15-1 Application of microbial fuel cell using polypropylene felt as a separator for the wastewater treatment
○Kil Koang Kwon, Chang Ho Choi, Bong Geun Jeong, Seok Min Yoon, Dong Heui Yi, Hyung Joo Kim (Dept. of microbial engineering, Konkuk Univ. Seoul, Korea)
- 15:18** 2A15-2 Construction of laboratory-scale bioreactor for water purification using biofilter composed of the aerial microalgae
Katsuya ABE, ○Yoshiki ISHII, Hirokuni ONO (Kogakuin Univ.)
- 15:30** 2A15-3 Characterization of bacteria from microbial products for wastewater treatment
○Yumi MURAKAMI, Satoko HIOKI, Yukio MUKAI (Grad. Sch. Biosci., Nagahama Inst. Bio-Sci. Tech.)
- 15:42** 2A15-4 Degradation of raw starch by the Hyper Aerobic Improved Activated Sludge(HAIAS)
○Yasuaki ITO¹, Norio KANO², Hirohisa SUZUKI¹, Kazuho TAKAMIZAWA³, Tohru SUZUKI⁴, Masahiro NAGASE², Michio TABATA² (¹Ibiden Eng., ²Ibiden, ³Fac.Appl.Sci., Gifu Univ., ⁴Life Sci. Res..Cent., Gifu Univ.)
- 15:54** 2A15-5 Degradation of lignin by the Hyper Aerobic Improved Active Sludge(HAIAS)
○Norio KANO¹, Yasuaki ITO², Hirohisa SUZUKI², Kazuhiro TAKAMIZAWA³, Tohru SUZUKI⁴, Masahiro NAGASE¹, Michio TABATA¹ (¹Ibiden, ²Ibiden Eng, ³Fac.Appl.Sci.,Gifu Univ., ⁴Life Sci.Res.Cent.)
- 16:06** 2A16-1 Degradation system for persistent substances by the HAIAS granules working in hyper-aerobic condition
○Nobuhiro KUROIWA¹, Yoshihisa HIBI², Yasuaki ITO², Izumi NOMURA³, Masahiro NAGASE¹, Kazuhiro TAKAMIZAWA⁴, Tohru SUZUKI³, Michio TABATA¹ (¹Ibiden, ²Ibiden Eng., ³Life. Sci. Res. Cent., Gifu Univ., ⁴Fac. Appl. Biol. Sci., Gifu Univ.)
- 16:18** 2A16-2 Aggregation behavior of *Sphingomonadaceae* isolated from activated sludge
○Kimchhayarasy PHUONG, Toshiyuki NIKATA, Kazuo KAKII (Dept. Appl. Chem., Utsunomiya Univ.)
- 16:30** 2A16-3 Aggregation of *Microbacterium esteraromaticum* isolated from activated sludge
○Motoyoshi SUZUKI, Masahumi TSURUGA, Toshiyuki NIKATA, Kazuo KAKII (Dept. Appl. Chem., Utsunomiya Univ.)
- 16:42** 2A16-4 Inactivation of bacterial suspension by high-voltage pulsed electric field treatment
○Tomoyo IKEDA¹, Dapeng LIU¹, Toshiyuki NIKATA¹, Kazuo KAKII¹, Yoshiaki ARAI²
 (¹Dept. Appl. Chem., Utsunomiya Univ., ²Meidensya)
- 16:54** 2A16-5 Analysis of activated sludge bacteria using a DNA microarray chip
○Yosuke NAKAMURA¹, Hiroto NISHIJIMA²
 (¹Sumitomo Chemical Co. Ltd., Environmental Health Science Lab., ²Sumika Chemical Analysis Service, Ltd.)
- 17:06** 2A17-1 Microaerobic ammonium oxidation with bicarbonate and EDTA Fe
○Shigeki SAWAYAMA, Akinori MATSUSHIKA, Hiroyuki INOUE (BTRC, AIST)

- 17:18 2A17-2 Application of partial nitrification and Anammox for treatment of digestion liquor of swine wastewater
.....○Taichi YAMAMOTO¹, Keita TAKAKI², Toichiro KOYAMA³, Kenji FURUKAWA¹
(¹Grad. Sch. Sci. Tech., Kumamoto Univ., ²Takuma Co. Ltd, ³N.E.T. Co. Ltd.)
- 17:30 2A17-3 Simple method of simultaneous nitrification and denitrification for non-point pollution
.....○Hiroaki UEMOTO, Masahiko MORITA, Atsushi WATANABE (CRIEPI)
- 17:42 2A17-4 Reduction of Selenium Oxyanions in Wastewater by Combination of *Pseudomonas* sp. and *Desulfovibrio desulfuricans*
.....○Masahiko MORITA, Hiroaki UEMOTO, Atsushi WATANABE (CRIEPI)

Room B Morning (9:30~12:06)

General Presentation (Enzymology, Enzyme, Protein Engineering)

- 9:30 2B09-1 Catalytic mechanism of the hyperthermophilic L-threonine dehydrogenase based on protein engineering
...○Noriko HIGASHI¹, Koichi TANIMOTO¹, Motomu NISHIOKA¹, Kazuhiko ISHIKAWA², Masahito TAYA¹
(¹Grad. Sch. Eng. Sci., Osaka Univ., ²ESBS, AIST)
- 9:42 2B09-2 Expression and Characterization of Homoserine kinase from Thermoacidphillic Archaeon, *Sulfolobus tokodaii* strain 7
.....○Masahiko YANAGITANI¹, Daizou KUDOU¹, Seiki KURAMITU², Takasi TAMURA¹, Kenzi INAGAKI¹
(¹Grad. Sch. Sci. Tech., Okayama Univ., ²Grad. Sch. Sci., Osaka Univ.)
- 9:54 2B09-3 Role of metal ions in the aminoacylase from hyperthermophilic archaeon *Pyrococcus horikoshii*
...○Koichi TANIMOTO¹, Noriko HIGASHI¹, Motomu NISHIOKA¹, Kazuhiko ISHIKAWA², Masahito TAYA¹
(¹Grad. Sch. Eng. Sci., Osaka Univ., ²ESBS, AIST)
- 10:06 2B10-1 L-Lysine biosensor using recombinant L-lysine dehydrogenase form thermophilic archaeon
.....○Shin-ichiro SUYE¹, Tatsuyoshi YOSHIKAWA¹, Yosuke OKEZAKI¹, Haitao ZHENG²,
Kazunari YONEDA³, Haruhiko SAKURABA⁴, Toshihisa OHSHIAMA³ (¹Grad. Sch. Eng. Fukui Univ.,
²Teanjin Polytech. Univ., ³Lab. Microb. Genet. Technol., Fac. Agric., Kyushu Univ.,
⁴Dept. Biol. Sci. Tech., Fac. Eng., Univ. Tokushima)
- 10:18 2B10-2 Characterization and 3D-structural analysis of L-lysine dehydrogenase from a hyperthermophilic archaeon *Pyrococcus horikoshii*
.....○Kazunari YONEDA¹, Junya FUKUDA¹, Haruhiko SAKURABA², Toshihisa OHSHIAMA¹
(¹Lab. Microb. Genet. Technol., Fac. Agric., Kyushu Univ., ²Dept. Biol. Sci. Tech., Fac. Eng., Univ. Tokushima)
- 10:30 2B10-3 Altering the pH Dependence of Esterase Activity by Protein Engineering
...○Kazuhiro OHARA¹, Kazuhiro FURUKAWA¹, Hideaki UNNO², Yasuhiro OSHIMA¹, Seiji TAKAHASHI¹,
Masami KUSUNOKI³, Toru NAKAYAMA¹ (¹Dept. Biomol. Eng., Grad. Sch. Eng., Tohoku Univ.,
²Dept. Appl. Chem., Fac. Eng., nagasaki Univ., ³Inst. Protein Res., Osaka Univ.)
- 10:42 2B10-4 Effect of chaperones from psychrotrophic bacteria *Shewanella* sp. SIB1 in *E. coli* protein expression system
.....○Sayaka NISHIO, Yuichi KOGA, Takashi TADOKORO, Naoto OHTANI, Kazufumi TAKANO,
Shigenori KANAYA (Dept. Mat. Life Sci., Osaka Univ.)
- 10:54 2B10-5 A new method for the extracellular production of recombinant thermolysin by co-expressing the mature sequence and prosequence in *Escherichia coli*
.....○Kiyoshi YASUKAWA, Msayuki KUSANO, Kuniyo INOUE
(Div. Food Sci. Biotechnol., Grad. Sch. Agric., Kyoto Univ.)
- 11:06 2B11-1 Studies on the biotin biosynthetic enzyme of various thermophiles. -Finding genes and comparison of thermophilic KAPA synthase-
.....○Takaaki KUBOTA, Sakiko MISHIMA, Jyunpei SHIMONO, Yoshikazu IZUMI
(Dept. Biotech., Tottori Univ.)
- 11:18 2B11-2 Serine dehydratase/serine racemase from *Oryza sativa* L. :Regulation of enzyme reaction by Mg²⁺
.....○Yoshitaka GOGAMI, Katsuyoshi ITO, Yuki MATSUSHIMA, Tadao OIKAWA
(Dept. Life Sci. &Tech., Fac. Chem., Materials & Bioeng., Kansai Univ.)
- 11:30 2B11-3 Utilization of barnacle underwater adhesive proteins as immobilization-tag
.....○Kei KAMINO¹, Youhei URUSHIDA¹, Masahiro NAKANO¹, Youichi MORI¹, Yasuhiko TABATA²
(¹Marine Biotech. Inst., ²Inst. Frontier Med. Sci., Kyoto Univ.)
- 11:42 2B11-4 Intracellular delivery of GST-fused proteins by polyethylenimine-glutathione conjugates
.....○Hitoshi MURATA¹, Junichiro FUTAMI¹, Midori KITAZOE¹, Megumi KOSAKA¹, Hiroko TADA¹,
Takashi KAI², Masaharu SENO¹, Hidenori YAMADA¹ (¹Okayama university, ²Nippon-shokubai)
- 11:54 2B11-5 Production of human beta1,3-N-acetylglucosaminyltransferase 2 using insect cell and its purification
.....○Takashi DOJIMA¹, Takuya NISHINA², Motoki ISHIKIRIYAMA², Enoch Y PARK¹
(¹Integ. Biosci, Sect., Grad. Sch. Sci. Technol., Shizuoka Univ., ²Dept. Appl. Bio. Chem., Shizuoka Univ.)

Room B Afternoon (13:30~17:54)

General Presentation (Enzymology, Enzyme, Protein Engineering)

- 13:30** 2B13-1 Expression of carp acetylcholinesterase in yeast *Pichia pastoris*
.....○Norio HIDAKA, Toru MATSUMOTO, Ryouhei SATO, Yasuko IMAI, Shouji TAKAHASHI,
Yoshio KERA, Ryouhei YAMADA (Nagaoka Univ. Tech.)
- 13:42** 2B13-2 Detection of phosphorylated MAP kinase by Competitive Enhanced FRET immunoassay
.....○Yoshiyuki OHIRO¹, Norio SHIBATA¹, Hiroshi UEDA², Teruyuki NAGAMUNE²
(¹Eiken Chemical Co.,LTD., ²Dept. Chem. & Biotech., Univ. Tokyo)
- 13:54** 2B13-3 Sortase-Mediated Site-Specific Labeling of Membrane Proteins
.....○Teruyasu YAMAMOTO, Tsutomu TANAKA, Shinya TSUKIJI, Teruyuki NAGAMUNE
(Dept. Chem. Biotech., Grad. Sch. Eng., Univ. Tokyo)
- 14:06** 2B14-1 Development of a two-enzyme immobilization onto bacterial magnetic particles for the application of pyrosequencing
.....○Akiko SHIMOJO¹, Tomoko YOSHINO¹, Shigeya SUZUKI², Yasuhiro HARADA², Eiri KOBATAKE³,
Hideki KAMBARA^{1,4}, Haruko TAKEYAMA¹, Tadashi MATSUNAGA¹ (¹Dept. Biotechnol., Tokyo Univ.
Agric. Technol., ²Kikkoman Co., ³Dep. Bioen., Tokyo Inst. Technol., ⁴Central Research Laboratory, Hitachi. Ltd.)
- 14:18** 2B14-2 Development of novel method for evaluation of chemicals via the construction of estrogen receptor and coactivator complexes on bacterial magnetic particles
.....○Chihiro KAJI¹, Tomoko YOSHINO¹, Makoto NAKAI², Haruko TAKEYAMA¹, Tadashi MATSUNAGA¹
(¹Dept. Biotechnol., Tokyo Univ. Agric. Technol., ²Chem. Assess. Center, Chem. Eval. Res. Inst.)
- 14:30** 2B14-3 Analysis and improvement of recognition specificity of anti-pesticide antibody
...○Hirotoshi IWAI¹, Miki KOJIMA¹, Masaki IHARA², Shigekazu ITO³, Koichi OKUMURA³, Hiroshi UEDA^{4,5}
(¹Dept. Chem. Biotech., Sch. Eng., Univ. Tokyo, ²Dept. Bioeng., Sch. Eng., Univ. Tokyo, ³Horiba Ltd.,
⁴Dept. Chem. Biotech., Sch. Eng., Univ. Tokyo, ⁵PRESTO, JST)
- 14:42** 2B14-4 Analysis of substrate specificity towards beta-oxidation intermediates in acyl-CoA thioesterase II (TesB) family enzymes.
.....○Yoshiaki SETO, Seiko HASEGAWA, Shunsaku UEDA, Isamu MAEDA (Fac. Agri., Utsunomiya Univ.)
- 14:54** 2B14-5 Extracellular Enzymes Produced by Marine Eukaryotes, Thraustochytrids
.....○Yousuke TAOKA¹, Masahiro HAYASHI¹, Naoki NAGANO¹, Yuji OKITA², Hitoshi IZUMIDA²,
Shinichi SUGIMOTO² (¹Dep. Biol. Pro. Env. Sci., Fac. Agric., Miyazaki Univ., ²Nippon Suisan Kaisha, Ltd.)
- 15:06** 2B15-1 Production of 4-Aminosalicylic Acid from *m*-Aminophenol by a Reversible Salicylic Acid Decarboxylase
.....○Satomi YANASO, Keiko KOYAMA, Takasumi HATTORI, Shusuke TAKAHASHI, Kuniki KINO,
Kohtaro KIRIMURA (Dept. Appl. Chem., Sch. Sci. Eng., Waseda Univ.)
- 15:18** 2B15-2 Purification and characterization of stereoselective nitrilase acting on racemic mandelonitrile
.....○Koichi MITSUKURA, Ayaka IWASAKI, Toyokazu YOSHIDA, Toru NAGASAWA
(Dept. Biomol. Sci., Gifu Univ.)
- 15:30** 2B15-3 Identification of amino acid residues essential for the yeast *N*-acetyltransferase Mpr1 activity
.....○Tetsuya KOTANI, Hiroshi TAKAGI (Grad. Sch. Biol. Sci., NAIST)
- 15:42** 2B15-4 Functional expression of intracellular antibody by fusing with intramolecular chaperone
.....○Hiroshi UEDA^{1,2,3}, Yohei KATO¹, Masaki IHARA², Yoshiyuki SASAJIMA¹
(¹Dept. Chem. Biotech., Sch. Eng., Univ. Tokyo, ²Dept. Bioeng., Sch. Eng., Univ. Tokyo, ³PRESTO, JST)
- 15:54** 2B15-5 Organophosphorus compounds sensing system using organophosphorus hydrolase and EGFP displayed arming yeast
.....○Hirokazu MAKISHIMA¹, Takeshi FUKUDA¹, Koichi KURODA², Ashok MULCHANDANI³,
Katsumi TAKAYAMA⁴, Mistuyoshi UEDA², Shin-ichiro SUYE¹ (¹Dept. Appl. Chem. Biotechnol., Univ. Fukui.,
²Div. Appl. Life. Sci., Grad. Sch. Agric., Kyoto Univ., ³Univ. California, Riverside., ⁴Fukui National Col. Tech.)
- 16:06** 2B16-1 Antibacterial activity of a defensin-like protein, HE2beta1, against *Pseudomonas aeruginosa*
.....○Satoshi IKAWA¹, Takashi FUKADA²
(¹Tech. Res. Inst. Osaka Pref., ²Dept. Appl. Biol. Chem., Osaka Pref. Univ.)
- 16:18** 2B16-2 Molecular breeding of yeast for biorefinery
.....○Naoki TOKUMOTO¹, Kouichi KURODA¹, Jun OGAWA¹, Masashi MINODA², Sakayu SHIMIZU¹,
Mitsuyoshi UEDA¹ (¹Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto Univ., ²Daiwa kasei)
- 16:30** 2B16-3 Synthesis of ethyl lactate by *Candida antarctica* lipase B-displaying yeast
.....○Chiaki INABA, Kenjiro MAEKAWA, Jun FUCHIMOTO, Michiko KATO-MURAI, Mitsuyoshi UEDA
(Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto Univ.)
- 16:42** 2B16-4 Assignment of the binding region of *Aspergillus oryzae* hydrophobin Ro1a to hydrophobic surfaces.
○Kenji UEHARA¹, Toru TAKAHASHI¹, Hiroshi MAEDA², Youhei YAMAGATA², Fumihiko HASEGAWA¹,
Katuya GOMI¹, Keietu ABE¹ (¹NICHE., Tohoku Univ., ²Grad. Sch. Agric. Sci., Tohoku Univ.)
- 16:54** 2B16-5 Ceramidase, CerA of *Aspergillus oryzae* promotes degradation of biodegradable plastic containing urethane bonds.
.....○Keietsu ABE¹, Shinsaku OHTAKI², Hiroshi MAEDA², Toru TAKAHASHI², Youhei YAMAGATA²,
Katsuya GOMI², Fumihiko HASEGAWA¹ (¹Tohoku Univ. NICHE, ²Tohoku Univ. Grad. Sch. Agricul. Sci.)
- 17:06** 2B17-1 Purification and characterization of the xylanosome, a multicomponent enzyme complex produced by *Paenibacillus curlanolyticus* B-6
.....Pason PATTHRA¹, ○Akihiko KOSUGI¹, Yoshinori MURATA¹, Khanok RATANAKHANOKCHAI²,

- 17:18 2B17-2 Molecular conversion of rhamnogalacturonan lyase with exo-type into endo-type
Khin KYU LAY², Yutaka MORI¹ (¹JIRCAS, ²King Mongkut's University of Technology Thonburi)
○Akihito OCHIAI¹, Bunzo MIKAMI², Wataru HASHIMOTO¹, Kousaku MURATA¹
 (Div. Food Sci. Biotechnol., Grad. Sch. Agric., Kyoto Univ.,
²Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto Univ.)
- 17:30 2B17-3 Investigation of the effect of amino acid substitution on substrate specificity of FAD glucose dehydrogenase
Koji SODE¹, ○Yuki YAMASHITA¹, Stefano FERRI¹, Hideaki YAMAOKA²
 (Dept. of Biotech., Tokyo Univ. Agric. Tech., ²Arkray Inc.)
- 17:42 2B17-4 Construction of a TAT secretion vector for FAD-dependent enzymes
○Kiyofumi SHOJI, Yuki YAMASHITA, Stefano FERRI, Koji SODE
 (Dept. Biotech., Tokyo Univ. Agric. Tech.)

Room C Morning (9:30~12:06)

Encouragement Award of the Society for Biotechnology, Japan (Saito Award), General Presentation (Enzymology, Enzyme, Protein Engineering)

- 9:30 2C09-1 **Microbial and Enzymatic Production of Chiral Nylon Biopolymer**
○Makoto ASHIUCHI (Dept. Agric, Fac. Agric, Kochi Univ.)
- 9:54 2C09-3 Purification and molecular biological analysis of phospholipase A₁ from *Moritella* sp.
○Jun IWASAKI¹, Masaaki NSHIHARA¹, Junji NOHARA¹, Masazumi KAMATA²,
 Tomoyuki KOYAMA¹, Misako NAKAYA³, Shugo WATABE³, Kazunaga YAZAWA¹
 (Grad.Sch,Tokyo Univ.Marine Sci.Technol,²Yamano Col.Aesthetics,³Grad.Sch.Agr.Life Sci,Univ.Tokyo)
- 10:06 2C10-1 Analyses of phosphatidylinositol synthesized by a mutant phospholipaseD
○Kaori TSUKADA, Atsushi MASAYAMA, Masaatsu ADACHI, Hideo NAKANO, Yugo IWASAKI
 (Grad. Sch. Biol. Agr. Sci., Nagoya Univ.)
- 10:18 2C10-2 Creation and partial characterization of phospholipase D mutants catalyzing synthesis of phosphatidylinositol.
○Atsushi MASAYAMA, Kaori TSUKADA, Hideo NAKANO, Yugo IWASAKI
 (Grad. Sch. Biol. Agr. Sci., Nagoya Univ.)
- 10:30 2C10-3 Mutation analysis of phospholipid methabolite enzyme by *Streptomyces* as a host strain
○Yoshiki ITOU, Toru MIYASHITA, Chiaki OGINO, Nobuaki SHIMIZU
 (Dept. Chem. Chem. Eng., Kanazawa Univ.)
- 10:42 2C10-4 Mutant D-Alanine-D-alanine Ligase from *Thermotoga maritima* ATCC 43589 for Depsipeptide Synthesis
○Ryoko SATAKE, Masaru SATO, Kohtaro KIRIMURA, Kino KUNIKI
 (Dept. Appl. Chem., Sch. Sci. Eng., Waseda Univ.)
- 10:54 2C10-5 Characterization of L-amino acid ligase RSp1486a from *Ralstonia solanacearum* and search for homologous proteins in *Ralstonia* species
○Toshinobu ARAI¹, Yuji NAKAZAWA¹, Makoto YAGASAKI², Kohtaro KIRIMURA¹, Kuniki KINO¹
 (Dept. Appl. Chem., Sch. Sci. Eng., Waseda Univ., ²Tech. Res. Lab., Kyowa Hakko Kogyo Co. Ltd.)
- 11:06 2C11-1 Synthesis of L-amino acid dipeptides using a novel L-amino acid ligase from *Bacillus licheniformis*
○Atsushi NOGUCHI¹, Yuji NAKAZAWA¹, Makoto YAGASAKI², Kohtaro KIRIMURA¹, Kuniki KINO¹
 (Dept. Appl. Chem., Sch. Sci. Eng., Waseda Univ., ²Tech. Res. Lab., Kyowa Hakko Kogyo Co. Ltd.)
- 11:18 2C11-2 Protein engineering of KP43, an oxidatively stable serine protease from *Bacillus* sp.
○Mitsuyoshi OKUDA¹, Tsuyoshi SATO¹, Masatoshi TOHATA¹, Katsuhisa SAEKI¹, Katsuya OZAKI¹,
 Yuji HATADA², Tohru KOBAYASHI² (¹Biological Science Laboratories, Kao Corporation, ²JAMSTEC)
- 11:30 2C11-3 Molecular cloning of 3-Hydroxyaspartate dehydratase
○Masaru WADA, Tomoko MURAKAMI, Takayuki MAEDA, Atsushi YOKOTA
 (Divi. Appl. Biosci., Grad. Sch. Agric., Hokkaido Univ.)
- 11:42 2C11-4 Mutator strains for continuous evolution of proteins and genetic circuits
○Kayo YASUNO, Keiichi SUZUKI, Kyouichi SAITOU, Daisuke UMENO
 (Grad. S. Sci. Tech., Chiba Univ.)
- 11:54 2C11-5 Classification of polyhydroxyalkanoate depolymerases of *Ralstonia eutropha*
○Keiichi UCHINO¹, Terumi SAITO¹, Dieter JENDROSSEK²
 (Dept. Biol. Sci., Kanagawa Univ., ²Inst. microbiol., Univ. Stuttgart)

Room C Afternoon (13:30~17:54)

General Presentation (Enzymology, Enzyme, Protein Engineering), Invited Presentation

- 13:30 2C13-1 **Application of ionic liquids in enzymatic reaction and their recovery**
Sung Ho HA¹, Sang Hyun LEE¹, ○Yoon-Mo KOO^{1,2}
 (ERC Adv. Biosep. Technol., Inha Univ., Korea, ²Dept. Biol. Eng., Inha Univ., Korea)
- 13:54 2C13-3 A novel subfamily I.4 lipase from *Bacillus* sp. HH-01

-○Takashi KAMIJO¹, Akihiro SAITO², Yoshihiro NISHIDA², Akikazu ANDO³
(¹Grad. S. Sci. Tech., Chiba Univ., ²Fac. Horticul., Chiba Univ., ³Grad. Adv. Inte. Sci., Chiba Univ.)
- 14:06** 2C14-1 Investigation of the effect of amino acid substitution on activation of lipase
.....○Asuka UCHIKAWA, Taichi UMEYAMA, Koji SODE (Dept. Biotech., Tokyo Univ. Agric. Tech.,)
- 14:18** 2C14-2 Alteration of substrate specificity of the lipase from *Burkholderia cepacia* by using cell-free protein synthesis
.....○Yohei GODA¹, Hiroko YAMAZAKI¹, Katsuya KATO², Hideo NAKANO¹
(¹Grad. Sch. Biol. Agrc. Sci., Nagoya Univ., ²AIST)
- 14:30** 2C14-3 Identification of the amino acid residues involved in substrate binding of RNase HIII
.....○Seiko MIYASHITA, Takashi TADOKORO, Yuichi KOGA, Kazufumi TAKANO, Shigenori KANAYA
(Dept. Mat. Life Sci., Osaka Univ.)
- 14:42** 2C14-4 Spectroelectrochemical characterization of amine dehydrogenase from *Achromobacter xylosoxidans*
.....○Takahiro TANAKA¹, Shigekazu YANO¹, Kazuyoshi TAKAGI¹, Takashi TACHIKI¹,
Mamoru WAKAYAMA¹, Tetsuya KONDO² (¹Ritsumeikan Univ.,
²Food Research Center, Aichi Industrial Technology Institute)
- 14:54** 2C14-5 Characterization and crystallization of polyphosphate kinase from *Mycobacterium tuberculosis* H37Rv
.....○Shigetaro MORI, Keigo SHIBAYAMA, Zhenyu PIAO, Yoshichika ARAKAWA
(Dept. of Bacterial Pathogenesis and Infection Control, NIID)
- 15:06** 2C15-1 **Microbial production of caprolactone using microbial factory technology**
.....○Jin-Ho SEO, Won-Heong LEE (Dept. Agric. Biotech., Seoul Natl. Univ., Korea)
- 15:30** 2C15-3 Characterization of formate dehydrogenase from *Methylobacterium extorquens*
.....○Chiaki GODA¹, Shigekazu YANO¹, Sachiko YAMAMOTO², Ikuhito MORIGUCHI¹, Takao OSHIMA¹,
Kazuyoshi TAKAGI¹, Mamoru WAKAYAMA¹, Takashi TACHIKI¹ (¹Ritsumeikan Univ., ²Kyorin Univ.)
- 15:42** 2C15-4 Analysis of NAD(H)-binding domain of *Pseudomonas* formaldehyde dismutase as a nicotinoprotein
.....○Hiromasa MURAKAMI, Junichi KITAGUCHI, Kenji OKAMOTO, Hideshi YANASE
(Dept. Biotech., Tottori Univ.)
- 15:54** 2C15-5 Co-expression of P450cam mutant and glycerol dehydrogenase in recombinant *Escherichia coli* and its application to indigo production
.....○Tsuyoshi MOURI, Noriho KAMIYA, Masahiro GOTO (Dept. Appl. Chem., Kyushu Univ.)
- 16:06** 2C16-1 Functional analysis of superoxide dismutase as an activating factor of cytochrome P450 BM-3 from *Bacillus megaterium*
.....Jun OGAWA, ○Azusa KUDO, Yuki YANO, Chiharu MAEDA, Sakayu SIMIZU
(Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto Univ.)
- 16:18** 2C16-2 An improved procedure for selecting highly active phenylacetaldehyde reductase mutants
.....○Yoshihide MAKINO, Tohru DAIRI, Nobuya ITOH (Biotech. Res. Center, Toyama Pref. Univ.)
- 16:30** 2C16-3 Asymmetric hydrolysis of prochiral 2-phenyl-1,3-propanediol diacetate by a purified esterase from *Bacillus* sp. 809A
.....○Ryoji MITSUI¹, Seiho SHINYA¹, Kenta KUDO¹, Takuo TSUNO², Mituo TANAKA¹
(¹Dept. Biochem., Fac. Sci., Okayama Univ. Sci., ²Tsuno Food Industrial Co. Ltd.)
- 16:42** 2C16-4 **Application of magnetic nanoparticles to the control of stem cell behavior for cell therapy**
.....○Tai Hyun PARK, Hong Jai LEE, Jeong Ah KIM, Seung Hwan LEE
(Sch. Chem. Biol. Eng., Seoul Natl. Univ., Korea)
- 17:06** 2C17-1 Primary structure of hydroxylamine oxidoreductase of an anammox bacterium
.....○Tatsushi KAWASE¹, Kazutaka SHINYA¹, Munetaka SHIMAMURA¹, Takashi NISHIYAMA¹,
Kenji FURUKAWA², Takao FUJII¹ (¹Fac. Appl. Life Sci., Sojo Univ.,
²Grad. Sch. Sci. Tech., Kumamoto Univ.)
- 17:18** 2C17-2 NAD⁺ regeneration system using dihydrolipoyl dehydrogenase from *Microbacterium luteolum*
.....○Junji KUROKAWA¹, Manabu ASANO², Yoshihide MAKINO², Shimichiro SUEY³, Nobuya ITOH²
(¹Toyama New Industry Organization, ²Dept. Biotech., Toyama Pref. Univ., ³Grad. Sch. Eng. Fukui Univ.)
- 17:30** 2C17-3 Construction of Open-sandwich Immunoassay System Using scFv Obtained from Phage Library
.....○Masaki IHARA¹, Shou KURADA², Masashi YOSHIDA², Hiroshi UEDA^{1,2,3}
(¹Dept. Bioeng., Sch. Eng., Univ. Tokyo, ²Dept. Chem. Biotech., Univ. Tokyo, ³PRESTO, JST)
- 17:42** 2C17-4 Creation of pollutant indicator strain using antibody-enzyme fusion protein
.....○Miki KOJIMA¹, Hiroto IWAI¹, Masaki IHARA², Hiroshi UEDA^{1,2,3}
(¹Dept. Chem. Biotech., Sch. Eng., Univ. Tokyo, ²Dept. Bioeng., Sch. Eng., Univ. Tokyo, ³PRESTO, JST)

Room D Morning (9:30~12:06)

General Presentation (Fermentation Physiology, Fermentation Technology)

- 9:30** 2D09-1 Power generation by microbial fuel cell from agricultural wastes
.....○Yuuya FURUKAWA¹, Toshihide KAKIZONO², Naomichi NISHIO²
(¹Dept. Biotechnology, Fac. Eng, Hiroshima Univ., ²Dept. Molecular Biotechnology, AdSM, Hiroshima Univ.)
- 9:42** 2D09-2 Microbial fuel cell employing a raw-starch assimilating yeast for power generation from starch
.....○Toshihide KAKIZONO, Yuka FURUKAWA, Naomichi NISHIO
(Dept. Molecular Biotechnology, AdSM, Hiroshima Univ.)

- 9:54** 2D09-3 Development of sludge-based microbial fuel cell utilizing excess sludge
.....○Hiroki ENKAWA, Toshihide KAKIZONO, Naomichi NISHIO
(Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 10:06** 2D10-1 Application of mediator-less microbial fuel cell to wastewater treatment
.....○Sunao MIHARA, Toshihide KAKIZONO, Naomichi NISHIO
(Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 10:18** 2D10-2 Development of Bio-Solar Cell Employing A Microalga
.....○Yuta INOUE, Toshihide KAKIZONO, Naomichi NISHIO
(Dept. Molecular Biotechnology, AdSM, Hiroshima Univ.)
- 10:30** 2D10-3 Hydrogen production from cow manure using hydrogen-producing bacteria within the manure
.....○Hiroshi YOKOYAMA, Akifumi OGINO, Miyoko WAKI, Yasuo TANAKA
(Natl. Inst. Livestock Grassland Sci.)
- 10:42** 2D10-4 Construction and analysis of microbial consortium that produce hydrogen gas from cellulosic biomass
.....○Issei KURIHARA¹, Tkashi SHINNISHI¹, Jun NAKAJIMA¹, Shiho MIZUNO², Makiko SAKKA¹,
Tetsuya KIMURA¹, Kazuo SAKKA¹ (¹Fac. Biores., Mie Univ., ²Toho Gas Co.,Ltd)
- 10:54** 2D10-5 Analysis and application of the high expression gene in the lactic acid-producing yeast.
.....○Nobuhiro ISHIDA¹, Toru ONISHI², Nobuki TADA², Haruo TAKAHASHI¹
(¹Toyota Cent. R&D Labs. Inc., ²Toyota Motor Corp.)
- 11:06** 2D11-1 Continuous Lactic Acid Fermentation by *Lactobacillus rhamnosus*
.....○Taishi TAKEUCHI, Yujiro OGUCHI, Naoto TERADA, Kohtaro KIRIMURA, Kuniki KINO
(Dept. Appl. Chem., Sch. Sci. Eng., Waseda Univ.)
- 11:18** 2D11-2 Production of L-alanine by *Streptococcus bovis* under anaerobic conditions
.....Ryuta TOBE, ○Hiroshi YONEYAMA, Ryoichi KATSUMATA
(Div. Biosci. Biotech. Future Bioind., Grad. Sch. Agric. Sci., Tohoku Univ.)
- 11:30** 2D11-3 Cultivation Conditions for Production of Poly(arginyl-histidine) in *Epichloë kibiensis* E18
.....○Ikumi KURIHARA¹, Yoshitaka ISHII², Kohtaro KIRIMURA¹, Kuniki KINO¹
(¹Dept. Appl. Chem., Sch. Sci. Eng., Waseda Univ., ²ASMeW, Waseda Univ.)
- 11:42** 2D11-4 Production of (*R*)-3-hydroxybutyric acid by *Cupriavidus necator*
.....○Charles U. UGWU¹, Yutaka TOKIWA², Hideki AOYAGI¹, Hideo TANAKA¹
(¹Grad. Sch. Life Env. Sci. Univ. Tsukuba, ²IBRF AIST)
- 11:54** 2D11-5 Metabolic changes in glutamate-overproducing *Corynebacterium glutamicum*
.....○Takuo HASEGAWA, Ken-ichi HASHIMOTO, Hisashi KAWASAKI, Tsuyoshi NAKAMATSU
(Dept. Mat. Sci. Eng., Grad. Sch. Eng., Tokyo Denki Univ.)

Room D Afternoon (13:30~17:54)

General Presentation (Fermentation Physiology, Fermentation Technology)

- 13:30** 2D13-1 Characterization of sourdough starters from various countries
.....○Syuuji KASHIMA^{1,2}, Toshihide NAKAMURA², Itaru WATANABE¹, Jyun SHIMA²
(¹Nippon Meat Packers, Inc., ²Natl. Food Res. Inst)
- 13:42** 2D13-2 Changes in the viability of frozen yeasts by ice-seeding temperature
.....○Toshihide NAKAMURA, Jun SHIMA (Natl. Food Res. Inst.)
- 13:54** 2D13-3 Development of efficient heterologous protein expression system using lactic acid bacteria integrated with yeast antioxidant genes
.....○Tatsuro HAGI, Shinichi KAWAMOTO, Jun SHIMA (Natl. Food Res. Inst.)
- 14:06** 2D14-1 Production of cordycepin using the *Cordyceps militaris* mutant induced by ion beam irradiation
.....○Mina MASUDA¹, Shonkor Kumar DAS¹, Masanori HATASHITA², Akihiko SAKURAI¹,
Mikio SAKAKIBARA¹ (¹Dept. Appl. Chem. Biotech., Univ. Fukui, ²Wakasa. Energy Res. Cent.)
- 14:18** 2D14-2 Effect of scandium on antibiotic production by *Streptomyces* spp.
.....○Shinya YAMAGUCHI¹, Keiichi KAWAI¹, Tomonori IWAMA¹, Tohru SUZUKI², Susumu OKAMOTO³,
Kozo OCHI³ (¹Fac. Appl. Biol. Sci., Gifu Univ., ²Life Sci. Res. Center, Gifu Univ., ³Natl. Food Res. Inst.)
- 14:30** 2D14-3 Utilization of fermented barley extract (FBE) obtained from by-product of barley *shochu* for nisin production
.....○Yoshifumi FURUTA¹, Naruyuki MARUOKA¹, Akihiro NAKAMURA¹, Toshiro OMORI¹,
Kenji SONOMOTO^{2,3} (¹Sanwa Shurui Co., Ltd., ²Fac. Agric., Kyushu Univ., ³Bio-Arch., Kyushu Univ.)
- 14:42** 2D14-4 Purification and structural analysis of novel bacteriocins produced by *Enterococcus faecalis* NKR-4-1
.....○Naruhiko SAWA¹, Pongtep WILAIPIUN², Takeshi ZENDO¹, Jiro NAKAYAMA¹, Kenji SONOMOTO^{1,3}
(¹Fac. Agric., Kyushu Univ., ²Fac. Fis., Kasetsart Univ., ³Bio-Arch., Kyushu Univ.)
- 14:54** 2D14-5 Purification and structural analysis of novel bacteriocins produced by *Leuconostoc pseudomesenteroides* QU 15
.....○Kasumi OKAMURA¹, Naruhiko SAWA¹, Takeshi ZENDO¹, Jiro NAKAYAMA¹, Kenji SONOMOTO^{1,2}
(¹Fac. Agric., Kyushu Univ., ²Bio-Arch., Kyushu Univ.)
- 15:06** 2D15-1 Resistance mechanisms of bacteria to nisin and lactacin Q
.....○Nayu TOSHIMITSU¹, Fuminori YONEYAMA¹, Takeshi ZENDO¹, Jiro NAKAYAMA¹,
Kenji SONOMOTO^{1,2} (¹Fac. Agr., Kyushu Univ., ²Bio-Arch., Kyushu Univ.)
- 15:18** 2D15-2 Systematic screening for subcellular components which affect the activity of a cytochrome P450 monooxygenase

-○Takuma NISHINO, Ying ZHOU, Nugroho DARMAWAN ARI, Kousuke HONDA, Takeshi OMASA, Hisao OHTAKE (Dept. Biotech., Grad. Sch. Eng., Osaka Univ.)
- 15:30** 2D15-3 Study on growth condition of *Agrobacterium tumefaciens* - transformed *Haematococcus pluvialis*
.....○Yachiyo HAYAMA¹, Toshihide KAKIZONO², Naomichi NISHIO²
(¹Dept. Soc. Env. Eng. Grad. Sch. Eng., Hiroshima Univ.,
²Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 15:42** 2D15-4 Catabolic degradation of glyoxylate and glycolate with ATP synthesis by *Moorella* sp. HUC22-1
.....○Kentaro INOKUMA¹, Shinsuke SAKAI¹, Yutaka NAKASHIMADA², Toshihide KAKIZONO¹,
Naomichi NISHIO¹ (¹Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.,
²Dept. Appl. Chem., Grad. Sch. Eng., Tokyo Univ. Agric. Technol.)
- 15:54** 2D15-5 Ethanol production from gaseous substrate by a thermophilic anaerobic bacterium, *Moorella* sp. HUC22-1
.....○Masahiro TSURUNO¹, Masayuki KITA¹, Toshihide KAKIZONO¹, Yutaka NAKASHIMADA²,
Naomichi NISHIO¹ (¹Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.,
²Dept. Appl. Chem., Grad. Sch. Eng., Tokyo Univ. Agr. Tech.)
- 16:06** 2D16-1 Construction of a 1,3-propanediol deficient mutant of *Enterobacter aerogenes* HU101
.....○Shuichi KOBAYASHI¹, Yutaka NAKASHIMADA², Toshihide KAKIZONO¹, Naomichi NISHIO¹
(¹Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.,
²Dept. Appl. Chem., Grad. Sch. Eng., Tokyo Univ. Agr. Tech.)
- 16:18** 2D16-2 Hydrogen and ethanol production from biodiesel wastes
.....○Chifumi KIKUZAKI, Toshihide KAKIZONO, Naomichi NISHIO
(Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 16:30** 2D16-3 Hydrogen production by various bread waste
.....○Shunsuke NITO¹, Yutaka NAKASHIMADA², Toshihide KAKIZONO¹, Naomichi NISHIO¹
(¹Dept. Mol. Biotech., Grad. Sch. Adv. Sci., Hiroshima Univ., ²TUAT)
- 16:42** 2D16-4 Treatment of wastewater including plasticizer, terephthalate to methane fermentation
.....○Shingo OTANI, Toshihide KAKIZONO, Naomichi NISHIO
(Dept. Mol. Biotech., Grad. Sch. Adv. Sci., Hiroshima Univ.)
- 16:54** 2D16-5 Dry ammonia-methane two-stage fermentation of chicken feces
.....Yoshiaki KITAMURA, ○Tingting YANG, Fatma ABOUELENIEN, Toshihide KAKIZONO,
Naomichi NISHIO (Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 17:06** 2D17-1 Characteristics of dry ammonia fermentation of chicken feces under an aerobic or anaerobic condition
.....○Wataru FUJIWARA, Toshihide KAKIZONO, Naomichi NISHIO
(Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 17:18** 2D17-2 *Enterobacter* sp. BL-2 Excreting Microbial Polyglucosamine Biopolymer and Its Morphological Variation under Acetate-Mediated pH Environment
.....Mi-Kyung SON, ○Soo-Jung HONG, Yong-Hyun LEE
(Department of Genetic Engineering, College of Natural Sciences, Kyungpook National University, Korea)
- 17:30** 2D17-3 Screening of Inulin-degrading microorganism and production of DFA III
.....○Shuki FUJIMURA¹, Mie FURUMOTO¹, Mika MIYASHITA², Makoto NISHIZAWA¹, Tetsuro MIYAJI¹,
Tomoyuki NAKAGAWA¹, Noboru TOMIZUKA¹ (¹Dept. Food Sci. Technol., Tokyo Univ. Agric.,
²NITE-NBRC)
- 17:42** 2D17-4 Production of DFA IV by recombinant *Bacillus subtilis* carrying levan fructotransferase from *Arthrobacter nicotianovorans* GS-9
.....○Nobuchika TAKESUE¹, Teruo SONE¹, Michiko TANAKA¹, Fusao TOMITA², Kozo ASANO¹
(¹Lab. Appl. Microbiol., Grad. Sch. Agric., Hokkaido Univ., ²University of the Air, Hokkaido Univ.)

Room E Morning (9:30~12:06)

General Presentation (Genetic Engineering, Nucleic Acid Engineering)

- 9:30** 2E09-1 Sequence analysis and structural organization of four plasmids from bacteriocin-producing *Lactobacillus brevis* 925A
.....○Masafumi NODA¹, Takaomi WADA^{1,2}, Ayano SHIRAKAWA¹, Yasuyuki MATOBA¹,
Takanori KUMAGAI¹, Masanori SUGIYAMA¹ (¹Grad. Sch. Biomed. Sci., Hiroshima Univ.,
²Hiroshima Environ. Health Assoc.)
- 9:42** 2E09-2 Analysis of small plasmid in *Agrobacterium tumefaciens* IFO15193
.....○Kenzo YAMAMOTO, Takeshi YUKIMOTO, Makoto FUJIE, Takashi YAMADA, Shoji USAMI
(Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 9:54** 2E09-3 Search for transporters involved in utilization of C4-dicarboxylate in *Corynebacterium glutamicum*
.....○Haruhiko TERAMOTO, Masayuki INUI, Hideaki YUKAWA (RITE)
- 10:06** 2E10-1 Analysis of *pgsE*, a cryptic gene from *Bacillus subtilis*: Effects on bionylon productivity, transformation efficiency and stability in cells of vector DNA
.....○Makoto ASHIUCHI, Daisuke YAMASHIRO, Kazuki SHIMIZU, Daisuke YAMASAKI
(Dept. Biores. Sci., Kochi Univ.)
- 10:18** 2E10-2 Improvement of the *E. coli* As-responsive transcriptional switch to use it for biosensors

-○Chiaki TANI, Kazuyuki YOSHIDA, Shunsaku UEDA, Isamu MAEDA (Fac.Agri., Utsunomiya Univ.)
- 10:30** 2E10-3 Construction of *Escherichia coli* Gene Expression Level Perturbation Collection
.....○Akiko KASHIWAGI¹, Takahiro SAKURAI², Kotaro MORI³, Tetsuya YOMO²
(¹Hirosaki University, ²Dept. Bioinfo. Eng., Grad. Sch. IST, Osaka Univ., ³Osaka Univ.)
- 10:42** 2E10-4 Isolation and chracterization of quorum-quenching system from soil metagenomic library.
.....○Nobutada KIMURA¹, Jo HANDELSMAN² (¹RIBR, AIST, ²Univ of Wisconsin-Madison)
- 10:54** 2E10-5 Inhibition of the prodigiosin production regulated by quorum sensing in *Serratia marcescens*
.....○Tomoko WATANABE, Tomohiro MOROHOSHI, Norihiro KATO, Tsukasa IKEDA
(Dept. Appl. Chem., Utsunomiya Univ.)
- 11:06** 2E11-1 Regulation of violacein biosynthetic cluster by quorum sensing in *Chromobacterium violaceum*
.....○Katsumasa FUKAMACHI, Masashi KATO, Tomohiro MOROHOSHI, Norihiro KATO, Tsukasa IKEDA
(Dept. Appl. Chem., Utsunomiya Univ.)
- 11:18** 2E11-2 Characterization of quorum-sensing system in phytopathogen *Pantoea ananatis* (*Erwinia ananas*)
.....○Tomohiro MOROHOSHI, Yuta NAKAMURA, Norihiro KATO, Tsukasa IKEDA
(Dept. Appl. Chem., Utsunomiya Univ.)
- 11:30** 2E11-3 Identification and characterization of a putative insertion sequence in a cryptic plasmid from *Bifidobacterium longum*
.....○Satoru FUKIYA¹, Tomohiko SUGIYAMA², Yasunobu KANO², Atsushi YOKOTA¹
(¹Divi. Appl. Biosci., Res. Facul. Agric., Hokkaido Univ., ²Dept. Mol. Genet., Kyoto Pharm. Univ.)
- 11:42** 2E11-4 Difference in the gene expression profiles among solid cultured, liquid cultured and biofilm forming *Escherichia coli*
....Keisuke KIKUTA¹, Kanako YOSHIDA¹, Keiko MYOZEN¹, ○Soichi FURUKAWA¹, Hirokazu OGIHARA¹,
Makari YAMASAKI² (¹College of Bioresource Sciences, Nihon University, ²ARISH, Nihon University)
- 11:54** 2E11-5 Proportional changes in the transcripts of DNA transposon *Crawler* in *Aspergillus oryzae* under stress conditions.
.....○Hironobu OGASAWARA¹, Hiroshi OBATA², Yoji HATA², Saori TAKAHASHI¹, Katsuya GOMI³
(¹Akita Res. Inst. Food and Brewing, ²Res. Inst., Gekkeikan Sake Co.,
³Div. Biosci. Biotech. Future Bioind., Grad. Sch. Agric. Sci., Tohoku Univ.)

Room E Afternoon (13:30~17:54)

General Presentation (Genetic Engineering, Nucleic Acid Engineering)

- 13:30** 2E13-1 Development of highly efficient gene targeting in *Aspergillus aculeatus ku80* disruptant
.....○Atsushi TSUJI, Shuji TANI, Junichi SUMITANI, Takashi KAWAGUCHI
(Dept. Appl. Biol. Chem., Osaka Pref. Univ.)
- 13:42** 2E13-2 Functional analysis of fatty acid synthase alpha-subunit gene in methylotrophic yeast
.....○Yoshinobu KANEKO, Masaaki NAKAJIMA, Phatthanon PRASITCHOKE, Minetaka SUGIYAMA,
Satoshi HARASHIMA (Dept. Biotech., Grad. Sch. Eng., Osaka Univ.)
- 13:54** 2E13-3 Molecular breeding of *Saccharomyces cerevisiae* strain with high ability to synthesize RNA
.....○Yeon-Hee KIM¹, Varesa CHUWATTANAKUL¹, Minetaka SUGIYAMA¹, Hiroaki NISHIUCHI²,
Haruhumi MIWA², Yoshinobu KANEKO¹, Satoshi HARASHIMA¹
(¹Dept. Biotech., Grad. Sch. Eng., Osaka Univ., ²Ajinomoto Co.,Inc.)
- 14:06** 2E14-1 Genome analysis and antibiotic susceptibility of probiotic strain *Lactobacillus brevis* KB290
.....○Masanori FUKAO¹, Takurou INOUE¹, Takafumi YAKABE¹, Nobuhiro YAJIMA¹,
Takahiro FUJIMOTO², Hatuyoshi TOMITA², Koichi TANIMOTO², Yasuyoshi IKE²
(¹KAGOME Res. Inst., ²Dept. Bac., Grad. Sch. Med., Gunma Univ.)
- 14:18** 2E14-2 Development for overexpression of lipase LipA in *Bacillus subtilis*
.....○Kenji MANABE¹, Yasushi KAGEYAMA¹, Takeko KODAMA¹, Keiji ENDOU¹, Katsutoshi ARA¹,
Junichi SEKIGUCHI² (¹Kao Corp. Bio. Sci. Lab., ²Dept. Appl. Biol., Fac. Tex. Sci. Tech., Shinshu Univ.)
- 14:30** 2E14-3 pH shock induces overexpression of regulatory and biosynthetic genes for actinorhodin production *Streptomyces coelicolor* A3(2)
.....○Yong Keun CHANG (Korea Adv. Institute of Sci. and Technol.)
- 14:42** 2E14-4 Identification of *OLE1* gene in *Lipomyces*, a fat producing yeast
.....○Yusuke KUSUMI, Youji NAKAGAWA, Takafumi NAGANUMA, Yuzuru IIMURA
(Dept. Biotech., Grad. Sch. Med. Eng., Univ. Yamanashi)
- 14:54** 2E14-5 Heterogeneous production system of carotenoids in *Aspergillus oryzae*
.....○Dai ONDA, Hiroshi KINOSHITA, Kaoru IMUTA, Takuya NIHIRA (ICBiotech, Osaka Univ.)
- 15:06** 2E15-1 Expression of genes involved in the utilization of non-carbohydrate in flor yeast
.....○Zhenyu ZHAI, Youji NAKAGAWA, Yuzuru IIMURA
(Dept. Biotech., Grad. Sch. Med. Eng., Univ. Yamanashi)
- 15:18** 2E15-2 A study of secreted related gene *Aosro7* in *Aspergillus oryzae* which is expressed in solid-state culture condition.
.....○Ken ODA¹, Motoaki SANO¹, Kazuhiro IWASHITA², Shinichi OHASHI¹ (¹KIT, ²NRIB)
- 15:30** 2E15-3 Construction of double auxotrophic OC-2 strain by means of marker recycle system and its excellent property.
.....○Satoshi SAITOH¹, Kayo MIYATA¹, Akihiko KONDOH²
(¹Toyota Bio.&Afforest.Lab.Toyota Motor Corp., ²KOUBE University)
- 15:42** 2E15-4 Characterization of a delta12-fatty acid desaturase gene from *Ceriporiopsis subvermispora*

-○Takahito WATANABE, Saeko TSUDA, Takeshi OUGI, Hiroshi NISHIMURA, Yoichi HONDA, Takashi WATANABE (RISH, Kyoto Univ.)
- 15:54** 2E15-5 Breeding of *A. oryzae* with cellulolytic ability by expression of multiple cellulase genes
.....○Takahiko NAKAI¹, Manabu ARIOKA¹, Takashi KAWAGUCHI², Motoo ARAI³, Katsuhiko KITAMOTO¹
(¹Dept. Biotech., Univ. Tokyo, ²Dept. Appl. Life Sci., Osaka Pref. Univ., ³Dept. Environ. Biol., Chubu Univ.)
- 16:06** 2E16-1 Genetic construction of lactate-assimilating and fermenting yeast strain for ethanol production by high-efficiency biomass fermentation
.....○Hiroaki SAKAI¹, Takashi AKAMATSU¹, Hisataka TAGUCHI¹, Kenji KIDA², Takahira OGAWA¹, Kazuhiro NAGAHAMA¹, Masayoshi MATSUOKA¹
(¹Dept. Appl. Microb. Technol., Fac. Biotech. Life Sci., Sojo Univ., ²Grad. Sch. Sci. Tech., Kumamoto Univ.)
- 16:18** 2E16-2 Functional analysis of the Na⁺/H⁺ antiporter(NhaS3) in *Synechocystis* PCC6803
.....○Kenta TSUNEKAWA¹, Toshiaki SHIYUKU², Youichi KOJIMA³, Hiroshi KOBAYASHI⁴, Tatsunosuke NAKAMURA⁵, Teruo KURODA⁶, Tatsuo OMATA¹, Nobuyuki UOZUMI²
(¹Grad. Sch. Biol. Agr. Sci., Nagoya Univ., ²Grad. Sch. Eng., Tohoku Univ., ³Fac. Agric., Shizuoka Univ., ⁴Grad. Sch. Biol. Pharm. Sci., Chiba Univ., ⁵Dept. Pharm. Niigatayakka Univ., ⁶Okayama Univ.)
- 16:30** 2E16-3 Binding model of MAR in *Arabidopsis thaliana*
.....○kensuke TACHIKI, Shingo NAGAYA, Atsuhiko SHINMYO, Ko KATO (Grad. Sch. Biol. Sci., NAIST)
- 16:42** 2E16-4 Construction of artificial promoters responsive to radiation stimulation
.....○Ryohei OGAWA¹, Sung-il LEE², Shigekazu FUKUDA³, Takashi KONDO¹, Tsutomu KODAKI⁴
(¹Grad. Sch. Med. Pharmaceut. Sci., Univ. Toyama, ²Inst. Biomed. Sci., Kansai med. Univ., ³Med. Div., Wakasa Wan Energy. Res. Ctr, ⁴Inst. Adv. Energy, Kyoto Univ.)
- 16:54** 2E16-5 Synthesis of novel fluorescent compound and its application for nucleic acid sensing
.....○Kazuhiro FURUKAWA¹, Hiroshi ABE¹, Jin WANG¹, Kazuma OKI², Miwako UDA², Satoshi TSUNEDA², Yoshihiro ITO¹ (¹RIKEN, ²Waseda Univ.)
- 17:06** 2E17-1 Correlation between molecular weight of PHA and amino acid residues in hypothetical substrate binding pocket of *Pseudomonas* sp. 61-3 PHA synthase
.....○Fumi SHOZUI, Kotaro SHIMIZU, Takahiro SASAKI, Ken'ichiro MATSUMOTO, Seiichi TAGUCHI
(Dept. Eng., Div. Biotech. Macromol. Chem., Hokkaido Univ.)
- 17:18** 2E17-2 Enhancement of polyhydroxybutyrate (PHB) production by *Corynebacterium glutamicum* using evolutionary engineering
.....○Sung-Jin JO, Chean Ring LEONG, Ken'ichiro MATSUMOTO, Toshihiko OOI, Seiichi TAGUCHI
(Div. Biotech. Macromol. Chem., Grad. Sch. Eng., Hokkaido Univ.)
- 17:30** 2E17-3 Development of bacteriophage mediated useful protein production system
.....○Takahiro HASUMURA, Yasunori TANJI (Dep. Bioen., Tokyo Inst. Technol.)
- 17:42** 2E17-4 Cloning of chemotactic transducer-like gene from *Stenotrophomonas maltophilia* strain PNT1
.....○Tetsuya TAKAYAMA, Masashi NOZAWA, Toshiyuki NIKATA, Kazuo KAKII
(Dept. Appl. Chem., Utsunomiya Univ.)

Room F Morning (9:30~12:06)

General Presentation (Biomedical Engineering, Artificial Organs)

- 9:30** 2F09-1 Mechanism of chondrocyte aggregation on D-glucose-displayed surface
.....○Yoshiko SAWADA¹, Mee-Hae KIM², Masahiro KINO-OKA³, Masaya KAWASE⁴, Kiyohito YAGI⁵, Masahito TAYA³ (¹ Grad. Sch. Eng. Sci., Osaka Univ., ²Dept. Biotech., Grad. Sch. Eng., Osaka Univ., ³Grad. Sch. Eng. Sci., Osaka Univ., ⁴Dept. Pharm. Osaka-Ohatani Univ., ⁵Grad. Sch. Pharm. Sci., Osaka Univ.)
- 9:42** 2F09-2 Effect of myoblast migration on myotube formation
.....○Rieko AMI¹, Yuichi MUNAYUKI¹, Shiplu CHOWDHURY², Masahiro KINO-OKA¹, Masahito TAYA¹
(¹Grad. Sch. Eng. Sci., Osaka Univ., ²Dept. Biotech., Grad. Sch. Eng., Osaka Univ.)
- 9:54** 2F09-3 Quality evaluation for myoblast sheet
.....○Yuichi MUNAYUKI¹, Shiplu CHOWDHURY², Masahiro KINO-OKA¹, Masahito TAYA¹
(¹Grad. Sch. Eng. Sci., Osaka Univ., ²Dept. Biotech., Grad. Sch. Eng., Osaka Univ.)
- 10:06** 2F10-1 Effects of Seeding Density on Behaviors of Rabbit Chondrocytes in Collagen-embedded Culture
.....○Ali BARADAR KHOSHFETRAT, Masahiro KINO-OKA, Yasunori TAKEZAWA, Masahito TAYA
(Grad. Sch. Eng. Sci., Osaka Univ.)
- 10:18** 2F10-2 Analyses of morphological and differentiation properties of chondrocytes through passaged cultures on monolayer substrates
.....○Nao MARUYAMA¹, Yasuaki SATO², Yasunori TAKEZAWA², Masahiro KINO-OKA², Masahito TAYA²
(¹Sch. Eng., Osaka Univ., ²Grad. Sch. Eng. Sci., Osaka Univ.)
- 10:30** 2F10-3 Analysis of cell behaviors of hypertrophic chondrocyte cells on collagen-coated substrate
.....○Yasuaki SATO, Yasunori TAKEZAWA, Masahiro KINO-OKA, Masahito TAYA
(Grad. Sch. Eng. Sci., Osaka Univ.)
- 10:42** 2F10-4 Analysis of population heterogeneity of passaged chondrocyte cells
.....○Masahiro KINO-OKA, Masahito TAYA (Grad. Sch. Eng. Sci., Osaka Univ.)
- 10:54** 2F10-5 A healing effect of human wisdom teeth-derived mesenchymal stem cells on liver injury

-○Katsuhiro ISODA¹, Midori KOJIMA¹, Etsuko IKEDA², Masuo KONDOH¹, Hajime OHGUSHI³, Kiyohito YAGI¹ (¹Grad. Sch. Pharm. Sci., Osaka Univ., ²Tokyo Univ. Sci., ³AIST)
- 11:06** 2F11-1 Effect of glycosaminoglycan-related sugars on three-dimensional culture of chondrocytes
.....○Masahiro IKEDA¹, Erina KAGITA¹, Masashi FUJIWARA¹, Shigeyuki WAKITANI², Mutsumi TAKAGI¹
(¹Div. Biotech. Macromol. Chem., Grad. Sch. Eng., Hokkaido Univ., ²Orth. Surg., Osaka-City Univ.)
- 11:18** 2F11-2 The use of elastic salmon collagen gel for cell culture
.....○Toshiyuki KANAYAMA¹, Nobuhiro NAGAI², Kazuo MORI³, Shunji YUNOKI², Yasuharu SATOH¹, Kenji TAJIMA¹, Masanobu MUNEKATA¹ (¹Div. Biotech. Macro. Chem., Grad. Sch. Eng., Hokkaido Univ., ²CRIS, Hokkaido Univ., ³Ihara & Company Ltd.)
- 11:30** 2F11-3 Development of biodegradable vascular grafts made of salmon collagen
.....○Nobuhiro NAGAI¹, Yasuhide NAKAYAMA², Yue-Min ZHOU², Keiichi TAKAMIZAWA², Ryohei OKAHASHI³, Ryosuke KUBOTA³, Kazuo MORI⁴, Shunji YUNOKI¹, Masanobu MUNEKATA³
(¹CRIS, Hokkaido Univ., ²Adv. Med. Eng. Cntr., Nat. Cardio. Cntr. Res. Inst., ³Div. Biotech. Macromol. Chem., Grad. Sch. Eng., Hokkaido Univ., ⁴Ihara com.)
- 11:42** 2F11-4 Development of noninvasive diagnosis for degree of differentiation from MSC to chondrocyte by morphology analysis
.....○Mutsumi TAKAGI¹, Takayuki KITABAYASHI¹, Satoru KOIZUMI¹, Kousei UENO², Hiroaki MISAWA², Youichirou HOSOKAWA³, Hiroshi MASUHARA³, Shigeyuki WAKITANI⁴, Masashi FUJIWARA¹
(¹Div. Biotech. Macromol. Chem., Grad. Sch. Eng., Hokkaido Univ., ²Res. Inst. Electr. Sci., Hokkaido Univ., ³Div. Appl. Phys., Grad.Sch. Eng., Osaka Univ., ⁴Orth. Surg., Osaka-City Univ.)
- 11:54** 2F11-5 Noninvasive analysis of three-dimensional morphology of adhesive animal cells employing phase shift laser microscope
.....○Shunsuke ITO¹, Akio TOKUDA², Masashi FUJIWARA¹, Mutsumi TAKAGI¹
(¹Div. Biotech. Macromol. Chem., Grad. Sch. Eng., Hokkaido Univ., ²FK Optical Lab.)

Room F Afternoon (13:30~17:42)

General Presentation (Cell culture Engineering / Sensors and Monitoring Devices, Robotics / Process Engineering)

- 13:30** 2F13-1 Amniotic epithelial cells can differentiate into functional hepatocyte-like cells
.....○Jung-Keug Park¹, Hee-Hoon Yoon¹, Bo-Young Jung¹, Kye-Yong Song², Young-Jin Kim³
(¹Dongguk University, ²Chung-Ang University, ³Lifecord Inc.)
- 13:42** 2F13-2 Development of reverse transfection technology with siRNA
.....○Satoshi FUJITA, Eiji OTA, Chie SASAKI, Kota TAKANO, Masato MIYAKE, Jun MIYAKE (AIST)
- 13:54** 2F13-3 Expansion of hematopoietic stem cell using HAC-mediated chimeric receptor gene transfer
.....○Jianhong CHEN¹, Masahiro KAWAHARA², Hiroshi UEDA², Teruyuki NAGAMUNE²
(¹Dept. Bioeng., Grad. Sch. Eng., Univ. Tokyo, ²Dept. Chem. Biotech., Grad. Sch. Eng., Univ. Tokyo)
- 14:06** 2F14-1 Analysis of soil bacteria that inhibit growth of *A. tumefaciens*
.....○Toru TANAKA, Kenzo YAMAMOTO, Makoto FUJIE, Takashi YAMADA, Shoji USAMI
(Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 14:18** 2F14-2 Enzymatic saccharification of high yield rice and rice bran and their utilization as a starting material for fermentation.
.....○Shintaro YOSHIDA¹, Takeshi KATO¹, Yuhki HIGUCHI¹, Takaaki TANAKA², Masayuki TANIGUCHI²
(¹GS of Natural Sci. Technol., Niigata Univ., ²Fac. of Natural Sci. Technol., Niigata Univ.)
- 14:30** 2F14-3 Changes of composition of rice straw treated by basidiomycetes and evaluation of the treated rice straw as a starting material for fermentation
.....○Daisuke TAKAHASHI¹, Yuhki HIGUCHI¹, Takeshi KATO¹, Takaaki TANAKA², Masayuki TANIGUCHI²
(¹GS of Natural Sci. Technol., Niigata Univ., ²Fac. of Natural Sci. Technol., Niigata Univ.)
- 14:42** 2F14-4 Production of protease and gene expression analysis of *Aspergillus oryzae* cultivated by membrane-surface liquid culture and shaking flask culture
.....○Soukichi TANAKA, Bin FENG, Hiroyuki IMANAKA, Koreyoshi IMAMURA, Kazuhiro NAKANISHI
(Grad. Sch. of Natur. Sci. & Technol., Okayama Univ.)
- 14:54** 2F14-5 Development of effective production method of *Sparassis crispa* mycelia with a homogenizer
.....○Yuya YAMASHITA, Chizuru SASAKI, Haruhiko SAKURABA, Yoshitoshi NAKAMURA
(Dept. Biol. Sci. Tech., Fac. Eng., Univ. Tokushima)
- 15:06** 2F15-1 Development of a high expression system for enzymes in basidiomycetes yeast *Cryptococcus* sp S-2
.....○Takuya HIRANO^{1,2}, Kazuo MASAKI², Hiroaki TSUCHIOKA^{1,2}, Tsutomu FUJII², Haruyuki IEFUJI^{1,2}
(¹Grad. Sch. Bio. Sci., Hiroshima Univ., ²Natl. Res. Inst. Brewing)
- 15:18** 2F15-2 Application of spent medium to mammalian cell culture
.....○Akiko OGAWA¹, Naoki TAKADA², Satoshi TERADA²
(¹Suzuka Col. Tech., ²Grad. Sch. Eng. Fukui Univ.)
- 15:30** 2F15-3 Cell function enhancement by making patterned co-culture developed with photo-responsive cell culture substrate

-○Kyoko KIKUCHI, Kimio SUMARU, Jun-ichi EDAHIRO, Toshiyuki TAKAGI, Toshiyuki KANAMORI (AIST)
- 15:42** 2F15-4 Construction and utilization of artificial symbiotic community composing *Chlorella* and propionate degrading bacteria
.....○Masato IMASE¹, Keiji WATANABE², Hideki AOYAGI¹, Hideo TANAKA³
(¹Grad. Sch. Life Env. Sci., Univ. Tsukuba, ²Ibaraki Kasumigaura Env. Sci. Cent., ³Tsukuba Ind. Liaison and Cooperative Res. Cent.)
- 15:54** 2F15-5 Heterogeneity of cellular state in continuous culture of *E.coli*
.....○Makoto SADAMITSU¹, ○Chikara FURUSAWA^{1,2}, Keisuke NAGAHISA¹, AKIKO KASHIWAGI¹, Tetsuya YOMO^{1,2,3}, Hiroshi SHIMIZU¹ (¹Dept. Bioinfo. Eng., Grad. Sch. IST, Osaka Univ., ²ERATO, JST, ³Grad. Sch. Frontier. Biosci, Osaka Univ.)
- 16:06** 2F16-1 Regulation of growth of sulfate reducing bacteria by electrochemical cultivation
.....○Hiroshi RYU¹, Norio MATSUMOTO², Naoya OHMURA², Shin-ichi HIRANO², Akikazu ANDO¹
(¹Adv. Integ. Sci., Chiba Univ., ²CRIEPI)
- 16:18** 2F16-2 Potential dependency on the growth of environmental anaerobes using electrochemical cultivation method
.....○Hiroshi SATO, Norio MATSUMOTO, Naoya OMURA (CRIEPI)
- 16:30** 2F16-3 Development of label-free immunoassay using a metallic mesh
.....○Hisaya YOSHIDA¹, Yasuhide KAWAI¹, Shin'ichiro HAYASHI², Masato OIKAWA³, Teruo MIYAZAWA¹, Chiko OTANI², Kodo KAWASE³, Yuichi OGAWA¹
(¹Div. Biosci. Biotech. Future Bioind., Grad. Sch. Agric. Sci., Tohoku Univ., ²RIKEN, ³Grad. Sch. Life Sci., Tohoku Univ., ⁴Inst. EcoTopia, Nagoya Univ.)
- 16:42** 2F16-4 Quantitative analysis of single-cell mRNA expression on micromesh
.....○Masahito HOSOKAWA, Tomoyuki TAGUCHI, Tsuyoshi TANAKA, Haruko TAKEYAMA, Tadashi MATSUNAGA (Dept. Biotechnol., Tokyo Univ. Agric. Technol.)
- 16:54** 2F16-5 Continuous Separation of Rat Liver Cells Using Microfluidic Devices
.....○Masumi YAMADA¹, Kyoko KANO¹, Yukiko TSUDA¹, Jun KOBAYASHI¹, Masayuki YAMATO¹, Minoru SEKI², Teruo OKANO¹ (¹Inst. Adv. Biomed. Eng. Sci., Tokyo Women's Med. Univ., ²Dept. Appl. Chem. Biotechnol., Chiba Univ.)
- 17:06** 2F17-1 On-site BOD measurement by luminous cell-immobilized chip system
.....○Hiroaki MIZOGUCHI, Masahiro YAMAZAKI, Toshifumi SAKAGUCHI (Dept. of Environ. Sci., Prefectural Univ. of Hiroshima)
- 17:18** 2F17-2 Polyesterpolyol synthesis by yeast cells displaying *Candida antarctica* lipase B
.....○Toru AOKI¹, Takanori TANINO², Akihiko KONDO²
(¹Dainippon Ink & Chemicals, Inc., ²Grad. Sch. Eng., Kobe Univ.)
- 17:30** 2F17-3 Development of novel materials by modification of membrane composition on bacterial magnetic particles and its application to cell separation
.....○Tomoko YOSHINO¹, Masayuki TAKAHASHI¹, Kentaro YONEYAMA¹, Takuro HORIBE², Shinji MIZOGUCHI², Haruko TAKEYAMA¹, Tadashi MATSUNAGA¹
(¹Dept. Biotechnol., Tokyo Univ. Agric. Technol., ²MBL)

Room G Morning (9:30~12:06)

General Presentation (Organic Chemistry, Polymer Chemistry / Others)

- 9:30** 2G09-1 Production of lactic acid by an alkaliphic bacterium.
.....Walaiporn TIMBUNTAM¹, Kenji NAKAJIMA², ○Yutaka TOKIWA²
(¹Kasetsart Univ. Thailand, ²IBRF, AIST)
- 9:42** 2G09-2 Enzymatic synthesis of cinnamyl ascorbic acid derivatives
.....○Takao RAKU¹, Yun-Hun YANG², Yutaka TOKIWA³ (¹Green Products Laboratory Co., Ltd., ²Soul univ. Korea, ³IBRF, AIST)
- 9:54** 2G09-3 Fermentation of Lactic acid from Inulin
.....○Buenaventurada CALABIA, Yutaka TOKIWA (IBRF, AIST)
- 10:06** 2G10-1 Effect of dynamic viscoelastic properties on biodegradation of Polycaprolactone / Polylactide blends
.....○Jacqueline KANGIRI¹, Wirunya KEAWATTANA², Yutaka TOKIWA¹
(¹IBRF, AIST, ²Dept. of Chem., Univ. Kasetsart)
- 10:18** 2G10-2 Fermentation of D-lactic acid from rice bran and rice
.....○Shinta NAKANO¹, Yutaka TOKIWA² (¹Tajimaya, ²IBRF, AIST)
- 10:30** 2G10-3 Lipase-Catalyzed n-Butyl Polymerization
.....○Akihisa ONOGI, Shiro KOBAYASHI, Hitomi OHARA (R&D Center for Bio-based Materials Kyoto Inst. Tech.)
- 10:42** 2G10-4 Nano-magnetite formation by crystal growth regulation protein isolated from magnetotactic bacteria.
.....○Atsushi ARAKAKI, Yousuke AMEMIYA, Fukashi MASUDA, Tsuyoshi TANAKA, Tadashi MATSUNAGA (Dept. Biotechnol., Tokyo Univ. Agric. Technol.)
- 10:54** 2G10-5 Type 2 Quorum Sensing in *Eikenella corrodens* and Relationship with Biofilm Formation.
.....Tetsuro MATSUNAGA¹, ○Hiroyuki AZAKAMI¹, Tetsushi KATSUMOTO², Yuichiro NOIRI²,

- Shigeyuki EBISU², Akio KATO¹ (¹Dept. Biol. Chem., Yamaguchi Univ.,
²Dept. Restorative Dent., Grad. Sch. Dent. Osaka Univ..)
- 11:06** 2G11-1 Microbial flora during the maturation process of the compost for cultivation of *Agaricus blazei* Murrill
.....○Natsumi SUGAWARA¹, Naoto TADA², Fumio KOBAYASHI³, Mitsuo KAWADE², Akihiro SAITO¹,
Akikazu ANDO¹ (¹Adv.Integ.Sci.,Chiba Univ., ²Iwade Research Institute of Mycology Co., Ltd.,
³Godoshusei Co.,Ltd)
- 11:18** 2G11-2 Analysis of a microbe flora in the domestic animal feed which made from shochu lees
.....○Keita MURAMATSU¹, Akihiro SAITO¹, Masahiro YAMAMOTO², Akikazu ANDO¹
(¹Adv. Integ. Sci., Chiba Univ., ²Kirisimakougen Breweries, Ltd.)
- 11:30** 2G11-3 Discovery and Application of the Yoshida Effect
.....○Naoto YOSHIDA, Kazutoshi KODAMA, Nori FUJIURA, Kaori IDE
(Dept. Biochem. Appl. Biosci., Miyazaki Univ.)
- 11:42** 2G11-4 Role of calnexin in protein quality control in yeast.
.....○Ryohei MATSUO, Yuichiro YAMASHITA, Masayoshi UEHARA, Akio KATO, Hiroyuki AZAKAMI
(Dept. Biol. Chem., Yamaguchi Univ.)
- 11:54** 2G11-5 Production of lytic substance from photosynthetic bacterium
.....○Taketo OISHI, Yoko OKAJIMA, Osamu ARIGA (Dept.Eng.,Kochi Univ.of Tech)

Room G Afternoon (13:30~17:54)

Encouragement Award of the Society for Biotechnology, Japan (Eda Award), General Presentation (Brewing, Brewing Technology)

- 13:30** 2G13-1 **Functional Research and Development of Soy Sauce**
.....○Makio KOBAYASHI (Res. Lab. of Higashimaru Shoyu)
- 13:54** 2G13-3 Production of *Goshu* written in the *Englishiki*
.....○Kaoruko YUGE, Hitoshi SHINDO, Kojiro TAKAHASHI, Takeo KOIZUMI
(Dept. Ferment. Sci., Tokyo Univ. Agric.)
- 14:06** 2G14-1 Interaction of yeasts and lactic acid bacteria isolated from Fukuyama pot vinegar samples
.....○Kanakano YOSHIDA¹, Akiko HONDA¹, Taketo KAWARAI¹, Souichi FURUKAWA¹,
Hirokazu OGIHARA¹, Makari YAMASAKI², Yasushi MORINAGA¹
(¹Dept. Agric. Biol. Chem., Nihon Univ., ²ARISH, Nihon Univ.)
- 14:18** 2G14-2 Cloning and characterization of *ntrBC* in *Acetobacter aceti* NBRC 3283
.....○Yuta KAWADA¹, Akiko OKAMOTO-KAINUMA¹, Morio ISHIKAWA¹, Takayuki KAGA²,
Yukimichi KOIZUMI¹ (¹Dept. Brew. Ferment., Tokyo Univ. Agric., ²Mizukan Group Co., Ltd.)
- 14:30** 2G14-3 Comparisons of Sensory Quality, Nutrition Value and Microbial Composition among Home-made and Commercial Soypaste in China
.....○XianMei LI¹, ZongJun CUI¹, Shin HARUTA², Masaharu ISHII², Yasuo IGARASHI²
(¹College of Agronomy and Biotechnology,China Agricultural University, China,
²Graduate School of Agricultural and Life Sciences,the Univesity of Tokyo)
- 14:42** 2G14-4 Influence of lactic acid bacteria in *Awamori Moromi* (mash) on *Awamori* flavour
.....○Masatoshi TSUKAHARA¹, Yasutomoto TAMAKI², Tomoya IHA¹, Tadaaki TOKASHIKI¹
(¹Tropical Technology Center LTD., ²Okinawa Natl. Col. Tech.)
- 14:54** 2G14-5 Anti-obesity effects of indigestible component from sake lees
.....○Masayuki YUKAWA¹, Toshitaka MINETOKI¹, Miho INOUE², Toshiro WATANABE²,
Hiroyuki TOMOTAKE³, Masato HIROTSUNE¹, Norihisa KATOU⁴ (¹Gen.Res.Lab., Ozeki Co.,
²Tech.Dev.Lab., Yaegaki Inc., ³Iida Women's Jun. Coll., ⁴Grad.Sch.Bio.Sci., Hiroshima Univ.)
- 15:06** 2G15-1 Postgenomic analysis of rice koji making
.....○Kazuhiro IWASHITA¹, Yuka OHOKITA¹, Minori KOUNO¹, Mika NISHIURA², Kenta TOMIMURA¹,
Kazutoshi SAKAMOTO¹, Osamu YAMADA¹, Shigeaki MIKAMI¹ (¹Natl. Res. Inst. Brewing,
²Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 15:18** 2G15-2 Studies on aflatoxin nonproductivity of *Aspergillus oryzae*
.....○Takuro KIYOTA, Ryoko IKEDA, Kazutoshi SAKAMOTO, Kazuhiro IWASHITA, Osamu YAMADA,
Shigeaki MIKAMI (Natl. Res. Inst. Brewing)
- 15:30** 2G15-3 Stimulatory effect of ferulic acid on the production of extracellular xylanolytic enzymes by *Aspergillus kawachii*
.....○Takuya KOSEKI¹, Naoko MIMASAKA², Katsumi HASHIZUME², Yoshihito SHIONO¹,
Tetsuya MURAYAMA¹ (¹Dept. Biores. Eng., Yamagata Univ., ²Natl. Res. Inst. Brewing)
- 15:42** 2G15-4 Enzymatic characterization of the product of a novel aminopeptidase-like gene from koji mold
.....○Ken-Ichi KUSUMOTO¹, Mayumi MATSUSHITA¹, Ikuyo FURUKAWA¹, Satoshi SUZUKI¹,
Michio TAKEUCHI², Yutaka KASHIWAGI¹ (¹Natl. Food Res. Inst.,
²Dept. Biotechnol., Tokyo Univ. Agric. Technol.)
- 15:54** 2G15-5 The effect of varieties on the production of amino acids from the steamed rice using the koji enzyme extract.
.....○Hitoshi TAKAHASHI^{1,2}, Toshihiko ITO¹, Kimio IWANO¹
(¹Dept. Biotechnol. Akita Pref. Univ., ²Akita Pref. Inst. for Food and Brewing)
- 16:06** 2G16-1 The study about the analysis on the activity of proteolytic enzyme from sake koji using rice glutelin as a substrate.

-Hitoshi TAKAHASHI^{1,2}, Toshihiko ITO¹, ○Kimio IWANO¹
(¹Dept. Biotechnol. Akita Pref. Univ., ²Akita Pref. Inst. for Food and Brewing)
- 16:18** 2G16-2 Nitrogen source starvation induces expression of *Lg-FLO1* and flocculation of bottom-fermenting yeast
.....○Tomoo OGATA, Mami IZUMIKAWA, Katsunori KONO, Kenkichi AOKI
(Brew. Res. Dev. Lab., Asahi Breweries, Ltd.)
- 16:30** 2G16-3 Mechanism of high sugar tolerance in wine yeast OC-2
..○Mio TASHIRO, Youji NAKAGAWA, Takafumi NAGANUMA, Masayuki HAYAKAWA, Yuzuru IIMURA
(Dept. Biotech., Grad. Sch. Med. Eng., Univ. Yamanashi)
- 16:42** 2G16-4 The gene expression analysis of a sugar tolerant mutant of Sake yeast
.....○Takahairo OBA¹, Hikaru SUENAGA¹, Kosuke TASHIRO², Satoru KUHARA²
(¹Biotech. and Food Research Institute, Fukuoka Industrial Tech. Center,
²Lab. Microb. Genet. Technol., Fac. Agric., Kyushu Univ.)
- 16:54** 2G16-5 A simple assay of yeast cell density using 2,3,5,6-tetramethyl-1,4-benzoquinone and tetrazolium
.....○Hikaru SUENAGA¹, Tadayuki TSUKATANI², Tetsuyuki AKAO², Takatoshi EZOE³,
Munetaka ISHIYAMA³, Hiroyoshi NAKAMURA⁴
(¹Biotech. and Food Research Institute, Fukuoka Industrial Tech. Center,
²Biotech. and Food Research Institute, Fukuoka Industrial Tech,
³Dojindo Laboratories, ⁴Dept. of Applied Chemistry, Saga Univ.)
- 17:06** 2G17-1 Relationship between aromatic alcohols and sensory evaluation in Ginjyo-syu.
.....○Aya TAKADO, Toshihiko ITO, Kimio IWANO (Dept. Biotechnol., Akita Pref Univ.)
- 17:18** 2G17-2 Effect of sake yeast strains on the production of aromatic alcohol.
.....○Toshihiko ITO, Yukako KAGAYA, Iwano KIMIO (Dept. Biotechnol., Akita Pref. Univ.)
- 17:30** 2G17-3 Cell surface function of a sake yeast mutant with a high productivity of isoamyl acetate
.....○Kiyoo HIROOKA¹, Yoshihiro YAMAMOTO¹, Nobuo TSUTSUI¹, Toshio TANAKA²
(¹Ind. Tech. Center, Kyoto Munic. Ind. Res. Inst., ²Grad. Sch. Sci., Osaka City Univ.)
- 17:42** 2G17-4 Characteristic features of genome structure of sake yeast, *Saccharomyces cerevisiae* strain Kyokai no. 7
.....○Takeshi AKAO¹, Hiroshi KITAGAKI¹, Kazuhiro IWASHITA¹, Sachiko TANI², Hitoshi SHIMO¹
(¹Natl. Res. Inst. Brewing, ²Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)

Room H Morning (9:30~12:06)

General Presentation (Bioremediation)

- 9:30** 2H09-1 Methane consumption by the consortia consisted of methanotroph and methylotroph
.....Hiroyuki IGUCHI, Hiroya YURIMOTO, Yasuyoshi SAKAI
(Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto Univ.)
- 9:42** 2H09-2 Changes in malodor compounds and bacterial community structure during aerobic treatment of pig manure slurry
.....○Dai HANAJIMA¹, Shin HARUTA², Masaharu ISHII², Kiyonori HAGA¹, Yasuo IGARASHI²
(¹NILGS, ²Dept. Biotech., Univ. Tokyo)
- 9:54** 2H09-3 Hydrogen fermentation from garbage by using environmental microbes and analysis of microbial community
.....○Akihiro OHNISHI, Naoshi FUJIMOTO, Masaharu SUZUKI (Dept. Ferment. Sci., Tokyo Univ. Agric.)
- 10:06** 2H10-1 Influence of methanogenic activity on TCE microbial dechlorination
.....○Kotaro ISE, Koichi SUTO, Chihiro INOUE (Grad. Sch. Environ., Tohoku Univ.)
- 10:18** 2H10-2 Construction of super-thermophilic methane fermentation process and phylogenetic analysis of microbial community
.....○Takashi NISHI¹, Kenji KIDA¹, Sigeru MORIMURA¹, Yueqin TANG¹, Toru MATSUI²
(¹Grad. Sch. Sci. Tech., Kumamoto Univ., ²Fundamental Research Institute, Tokyo Gas)
- 10:30** 2H10-3 Anaerobic degradation of natural hormone and phylogenetic analysis of microbial community
.....○Masaaki HIROIKE¹, Kenji KIDA², Sigeru MORIMURA¹, Yueqin TANG¹
(¹Grad. Sch. Sci. Tech., ²Dept. Appl. Chem. Biochem., Fac. Eng., Kumamoto Univ.)
- 10:42** 2H10-4 Exhaustive analysis of long-chain hydrocarbon-degrading bacteria by 2,6-DCPIP assay
.....○Kenzo KUBOTA, Yuri SAKIHAMA, Daisuke KOMA, Yoshiki MATSUMIYA, Motoki KUBO
(Dept. Biosci. Biotech., Ritsumeikan Univ.)
- 10:54** 2H10-5 Dynamic behavior of bacteria in PCE contaminated surface during bioremediation
.....○Arpita BHOWMIK¹, Akane ASAHINO², Takanori SHIRAKI², Kohei NAKAMURA³,
Kazuhiro TAKAMIZAWA³ (¹Sci. Biol. Res., United Grad. Sch. Agric. Sci., Gifu Univ., ²Gifu Univ.,
³Fac. Agric., Gifu Univ.)
- 11:06** 2H11-1 Differential degradation abilities of saturated hydrocarbon by strains Y1 and Y4 from consortium No.22
.....○Naoki KANBAYASHI, Shingen OZAKI, Masao HATANAKA, Kazuyuki MIYAGAWA,
Tokiwo FUZITA, Noriaki KISHIMOTO (Fac. Agric., Kinki Univ.)
- 11:18** 2H11-2 Microbial community and chlorophenol degradation activities in the rhizosphere of duckweed
.....○Saiko HARA, Hiroaki MATSUZAWA, Yasuhiro TANAKA, Kazuhiro MORI
(Grad. Sch. Med. Eng., Univ. Yamanashi)
- 11:30** 2H11-3 Quantitative Analysis of an Anaerobic Benzene Degradation in Contaminated Underground Water Based on Fluorescence In Situ Hybridization

-○Xian ZHANG, Fusako KAWAI, Kazuhide KIMBARA (Res. Inst. Biores., Okayama Univ.)
11:42 2H11-4 Monitoring of the behavior of IncP-7 carbazole degradative plasmid pCAR1 in model environmental samples.
○Masaki SHINTANI¹, Naoya FUKUSHIMA², Meguru TEZUKA², Hisakazu YAMANE¹, Hideaki NOJIRI¹
 (1)Biotech. Res. Center, Univ. Tokyo, (2)Dept. Ind. Chem., Saitama Inst. Technol.)
11:54 2H11-5 Flagella mediate signal transduction between bacteria and archaea
○Takefumi SHIMOYAMA, Kazuya WATANABE (MBI)

Room H Afternoon (13:30~17:54)

General Presentation (Bioremediation)

- 13:30** 2H13-1 Isolation and characterization of lubricant oil-degrading bacteria from waste lubricant oil-contaminated soil under cold climate
○Young-cheol CHANG, Masakuni SASAKI, Tadashi TOYAMA, Shintaro KIKUCHI
 (Muroran Inst Tech)
13:42 2H13-2 Isolation and characterization of pyrene degrading bacterium from *Phragmites australis* rhizosphere
○Tadashi TOYAMA¹, Tetsuya FURUKAWA², Kazunari SEI², Satoshi SOUDA², Young-Cheol CHANG¹,
 Shintaro KIKUCHI¹, Michihiko IKE² (1)Dep. Appl. Chem., Muroran Inst. Technol.,
 (2)Dept. Environ. Eng., Osaka Univ.)
13:54 2H13-3 Accelerated biodegradation of polycyclic aromatic hydrocarbons (PAHs) in the rhizosphere of *Phragmites australis*
○Tetsuya FURUKAWA¹, Ning YU¹, Tadashi TOYAMA², Daisuke INOUE¹, Kazunari SEI¹,
 Satoshi SODA¹, Michihiko IKE¹ (1)Div. of Sustain. Energy & Environ. Eng., Osaka Univ.,
 (2)Appl. Chem., Muroran Inst. of Technol.)
14:06 2H14-1 Characterization of phenolic exudates from the root of *Spirodela polyrrhiza*
○Ning YU¹, Tadashi TOYAMA², Daisuke INOUE¹, Kazunari SEI¹, Satoshi SODA¹, Michihiko IKE¹
 (1)Div. of Sustain. Energy & Environ. Eng., Osaka Univ., (2)Appl. Chem., Muroran Inst. of Technol.)
14:18 2H14-2 Cloning and functional analysis of phosphate transporter from arsenic hyperaccumulator.
○Masayoshi HATAYAMA¹, Takahiko SATO², Chihiro INOUE²
 (1)Grad. Sch. Env. Sci., Tohoku Univ., (2)Grad. Sch. Env. Sci., Tohoku
14:30 2H14-3 Microbial production of CdTe nano-particles by cell-immobilized bioreactor system
○Toshifumi SAKAGUCHI, Keita HARA, Yuuki MIZOGUCHI
 (Dept. of Environ. Sci., Pref. Univ. of Hiroshima)
14:42 2H14-4 Sorption of metal-oxoanions on biogenic manganese oxides produced by a Mn-oxidizing fungus
○Yukinori TANI, Naoyuki MIYATA, Masahiro SAKATA, Keisuke IWAHORI
 (Inst. Environ. Sci., Univ. Shizuoka)
14:54 2H14-5 Breeding of polyphosphate-hyper accumulating *Saccharomyces cerevisiae* mutants.
○Shin-Ichiro MATSUKADO, Eri NSHIKAWA, Yukio MUKAI
 (Grad. Sch. Biosci., Nagahama Inst. Bio-Sci.Tech)
15:06 2H15-1 Production of ethanol and lactic acid from organic waste by using culture liquid of *Rhizopus*
○Sachiko NAKAMURA, Toshimori KADOKURA, Hiroaki HONDA, Taiki ASAKAWA,
 Atsumi NAKAZATO (Dept. Brew. Ferment., Tokyo Univ. Agric.)
15:18 2H15-2 Development of solid state fermentation technology for producing ethanol from surplus rice.
○Hiroaki HONDA¹, Akihiro OHNISHI¹, Naoshi FUJIMOTO¹, Taeko KATO¹, Sachio MURAKAMI²,
 Maho UENO¹, Masaharu SUZUKI¹ (1)Dept. Ferment. Sci., Tokyo Univ. Agric.,
 (2)Dept. Energy., Oshu city, Iwate pref.)
15:30 2H15-3 Quality control of Japanese mugwort-fermented broth by monitoring the microorganisms
○Rika YOSHIDA, Yukio MUKAI (Grad. Sch. Biosci., Nagahama Inst. Bio-Sci. Tech.)
15:42 2H15-4 Development of practical bioremediation system (1) - high-density cultivation of hydrocarbon degrading micro-
 organism *Rhodococcus* sp. NDKK6 -
○Kazuyuki ISHII¹, Tomoki YOSHIDA¹, Yuri SAKIHAMA¹, Kouta HATAYAMA¹, Koji ITO²,
 Nobuyuki MABUCHI², Seishi MINODA², Motoki KUBO¹ (1)Dept. Biosci. Biotech., Ritsumeikan Univ.,
 (2)Daiwakasei)
15:54 2H15-5 Development of practical bioremediation system (2) - development of large scale soil mixing machine -
○Kouta HATAYAMA¹, Tomoki YOSHIDA¹, Mikiko IMADA¹, Yuri SAKIHAMA¹, Yuji KONTA²,
 Kazuhiro YAMADA², Masayasu WATANABE², Motoki KUBO¹ (1)Dept. Biosci. Biotech., Ritsumeikan Univ.,
 (2)Nikko Co., Ltd)
16:06 2H16-1 Analysis of promoter regions of heme proteins abundantly expressed in an anammox bacterium
○Takashi NISHIYAMA¹, Yuka KAWAHARA¹, Kenji FURUKAWA², Takao FUJII¹
 (1)Fac. Appl. Life Sci., Sojo Univ., (2)Grad. Sch. Sci. Tech., Kumamoto Univ.)
16:18 2H16-2 Properties of *Shingomonas bisphenolicum* AO1 and its spontaneous mutant, strain AO1L, on degradative activi-
 ties of xenobiotic compounds.
○Shohei TSUCHIDA¹, Chikano MAEKAWA¹, Ko-ichi OOSHIMAN², Tetsuaki TSUCHIDO¹,
 Yoshinobu MATSUMURA¹ (1) Dept. Life Sci. Biotech., Kansai Univ.,
 (2)Sumitomo Forest Co., Ltd., Tsukuba Res. Inst.)
16:30 2H16-3 Biodegradation of bisphenol F by a river isolate, *Sphingobium yanoikuyae* strain FM-2

-○Daisuke INOUE¹, Shoji HARA¹, Kazunari SEI¹, Satoshi SODA¹, Shinji TSUNOI², Michihiko IKE¹
(¹Div. Sustain. Energy Environ. Engineer., Osaka Univ., ²Res. Center Environ. Preserv., Osaka Univ.)
- 16:42** 2H16-4 Isolation of microorganisms aerobically degrading brominated flame retardants
.....○Yuhki TAKAHAMA, Takashi YAMADA, Yasuhiro YAMADA (Fac. Life Sci. Biotech., Fukuyama Univ.)
- 16:54** 2H16-5 Hexavalent chromium reduction using novel bacteria
.....○Tomoyasu SUGIYAMA (Tokyo Univ. Tech., School of Bionics)
- 17:06** 2H17-1 Thiodiglycol degradation by benzothiophene desulfurizing bacteria.
.....○Toru MATSUI, Naoya SHINZATO, Tomoyuki NAMIHIRA (Center of Mol. Biosci., Univ. Ryukyus)
- 17:18** 2H17-2 The epiphytic yeasts degrade bio-degradable plastics
.....○Hiroko KITAMOTO¹, Kanako TAGO¹, Xiaohong CAO¹, Motoo KOITABASHI¹, Seiya TSUSHIMA¹,
Tomotake MORITA², Toshiaki NAKAJIMA-KAMBE³ (¹NIAS, ²AIST, ³University of Tsukuba)
- 17:30** 2H17-3 Cloning and expression of protease gene from *Arthrobacter nicotinovorans* for proteolysis of cadmium chelating protein
.....○Yumiko HARAGUCHI, Michiko TANAKA, Teruo SONE, Kouzou ASANO
(Lab. Appl. Microbiol., Grad. Sch. Agric., Hokkaido Univ.)
- 17:42** 2H17-4 Degradation characteristics of tris(2-chloroethyl) phosphate by *Sphingobium* sp.strain TCM1
.....○Shingo MORI, Yuka DOI, Junichi MORI, Shouji TAKAHASHI, Yoshio KERA (Nagaoka Univ. Tech.)

Room I Morning (9:30~12:18)

General Presentation (Animal Cell, Tissue Engineering)

- 9:30** 2I09-1 Production of human EPO/Fc fusion protein by recombinant animal cells
.....○Yoshinori KAWABE¹, Carlos A. PENNO², Akira ITO¹, Masamichi KAMIHIRA¹
(¹Dept. Chem. Eng., Fac. Eng., Kyushu Univ., ²Grad. Sch. Sys. Life Sci., Kyushu Univ.)
- 9:42** 2I09-2 Analysis of gene-amplified chromosomal region in Chinese hamster ovary cells
.....○Yasuhiro TAKAGI¹, Hidenori YANO¹, Yihua CAO¹, Joon Young PARK¹, Takeshi OMASA¹,
Shuichi ASAKAWA², Nobuyoshi SHIMIZU³, Hisao OHTAKE¹
(¹Department of Biotechnology, Graduate School of Engineering, Osaka University, ²Keio University School of Medicine, ³Keio University)
- 9:54** 2I09-3 Construction of chromosome marker in CHO cells
.....○Yihua CAO¹, Hidenori YANO¹, Shuichi KIMURA¹, Yasuhiro TAKAGI¹, Kohsuke HONDA¹,
Takeshi OMASA¹, Shuichi ASAKAWA², Nobuyoshi SHIMIZU², Hisao OHTAKE¹
(¹Department of Biotechnology, Graduate school of Engineering Osaka University, ²Keio University)
- 10:06** 2I10-1 Effect of concentration of fish serum on adhesion culture of CHO cells
.....○Ryouhei TSUKADA¹, Masashi FUJIWARA¹, Itaru SHIOYA², Mutsumi TAKAGI¹
(¹Div. Biotech. Macromol. Chem., Grad. Sch. Eng., Hokkaido Univ., ²Nissui Central Reserch Labo.)
- 10:18** 2I10-2 Biological analysis of the mitogenic mechanism of sericin
.....○Kana YANAGIHARA¹, Takuya SAITO¹, Masao MIKI¹, Akiko OGAWA^{2,3}, Masahiro SASAKI²,
Hideyuki YAMADA², Satoshi TERADA¹ (¹Grad. Sch. Eng. Fukui Univ., ²Seiren, ³Suzuka Col. Tech)
- 10:30** 2I10-3 Addition of sericin to serum-free media to improve mammalian cell culture
.....○Akiko SAKUMA¹, Kazuaki ITOH², Naoki TAKADA², Satoshi TERADA², Masahiro SASAKI³,
Kazuhiisa TSUJIMOTO³, Hideyuki YAMADA³
(¹JST Satellite Shiga, ²Univ. of Fukui, ³SEIREN CO.,LTD.)
- 10:42** 2I10-4 Fructan from Japanese shallot as a novel factor for mammalian cell culture
.....○Hideharu HIGASHIYA¹, Satoshi TERADA¹, Kyouichi KOBAYASHI²
(¹Grad. Sch. Eng. Fukui Univ., ²Fukui Prefectural Food Processing Research Institute)
- 10:54** 2I10-5 Development of improved expression system using modified polyhedrin promoter in the silkworm larvae and insect cells
.....○Shin KANAMASA^{1,2}, Taiichi USUI¹, Takeomi MURATA¹, Enoch Y. PARK^{1,3}
(¹Dept. Appl. Biol. Chem., Fac. Agric., Shizuoka Univ., ²JST, ³Integ. Biosci. Sect., Grad. Sch. Sci. Technol., Shizuoka Univ.)
- 11:06** 2I11-1 Production of scFv in larvae and pupae of *Bombyx mori* by baculovirus expression system using *Bombyx mori* nucleopolyhedrovirus bacmid
.....○Motoki ISHIKIRIYAMA¹, Hiroshi UEDA², Enoch Y. PARK³
(¹Dept. Appl. Biol. Chem., Fac. Agric., Shizuoka Univ., ²Dept. Chem. Biotech., Univ. Tokyo, ³Integ. Biosci. Sect., Grad. Sch. Sci. Technol., Shizuoka Univ.)
- 11:18** 2I11-2 Expression of alpha-1,4-N-acetylglucosaminyltransferase(a4GnT) using BmNPV bacmid and stably cell line
.....○Makoto NAKAJIMA¹, Takeomi MURATA¹, Taichi USUI¹, Enoch Y. PARK^{1,2}
(¹Dept. Appl. Biol. Chem., Fac. Agric., Shizuoka Univ., ²Integ. Biosci. Sect., Grad., Sch. Sci. Technol., Shizuoka Univ.)
- 11:30** 2I11-3 Screening of high expression cell line using cell sorter
.....○Kengo YOSHIKAWA¹, Tatsuya KATO¹, Enoch Y. PARK^{1,2}
(¹Dept. Appl. Biol. Chem., Fac. Agric., Shizuoka Univ., ²Integ. Biosci. Sect., Grad. Sch. Sci. Technol., Shizuoka Univ.)

- 11:42** 2I11-4 Characterization of chicken primordial germ cells
.....○Makoto MOTONO, Takuya OHASHI, Kenichi NISHIJIMA, Shinji IJIMA
(Dept. Biotech., Grad. Sch. Eng., Nagoya Univ.)
- 11:54** 2I11-5 Analysis of human erythropoietin produced by transgenic chicken
.....○Daisuke KODAMA¹, Daisuke NISHIMIYA¹, Kenichi NISHIJIMA¹, Masamichi KAMIHIRA¹,
Takashi YAMASHITA², Shinji IJIMA¹ (¹Dept. Biotech., Nagoya Univ, ²KANEKA Corp)
- 12:06** 2I12-1 Regulation of cell activity by sialic acid-binding lectin
.....○Ken-ichi NISHIJIMA, Munetoshi ANDO, Wenjie TU, Shinji IJIMA
(Dept. Biotech., Grad. Sch. Eng., Nagoya Univ.)

Room I Afternoon (13:30~17:06)

General Presentation (Separation and Purification Engineering / Bioresource and Energy Engineering / Taxonomy, Phylogenetics)

- 13:30** 2I13-1 96-well micro-plate based monolithic ion-exchange chromatography for high throughput protein purification process design
.....○Shuichi YAMAMOTO, Yuko NISHIJIMA, Mitsuyo ABE, Parvin AKBARZADERALEH,
Noriko YOSIMOTO, Sachie FUJII (Dept. Appl. Chem. Chem. Eng., Fac. Eng., Yamaguchi Univ.)
- 13:42** 2I13-2 Separation of biopolymer in the microfiltration process using an electric field
.....○Young PARK (Dept. of Chemical Eng. Daejin U., Korea)
- 13:54** 2I13-3 Production of glutathione from triglyceride by *Yarrowia lipolytica*
.....○Emi HARADA, Konomi ISHIZUKA, Risako NABESHIMA, Naofumi SHIOMI
(Dept. Human Sci., Kobe Coll.)
- 14:06** 2I14-1 Analyses of rice husk fermentation process
.....○Shunsuke KUDO¹, Shin HARUTA¹, Kazuyuki ISHII², Tadashi ASAKURA³, Masaharu ISHII¹,
Yasuo IGARASHI¹ (¹Dept. Biotech., Univ. Tokyo, ²Ishi Corporation., ³Junkan, Inc.)
- 14:18** 2I14-2 Effect of carbon sources on cellulase production by the Filamentous Fungus *Acremonium cellulolyticus*
.....○Xu FANG, Shinichi YANO, Hiroyuki INOUE, Shigeki SAWAYAMA (BTRC, AIST)
- 14:30** 2I14-3 Saccharification of biomass using multiple microorganisms
.....○Yasuhito SUGANO¹, Shohei YAMAMURA¹, Yuzuru TAKAMURA¹, Eiichi TAMIYA²
(¹Sch. Mat. Sci., JAIST, ²Dept. eng., Osaka Univ)
- 14:42** 2I14-4 Production of fuel ethanol from garbage by simultaneous saccharification and fermentation
.....○Yueqin TANG¹, Mingzhe AN¹, Shigeru MORIMURA¹, Masayosi MATUOKA², Takasi AKAMATU²,
Kenji KIDA¹ (¹Grad. Sch. Sci. Tech., Kumamoto Univ., ²Fac. Biotech. Life Sci., Sojo Univ.)
- 14:54** 2I14-5 Ethanol fermentation from bread with a new acid and salt tolerant yeast
.....○Makoto HISAMATSU, Emi MIYABAYASHI, Arisa YOSHIOKA, Shotarou KODAMA, Naoto ISONO
(Fac. Biores., Mie Univ.)
- 15:06** 2I15-1 A Study of Hydrogen Production from Food Factory Wastes by Anaerobic Fermentation
.....○Yasuhiro OKI, Toru ABE, Yutaka MITANI, Junji WATARI
(Frontier Labs, SAPPORO BREWERIES LTD.)
- 15:18** 2I15-2 Isolation and characterization of hydrogen producing microorganism using acetate.
.....○Yuuya TAKAGI¹, Kenzo KUBOTA¹, Takesi UEMURA², Yoshiki MATSUMIYA¹, Motoki KUBO¹
(¹Dept. Biosci. Biotech., Ritsumeikan Univ., ²Nippon Oil Corporation)
- 15:30** 2I15-3 Presumption of the crude oil degradation methane generation process by indigenous anaerobes in oil reservoir.
.....○Yoshiyuki HATTORI¹, Tsukasa MUKAIDANI¹, Sanae KANO¹, Kazuhiro FUJIWARA¹,
Yoshihiro MIYAGAWA², Katsumo TAKABAYASHI², Haruo MAEDA²
(¹Chugai Technos Corp., ²Teikoku Oil Co. Ltd.)
- 15:42** 2I15-4 Analysis of bacterial flora in Ariake Sea tideland
.....○Yukihiro TASHIRO¹, Naoko MITSUTAKE², Genta KOBAYASHI¹, Fumio KATO²
(¹ASRP., Saga Univ., ²Fac. Agric., Saga Univ.)
- 15:54** 2I15-5 Phenotypic transformation including host-range transition through superinfection of T-even phages
.....○Yoshifumi IZUMOJI¹, Michiharu ABE², Yasunori TANJI¹
(¹Dep. Bioen., Tokyo Inst. Technol., ²Dept. Mat. Sci. Chem. Eng., Shizuoka Univ.)
- 16:06** 2I16-1 Diverse Behaviors of IncP-7 Carbazole Degradative Plasmid pCAR1 in Different Pseudomonads
.....○Yurika TAKAHASHI, Masaki SHINTANI, Li LI, Hisakazu YAMANE, Hideaki NOJIRI
(Biotech. Res. Center, Univ. Tokyo)
- 16:18** 2I16-2 Growth characteristics of environmental microorganisms recalcitrant for cultivation using Hollow Fiber Membrane Chamber system
.....○Hiroaki OTA¹, Yoshiteru AOI², Satoshi TSUNEDA¹ (¹Dept. Life Sci, Med, Bio-Sci, Waseda Univ., ²WIAS)
- 16:30** 2I16-3 Halophilic lactic acid bacterial community of ripened cheese
.....○Kayo KODAMA, Morio ISHIKAWA, Kazuhide YAMASATO, Akiko OKAMOTO-KAINUMA,
Yukimichi KOIZUMI (Dept. Brew. Ferment., Tokyo Univ. Agric.)
- 16:42** 2I16-4 Reclassification of *Bacillus sphaericus* NBRC 12622.
.....○Mika MIYASHITA, Mika KANEYASU, Ken-ichiro SUZUKI, Yasuyoshi NAKAGAWA (NITE-NBRC)

- 16:54 2I16-5 Chitin synthase class VIII, a new class found in *Rhizopus oryzae* genome
○Ayumi ABE, Kozo ASANO, Teruo SONE (Lab. Appl. Microbiol., Grad. Sch. Agric., Hokkaido Univ.)

Room J Morning (9:30~12:06)

General Presentation (Ecological Engineering / Biochemical Engineering)

- 9:30 2J09-1 Chemotaxis to plant-related compounds by *Pseudomonas aeruginosa*
○Hye-eun KIM, Akio KURODA, Noboru TAKIGUTI, Junichi KATO
 (Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 9:42 2J09-2 Functional analysis of *N*-decanoyl cyclopentylamide, a quorum blocker of *Pseudomonas aeruginosa*
○Junichi KATO¹, Takenori ISHIDA¹, Tsukasa IKEDA², Tomohiro MOROBOSHI²
 (¹Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ., ²Dept. Appl. Chem., Utsunomiya Univ.)
- 9:54 2J09-3 Transcriptome analysis of a propionate-oxidizing syntroph and a methanogen in syntrophic coculture
○Souichiro KATO¹, Tomoyuki KOSAKA², Kazuya WATANABE¹ (¹MBI, ²AIST)
- 10:06 2J10-1 Effect of antibiotics derived from one member of biofilm on the structure of the biofilm
○Naoki NARISAWA, Shin HARUTA, Hiroyuki ARAI, Masaharu ISHII, Yasuo IGARASHI
 (Dept. Biotech., Univ. Tokyo)
- 10:18 2J10-2 Construction of growth and nutrient absorption model for macrophytes
○Rabin MALLA, Nobuyuki NAGAO, Yasuhiro TANAKA, Kazuhiro MORI
 (Dept. Civil & Environ., Univ. Yamanashi)
- 10:30 2J10-3 Genetic engineering of *Pseudozyma antarctica*
○Tomotake MORITA, Tokuma FUKUOKA, Tomohiro IMURA, Dai KITAMOTO (AIST)
- 10:42 2J10-4 Characterization of *Pseudozyma* sp. KM-59 for producing mainly a hydrophilic component of mannosylerythritol lipids (MEL-C) as biosurfactants
○Masaaki KONISHI, Tomotake MORITA, Tokuma FUKUOKA, Tomohiro IMURA, Dai KITAMOTO (AIST)
- 10:54 2J10-5 Functional analysis of malate synthase of riboflavin producer *Ashbya gossypii* on riboflavin biosynthesis
○Takashi SUGIMOTO¹, Shin KANAMASA², Tatsuya KATO³, Enoch Y. PARK⁴
 (¹Biosci. Sect., Grad. Sch. Sci. Technol., Shizuoka Univ., ²JST, ³Fac. Agric., Shizuoka Univ.,
⁴Integ. Biosci. Sect., Grad. Sch. Sci. Technol., Shizuoka Univ.)
- 11:06 2J11-1 Effect of signal peptide sequence on secretory protein production in *Streptomyces lividans*
○Takamichi YOSHINO, Yuko ITOU, Chiaki OGINO, Nobuaki SHIMIZU
 (Dept. Chem. Chem. Eng., Kanazawa Univ.)
- 11:18 2J11-2 Construction of coexpression system in recombinant *Escherichia coli* for reducing cell damage from oxidative stress
○Daisuke KAWASE, Yoshihiro OJIMA, Motomu NISHIOKA, Masahito TAYA
 (Grad. Sch. Eng. Sci., Osaka Univ.)
- 11:30 2J11-3 Cloning of an agarase gene from *Cellvibrio* sp.
○Takayoshi INOUE, Mitsuteru NAKAMURA, Osamu ARIGA (Kochi Univ. of Tech.)
- 11:42 2J11-4 Development of heterothallic haploid derivatives from the industrial *Saccharomyces cerevisiae* strain, KF7 for standard classical and recombinant genetic techniques, and large-scale production of fuel ethanol
Hisataka TAGUCHI¹, Norihiro MIYAI¹, Yueqing TAN², Shigeru MORIMURA², Kenji KIDA²,
 ○Takashi AKAMATSU¹ (¹Dept. Appl. Microb. Technol., Fac. Biotech. Life Sci., Sojo Univ.,
²Grad. Sch. Sci. Tech., Kumamoto Univ.)
- 11:54 2J11-5 Thermo- and low-pH-tolerance of heterothallic and industrial *Saccharomyces cerevisiae* strains capable of producing large-scale fuel ethanol
○Norihiro MIYAI¹, Hisataka TAGUCHI¹, Yueqing TAN², Shigeru MORIMURA², Kenji KIDA²,
 Takashi AKAMATSU¹ (¹Dept. Appl. Microb. Technol., Fac. Biotech. Life Sci., Sojo Univ.,
²Grad. Sch. Sci. Tech., Kumamoto Univ.)

Room J Afternoon (13:30~17:54)

General Presentation (Biochemical Engineering)

- 13:30 2J13-1 Efficient cellulase production in the pH controlled culture of *Acremonium cellulolyticum*
○Kazuhiro HIKOYAMA¹, Hayasi HIROYUKI¹, Naoyuki OKUDA², Enoch Y. PARK³
 (¹Dept. Appl. Biol. Chem., Fac. Agric., Shizuoka Univ., ²Tsukishima Co. Ltd,
³Integ. Biosci. Sect., Grad. Sch. Sci. Technol., Shizuoka Univ.)
- 13:42 2J13-2 Screening of the fungi from crops which have the ability of plant biomass fermentation.
○Katsuichi SAITO, Yasuhiro HASA, Naoto HASHIMOTO, Tatsuro SUZUKI, Zenta NISHIO,
 Hiroaki YAMAUCHI (NARCH)
- 13:54 2J13-3 Effect of micro-aeration on bio-ethanol productivity from hydrolysate of waste house wood using *Escherichia coli* KO11

-○Naoyuki OKUDA¹, Kazuaki NINOMIYA², Yoshio KATAKURA², Suteaki SHIOYA²
(¹Sugar & Bio Business Development Group, Tsukishima Kikai Co., Ltd.,
²Dept. Biotech., Grad. Sch. Eng., Osaka Univ.)
- 14:06** 2J14-1 Production of bioethanol by simultaneous saccharification and fermentation of cellulosic materials
.....○Mitsunori YANAGISAWA, Ho CHO, Kiyohiko NAKASAKI
(Dept. Mat. Sci. Chem. Eng., Shizuoka Univ.)
- 14:18** 2J14-2 Production of L-lactic acid by applying simultaneous saccharification and fermentation using the cellulase derived from scallop
.....○Kiyohiko NAKASAKI¹, Mitsunori YANAGISAWA¹, Koji KOBAYASHI¹, Takao OJIMA²
(¹Dept. Mat. Sci. Chem. Eng., Shizuoka Univ., ²Lab. Mari. Biotech. Microbiol., Grad. Fish. Sci., Hokkaido Univ.)
- 14:30** 2J14-3 Direct production of lactic acid from xylan by marine lactic acid bacteria, *Halolactibacillus miurensis*
.....○Keisuke SHIBATA¹, Amira Mohsen El-Sayed HAMDAN¹, Morio ISHIKAWA², Kazuhide YAMASATO²,
Takeshi ZENDO¹, Kenji SONOMOTO³ (¹Fac. Agric., Kyushu Univ.,
²Dept. Brew. Ferment., Tokyo Univ. Agric., ³Bio-Arch., Kyushu Univ.)
- 14:42** 2J14-4 Production of organic acids from sugar mixture by recombinant *Corynebacterium glutamicum*
.....○Miho SASAKI, Toru JYOJIMA, Shohei OKINO, Masayuki INUI, Hideaki YUKAWA (RITE)
- 14:54** 2J14-5 Biogas production using [diet-termite-intestinal microflora] system.
.....Shinri TAKAI¹, ○Hideki AOYAGI¹, Ryo MIYATA², Shuichi DOI¹, Tsuyoshi YOSHIMURA³,
Hideo TANAKA¹ (¹Grad. Sch. Life Env. Sci., Univ. Tsukuba, ²AIST,
³Res. Inst. Sustain. Humano., Kyoto Univ.)
- 15:06** 2J15-1 Effects of inhibitor on microbial xylitol production using concentrated corn cob hydrolysates
.....○Kyouta OGINO, Kiyoshi TADA, Tohru KANNO, Jun-ichi HORIUCHI (Kitami Inst. Technol.)
- 15:18** 2J15-2 Analysis of the composting reconstructed with two microorganisms.
.....○Kokoro MORIOKA, Hiroaki TSUJIBAYASHI, Junichi FUKUI, Kazuaki NINOMIYA,
Yoshio KATAKURA, Suteaki SHIOYA (Dept. Biotech., Grad. Sch. Eng., Osaka Univ.)
- 15:30** 2J15-3 Effect of electrical pre-treatment of garbage on methane fermentation.
.....○Hiroharu TOKUDA¹, Hiroto HOMMA¹, Mami IRIE², Akikuni USHIKUBO², Kotoyoshi NAKANISHI¹
(¹Dept. Brew. Ferment., Tokyo Univ. Agric., ²Dept. Itn. Agric. Development, Tokyo Univ. Agric.)
- 15:42** 2J15-4 High efficient butanol production by Acetone-Butanol-Ethanol-producing bacteria and butyric acid-producing bacteria
.....○Kouta TAKAMATSU¹, Hideaki SHINTO¹, Shoko KATO¹, Yukihiko TASHIRO²,
Naoshige SAKAMOTO¹, Genta KOBAYASHI², Jiro NAKAYAMA¹, Kenji SONOMOTO^{1,3}
(¹Fac. Agric., Kyushu Univ., ²ASRP, Saga Univ., ³Bio-Arch., Kyushu Univ.)
- 15:54** 2J15-5 Development of novel butanol production system from butyric acid by non-growing cell
.....○Shunichi BABA¹, Hideaki SHINTO¹, Miki HAYASHI¹, Yukihiko TASHIRO², Genta KOBAYASHI²,
Kenji SONOMOTO³ (¹Fac. Agri., Kyushu Univ., ²ASRP, Saga Univ., ³Bio-Arch., Kyushu Univ.)
- 16:06** 2J16-1 Dynamic sensitivity analysis of acetone-butanol-ethanol production
.....○Hideaki SHINTO¹, Yukihiko TASHIRO², Yuki KURIYA¹, Genta KOBAYASHI², Tatsuya SEKIGUCHI³,
Taizo HANAI¹, Masahiro OKAMOTO^{1,4}, Kenji SONOMOTO^{1,4} (¹Fac. Agric., Kyushu Univ.,
²ASRP, Saga Univ., ³Maebashi Inst. Technol., ⁴Bio-Arch., Kyushu Univ.)
- 16:18** 2J16-2 Solvent extraction of lactic acid from fermented broth and direct synthesis of its ester by enzyme
.....○Satoshi HASEGAWA¹, Masanori AZUMA², Koji TAKAHASHI¹
(¹Dept. Mat. Sci. Ene. Eng. Grad. Sch. Sci. Eng. Yamagata Univ., ²CCY)
- 16:30** 2J16-3 Preparation of amphiphilic chitosan oligosaccharides by chemo-enzymatic process
.....Takashi KUROIWA, Hiroshi KOBAYASHI, Seigo SATO, Sukekuni MUKATAKA, ○Sosaku ICHIKAWA
(Grad. Sch. Life Env. Sci., Univ. Tsukuba)
- 16:42** 2J16-4 Purification of agarooligosaccharides using organic solvent containing water
.....○Hajime KUBO, Yuko TAKEMURA, Osamu ARIGA (Dept. Eng., Kochi Univ. of Tech.)
- 16:54** 2J16-5 Induction of astaxanthin biosynthesis in *H. pluvialis* using TiO₂ and ultrasounds
.....○Tomohisa KATSUDA¹, Chiaki OGINO², Keisuke YAMAGAMI¹, Shigeo KATOH¹, Nobuaki SHIMIZU²
(¹Dept. Chem. Sci. Eng., Kobe Univ., ²Dept. Chem. Chem. Eng., Kanazawa Univ.)
- 17:06** 2J17-1 Evaluation of CO₂ requirement during anaerobic culture of *Bifidobacterium longum*
.....○Takashi KAWAHATA¹, Kazuaki NINOMIYA¹, Kazuhiro MATSUDA¹, Tadashi KANAYA²,
Yoshio KATAKURA¹, Masanori ASADA², Suteaki SHIOYA¹
(¹Dept. Biotech., Grad. Sch. Eng., Osaka Univ., ²Morishita Jintan Co., Ltd. Jintan Biopharma Laboratory)
- 17:18** 2J17-2 Biological control of plant disease using functional compost
.....Kiyohiko NAKASAKI, ○Nobuaki SUZUKI, Yan Peng WANG, Masayoshi KAMIYA
(Dept. Mat. Sci. Chem. Eng., Shizuoka Univ.)
- 17:30** 2J17-3 Preparation of giant vesicles using monodisperse W/O emulsions with phospholipids as emulsifier
.....○Hisato KIUCHI¹, Kazuki NODA¹, Takashi KUROIWA^{1,2}, Isao KOBAYASHI², Mitsutoshi NAKAJIMA^{1,2},
Kunihiko UEMURA², Seigo SATO¹, Sukekuni MUKATAKA¹, Sosaku ICHIKAWA¹
(¹Grad. Sch. Life Env. Sci., Univ. Tsukuba, ²Natl. Food Res. Inst.)
- 17:42** 2J17-4 Encapsulation of biopolymers into cell-size vesicles using size-controlled emulsions
.....○Takashi KUROIWA^{1,2}, Mitsutoshi NAKAJIMA^{1,2}, Kunihiko UEMURA², Seigo SATO¹,
Sukekuni MUKATAKA¹, Sosaku ICHIKAWA¹ (¹Grad. Sch. Life Env. Sci., Univ. Tsukuba,
²Natl. Food Res. Inst.)

The 3rd Day (Sep. 27)

Room S1 Morning (9:30~12:30)

Symposium (New research current in lactate industry for sustainable society)

- 9:30 Opening remarks
- 9:35 3S1AM1 Recent Development of thermophilic/thermotolerant microorganisms for lactic acid production
.....○Kenji SAKAI (Grad. Sch. Biores. Bioenviron. Sci., Kyushu Univ.)
- 10:05 3S1AM2 Lactic acid fermentation using spent cells as a nutrient source
.....○Makoto HIRATA¹, Min-Tian GAO¹, Eiichi TOORISAKA², Tadashi HANO²
(¹Dept. Appl. Chem., Fac. Eng., Oita Univ., ²Fac. Eng., Oita Univ.)
- 10:30 3S1AM3 Industrial production of L-lactic acid using *Rhizopus oryzae*
.....○Masaaki YAGUCHI, Shigenobu MIURA (Musashino Chemical Laboratory, Ltd.)
- 10:55 3S1AM4 Properties of Poly(lactic acid) and the improvement of its quality
.....○Hideki YAMANE (CFTS, Kyoto Inst. Tech.)
- 11:25 3S1AM5 Development of porous and composite materials of poly(lactic acid)
.....○Takaaki TANAKA, Masayuki TANIGUCHI (Dept. Materials. Sci. Technol., Niigata Univ.)
- 11:55 3S1AM6 Depolymerization behavior of poly(lactic acid) and its chemical recycling
.....○Haruo NISHIDA (Kyushu Institute of Technology)
- 12:25 Discussion

Room S2 Morning (9:30~12:40)

Symposium (Advanced technology for utilization of bio-resources)

- 9:30 Opening remarks
- 9:40 3S2AM1 Cellulosic bioethanol production by RITE bioprocess
.....○Hideaki YUKAWA (Research Institute of Innovative Technology for the Earth (RITE))
- 10:15 3S2AM2 Utilization of by-product generated from food industry by converting to functional food using fermentation technology
.....○Shigeru MORIMURA, Takahiro SEKI, Shyuichiro INAGAKI, Yueqin TANG, Kenji KIDA
(Grad. Sch. Sci. Tech., Kumamoto Univ.)
- 10:50 3S2AM3 Creation of recycling society by lactic acid fermentation with designed biomass
.....○Kenji SONOMOTO^{1,2}, Keisuke SHIBATA¹, Amira Mohsen El-Sayed HAMDAN¹, Hitomi OHARA³, Takeshi ZENDO¹ (¹Fac. Agric., Kyushu Univ., ²Bio-Arch., Kyushu Univ., ³Kyoto Inst. Tech)
- 11:25 3S2AM4 The Teachings for Multiple Use of Biomass through Evidential Study in a Region
.....○Yoshito YUYAMA
(National Institute for Rural Engineering, National Agriculture and Food Research Organization)
- 12:00 Discussion

Room S3 Morning (9:30~12:30)

Special Symposium

Room A Morning (9:30~12:06)

General Presentation (Wastewater Treatment / Metabolic Engineering, Metabolomics)

- 9:30 3A09-1 The oil removal ability of the filamentous fungi isolated from the yeast treatment tank
.....○Tsutomu FUJII¹, Hiroyuki INOUE^{1,2}, Mami OKADA¹, Noriatsu OZAKI², Masafumi MURATA³, Hiroaki MORISHITA³, Mototoyo KASAI³, Haruyuki IEFUJI¹ (¹Natl. Res. Inst. Brewing, ²Faculty of Eng., Hiroshima Univ., ³DIC Eco-Eng.)
- 9:42 3A09-2 Isolation and functional analysis of genes involved in the selenite reduction by *Bacillus selenatarsenatis* SF-1
.....○Kouta NAGANO¹, Michihiko IKE¹, Kazunari SEI¹, Mitsuo YAMASHITA²
(¹Dept. Environ. Eng., Osaka Univ., ²Dept. Biotech., Grad. Sch. Eng., Osaka Univ.)
- 9:54 3A09-3 Isolation of microorganism reducing tellurate and tellurite and the analysis of the reduction mechanism
.....○Mitsuo YAMASHITA¹, Noriyuki FUJIMOTO¹, Emi NOTAGUCHI², Masaya KANZAKI², Kazunari SEI²,

- Satoshi SODA², Michihiko IKE² (¹Dept. Biotech., Grad. Sch. Eng., Osaka Univ.,
²Dept. Energy & Environ. Eng., Osaka Univ.)
- 10:06** 3A10-1 Isolation and Characterization of the Aerobic Selenate Reducing Bacterium *Pseudomonas stutzeri* NT-I
.....○Emi NOTAGUCHI¹, Kazunari SEI¹, Satoshi SODA¹, Mitsuo YAMASHITA², Michihiko IKE¹
(¹Div. of Sustain. Energy & Environ. Eng., Osaka Univ., ²Dept. Biotech., Grad. Sch. Eng., Osaka Univ.)
- 10:18** 3A10-2 Behavior of microbial consortia in thermophilic two phase anaerobic digestion process for treating organic solid waste
.....○Tomoko TATSUZAWA, Lingyun HAO, Tatsuo SIMOMURA, Akiko MIYA
(EBARA RESEARCH CO.,LTD.)
- 10:30** 3A10-3 Dry methane fermentation of food wastes and garbage
.....○Hironori YABU¹, Tomoko FUJIWARA¹, Chikako SAKAI¹, Yutaka NAKASHIMADA²,
Naomichi NISHIO³ (¹Food Tec. Res. Cent., HiTRI,
²Dept. Chem. Eng., Grad. Sch. Technol., Tokyo Univ. Agric. Technol.,
³Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 10:42** 3A10-4 Degradation of azo dye by ozonation and oxalate assimilating bacteria
.....○Akihiro KUROSUMI, Chizuru SASAKI, Haruhiko SAKURABA, Yoshitoshi NAKAMURA
(Dept. Biol. Sci. Tech., Fac. Eng., Univ. Tokushima)
- 10:54** 3A10-5 PH_2 -dependent transcriptional regulation in methanogenic archaea
.....○Naoya SHINZATO^{1,2}, Miho ENOKI², Toru MATSUI¹, Tomoyuki NAMIHIRA¹, Yoichi KAMAGATA³
(¹COMB, Univ. Ryukyus, ²IBRF, AIST, ³Genome-based biofactory, AIST)
- 11:06** 3A11-1 Characterization of the rhodanese enzyme in *Coprothermobacter* strains
.....○Kalayi TANDISHABO¹, Azumi TAKAHASHI², Kohei NAKAMURA², Kazuhiro TAKAMIZAWA²
(¹Sci. Biol. Res., United Grad. Sch. Agric. Sci., Gifu Univ., ²Fac. Agric., Gifu Univ.)
- 11:18** 3A11-2 Study on roles of anaplerotic pathways in glutamate overproduction of *Corynebacterium glutamicum* by metabolic flux analysis
.....Tomokazu SHIRAI¹, Koki FUJIMURA², Chikara FURUSAWA^{2,3}, Keisuke NAGAHISA²,
Suteaki SHIOYA¹, ○Hiroshi SHIMIZU² (¹Dept. Biotech., Grad. Sch. Eng., Osaka Univ.,
²Dept. Bioinfo. Eng., Grad. Sch. IST, Osaka Univ., ³ERATO)
- 11:30** 3A11-3 Development of genome-scale metabolic analysis system of *Corynebacterium glutamicum*
.....○Yohei SHINFUKU, Masahiro SONO, Chikara FURUSAWA, Hiroshi SHIMIZU
(Dept. Bioinfo. Eng., Grad. Sch. IST, Osaka Univ.)
- 11:42** 3A11-4 Construction of multiple genes knockout such as *cra*, *arcA* and *ackA* in *Escherichia coli* and their metabolic analysis
.....○Makoto OKAMURA, Naoki TANIGUCHI, Kenichi OBAYASHI, Kazuyuki SHIMIZU
(Kyushu Inst. Tech.)
- 11:54** 3A11-5 Metabolic flux estimation using ¹³C-labeled isotopes and its reliability analysis
.....○Takahiro HAYASHI (Kyushu Inst. Tech.)

Room B Morning (9:30~12:30)

General Presentation (Enzymology, Enzyme, Protein Engineering)

- 9:30** 3B09-1 Biochemical properties of medium-chain-length polyhydroxyalkanoate depolymerase in *Pseudomonas oleovorans*
.....Koichi ONUKI^{1,2}, ○Shohei IGUCHI^{1,2}, Terumi SAITO^{1,2} (¹Faculty of Science, ²Kanagawa University)
- 9:42** 3B09-2 Enzymatic and structural analysis of electron transfer in various carbazole 1,9a-dioxygenases
.....○Kengo INOUE, Jun-ichi KATSUKI, Yusuke USAMI, Takashi UMEDA, Haruko NOGUCHI,
Hisakazu YAMANE, Hideaki NOJIRI (Biotech. Res. Center, Univ. Tokyo)
- 9:54** 3B09-3 Secretionary mutants of extracellular poly (3-hydroxybutyrate) (PHB) depolymerase from *Ralstonia pickettii* T1
.....○Hiroshi OKURA¹, Mari SHIRAKI², Terumi SAITO² (¹Dept. Biol., Grad. Sci., Kanagawa Univ.,
²Dept. Biol. Sci., Kanagawa Univ.)
- 10:06** 3B10-1 The physiological role of glutathione-S- transferase in the downstream of *peg* operon in *Sphingopyxis macrogoltabida* strain 103
.....○Peechapack SOMYOONSAP, Akio TANI, Kazuhide KIMBARA, Fusako FUSAKO
(Res. Inst. Biores., Okayama Univ.)
- 10:18** 3B10-2 Expression of the eugenol receptor from *Mus musculus* in yeast
.....○Tomoko NAKAMURA, Maiko YOROZU, Masahumi YOHDA
(Dept. Biotechnol., Tokyo Univ. Agric. Technol.)
- 10:30** 3B10-3 Expression of the mu-opioid receptor OPRM1 in yeast
.....○Maiko YOROZU¹, Tomoko NAKAMURA¹, Minekazu GOZU¹, Harumi GINYA², Hideji TAJIMA²,
Masafumi YOHDA¹ (¹Dept. Biotechnol., Tokyo Univ. Agric. Technol., ²Precision System Science Co.)
- 10:42** 3B10-4 Purification and characterization of beta-xylosidase from *Aspergillus japonicus* MU-2 and molecular cloning of the encoding gene
.....○Koji YOSHIHARA¹, Motoki WAKIYAMA¹, Kazuyoshi OHTA², Sachio HAYASHI¹
(¹Dept. Appl. Chem., Univ. Miyazaki, ²Dept. Biochem. Appl. Biosci., Univ. Miyazaki)

- 10:54** 3B10-5 Construction of combinatorial library of mutants of chitosanase from *Paenibacillus fukuinensis* and its application
.....○Danya ISOGAWA¹, Takeshi FUKUDA¹, Michiko KATO-MURAI², Hisashi KIMOTO³,
Hideo KUSAOKE⁴, Mitsuyoshi UEDA², Shin-ichiro SUYE¹ (¹Dept. Appl. Chem. Biotechnol. Univ. Fukui,
²Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto Univ., ³Dept. Biosci. Fukui Prefec. Univ.,
⁴Dept. Environ. Biotechnol. Frontier Eng., Fukui Inst. Technol.)
- 11:06** 3B11-1 Gene cloning of D-amino acid oxidases from *Candida intermedia*
.....○Hiroyuki KANAMARU, Makoto UEDA, Hirokazu NANBA, Yoshihiko YASOHARA
(Fine Chem. Res. Lab., KANEKA Co. Ltd.)
- 11:18** 3B11-2 Construction of the evaluation system for function of intramolecular chaperone using molecular display method
.....○Yoko NAKANISHI, Haruko MAEDA, Michiko KATO-MURAI, Mitsuyoshi UEDA
(Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto Univ.)
- 11:30** 3B11-3 A solid surface that facilitates transglutaminase-mediated protein immobilization
.....○Noriho KAMIYA^{1,2}, Yusuke TANAKA¹, Masahiro GOTO^{1,2}
(¹Dept. Appl. Chem., Kyushu Univ., ²C. Future Chem.)
- 11:42** 3B11-4 The *yjeA* gene encodes for a peptidoglycan deacetylase in *Bacillus subtilis*
.....○Takeko KODAMA^{1,2}, Kaori KOBAYASHI², Katsutoshi ARA¹, Katsuya OZAKI¹, Junichi SEKIGUCHI²
(¹Bio. Sci. Labs., Kao Corp., ²Interdiscipl. Grad. Sch. of Sci. and Technol., Shinshu Univ.)
- 11:54** 3B11-5 Analysis of important amino acid residues at transfructosylation in *Zymomonas fructosyltransferase*
.....○Kota TANGE, Kenji OKAMOTO, Hideshi YANASE (Dept. Biotech., Tottori Univ.)
- 12:06** 3B12-1 Analysis of chitinase gene encoded by Chlorovirus-sensitive *Chlorella* strains
.....○Takaya HASHIZUME, Makoto HUIE, Shoji USAMI, Takashi YAMADA
(Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 12:18** 3B12-2 Artificial bionanoparticles derived from Chloroviruses
.....○Kenji KODAMA, Makoto FUJIE, Shoji USAMI, Takashi YAMADA
(Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)

Room C Morning (9:30~12:18)

General Presentation (Enzymology, Enzyme, Protein Engineering / Others)

- 9:30** 3C09-1 The electrochemical sensitive DNA sensing system of harmful microorganisms combined with magnetic beads method
.....○Satomi SHIRAISHI, Toshimitsu TERAJ, Tatsuyoshi YOSHIKAWA, Shin-ichiro SUYE
(Dept. Appl. Chem. Biotechnol. Fukui Univ.)
- 9:42** 3C09-2 Effects of rare earth elements on methanol dehydrogenase of *Methylobacterium* sp. EU-1.
.....○Masayo OKUDA¹, Keiichi KAWAI¹, Tohru SUZUKI², Tomonori IWAMA¹
(¹Appl. Biol. Sci., Gifu Univ., ²Life Sci. Res. Center, Gifu Univ.)
- 9:54** 3C09-3 Construction of whole cell biocatalysts based on the cell surface adhesive enzymes
.....○Shirin TARAHOMJOO¹, Yoshio KATAKURA¹, Eiichi SATO², Suteaki SHIOYA¹
(¹Dept. Mat. Life Sci., Osaka Univ., ²Dept. Appl. Biol. Chem., Tokyo Univ. Agric.)
- 10:06** 3C10-1 Characterization of three 3-hydroxybutyrate dehydrogenases in *Ralstonia pickettii* T1
.....○Masahiko TAKANASHI^{1,2}, Yoshitarou KAKEMOTO^{1,2}, Terumi SAITO^{1,2}
(¹Faculty of Science, ²Kanagawa University)
- 10:18** 3C10-2 Mechanisms of ether form polyurethane degradation by *Alternaria alternata* PURDK2
.....○Yoshiki MATSUMIYA¹, Naoko MURATA¹, Eri TANABE¹, Shinichi HORIGUCHI², Motoki KUBO¹
(¹Dept. Biosci. Biotech., Ritsumeikan Univ., ²NISSHINBO INDUSTRIES, INC)
- 10:30** 3C10-3 High-efficient transfection of biological macromolecules into cells by field constriction electroporation
.....○Kazuyuki FUKUSHIMA¹, Huan-dong LU², Osamu KUROSAWA³, Masao WASHIZU⁴,
Teruyuki NAGAMUNE⁴ (¹Dept. Bioengineering, Grad. Sch. Eng., Univ. Tokyo,
²Dept. Chem. Biotech., Univ. Tokyo, ³ADVANCE CO., ⁴Bioengineering, Grad. Sch. Eng., Univ. Tokyo)
- 10:42** 3C10-4 Effect of Hydrophobicity of Abeta Oligomer Cross-Linked by Transglutaminase on Amyloid Fibril Formation
.....Hiroshi UMAKOSHI, Satoshi HAMADA, Toshinori SHIMANOUCHI, ○Ryoichi KUBOI
(Grad. Sch. Eng. Sci., Osaka Univ.)
- 10:54** 3C10-5 Roles of Liposomes and Heat Stress for Enhanced Release of Chitosanase from *Streptomyces griseus*
.....Kien Xuan NGO, ○Hiroshi UMAKOSHI, Toshinori SHIMANOUCHI, Ryoichi KUBOI
(Grad. Sch. Eng. Sci., Osaka Univ.)
- 11:06** 3C11-1 Characterization of oligosaccharides from raw materials of red algae
.....○Takahiro YOSHIMOTO¹, Nobumasa KARIYA², Osamu ARIGA¹
(¹Kochi Univ. of Tech., ²Sea Lab.Co.Ltd.)
- 11:18** 3C11-2 Regulation of histone H2A dynamics *in vivo* by its tails
.....○Tsunehito HIGASHI¹, Akihiro MORIMOTO², Keisuke ISOBE³, Wataru WATANABE⁴,
Susumu UCHIYAMA², Sachihito MATSUNAGA², Kazuyoshi ITOH⁵, Kiichi FUKUI²
(¹Dpt. Cell Sci., Sch. Med. Fukushima Med. Univ., ²Dept. Biotech., Grad. Sch. Eng., Osaka Univ.,
³Discovery Inst., RIKEN, ⁴Photonics Inst., AIST, ⁵Dept. Mat. Life Sci., Osaka Univ.)
- 11:30** 3C11-3 Analysis of microtubule stability using Dendra2-tubulin

-○Masahiro MITSUSHIMA¹, Akihiro MORIMOTO², Shogo KATAOKA², Keisuke ISOBE²,
Susumu UCHIYAMA², Sachihito MATSUNAGA², Kazuyoshi ITOH², Kiichi FUKUI²
(¹Dpt. Biotech., Grad. Sch. Eng., Osaka University, ²Dept. Biotech., Grad. Sch. Eng., Osaka Univ.)
- 11:42** 3C11-4 Expression analysis of Methionine Aminopeptidase and *N*-Myristoyltransferase in Zebrafish Embryogenesis
.....○Shinichi AKIYAMA¹, Yutaka TAMARU² (¹Wakayama Ind. Pro. Found., ²Fac. Biores., Mie Univ.)
- 11:54** 3C11-5 Formation of adhesive nanofibers on *Acinetobacter* sp. Tol 5 cells
.....○Aisuke HIGUCHI¹, Shunsuke MIYATA¹, Yasuaki HOTTA², Kohoji YAMAMOTO³, Katsutoshi HORI^{1,4}
(¹Grad. Sch. Eng., Nagoya Inst. Tech., ²Cent. Res. Inst. Oral Sci., Asahi Univ.,
³Dep. Oper. Dent., Asahi Univ., ⁴PRESTO, JST)
- 12:06** 3C12-1 Search of brain region participating in formation of attention during odor learning in mice
.....○Yuji YASUDA¹, Shinichiro YAMAMURA¹, Noboru TAKIGUCHI¹, Akio KURODA¹,
Kato JUNICHI¹, Hisao OHTAKE² (¹Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.,
²Dept. Biotech., Grad. Sch. Eng., Osaka Univ.)

Room D Morning (9:30~12:18)

Encouragement Award of the Society for Biotechnology, Japan (Terui Award), General Presentation (Fermentation Physiology, Fermentation Technology)

- 9:30** 3D09-1 **A biochemical engineering study of bioproductions using photobioreactor**
.....○Tomohisa KATSUDA (Dept. Chem. Sci. Eng., Kobe Univ.)
- 9:54** 3D09-3 Novel method for biosynthesis of 1-deoxy and 6-deoxy D-tagatose using *Enterobacter agglomerans* strain 221e via L-fucose, 6-deoxy L-galactitol and D-fucose, 6-deoxy D-galactitol
.....○Akihito YOSHIHARA¹, Satoshi HARAGUCHI², Kenji MORIMOTO², Goro TAKATA²,
George FLEET³, Ken IZUMORI² (¹Rare Sugar Research Center Fac. Agric., Kagawa Univ.,
²Rare Sugar Research Center, Kagawa Univ., ³Oxford University)
- 10:06** 3D10-1 Studies on the conversion conditions of various rare sugar by L-ribose isomerase from *Raoultella ornithinolytica* MB426
.....○Yuichiro MAEDA, Kenji MORIMOTO, Goro TAKATA, Ken IZUMORI
(Rare Sugar Research Center, Kagawa Univ.)
- 10:18** 3D10-2 Production of L-talose using recombinant L-rhamnose isomerase from *Mesorhizobium loti*
.....○Eriko TANIGUCHI¹, Wayoon POONPERM¹, Kenji MORIMOTO², Goro TAKATA¹, Ken IZUMORI¹
(¹Rare Sugar Research Center, Kagawa Univ.,
²Rare Sugar Research Center, Kagawa Univ.)
- 10:30** 3D10-3 Novel method for bioproduction of 1-deoxy D-psicose from L-rhamnose via 6-deoxy L-psicose and 6-deoxy L-allitol
.....○Shiji TAKAYUKI¹, Pushpakiran GULLAAPALLI¹, Devendar RAO¹, Kenji MORIMOTO¹,
Goro TAKATA¹, George FLEET², Ken IZUMORI¹ (¹Rare Sugar Research Center, Kagawa Univ.,
²Oxford Univ.)
- 10:42** 3D10-4 Production of 6-deoxy L-glucose and 6-deoxy L-fructose
.....○Devendar RAO¹, P. kiran GULLAPALI¹, Shiji TAKAYUKI¹, Kenji MORIMOTO¹,
Goro TAKATA¹, George FLEET², Ken IZUMORI¹
(¹Rare Sugar Research Center, Kagawa University, ²Chemistry Research Laboratory, Oxford University)
- 10:54** 3D10-5 Cloning, Expression and Characterization of Xylitol Dehydrogenase from the thermotolerant *Bacillus pallidus* Y25 and its application for L-xylulose production
.....○Wayoon POONPERM, Goro TAKATA, Kenji MORIMOTO, Ken IZUMORI
(Rare Sugar Research Center, Kagawa University)
- 11:06** 3D11-1 Production of L-allose from L-psicose using L-ribose isomerase from *Acinetobacter calcoaceticus* DL-28
.....○Satoru YAMAMOTO, Kenji MORIMOTO, Goro TAKATA, Ken IZUMORI
(Rare Sugar Research Center, Kagawa Univ.)
- 11:18** 3D11-2 Novel method for bioproduction of 1-deoxy L-psicose from L-rhamnose via 6-deoxy L-mannitol and 1-deoxy L-fructose
.....○Pushpakiran GULLAPALLI¹, Takayuki SHIJI¹, Devendar RAO¹, Kenji MORIMOTO¹, Goro TAKATA¹,
George FLEET², Ken IZUMORI¹ (¹Rare Sugar Research Center, Kagawa Univ., ²Oxford Univ.)
- 11:30** 3D11-3 Elucidation of metabolic pathways of hydrocarbons by micro-alga *Prototheca*
.....○Yusuke NATSUME¹, Yasushi TAKIMURA², Nozomu SHIBATA¹, Eiji SAKURADANI¹,
Sakayu SHIMIZU¹ (¹Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto Univ., ²Kao Corp. Bio. sci. Lab.)
- 11:42** 3D11-4 Elucidation of metabolic pathways of hydrocarbons by *Penicillium*
.....○Eiji SAKURADANI¹, Nozomu SHIBATA¹, Yusuke NATSUME¹, Yasushi TAKIMURA²,
Sakayu SHIMIZU¹ (¹Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto Univ., ²Kao Corp. Bio. Sci. Lab.)
- 11:54** 3D11-5 Conjugated fatty acids production by *E. coli* transformed with genes from lactic acid bacteria
.....○Masaaki KAWAI¹, Shigenobu KISHINO^{1,2}, Kenzo YOKOZEKI², Sakayu SHIMIZU¹
(¹Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto Univ.,
²Industrial Microbiology Lab., Grad. Sch. Agric., Kyoto Univ.)
- 12:06** 3D12-1 Expression of elongase gene from microalgae *Pavlova* sp. in oleaginous fungus *Mortierella alpina* 1S-4

.....○Kuni ITO, Keita IGUCHI, Hiroaki NEGORO, Akinori ANDO, Eiji SAKURADANI, Sakayu SHIMIZI
(Division of applied life sciences, graduate school of agriculture, Kyoto University)

Room E Morning (9:30~12:42)

General Presentation (Genetic Engineering, Nucleic Acid Engineering)

- 9:30** 3E09-1 Expression of cedar pollen allergens using *Aspergillus oryzae*
.....○Takuro NAKAGAWA¹, Tsunehiro AKI¹, Hiroaki OKANO¹, Seiji KAWAMOTO¹,
Kazutoshi SAKAMOTO², Kazuhiro IWASHITA², Toshitaka MINETOKI³, Kazuhisa ONO¹
(¹Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.,
²Natl. Res. Inst. Brewing, ³Gen.Res.Lab., Ozeki Co.)
- 9:42** 3E09-2 Regulation of activation of formaldehyde dehydrogenase gene promoter in *Candida boidinii*
.....Hiroya YURIMOTO¹, ○Kaori ZAIKI¹, Rie SANNO¹, Yu SASANO¹, Yasuyosi SAKAI^{1,2}
(¹Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto Univ., ²JST, CREST)
- 9:54** 3E09-3 Screening of genes responsible for activation of methanol inducible promoters in the methylotrophic yeast
.....○Hiroya YURIMOTO¹, Masamitsu KURIYAMA¹, Yu SASANO¹, Yasuyoshi SAKAI^{1,2}
(¹Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto Univ., ²JST, CREST)
- 10:06** 3E10-1 Role of stress response regulators in yeast methanol metabolism
.....Taisuke YANO¹, ○Dai MURAKAMI¹, Emiko TAKIGAMI¹, Hiroya YURIMOTO¹, Yasuyoshi SAKAI^{1,2}
(¹Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto Univ., ²JST, CREST)
- 10:18** 3E10-2 Analysis of acetaldehyde resistance involving factors in *Saccharomyces cerevisiae*
.....○Yoshimi MATSUFUJI¹, Shuki FUJIMURA¹, Akio TANI², Makoto NISHIZAWA¹, Tatsuro MIYAJI¹,
Noboru TOMIZUKA¹, Tohru OHYAMA¹, Tomoyuki NAKAGAWA³
(¹Dept. Food Sci. Technol., Tokyo Univ. Agric., ²Res. Inst. Biores., Okayama Univ.,
³Dept. Appl. Biol. Gifu Univ.)
- 10:30** 3E10-3 Analysis of HSEs in *hsp30* promoter from *Aspergillus oryzae*
.....○Yutaka KASHIWAGI, Mayumi MATSUSHITA, Satoshi SUZUKI, Sawaki TADA, Kenichi KUSUMOTO
(Natl. Food Res. Inst.)
- 10:42** 3E10-4 Detection of DNA-protein interactions using bead display system of DNA
.....○Yoko HASHIMOTO¹, Takaaki KOJIMA², Masashi KATO¹, Tetsuo KOBAYASHI¹, Hideo NAKANO¹
(¹Grad. Sch. Biol. Agric. Sci., Nagoya Univ., ²Grad. Sch. Sci., Osaka Pref. Univ.)
- 10:54** 3E10-5 Effect of disruption of the *Aopex11* genes involved in peroxisome biogenesis on Woronin body formation in *Aspergillus oryzae*
.....Praveen Rao JUVVADI¹, ○Cristopher Salazar ESCANO¹, Jun-ichi MARUYAMA¹, Feng Jie JIN²,
Tadashi TAKAHASHI², Yasuji KOYAMA², Katsuhiko KITAMOTO¹
(¹Dept. Biotech., Univ. Tokyo, ²Noda Inst. Sci. Res.)
- 11:06** 3E11-1 Functional analysis of an RGS protein, AoFlbA, in *Aspergillus oryzae*
.....○Haruka YAMAGUCHI, Jun-ichi MARUYAMA, Katsuhiko KITAMOTO (Dept. Biotech., Univ. Tokyo)
- 11:18** 3E11-2 Effect of RNAi suppression of alpha-amylase on heterologous protein production in *A. oryzae*
.....○Takashi NEMOTO, Jun-ichi MARUYAMA, Manabu ARIOKA, Katsuhiko KITAMOTO
(Dept. Biotech., Univ. Tokyo)
- 11:30** 3E11-3 Development of the gene integration methods which are effective for diploid sake yeasts (1) -Construction of homozygous gene disruptants-
.....○Atsushi KOTAKA¹, Hiroshi SAHARA¹, Mistuyoshi UEDA², Akihiko KONDO³, Yoji HATA¹
(¹Res. Inst., Gekkeikan Sake Co., ²Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto Univ.,
³Dept. Chem. Sci. Eng., Kobe Univ.)
- 11:42** 3E11-4 Development of the gene integration methods which are effective for diploid sake yeasts (2)
.....○Hiroshi SAHARA¹, Atsushi KOTAKA¹, Mitsuyoshi UEDA², Akihiko KONDO³, Yoji HATA¹
(¹Res. Inst., Gekkeikan Sake Co., ²Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto Univ.,
³Fac. Eng., Kobe Univ.)
- 11:54** 3E11-5 Development of an autonomous replication vector of *Cryptococcus humicola* using a telomere-like sequence
.....○Yumie NAKAJIMA, Tomomi IMAIZUMI, Shouji TAKAHASHI, Yoshio KERA (Nagaoka Univ. Tech.)
- 12:06** 3E12-1 Xylitol production by destruction of xylitol dehydrogenase(*xdhA*) gene in *Aspergillus oryzae*
.....○Koji HATTORI¹, Kohei NAKMURA¹, Noriyuki KITAMOTO², Toru SUZUKI³, Kazuhiro TAKAMIZAWA¹
(¹Fac. Agric., Gifu Univ., ²Food Res. Center, Aichi Ind. Tech. Inst., ³Biosci Res. Center, Gifu Univ.)
- 12:18** 3E12-2 Expression of chitin deacetylase gene from *Phycomyces blakesleeanus* in *Aspergillus oryzae* and *Neurospora crassa*
.....○Akiko YONEMURA, Toshiyuki NAGASHIMA, Tadako MURAYAMA
(Coll. Eng., Kanto Gakuin Univ.)
- 12:30** 3E12-3 Molecular analysis of a novel bacterial adhesin
.....○Masahito ISHIKAWA¹, Shuhei TAKADA¹, Katsutoshi HORI^{1,2}
(¹Grad. Sch. Eng., Nagoya Inst. Tech., ²PRESTO, JST)

Room F Morning (9:30~12:42)

General Presentation (Photosynthetic Microorganisms / Plant Cell, Tissue Engineering / Antibody Engineering)

- 9:30** 3F09-1 Characteristics of degradation of polypeptide during growth of the aerial microalgae collected in mountainous area.
.....Katsuya ABE, ○Hiromitsu NEGISHI, Hirokuni ONO (Kogakuin Univ.)
- 9:42** 3F09-2 Affinity purification of cyanobacterial photosystemII
.....○Jun KASEDA, Kazuhiro NAGAHAMA, Takahira OGAWA, Masayoshi MATSUOKA (Dept. Appl. Microb. Technol., Fac. Biotech.Life sci., Sojo Univ.)
- 9:54** 3F09-3 Integration of hydrogenase operon and ferredoxin gene from photosynthetic bacterium into the chromosome of cyanobacterium
.....○Tomonori KOMIYA, Kazuhiro NAGAHAMA, Takahira OGAWA, Masayoshi MATSUOKA (Dept. Appl. Microb. Technol., Fac. Biotech.Life Sci.,Sojo Univ.)
- 10:06** 3F10-1 Applications of green mutants isolated from purple bacteria as a host for colorimetric whole-cell biosensors
.....○Kazuyuki YOSHIDA¹, Daiki YOSHIOKA¹, Koichi INOUE¹, Shinichi TAKAICHI², Isamu MAEDA¹ (¹Dept. Appl. Biochem., Utsunomiya Univ., ²Dept. Biol., Nippon Med. Sch.)
- 10:18** 3F10-2 Pig edema disease vaccine producing lettuce for the plant factory
.....○Takeshi MATSUI¹, Misa KI¹, Kazutoshi SAWADA¹, Ko KATO², Atsuhiko SHINMYO², Kazuya YOSHIDA² (¹Central Research lab., Idemitsu Kosan Co., Ltd., ²Grad. Sch. Biol. Sci., NAIST)
- 10:30** 3F10-3 Mechanism of starch accumulation in BY-2 cells transformed by *rolB* gene
.....○Nobukazu TANAKA, Saki SAKAMOTO, Hidemi TSURU, Minoru NISHIHARA (Cent. Gene Sci., N-BARD, Hiroshima Univ.)
- 10:42** 3F10-4 Analysis of cell proliferation in higher plant
.....○Kazuhiro KOMORI, Takasi YAMADA, Shoji USAMI, Makoto FUJIE (Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)
- 10:54** 3F10-5 Analysis of nodule specific cysteine protease of *Lotus japonicus*
.....○Hiroshi SHINTAKU¹, Hiroki MAENO¹, Chika TAKAHASHI², Makoto FUJIE¹, Shoji USAMI¹, Takashi YAMADA¹ (¹Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ., ²CIIII. Fac. Eng., Hiroshima Univ.)
- 11:06** 3F11-1 Mode of action of antirejection antibody induced by liver transplantation
.....○Akiko KATAYAMA¹, Seiji KAWAMOTO¹, Chen-Yi LAI¹, Yuki TAKAOKA¹, Tsunehiro AKI¹, Toshiaki NAKANO², Kuei-Chen CHIANG³, Yayoi SHIMADA³, Kenji MORI³, Takamitsu MIYAGI³, Naoya OHMORI³, Takeshi GOTO³, Shuji SATO³, Shigeru GOTO², Chao-Long CHEN², Kazuhisa ONO¹ (¹Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ., ²Dept. Surgery, Kaohsiung Chang Gung Memorial Hosp., Taiwan, ³Kazusa research institute for drug discovery, Josai Intl. Univ.)
- 11:18** 3F11-2 Development of method of force mechanical selection of neural stem cell by using antibody immobilized nano-needle
.....○Shingo MIEDA¹, Chikashi NAKAMURA^{1,2}, Noriyuki NAKAMURA^{1,2}, Jun MIYAKE^{1,2} (¹Dept. Biotechnol., Tokyo Univ. Agric. Technol., ²RICE/AIST)
- 11:30** 3F11-3 High-affinity Antibody Selection and Production System using Chimeric receptors
.....○Jun HAYASHI¹, Kento TANAKA², Masahiro KAWAHARA², Hiroshi UEDA³, Teruyuki NAGAMUNE² (¹Dept. Chem. Biotech., Grad. Sch. Eng., Univ. Tokyo, ²Dept. Chem. Biotech., Univ. Tokyo)
- 11:42** 3F11-4 Development of antibody-producing system in fish for the recombinant products expressed by *E. coli*
.....Shin-ichi AKIYAMA¹, Noriko HAIYAMA², ○Yutaka TAMARU³ (¹Wakayama Ind. Prom. Found., ²Fac. Biores., Mie Univ., ³Grad. Sch. Biores., Mie Univ.)
- 11:54** 3F11-5 Generation of high affinity mutant anti-estradiol antibody fragment based on CDR shuffling technology.
.....○Yoshinori KATO¹, Hiroyuki OYAMA¹, Norihiro KOBAYASHI¹, Junichi GOTO² (¹Kobe Pharm. Univ., ²Tohoku Univ. Hospital)
- 12:06** 3F12-1 A novel antibody screening system using a chicken B cell line, DT40-SW: Rapid construction of antibody library by increasing mutation frequency.
.....○Yuichi KANEHIRO, Masaki MAGARI, Kagefumi TODO, Naoki KANAYAMA, Hitoshi OHMORI (Dept. Biotech., Okayama Univ.)
- 12:18** 3F12-2 A novel antibody screening system using a chicken B cell line, DT40-SW : augmentation of antibody production by suppressing Pax5 expression.
.....○Masaki MAGARI, Takahiro AYA, Kagefumi TODO, Naoki KANAYAMA, Hitoshi OHMORI (Dept. Biotech., Okayama Univ.)
- 12:30** 3F12-3 A novel antibody screening system using a chicken B cell line, DT40-SW:efficient isolation of antigen-specific clones by cell sorter
.....○Takahiro OKAZAWA, Kagefumi TODO, Masamichi KAJITA, Masaki MAGARI, Naoki KANAYAMA, Hitoshi OHMORI (Dept. Biotech., Okayama Univ.)

Room G Morning (9:30~11:54)

General Presentation (Brewing, Brewing Technology / Others)

- 9:30** 3G09-1 Production of homozygous diploids sake yeast by isolation of haploid and chromosome doubling
.....○Yasuhiro DAIMARU¹, Taku KATOU¹, Takeshi AKAO², Hitoshi SHIMO²
(¹Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ., ²Natl. Res. Inst. Brewing)
- 9:42** 3G09-2 Analysis of biotin biosynthesis genes in sake yeast
.....○Hideki YASUMITSU¹, Wu HONG², Hiroshi KITAGAKI², Takeshi AKAO², Shigeaki MIKAMI²,
Hitoshi SHIMO^{2,1} (¹Grad. Sch. Adv. Sci. Matter, Hiroshima Univ, Molecular, ²NRIB)
- 9:54** 3G09-3 Analysis of high fermentability by disrupting ubiquitin-related genes in yeast
.....○Tomoko WATANABE^{1,2}, Hong WU², Hitoshi SHIMO²
(¹Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ., ²Natl. Res. Inst. Brewing)
- 10:06** 3G10-1 Ethanol-induced death in yeast exhibits features of apoptosis mediated by mitochondrial fission pathway.
.....○Hiroshi KITAGAKI¹, Yoshio ARAKI¹, Kouichi FUNATO², Hitoshi SHIMO¹
(¹Natl. Res. Inst. Brewing, ²Grad. Sch. Biosph. Sci. Hiroshima Univ.)
- 10:18** 3G10-2 Ethanol causes hyperadenylation and nuclear retention of yeast *HSP* mRNAs
.....○Takeomi KITA, Shingo IZAWA, Kayo IKEDA, Keiko KITA, Yoshiharu INOUE
(Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto Univ.)
- 10:30** 3G10-3 P-body formation in sake yeast during brewing process
.....○Shingo IZAWA, Takeomi KITA, Kayo IKEDA, Yoshiharu INOUE
(Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto Univ.)
- 10:42** 3G10-4 Release of thioredoxin from yeast by ethanol stress
.....Yoko TAKEUCHI¹, Shingo IZAWA¹, Atsushi KITAOKA², Yoshifumi KIYOKAWA²,
Kazuo MURATA³, Yoshinori WAKAI², Junji YODOI⁴, Yoshiharu INOUE¹
(¹Grad. Sch. of Agric., Kyoto Univ., ²Kizakura Sake Brewing, ³Redox Bioscience Inc.,
⁴Inst. for Virus Res., Kyoto Univ.)
- 10:54** 3G10-5 Transition of Thioredoxin in Sake Manufacturing Process
.....○Atsushi KITAOKA¹, Yoshifumi KIYOKAWA¹, Kazuo MURATA², Yoshinori WAKAI¹,
Junji YODOI³, Yoshiharu INOUE⁴ (¹Kizakura Sake Brewing, ²Redox Bioscience Inc.,
³Inst. for Virus Res., Kyoto Univ., ⁴Grad. Sch. Agric., Kyoto Univ.)
- 11:06** 3G11-1 Allicin-dependent amplification of the antifungal activity of polymyxin B
.....○Akira OGITA¹, Yasuhiro NAGAO², Ken-ichi FUJITA², Makoto TANIGUCHI², Toshio TANAKA²
(¹Res. Center for Urban Health & Sports, Osaka City Univ., ²Grad. Sch. Sci., Osaka City Univ.)
- 11:18** 3G11-2 Amplification of polymyxin B-mediated antifungal activity by ionophores
.....○Yukiko KONISHI¹, Akira OGITA², Ken-ichi FUJITA¹, Toshio TANAKA¹
(¹Grad. Sch. Sci., Osaka City Univ., ²Res. Center for Urban Health & Sports, Osaka City Univ.)
- 11:30** 3G11-3 Mode of action of isoprenoid-derivative with an inhibitory activity on morphogenetic process of yeast cell wall
.....○Ikumi OHATA¹, Akira OGITA², Ken-ichi FUJITA¹, Toshio TANAKA¹
(¹Grad. Sch. Sci., Osaka City Univ., ²Res. Center for Urban Health & Sports, Osaka City Univ.)
- 11:42** 3G11-4 Involvement of the inhibition of chitin synthase activity in trans-anethole-induced morphological changes of *Mucor mucedo*.
.....○Yukie HASHIMOTO¹, Akira OGITA², Makoto TANIGUCHI¹, Toshio TANAKA¹, Ken-ichi FUJITA¹
(¹Graduate School of Science, Osaka City Univ., ²Res. Center for Urban Health & Sports, Osaka City Univ.)

Room H Morning (9:30~11:54)

General Presentation (Bioremediation)

- 9:30** 3H09-1 Factors that influence the degradation of tris (1,3-dichloro-2-propyl) phosphate by *Sphingomonas* sp. strain TDK1
...○Jun MORINO, Hongde XU, Isao KONUMA, Shouji TAKAHASHI, Yoshio KERA (Nagaoka Univ. Tech.)
- 9:42** 3H09-2 Research of gamma-HCH degradation genes from *Sphingomonas* sp. MM-1 which is from gamma-HCH contaminated soil in India.
.....○Michiro TABATA, Ryo ENDO, Michihiro ITO, Yoshiyuki OTSUBO, Yuji NAGATA, Masataka TSUDA
(Grad. Sch. Life Sci., Tohoku Univ.)
- 9:54** 3H09-3 Putative haloalkane dehalogenase genes from marine sponge metagenome
.....○Yasusuke ARAI¹, Michihiro ITO¹, Hiroko YOKOUCHI², Haruko TAKEYAMA^{3,4},
Yoshiyuki OHTSUBO¹, Yuji NAGATA¹, Masataka TUDA¹ (¹Grad. Sch. Life Sci., Tohoku Univ.,
²Institute for Biomedical Engineering, Waseda Univ., ³Dept. Biotechnol., Tokyo Univ. Agric. Technol.,
⁴Dep. Life Science and Medical Bio-Science, Waseda Univ.)
- 10:06** 3H10-1 Effects of chloromethanes on the strictly anaerobic dechlorinating bacteria
.....○Yuko FUKAKI¹, Taiki FUTAGAMI¹, Masatoshi GOTO², Kensuke FURUKAWA³
(¹Grad. Sch. Biores. Bioenviron. Sci., Kyushu Univ., ²Fac. Agric., Kyushu Univ., ³Fac. Food Sci. Nut., Beppu Univ.)
- 10:18** 3H10-2 Degradation of 1,1-dichloro-2,2-bis(4-chlorophenyl)ethylene (DDE) by *Pseudomonas* sp. strain TYM322

-○Yosuke SATO¹, Takumi IWASAKI¹, Keisuke MIYAUCHI², Eiji MASAI¹, Masao FUKUDA¹
(¹Dept. Bioeng., Nagaoka Univ. Technol., ²Tohoku Gakuin Univ.)
- 10:30** 3H10-3 Characterization of the enzymes for downstream biphenyl metabolic pathway in a PCB degrader *Rhodococcus* sp. RHA1
.....○Naoko KURODA, Touju IINO, Eiji MASAI, Masao FUKUDA (Dept. Bioeng., Nagaoka Univ. Technol.)
- 10:42** 3H10-4 Functional analysis of the second 4-nitrophenol hydroxylase of *Rhodococcus* sp. PN1
.....○Kenta YAMAMOTO, Munehiro NISHIMURA, Dai-ichiro KATO, Masahiro TAKEO,
Seiji NEGORO (Grad.Sch.Eng.Univ.Hyogo)
- 10:54** 3H10-5 Crystal structural analysis of 4-nitrophenol monooxygenase oxygenase component(NphA1) of *Rhodococcus* sp. PN1
.....○Munehiro NISHIMURA¹, Naoki SHIBATA², Kenta YAMAMOTO¹, Yoshiki HIGUCHI²,
Dai-ichiro KATO¹, Masahiro TAKEO¹, Seiji NEGORO¹ (¹Grad.Sch.Eng.Univ.Hyogo,
²Grad.Sch.Life Sci.Hyogo)
- 11:06** 3H11-1 Gene disruption of an aldehyde dehydrogenase of *Rhodococcus erythropolis* N9T-4 that show CO₂-dependent growth
.....○Naoko OHHATA¹, Nobuyuki YOSHIDA¹, Tohoru KATSURAGI¹, Yoshiki TANI², Hitoshi TAKAGI¹
(¹Grad. Sch. Biol. Sci., NAIST, ²Dept. Biosci. Biotech., Kyoto Gakuen Univ.)
- 11:18** 3H11-2 Production of a biosurfactant by *Gordonia* sp.
.....Haruhiko MIZUNO¹, ○Noriko NOGUCHI¹, Toru MATSUI², Sosaku ICHIKAWA¹, Seigo SATO¹
(¹Grad. Sch. Life Env. Sci., Univ. Tsukuba, ²COMB, Uni. Ryukyus)
- 11:30** 3H11-3 Construction of *E.coli* with rapid degrading ability for atrazine herbicides.
.....○Machiko INABA¹, Akio IWASAKI², Kazuhiro TAKAGI³, Hideo TANAKA⁴, Hideki AOYAGI⁴
(¹Ins. of Env. Toxicology, ²Kowa Res. Ins., ³NIAES, ⁴Univ. Tsukuba)
- 11:42** 3H11-4 Alga-lysing and binding activities in C-terminal domain of a protease from a marine bacterium
.....○Daiki KOUNO, Junichi KATOU, Akio KURODA, Noboru TAKIGUCHI
(Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)

Room I Morning (9:30~12:42)

General Presentation (Peptide Engineering, Proteomics / Glycoengineering)

- 9:30** 3I09-1 A rapid and high-efficient affinity selection of the surface displayed proteins using temperature-responsive magnetic nanoparticle.
.....○Nobuo FUKUDA¹, Jun ISHII¹, Hideki FUKUDA¹, Akihiko KONDO²
(¹Grad. Sch. Sci. Tech., Kobe Univ., ²Fac. Eng., Kobe Univ.)
- 9:42** 3I09-2 Identification of glycoproteins mannosylated by PmtA in *Aspergillus nidulans*
.....○Sho MATSUMOTO¹, Yayoi KIDO², Yuka HARADA², Masatoshi GOTO², Kensuke FURUKAWA³
(¹Grad. Sch. Biores. Bioenviron. Sci., Kyushu Univ., ²Grad. Sch. Biores. Bioenviron. Kyushu Univ.,
³Food Sci&Nut. Beppu Univ.)
- 9:54** 3I09-3 Proteome analysis of protein specifically expressed in hepatocellular carcinoma.
.....○Takashi NISHIMIYA, Youichi KUMADA, Michimasa KISHIMOTO
(Dept. Chem. Materials., Kyoto Inst. Tech.)
- 10:06** 3I10-1 Modulation of outer membrane permeability of a psychrotrophic bacterium, *Shewanella livingstonensis* Ac10
.....○Jun KAWAMOTO, Tatsuo KURIHARA, Nobuyoshi ESAKI (Inst. Chem. Res., Kyoto Univ.)
- 10:18** 3I10-2 Cell adhesion and morphology of Mesenchymal stem cells by Screened Peptides
.....○Shigeyuki NOMURA¹, Chiaki KAGA¹, Ryuji KATO¹, Mina OKOCHI¹, Masahiro KINOOKA²,
Hiroyuki HONDA^{1,3} (¹Dept. Biotech., Grad. Sch. Eng., Nagoya Univ., ²Grad. Sch. Eng. Sci., Osaka Univ.,
³MEXT Innovative Research Center for Preventive Medical Engineering)
- 10:30** 3I10-3 Screening of novel 8-mer peptide induces cell death mediated apoptosis
.....○Chiaki KAGA¹, Mina OKOCHI¹, Mari NAKANISHI¹, Hiroki HAYASHI¹, Ryuji KATO¹,
Hiroyuki HONDA^{1,2} (¹Dept. Biotech., Grad. Sch. Eng., Nagoya Univ., ²MEXT Innovative Research Center
for Preventive Medical Engineering (PME Center))
- 10:42** 3I10-4 Design of ZnO binding peptides by combination of experimental and computational methods
.....○Masafumi OGAWA¹, Mina OKOCHI¹, Yasuyuki TOMITA¹, Chiaki KAGA¹, Ryuji KATO¹,
Hiroyuki HONDA^{1,2} (¹Dept. Biotech., Grad. Sch. Eng., Nagoya Univ., ²MEXT Innovative Research Center
for Preventive Medical Engineering (PME Center))
- 10:54** 3I10-5 Effects of secondary cell walls components on the binding of SLH polypeptides from *Clostridium josui* Xyn10A, *Clostridium stercoararium* Xyn10B and *Clostridium thermocellum* AncA to their cell walls
.....○Guangshan ZHAO¹, Makiko SAKKA², Tetsuya KIMURA², Kazuo SAKKA²
(¹Phoenix Lives Institute, ²Fac. Biores., Mie Univ.)
- 11:06** 3I11-1 Proteomic analysis of *Saccharomyces cerevisiae* for *shochu* fermentation
.....○Hiroyuki MORINAGA¹, Kayo MATSUSHITA², Eri OGIRU², Hiroshi SAKAIDA¹,
Yoichi SAKAKIBARA², Takanori KAI¹, Masahito SUIKO² (¹Unkai Shuzo Co.,Ltd.,
²Dept. Biochem. Appl. Biosci., Miyazaki Univ.)
- 11:18** 3I11-2 Capsular polysaccharide synthesis genes in *Streptococcus anginosus*

-Hiroyuki TSUNASHIMA, ○Katsuhide MIYAKE, Shinji IJIMA
(Dept. Biotech., Grad. Sch. Eng., Nagoya Univ.)
- 11:30** 3I11-3 Production of chicken sialyltransferases in insect cells
.....Takako SASAMOTO¹, Katsuhide MIYAKE¹, Jun KOJIMA¹, Kanako ITO¹, Yonsu PAKU²,
Kennichi NISHIJIMA¹, ○Shinji IJIMA¹ (¹Dept. Biotech., Grad. Sch. Eng., Nagoya Univ.,
²Grad. Sch. Sci. Tech., Shizuoka University)
- 11:42** 3I11-4 Extraction, Structures, and Properties of Sulfated Sugar Chain from Fresh Water Cyanobacterium *Aphanothece*
sacrum
.....○Maiko OKAJIMA¹, Takeshi BAMBATA², Ei'ichiro FUKUSAKI³, Kazumasa HIRATA², Tatsuo KANEKO¹
(¹Sch. Mat. Sci., JAIST, ²Grad. Sch. Pharm. Sci., Osaka Univ., ³Dept. Biotech., Grad. Sch. Eng., Osaka Univ.)
- 11:54** 3I11-5 Enzymatic preparation of galacto-*N*-biose
.....○Mamoru NISHIMOTO, Motomitsu KITAOKA (Natl. Food Res. Inst.)
- 12:06** 3I12-1 Technologies for reducing environmental loads to utilize chitin as biomass resources
.....○Kazuhide TOTANI¹, Yasuhiro OYAMA¹, Takuya FUKUMURA¹, Mitsuru NIKAIIDO¹,
Syoji INOMATA², Kazuhiro WATANABE³, Kanako SHIBATA³, Ryosuke KATSUMI³
(¹Chem. Eng., Ichinoseki Natl. Col. Tech., ²Earth Technica Co., Ltd., ³Yaizu Suisankagaku Ind. Co., Ltd.)
- 12:18** 3I12-2 Substrate specificity of endo- α -*N*-acetyl galactosaminidase from *Clostridium perfringens*
.....○Riichi MAKI¹, Hayato OZAWA¹, Masaya FUJITA², Hideharu ISHIDA³, Makoto KISO³,
Hisashi ASHIDA¹, Kenji YAMAMOTO¹ (¹Grad. Sch. Biostud., Kyoto Univ., ²Noguchi Inst.,
³Sci. Biol. Res., United Grad. Sch. Agric. Sci., Gifu Univ.)
- 12:30** 3I12-3 Optimization of the length of chitosan backbone in chemoenzymatically synthesized binding-inhibitor against
influenza virus
.....○Maiko UMEMURA¹, Midori UMEKAWA¹, Yutaka MAKIMURA², Ayano MASUI³,
Yoshiharu MATAHIRA³, Masae ITOH⁴, Hisashi ASHIDA¹, Kenji YAMAMOTO¹
(¹Grad. Sch. Biostud., Kyoto Univ., ²Sch. Dent., Asahi Univ., ³Yaizu Suisankagaku Ind. Co., Ltd.,
⁴Biosci., Nagahama Inst. Bio-sci. Tech.)

Room J Morning (9:30~12:18)

General Presentation (Biochemical Engineering)

- 9:30** 3J09-1 Characteristics of nanobacteria-like particles isolated from a human leukemia cell line
.....○Keiko KONDOU¹, Setsuko SHIODA², Arihiro KOHARA³, Hiroshi MIZUSAWA²,
Ryo HARASAWA³, Hideki AOYAGI¹ (¹Grad. Sch. Life Env. Sci., Univ. Tsukuba,
²Nat. Inst. Biomed. Innov., ³Dept. Vet. Med. Iwate Univ.)
- 9:42** 3J09-2 Isolation of nanobacteria-like particles from a *Drosophila melanogaster* cell line
.....○Yoichi TANAKA, Hideki AOYAGI (Grad. Sch. Life Env. Sci., Univ. Tsukuba)
- 9:54** 3J09-3 Effect of nano particles on the communication among microorganisms-Quorum sensing-
.....○Miho TAKAHASHI, Nakao NOMURA, Hideki AOYAGI (Grad. Sch. Life Env. Sci., Univ. Tsukuba)
- 10:06** 3J10-1 Quantitative analysis of adhesion characteristics of pollen and nano particle.
.....○Hitomi ENOKIDO¹, Katsumi YABUSAKI², Hideki AOYAGI¹
(¹Grad.Sch.Life.Env.Sci.Univ.Tsukuba, ²Elect.Opt.Lab.,Kowa Co.Ltd.)
- 10:18** 3J10-2 Surface modification of upconversion nanophosphors for bio-imaging
.....○Hiroyasu NAGATA¹, Tamotsu ZAKO¹, Arata UTSUMI², Masafumi SAKONO¹, Naofumi TERADA¹,
Hiroshi UEDA³, Masafumi YOYODA², Kohei SOGA⁴, Mizuo MAEDA¹ (¹RIKEN,
²Tokyo Univ. Agric. Technol., ³Univ. Tokyo, ⁴Tokyo Univ. Sci)
- 10:30** 3J10-3 Proteome analysis of alpha-amylase production using *Bacillus amyloliquefaciens*
.....○Yuji IMAI, Kiyoshi TADA, Tohru KANNO, Jun-ichi HORIUCHI (Kitami Inst. Technol.)
- 10:42** 3J10-4 Effect of zinc addition on ethanol productivity of *Saccharomyces cerevisiae* and its microarray analysis
.....○Kazuaki NINOMIYA, Kentaro NAKASE, Yoshio KATAKURA, Suteaki SHIOYA
(Dept. Biotech., Grad. Sch. Eng., Osaka Univ.)
- 10:54** 3J10-5 Photoregulated gene expression cell array based on caged DNA technology
.....○Satoshi YAMAGUCHI¹, Yuuki OHKOSHI¹, Shinya TSUKIJI², Kazumi HAKAMADA¹,
Yasuto TOKUMOTO³, Jun MIYAKE¹, Teruyuki NAGAMUNE¹ (¹Dept. Bioeng., Univ. Tokyo,
²Dept. Synth. Chem. Biol. Chem., Kyoto Univ., ³Dept. Chem. Biotech., Univ. Tokyo)
- 11:06** 3J11-1 Induction of an abnormal early development in Zebrafish by low-temperature processing.
.....○Yoshiyuki OMURA, Minoru HIRANO, Takehiko OKA, Yasuhito SHIMADA,
Toshio TANAKA, Norihiro NISHIMURA (Sch. Med., Mie Univ.)
- 11:18** 3J11-2 Lactic acid bacteria recognize yeast mannan
.....○Ryosuke SANO, Kazuaki NINOMIYA, Yoshio KATAKURA, Suteaki SHIOYA
(Dept. Biotech., Grad. Sch. Eng., Osaka Univ.)
- 11:30** 3J11-3 Breeding of yeast that specifically recognizes lactic acid bacteria with the aim of efficient coculture
.....○Shoko AOI, Kazuaki NINOMIYA, Yoshio KATAKURA, Suteaki SHIOYA
(Dept. Biotech., Grad. Sch. Eng., Osaka Univ.)
- 11:42** 3J11-4 Construction of cell-surface display system in *Aspergillus oryzae*

.....○Takashi ADACHI¹, Junji ITO¹, Kouji KAWATA², Hiroki ISHIDA³, Hiroshi SAHARA³, Yoji HATA³,
Hideki FUKUDA⁴, Akihiko KONDO¹ (¹Grad. Sch. Eng., Kobe Univ, ²Grad. Sch. Sci. Tech., Kobe Univ.,
³Res. Inst., Gekkeikan Sake Co., ⁴Org. Adv. Sci. Tech., Kobe Univ.)

11:54 3J11-5 Measurement of bacterial surface hydrophobicity

.....○Takahiro HAMADA¹, Kohsuke HONDA¹, Takashi OMASA¹, Junichi KATO², Hisao OHTAKE²
(¹Dept. Biotech., Grad. Sch. Eng., Osaka Univ., ²Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)

12:06 3J12-1 Isolation and characterization of morphologic mutants derived from *Rhodococcus opacus* B4

.....○Yukiteru TOSAKA¹, Takahiro HAMADA¹, Chifun PARK¹, Kohsuke HONDA¹, Takeshi OMASA¹,
Tomohiro TAMURA², Junichi KATO³, Hisao OHTAKE¹ (¹Dept. Biotech., Grad. Sch. Eng., Osaka Univ.,
²RIGB, AIST, ³Dept. Mol. Biotech., Grad. Sch. Adv. Sci. Mat., Hiroshima Univ.)