

# GENERAL PRESENTATIONS

## PROGRAM OF POSTER PRESENTATIONS

- Posters will be kept for browsing for the entire three days of this meeting.
- Discussion for odd numbered posters is on Day 1, and even numbered posters is Day 3. Each poster discussion time is further divided into two parts depending on whether the ten's digit of the poster number is odd or even.

- **For odd numbered posters,**

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- ▶ First half: 17:15–18:00 on Day 1

The ten's digit is an odd number (e.g., P-115, P-231)

- ▶ Second half: 18:00–18:45 on Day 1

The ten's digit is an even number (e.g., P-125, P-241)

- ▶ Free discussion: 18:45–19:45 on Day 1

- **For Even numbered posters,**

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- ▶ First half: 13:30–14:15 on Day 3

The ten's digit is an odd number (e.g., P-116, P-232)

- ▶ Second half: 14:15–15:00 on Day 3

The ten's digit is an even number (e.g., P-126, P-242)

- ▶ Free discussion: 15:00–16:00 on Day 3

## ■ Plant hormones/Signaling molecules (Peptide hormones/Receptors/Others)

- P-001 A Collection of Mutants for CLE-Peptide-Encoding Genes in *Arabidopsis* Generated by CRISPR/Cas9-Mediated Gene Targeting  
Yasuka L Yamaguchi<sup>1</sup>, Takashi Ishida<sup>2</sup>, Yoshimura Mika<sup>2</sup>, Yuko Imamura<sup>1</sup>, Chie Shimaoka<sup>1</sup>, Shinichiro Sawa<sup>1</sup> (<sup>1</sup>Kumamoto University, Graduate School of Science and Technology, <sup>2</sup>Kumamoto University, IROAST)
- P-002 Functional analysis of CLE16 and CLE17 in *Arabidopsis*  
Chie Shimaoka<sup>1</sup>, Takashi Ishida<sup>2</sup>, Shinichiro Sawa<sup>1</sup> (<sup>1</sup>Grad. Sch. Sci., Univ. Kumamoto, <sup>2</sup>IROAST, Univ. Kumamoto)
- P-003 Chemical genetic dissection of stomatal patterning  
Ayami Nakagawa<sup>1</sup>, Naoyuki Uchida<sup>1</sup>, Keiko Torii<sup>1,2,3</sup> (<sup>1</sup>Institute of Transformative Bio-Molecules, Nagoya University, <sup>2</sup>Howard Hughes Medical Institute, <sup>3</sup>University of Washington)
- P-004 Analysis of ancestral role of D14/KAI2 signaling pathway using *Marchantia Polymorpha*  
Yohei Mizuno<sup>1</sup>, Satoshi Naramoto<sup>1</sup>, Kimitsune Ishizaki<sup>2</sup>, Junko Kyojuka<sup>1</sup> (<sup>1</sup>Grad. Sch., Life Sci., Tohoku Univ., <sup>2</sup>Grad. Sch. Sci., Kobe Univ.)
- P-005 Functions of ERECTA-family receptor kinases in *Arabidopsis* leaf vein formation  
Yuki Nakashima<sup>1,2</sup>, Daisuke Kumamoto<sup>3</sup>, Hitoshi Endo<sup>1</sup>, Masao Tasaka<sup>3</sup>, Keiko Torii<sup>1,4</sup>, Naoyuki Uchida<sup>1</sup> (<sup>1</sup>ITbM, Nagoya Univ., <sup>2</sup>Dept. Sci., Nagoya Univ., <sup>3</sup>NAIST, <sup>4</sup>HHMI, Washington Univ.)
- P-006 ERECTA-family receptors coordinate layer-specific stem cell maintenance in the shoot apical meristem  
Yuka Kimura<sup>1</sup>, Masao Tasaka<sup>2</sup>, Keiko Torii<sup>3,4</sup>, Naoyuki Uchida<sup>1</sup> (<sup>1</sup>ITbM, Nagoya Univ., <sup>2</sup>NAIST, <sup>3</sup>Univ. Washington, <sup>4</sup>HHMI)
- P-007 Inhibition of root gravitropism caused by 4-PBA analog  
Issei Takahashi, Takahiro Sato, Rey Matsumoto, Kie Takahashi, Hirokazu Iida, Youichi Kondou (Univ. Kanto-Gakuin)
- P-008 Comprehensive analyses of gene expression and protein phosphorylation during ABA-induced suppression of hypocotyl elongation  
Yuki Hayashi<sup>1</sup>, Keiko Kuwata<sup>2</sup>, Takamasu Suzuki<sup>3</sup>, Toshinori Kinoshita<sup>1,2</sup> (<sup>1</sup>Grad. Sch. Sci., Nagoya Univ., <sup>2</sup>WPI-ITbM, Nagoya Univ., <sup>3</sup>Dept. Bio. Chem., Chubu Univ.)
- P-009 *Arabidopsis* PCaP2 Modulates the Phosphatidylinositol 4,5-bisphosphate Signal on the Plasma Membrane to Attenuates Root Hair Elongation  
Mariko Kato<sup>1</sup>, Tomohiko Tsuge<sup>1</sup>, Masayoshi Maeshima<sup>2</sup>, Takashi Aoyama<sup>1</sup> (<sup>1</sup>Inst. Chem. Res., Kyoto Univ., <sup>2</sup>Grad. Sch. Bioagr. Sci., Nagoya Univ.)
- P-010 Analysis of novel transcription factors that activate the *NCED3* gene under drought stress conditions in *Arabidopsis thaliana*  
Hikaru Sato<sup>1</sup>, Hironori Takasaki<sup>1,5</sup>, Fuminori Takahashi<sup>1</sup>, Takamasu Suzuki<sup>2</sup>, Satoshi Iuchi<sup>3</sup>, Nobutaka Mitsuda<sup>4</sup>, Masaru Ohme-Takagi<sup>4,5</sup>, Kazuko Yamaguchi-Shinozaki<sup>6</sup>, Kazuo Shinozaki<sup>1</sup> (<sup>1</sup>RIKEN CSRS, <sup>2</sup>Chubu University, College of Bioscience and Biotechnology, <sup>3</sup>RIKEN BRC, <sup>4</sup>National Institute of Advanced Industrial Science and Technology, Bioproduction Research Institute, <sup>5</sup>Saitama University, Graduate School of Science and Engineering, <sup>6</sup>University of Tokyo, Graduate School of Agricultural and Life Sciences)
- P-011 Screening of *Arabidopsis* bHLH transcription factors in brassinosteroid signaling by combination of CRES-T method and chemical biology method.  
Yuichiro Tanaka<sup>1,2</sup>, Reika Taguchi<sup>3</sup>, Ayumi Yamagami<sup>1</sup>, Tomoko Miyaji<sup>1</sup>, Miho Ikeda<sup>3</sup>, Nobutaka Mitsuda<sup>4</sup>, Tetsuo Kushiro<sup>2</sup>, Kazuo Shinozaki<sup>1</sup>, Tadao Asami<sup>5,6</sup>, Masaru Ohme-Takagi<sup>3,4</sup>, Takeshi Nakano<sup>1,6</sup> (<sup>1</sup>CSRS, RIKEN, <sup>2</sup>Dept. Agric. Chem., Meiji Univ., <sup>3</sup>Grad. Sch. Science. Technol., Saitama Univ., <sup>4</sup>AIST, <sup>5</sup>Dept. Appl. Biol. Chem., Univ. of Tokyo, <sup>6</sup>CREST, JST)
- P-012 Regulation of photomorphogenesis by Brassinosteroid  
Hidefumi Hamasaki<sup>1,4</sup>, Madoka Ayano<sup>1</sup>, Ayako Nakamura<sup>1</sup>, Tadao Asami<sup>2</sup>, Shigeo Yoshida<sup>3</sup>, Yoshito Oka<sup>4</sup>, Minami Matsui<sup>4</sup>, Yukihisa Shimada<sup>1</sup> (<sup>1</sup>Yokohama City Univ. KIBR, <sup>2</sup>Dept, Appl. Biol. Chem., Univ. of Tokyo, <sup>3</sup>RIKEN Wako, <sup>4</sup>RIKEN CSRS)
- P-013 Functional analysis of *PIP5K7* and *PIP5K8* in *Arabidopsis thaliana*  
Ryo Kuroda, Mariko Kato, Tomohiko Tsuge, Takashi Aoyama (Institute for Chemical Research, Kyoto University)
- P-014 Gibberellin induces an increase in cytosolic Ca<sup>2+</sup> via a DELLA-independent signaling pathway.  
Kanako Okada, Takeshi Ito, Jutarou Fukazawa, Yohsuke Takahashi (Grad. Sch. Sci., Univ. Hiroshima)
- P-015 Genetic analysis of type B PIP5K genes using multiple mutants  
Machiko Watari, Mariko Kato, Tomohiko Tsuge, Takashi Aoyama (Institute for Chemical Research, Kyoto University)
- P-016 A leading compound that regulate stomatal development  
Hitoshi Endo<sup>1</sup>, Seisuke Kimura<sup>2</sup>, Naoyuki Uchida<sup>1</sup>, Keiko Torii<sup>1,3</sup> (<sup>1</sup>ITbM, Nagoya Univ., <sup>2</sup>Kyosan Univ., <sup>3</sup>Univ. Washington)

- P-017 Effect of the *OsCKX2/Gn1a* mutation on grain yield in CRISPR/Cas9 mutated japonica rice  
Maki Nagata<sup>1</sup>, Miki Ohtake<sup>1</sup>, Masaki Endo<sup>1</sup>, Seiichi Toki<sup>1</sup>, Hitoshi Sakakibara<sup>2</sup>, Akira Komatsu<sup>1</sup> (<sup>1</sup>NARO, Institute of Agrobiological Sciences (NIAS), <sup>2</sup>RIKEN, CSRS)
- P-018 Highly sensitive and high-throughput phytohormone quantification platform  
Mikiko Kojima, Yumiko Takebayashi, Hitoshi Sakakibara (RIKEN, CSRS)
- **Plant hormones/Signaling molecules (Growth regulators)**
- P-019 Identification of Arabidopsis SWEET proteins capable of transporting gibberellin  
 Yuri Kanno<sup>1</sup>, Takaya Oikawa<sup>2</sup>, Yasutaka Chiba<sup>1,3</sup>, Yasuhiro Ishimaru<sup>2</sup>, Takafumi Shimizu<sup>1,4</sup>, Naoto Sano<sup>1,5</sup>, Tomokazu Koshiba<sup>3</sup>, Yuji Kamiya<sup>1</sup>, Mitsunori Ueda<sup>2</sup>, Mitsunori Seo<sup>1,3</sup> (<sup>1</sup>RIKEN CSRS, <sup>2</sup>Dept. of Chem., Grad. Sch. of Sci., Tohoku Univ., <sup>3</sup>Dept. of Biol. Sci., Grad. Sch. of Sci. and Eng., Tokyo Metropolitan Univ., <sup>4</sup>Grad. Sch. Biol. Sci., NAIST, <sup>5</sup>IJPB, INRA)
- P-020 A small-compound-based approach to dissect mechanisms coordinating hypocotyl growth  
Mizuki Murao<sup>1,2</sup>, Rika Kato<sup>1,2</sup>, Hitoshi Endo<sup>1</sup>, Shinya Hagihara<sup>1</sup>, Kenichiro Itami<sup>1</sup>, Keiko Torii<sup>1,3</sup>, Naoyuki Uchida<sup>1</sup> (<sup>1</sup>ITbM, Nagoya Univ., <sup>2</sup>Dept. Sci., Nagoya Univ., <sup>3</sup>HHMI, Washington Univ.)
- P-021 Gibberellin (GA) 2-oxidase in rice regulates its activity by GA-mediated tetramerization  
Sayaka Takehara<sup>1</sup>, Bunzo Mikami<sup>2</sup>, Kyosuke Kawai<sup>1</sup>, Makoto Matsuoka<sup>1</sup>, Miyako Ueguchi-Tanaka<sup>1</sup> (<sup>1</sup>Nagoya Univ., <sup>2</sup>Kyoto Univ.)
- P-022 Understanding the mechanisms of action of auxinic herbicides Dicamba and Picloram in inhibiting Arabidopsis root growth  
Haruna Sakai, Abidur Rahman (Faculty of Agriculture, Iwate University)
- P-023 Physiological study of root pruning which enhances lateral-root growth  
Jiahang Miao<sup>1</sup>, Xiaoli Sun<sup>2</sup>, Dongyang Xu<sup>3</sup>, Emi Yumoto<sup>4</sup>, Takao Yokota<sup>4</sup>, Masashi Asahina<sup>4</sup>, Masaaki Watahiki<sup>1,2</sup> (<sup>1</sup>Grad. Sch. Life. Sci., Hokkaido Univ., Sapporo, <sup>2</sup>Div. Biol. Sci., Fac. Sci., Hokkaido Univ., Sapporo, <sup>3</sup>Sch. Biomed. Sci., Inst. Geno., Huaqiao Univ., Amoy, China, <sup>4</sup>Dep. Biosci., Teikyo Univ., Utsunomiya)
- P-024 Gibberellin 3-oxidase 1 is essential for reproductive stage in Rice  
Kyosuke Kawai<sup>1</sup>, Sayaka Takehara<sup>1</sup>, Toru Kashio<sup>1</sup>, Aya Ito<sup>1</sup>, Hiroyasu Furuumi<sup>2</sup>, Ken-ichi Nonomura<sup>2</sup>, Makoto Matsuoka<sup>1</sup>, Miyako Ueguchi-Tanaka<sup>1</sup> (<sup>1</sup>Bioscience and Biotechnology Center, Univ. Nagoya, <sup>2</sup>Experimental Farm, National Institute of Genetics)
- P-025 Identification and functional analysis of OPDA reductase (OPR) gene of *Euglena gracilis*  
Shota Kato, Masashi Nakamura, Koji Miyamoto, Emi Yumoto, Kenichi Uchida, Takao Yokota, Hisakazu Yamane, Tomoko Shinomura (Dept. Biosci., Teikyo Univ.)
- P-026 Auxin biosynthesis inhibitor, KOK2052BP induces early flowering in tomato  
Kaoru Takahashi<sup>1</sup>, Rie Kikuchi<sup>2</sup>, Yusuke Kakei<sup>1</sup>, Akiko Sato<sup>1</sup>, Kazuo Soeno<sup>3</sup>, Tadahisa Higashide<sup>4</sup>, Yukihiisa Shimada<sup>1</sup> (<sup>1</sup>Kihira Inst. for Biol. Res., Yokohama City Univ, <sup>2</sup>Kanagawa Univ, <sup>3</sup>WARC/NARO, <sup>4</sup>NIVFS)
- P-027 How is the stem twining controlled in morning glory ? -Expression analysis of ACC synthase genes and examination of auxin-responsive promoter assay-  
Tomoe Yofune<sup>1</sup>, Miyuki Funamoto<sup>2</sup>, Tsuyoshi Kaneta<sup>1</sup> (<sup>1</sup>Grad. Sch. Sci & Eng., Ehime Univ., <sup>2</sup>Fac. Sci., Ehime Univ.)
- P-028 Effects of Phytohormone on the Antheridium and Prothalli Formation in *Ligodium japonicum*.  
Natsumi Ohishi<sup>1</sup>, Mizuho Takeda<sup>2</sup>, Nanami Hoshika<sup>2</sup>, Kyomi Shibata<sup>2</sup>, Emi Yumoto<sup>2</sup>, Takao Yokota<sup>2</sup>, Hisakazu Yamane<sup>2</sup>, Masashi Asahina<sup>1,2</sup> (<sup>1</sup>Grad. Sch. Sci. & Eng. Teikyo Univ., <sup>2</sup>Dept. Biosci, Teikyo Univ.)
- P-029 Early-heading is observed in rice plants transgenic for the *ipt* gene under the control of prolamin promoter  
Yumi Orikasa, Hiroetsu Wabiko, Namiko Satoh-Nagasawa, Shigeru Tamogami (Univ. Akita Pfef.)
- P-030 The molecular mechanism of ABCG14-mediated long-distance cytokinin transport  
Takatashi Kiba<sup>1</sup>, Mayu Kamiya<sup>2</sup>, Jun Inaba<sup>1</sup>, Hitoshi Sakakibara<sup>1,2</sup> (<sup>1</sup>RIKEN CSRS, <sup>2</sup>Grad. Sch. Bioagr. Sci., Nagoya Univ.)
- P-031 Screening for strigolactone transporters in Arabidopsis  
 Kei Suzuki<sup>1</sup>, Takaya Kisugi<sup>1</sup>, Narumi Mori<sup>2</sup>, Kohki Akiyama<sup>2</sup>, Yoshiya Seto<sup>1</sup>, Kiyoshi Mashiguchi<sup>1</sup>, Shinjiro Yamaguchi<sup>1</sup> (<sup>1</sup>Grad. Sch. Life Sci., Tohoku Univ., <sup>2</sup>Grad. Sch. Life & Environ., Osaka Pref. Univ.)
- P-032 Study of the effect of thermospermine on the growth of rice seedlings  
Minaho Miyamoto, Hiroyasu Miotose, Taku Takahashi (Grad. Sch. Nat. Sci. & Tech., Okayama Univ.)

- P-033 Regulation of strigolactone biosynthesis by gibberellin signaling  
Shinsaku Ito<sup>1</sup>, Akito Hosoi<sup>1</sup>, Mitsuki Hirofuji<sup>1</sup>, Keisuke Tanaka<sup>2</sup>, Yasuyuki Sasaki<sup>1</sup>, Tadao Asami<sup>3</sup>, Shunsuke Yajima<sup>1</sup> (<sup>1</sup>Department of Bioscience, Tokyo University of Agriculture, <sup>2</sup>Genome Research Center, Tokyo University of Agriculture, <sup>3</sup>The University of Tokyo)

## ■ Vegetative growth (Development/Differentiation)

- P-035 Analysis of Distichous-Spiral mode transition in mulberry phyllotaxis  
Soichiro Kato, Kintake Sonoike (Edu. Intgr. Arts. Sci., Univ. Waseda)
- P-036 Growth and environmental adaptation of Mongolian plants *Chloris virgata* and *Arabidopsis mongolica*  
Bolortuya Byambajav<sup>1,2</sup>, Ayumi Yamagami<sup>1</sup>, Davaapurev Bekh-Ochir<sup>2</sup>, Udval Gombosuren<sup>3</sup>, Batkhuu Javzan<sup>2</sup>, Tadao Asami<sup>4</sup>, Kazuo Shinozaki<sup>1</sup>, Takeshi Nakano<sup>1,5</sup> (<sup>1</sup>RIKEN CSRS, <sup>2</sup>Sch. Engi. Appl. Sci., Natio Univ of Mongolia, <sup>3</sup>Res. Ins. of Ani. Husb, <sup>4</sup>Dept. Appl. Biol. Chem., Univ. of Tokyo, <sup>5</sup>JST-CREST)
- P-037 Modeling analysis of spatial regularity control of phyllotactic pattern by mutual dynamics between auxin and PIN1  
Hironori Fujita<sup>1,2</sup>, Masayoshi Kawaguchi<sup>1,2</sup> (<sup>1</sup>Natl. Inst. Basic Biol., <sup>2</sup>SOKENDAI)
- P-038 Effect of the excision of seminal root tip on lateral root formation in rice  
Tsubasa Kawai<sup>1</sup>, Takaaki Kojima<sup>1</sup>, Akira Yamauchi<sup>1</sup>, Yoshiaki Inukai<sup>2,3</sup> (<sup>1</sup>Grad. Sch. Bioagr. Sci., Nagoya U., <sup>2</sup>ICCAE, Nagoya U., <sup>3</sup>PREST, JST)
- P-039 Functional characterization of arabinogalactan proteins (AGPs) in Arabidopsis  
Ryoya Okawa, Mari Ohnishi, Yoshikatsu Matsubayashi (Division of Biological Science, Graduate School of Science, Nagoya University)
- P-040 Identification of an Arabidopsis mutant with altered root hair formation  
Kanari Shimada<sup>1</sup>, Satoshi Iuchi<sup>2</sup>, Atsuko Iuchi<sup>2</sup>, Kohji Yamada<sup>1</sup>, Keishi Osakabe<sup>1</sup>, Yuriko Osakabe<sup>1</sup> (<sup>1</sup>Fac. Biosci. Bioindust., Tokushima Univ., <sup>2</sup>BRC, RIKEN.)
- P-041 A 26S proteasome subunit RPT5A is essential for normal leaf development under zinc deficiency.  
Naoyuki Sotta<sup>1</sup>, Takuya Sakamoto<sup>2</sup>, Sachihiko Matsunaga<sup>2</sup>, Toru Fujiwara<sup>1</sup> (<sup>1</sup>Grad. Sch. Agr. Life Sci., Univ. Tokyo, <sup>2</sup>Fac. Sci. Tech., Tokyo Univ. Sci.)
- P-042 Analysis of leaf shape variation for Japanese traditional leafy vegetables Mizuna and Mibuna (cultivars of *Brassica rapa* subsp. *nipposinica*) by genetic analysis and survey of historical literature.  
Yaichi Kawakatsu<sup>1</sup>, Tomoaki Sakamoto<sup>1</sup>, Hokuto Nakayama<sup>2</sup>, Kaori Kaminoyama<sup>1</sup>, Kaori Igarashi<sup>3</sup>, Kentaro Yano<sup>3</sup>, Nakao Kubo<sup>4</sup>, Seisuke Kimura<sup>1</sup> (<sup>1</sup>Kyoto Sangyo University, <sup>2</sup>Dept. Plant Bio., UC Davis, <sup>3</sup>Fac. Agri., Meiji Univ., <sup>4</sup>Grad. Sch. Life Environ. Sci., Kyoto Pref. Univ.)
- P-043 Exploration of genes regulating vegetative propagation in *Rorippa aquatica*  
Rumi Amano<sup>1</sup>, Hokuto Nakayama<sup>2</sup>, Risa Momoi<sup>1</sup>, Shizuka Gunji<sup>3</sup>, Yumiko Takebayashi<sup>4</sup>, Yuki Okegawa<sup>1</sup>, Ken Motohashi<sup>1</sup>, Hiroyuki Kasahara<sup>4,5</sup>, Ali Ferjani<sup>3,6</sup>, Seisuke Kimura<sup>1</sup> (<sup>1</sup>Facul. Life Sci., Kyoto Sangyo Univ., <sup>2</sup>Dept. of Plant Biology, University of California, Davis, <sup>3</sup>Unit. Grad. Sch. Edu., Univ. Tokyo Gakugei, <sup>4</sup>RIKEN, CSRS, <sup>5</sup>GIR, Tokyo Univ. Agri. Tech., <sup>6</sup>Dept. Biol., Tokyo Gakugei Univ.)
- P-044 Analysis of the Morphology and Gene Expression in Arabidopsis After Treating of Homogenate of Gall-making Insect, *Schlechtendalia chinensis*  
Ayaka Okamoto<sup>1</sup>, Yuma Saito<sup>1</sup>, Akiho Tanaka<sup>1</sup>, Issei Ohshima<sup>1</sup>, Seisuke Kimura<sup>2</sup>, Tomoko Hirano<sup>1</sup>, Masa H. Sato<sup>1</sup> (<sup>1</sup>Grad. Life and Environmental Sciences, Kyoto Prefectural Univ, <sup>2</sup>Department of Bioresource and Environmental Sciences, Kyoto Sangyo Univ)
- P-045 MUTE Switches the Precursor State and Directly Orchestrates the Single Symmetric Division to Create Stomata  
Soon-Ki Han<sup>1,2,3</sup>, Xingyun Qi<sup>1,2</sup>, Kei Sugihara<sup>4</sup>, Jonathan H. Dang<sup>1</sup>, Takaho A. Endo<sup>5</sup>, Kristen A. Miller<sup>1</sup>, Eundeok Kim<sup>1</sup>, Takashi Miura<sup>4</sup>, Keiko Torii<sup>1,2,3</sup> (<sup>1</sup>Howard Hughes Medical Institute, University of Washington, Seattle, WA 98195, USA, <sup>2</sup>Department of Biology, University of Washington, Seattle, WA 98195, USA, <sup>3</sup>Institute of Transformative Bio-Molecules (WPI-ITbM), Nagoya University, Chikusa, Nagoya, 464-8601, Japan, <sup>4</sup>Department of Anatomy and Cell Biology, Kyushu University Graduate School of Medicine, Fukuoka 812-8582, Japan, <sup>5</sup>Laboratory for Integrative Genomics, RIKEN Center for Integrative Medical Sciences, Yokohama 230-0045, Japan)
- P-046 New Allele of *Prostrate growth 1* Detected in *Oryza rufipogon*, a Putative Progenitor Species for Cultivated Rice.  
Noritoshi Inagaki (Adv. Anal. Cent., NARO)

- P-047 A yeast-one hybrid assay to explore transcription factors that initiate haustorium development in parasitic plants  
Takanori Wakatake<sup>1</sup>, Satoko Yoshida<sup>2</sup>, Ken Shirasu<sup>1</sup> (<sup>1</sup>RIKEN CSRS, <sup>2</sup>Graduate school of biological science, NAIST)
- P-048 Development of a novel culture system for phloem companion cell differentiation via modification of VISUAL  
Satoyo Ohya, Makiko Naito, Hiroo Fukuda, Yuki Kondo (Grad. Sch. Sci., Univ. Tokyo)
- P-049 Cytological and gene expression analyses on adventitious bud formation from the epidermis in cultured stem segments of *Torenia fournieri*.  
Hatsune Morinaka<sup>1</sup>, Akihito Mamiya<sup>1</sup>, Akitoshi Iwamoto<sup>2</sup>, Hiroaki Tamaki<sup>1</sup>, Takamasa Suzuki<sup>3</sup>, Yoshikatsu Sato<sup>4</sup>, Momoko Ikeuchi<sup>5</sup>, Akira Iwase<sup>5</sup>, Keiko Sugimoto<sup>5</sup>, Tetsuya Higashiyama<sup>4,6</sup>, Munetaka Sugiyama<sup>1</sup> (<sup>1</sup>Botanical Gardens, Grad. Sch. Sci., Univ. Tokyo, <sup>2</sup>Dept. Biol., Tokyo Gakugei Univ., <sup>3</sup>Dept. Biol. Chem., Coll. Biosci. Biotech., Chubu Univ., <sup>4</sup>WPI-ITbM, Nagoya Univ., <sup>5</sup>CSRS, Riken, <sup>6</sup>Div. Biol. Sci., Grad. Sch. Sci., Nagoya Univ.)
- P-050 Functional analysis of RopGEFs in planar cell polarity in the moss *Physcomitrella patens*  
Jiawei Yao<sup>1</sup>, Ooi-Kock Teh<sup>2</sup>, Tomomichi Fujita<sup>2</sup> (<sup>1</sup>Grad. Sch. of Life Sci., Hokkaido Univ., <sup>2</sup>Fac. of Sci., Hokkaido Univ.)
- P-051 The Analysis of RTFL Family Function on the Control of Rhizoid Development in Marchantia polymorpha  
Pin Guo<sup>1</sup>, Tomoyuki Furuya<sup>1</sup>, Takayuki Kohchi<sup>2</sup>, Takehiko Kanazawa<sup>3</sup>, Takashi Ueda<sup>3</sup>, Hirokazu Tsukaya<sup>1,4</sup> (<sup>1</sup>Department of Biological Sciences, Graduate School of Science, The University of Tokyo, Bunkyo-ku, Tokyo, 113-0033, Japan, <sup>2</sup>Graduate School of Biostudies, Kyoto University, Kyoto 606-8502, Japan, <sup>3</sup>Division of Cellular Dynamics, National Institute for Basic Biology, 444-8585 Nishigounaka 38, Myodaiji, Okazaki, Aichi 444-8585, Japan, <sup>4</sup>Bio-Next Project, Okazaki Institute for Integrative Bioscience, National Institutes of Natural Sciences, Yamate Building no. 3, 5-1, Higashiyama, Myodaiji, Okazaki, Aichi, 444-8787, Japan)
- P-052 Aiming for unraveling the molecular mechanism of development in one-leaf plant, Monophyllaea  
Ayaka Kinoshita<sup>1</sup>, Hiroyuki Koga<sup>1</sup>, Sujung Kim<sup>2</sup>, Nobuyoshi Mochizuki<sup>2</sup>, Akira Nagatani<sup>2</sup>, Hirokazu Tsukaya<sup>1,3</sup> (<sup>1</sup>Grad. Sch. Sci., Univ. Tokyo, <sup>2</sup>Grad. Sch. Sci., Univ. Kyoto, <sup>3</sup>OIIB, NINS)
- P-053 Functional Analysis of HR0109 Transcription Factor Related to Plant Cell Patterning  
Mikiya Takahashi<sup>1</sup>, Shingo Sakamoto<sup>2</sup>, Nobutaka Mitsuda<sup>2</sup>, Miho Ikeda<sup>1</sup>, Masaru Ohme-Takagi<sup>1,2</sup> (<sup>1</sup>Department of Science and Engineering, Gradient School of Saitama University, <sup>2</sup>Bioproduction Research institute, National Institute of Advanced Industrial Science and Technology)
- P-054 Analysis of the genes downstream of AS1-AS2-ETT pathways involved in adaxial-abaxial leaf polarity in *Arabidopsis thaliana*.  
Tamami Nishimoto<sup>1</sup>, Nanako Ishibashi<sup>2</sup>, Mikiko Kojima<sup>3</sup>, Hiro Takahashi<sup>4</sup>, Hitoshi Sakakibara<sup>3,5</sup>, Yasunori Machida<sup>2</sup>, Chiyoko Machida<sup>1</sup>, Shoko Kojima<sup>1</sup> (<sup>1</sup>Grad. Sch. Biosci. and Biotech., Univ.Chubu, <sup>2</sup>Grad. Sch. Sci., Univ. Nagoya, <sup>3</sup>CSRS. Inst., Riken, <sup>4</sup>Sch. Pharm., Sch. Pharm. Sci., Univ. Kanazawa, <sup>5</sup>Grad. Sch. of Bioagr., Univ. Nagoya)
- P-055 AS1-AS2 is involved in maintenance of DNA methylation in ETTIN and establishment of the leaf adaxial-abaxial polarity in *Arabidopsis thaliana*  
Misato Yamakawa<sup>1</sup>, Sumie Keta<sup>1</sup>, Simon Vial-Pradel<sup>1</sup>, Shoko Kojima<sup>1</sup>, Yasunori Machida<sup>2</sup>, Chiyoko Machida<sup>1</sup> (<sup>1</sup>Grad.Sch.Bio.,Univ.Chubu, <sup>2</sup>Grad.Sch.Sci.,Univ.Nagoya)
- P-056 Roles of nucleolar proteins in establishment of leaf polarity and gene body methylation mediated by AS2 in *Arabidopsis thaliana*.  
Masataka Suzuki<sup>1</sup>, Simon Vial-Pradel<sup>1</sup>, Takumi Harayama<sup>1</sup>, Akiko Kozima<sup>1</sup>, Yasunori Machida<sup>2</sup>, Chiyoko Machida<sup>1</sup> (<sup>1</sup>College of Biosci.and Biotech, <sup>2</sup>school of Science.sci.)
- P-057 Single epidermal layer formation in plants: identification of regulators acting upstream and downstream of ATML1  
Hiroyuki Iida, Ayaka Yoshida, Nozomi Takada, Shinobu Takada (Department of Biological Sciences, Graduate School of Science, Osaka University)
- P-058 A novel approach to unravel cell division coordination in the root meristem  
Katsutoshi Imizu, Shunsuke Miyashima, Tatsuaki Goh, Keiji Nakajima (Grad. Sch. Bio. Sci., NAIST)

## ■ Vegetative growth (Senescence/Cell death/Seed formation/Dormancy/Germination/Others)

- P-059 Analysis of four wheat WRKY transcription factor genes up-regulated in interspecific triploids showing hybrid incompatibilities  
Ryoko Ohno<sup>1</sup>, Yasunobu Kuki<sup>2</sup>, Kentaro Yoshida<sup>2</sup>, Shigeo Takumi<sup>2</sup> (<sup>1</sup>Grad. Sch. Innov., Kobe U., <sup>2</sup>Grad. Sch. Agr. Sci., Kobe Univ.)
- P-060 Characterization of early senescence mutant, *rse1*  
Seul-bi Lee<sup>1</sup>, Myung-Hee Kim<sup>1</sup>, Jae Ho Lee<sup>1</sup>, Yun Ju Kim<sup>1</sup>, June M. Kwak<sup>2</sup> (<sup>1</sup>Center for Plant Aging Research, Institute for Basic Science (IBS), Daegu 711-873, Republic of Korea, <sup>2</sup>Center for Plant Aging Research, Institute for Basic Science, Department of New Biology, DGIST, Daegu 711-873, Republic of Korea)

- P-061 ANAC genes are involved in the formation of wound-induced cambium during tissue-reunion process  
Keita Matsuoka<sup>1</sup>, Hiromi Iino<sup>1</sup>, Naoyuki Nozawa<sup>1</sup>, Yuki Kondo<sup>2</sup>, Shinobu Satoh<sup>3</sup>, Masashi Asahina<sup>1</sup> (<sup>1</sup>Dept. Biosci., Teikyo Univ., <sup>2</sup>Dept. Biosci., Univ. Tokyo, <sup>3</sup>Life & Env. Sci., Univ. Tsukuba)
- P-062 Root-knot Nematodes (RKN) Hijack Auxin-signaling Modules to Activate Procambial Stem Cells  
Reira Suzuki<sup>1</sup>, Tasuka Yamaguchi<sup>1</sup>, Chika Ejima<sup>1</sup>, Tomomi Sagara<sup>1</sup>, Satoru Nakagami<sup>1</sup>, Ngan Bui Thi<sup>1</sup>, Takashi Ishida<sup>2</sup>, Shinichiro Sawa<sup>1</sup> (<sup>1</sup>Grad. Sci. Tech., Univ. Kumamoto, <sup>2</sup>IROAST., Univ. Kumamoto)
- P-063 Change in level of Intracellular reactive oxygen species during egg-zygote conversion and its effect on zygotic development in rice  
Narumi Koiso<sup>1</sup>, Erika Toda<sup>1,2</sup>, Norio Kato<sup>2,3</sup>, Takashi Okamoto<sup>1,2</sup> (<sup>1</sup>Dept of Biol Sci, Tokyo Metropolitan Univ., <sup>2</sup>RInC, RIKEN, <sup>3</sup>Plant Innovation Center, Japan Tobacco Inc.)
- P-064 Identification of a novel locus involved in non-seed-shattering habit of Japonica rice cultivar, *Oryza sativa* 'Nipponbare'  
Yuki Tsujimura, Myint Htun Than, Koji Numaguchi, Natsumi Takama, Shohei Sugiyama, Takashige Ishii, Ryo Ishikwa (Graduate School of Agricultural Science Kobe University)
- P-065 Molecular mapping of gene loci which control expression of ABA biosynthesis genes in response to temperature in Arabidopsis seeds  
Shinnosuke Saba, Hikaru Kato, Tomohiro Onituka, Masanori Kaji, Naoto Kawakami (Univ. Meiji)
- P-066 Autophagy is important for seed vigor  
Erina Takayama, Kohki Yoshimoto, Naoto Kawakami (Development of Life Science, School of Agriculture, Meiji University)
- P-067 Genetic interaction of seed dormancy regulators and MAP kinase cascade in Arabidopsis  
Ryo Tojo<sup>1</sup>, Suzuha Omori<sup>1</sup>, Lipeng Zheng<sup>1</sup>, Masahiko Otani<sup>1</sup>, Kazuhiko Sugimoto<sup>2</sup>, Naoto Kawakami<sup>1</sup> (<sup>1</sup>Development of Life Science, School of Agriculture, Meiji University, <sup>2</sup>National Agriculture and Food Research Organization)
- P-068 Modification of seed coat using a transcription factor regulating cuticle formation  
Yoshimi Oshima<sup>1</sup>, Takako Narumi<sup>2</sup>, Yasuko Kaneko<sup>3</sup>, Toshiki Ishikawa<sup>4</sup>, Maki Kawai-Yamada<sup>4</sup>, Masaru Ohme-Takagi<sup>1,5</sup>, Nobutaka Mitsuda<sup>1</sup> (<sup>1</sup>Bioprod. Res. Inst., Natl. Adv. Ind. Sci. & Tech. (AIST), <sup>2</sup>Fac. Agr. Kagawa univ., <sup>3</sup>Fac. Educ., Saitama Univ., <sup>4</sup>Grad. Sch. Sci & Eng., Saitama univ., <sup>5</sup>Inst. Envir. Sci. & Tech. (IEST), Saitama univ.)

## ■ Reproductive growth

- P-071 Identification of a MYB-related transcription factor required for pollen development in rice  
Makiko Kawagishi-Kobayashi<sup>1</sup>, Masaharu Kuroda<sup>2</sup> (<sup>1</sup>NIAS, NARO, <sup>2</sup>CARC, NARO)
- P-072 Searching for a mitochondrial gene conferring the late-flowering phenotype in bread wheat alloplasmic lines with cytoplasm of wild relative species *Aegilops geniculata*  
Koji Murai, Kano Narita, Miho Ozeki (Fac. Biosci. Biotech., Fukui Pref. Univ.)
- P-073 Upstream and downstream of the floral meristem identity gene, *LEAFY*  
Nobutoshi Yamaguchi<sup>1,2</sup> (<sup>1</sup>NAIST, <sup>2</sup>PRESTO)
- P-074 Identification of novel components involved in abscission zone development in Arabidopsis  
Huikyung Cho<sup>1</sup>, June M. Kwak<sup>1,2</sup>, Yuree Lee<sup>1</sup> (<sup>1</sup>Center for Plant Aging Research, Institute for Basic Science, Daegu 42988, Republic of KOREA, <sup>2</sup>Department of New Biology, DGIST, Daegu 42988, Republic of KOREA)
- P-075 The mechanism of flowering promotion under nitrogen deficient condition in rice.  
Nobuhiro Tanaka, Toru Fujiwara (Graduate School of Agricultural and Life Sciences, The University of Tokyo)
- P-076 Functional data analysis applied to identify time-series changes of environmental factors that are related to flowering in barley  
Keiichi Mochida<sup>1,2,3</sup>, Hidetoshi Matsui<sup>4</sup>, Kotaro Takahagi<sup>1,2</sup>, Komaki Inoue<sup>1</sup>, Makoto Ishii<sup>3</sup>, Kazuhiro Sato<sup>3</sup>, Takashi Hirayama<sup>3</sup> (<sup>1</sup>RIKEN CSRS, <sup>2</sup>KIBR, Yokohama City University, <sup>3</sup>IPSR, Okayama University, <sup>4</sup>Faculty of Data Science, Shiga University)
- P-077 Analysis of SNB1 transcription factor that positively regulates parthenocarpy  
Hibari Hayashi<sup>1</sup>, Miho Ikeda<sup>1</sup>, Masaru Ohme-Takagi<sup>1,2</sup> (<sup>1</sup>Grad. Sch. Sci. Eng., Univ. Saitama, <sup>2</sup>Advanced Inst. Sci. Technol)
- P-078 Regulation of floral meristem activity through the interaction of AGAMOUS, SUPERMAN, and CLAVATA3 in Arabidopsis  
Akira Uemura<sup>1</sup>, Nobutoshi Yamaguchi<sup>1,2</sup>, Yifeng Xu<sup>3</sup>, WanYi Wee<sup>3</sup>, Yasunori Ichihashi<sup>2,4</sup>, Takamasa Suzuki<sup>5</sup>, Arisa Shibata<sup>4</sup>, Ken Shirasu<sup>4,6</sup>, Toshiro Ito<sup>1</sup> (<sup>1</sup>Grad. Sch. Sci., NAIST, <sup>2</sup>PRESTO., Precursory Research for Embryonic Science and Technology, <sup>3</sup>Temasek Life Sciences Laboratory., National Univ. of Singapore, <sup>4</sup>Center for Sustainable Resource Science., RIKEN, <sup>5</sup>College of Bioscience and Biotechnology., Univ. Chubu, <sup>6</sup>Grad. Sch. Sci., Univ. Tokyo)

- P-079 Meiosis-Independent Transition From Sporophyte To Gametophyte In The Red Seaweed *Pyropia yezoensis*  
Koji Mikami<sup>1</sup>, Chengze Li<sup>2</sup>, Yoichiro Hama<sup>3</sup> (<sup>1</sup>Fac. Fisheries Sci., Hokkaido Univ., <sup>2</sup>Grad. Sch. Fisheries Sci., Hokkaido Univ., <sup>3</sup>Fac. Agr., Saga Univ.)

### ■ Flowering/Clock (Photoperiodism/Others)

- P-081 Analysis of photoperiodic flowering in nature  
Akane Kubota<sup>1</sup>, Young Hun Song<sup>2</sup>, Nayoung Lee<sup>1</sup>, Takato Imaizumi<sup>1</sup> (<sup>1</sup>Dept. of Biol., Univ. of Washington, <sup>2</sup>Dept. of Life Sci., Ajou Univ.)
- P-082 Role of anti-tuberigen activity of TFL1 homologs in the tuber induction of potato  
 Kenta Takahashi<sup>2</sup>, Ami Saito<sup>2</sup>, Chinjit Teo<sup>2</sup>, Ko Shimamoto<sup>2</sup>, Hiroyuki Tsuji<sup>1</sup>, Ken-ichiro Taoka<sup>1</sup> (<sup>1</sup>Kihara Institute for Biological Research, Yokohama City University, <sup>2</sup>Grad. Sch. Biol. Sci, NAIST)
- P-083 Role of FT in bulb formation of a wild barley, *H. bulbosum* L.  
Naho Aikawa<sup>1</sup>, Yuki Arai<sup>1</sup>, Zempei Shimatani<sup>2</sup>, Mana Ogawa<sup>3</sup>, Rie Terada<sup>3</sup>, Keisuke Tanaka<sup>4</sup>, Hisato Kobayashi<sup>4</sup>, Hiroyuki Tsuji<sup>1</sup>, Tomohiro Ban<sup>1</sup>, Ken-ichiro Taoka<sup>1</sup> (<sup>1</sup>Kihara Institute for Biological Research, Yokohama City University, <sup>2</sup>Graduate School of Science, Technology and Innovation, Kobe University, <sup>3</sup>Department of Agriculture, Meijo University, <sup>4</sup>NODAI Genome Research Center, Tokyo University of Agriculture)
- P-084 Causal Gene of Terminal Flower Induced by One-shot Short-day Treatment in the Japanese morning glory, *Ipomoea nil* (*Pharbitis nil*) strain Violet  
 Mai Fujiwara<sup>1</sup>, Seika Motoyama<sup>1</sup>, Nobuyoshi Nakajima<sup>2</sup>, Kenta Shirasawa<sup>3</sup>, Kimiyo Sage-Ono<sup>1</sup>, Michiyuki Ono<sup>1</sup> (<sup>1</sup>Gene Res. Cent., T-PIRC, Univ. Tsukuba, <sup>2</sup>Nat. Inst. Env. Stud., Japan, <sup>3</sup>Kazusa DNA Res. Inst.)
- P-085 PSEUDO RESPONSE REGULATORS Stabilize CONSTANS Protein to Promote Flowering in Response to Day Length  
Ryosuke Hayama<sup>1,2</sup>, Liron Sarid-Krebs<sup>2</sup>, Rene Richter<sup>2</sup>, Virginia Fernandez<sup>2</sup>, Tsuyoshi Mizoguchi<sup>1</sup>, George Coupland<sup>2</sup> (<sup>1</sup>Dept. of Natural Sciences, International Christian University, <sup>2</sup>Dept. of Plant Developmental Biology, Max Planck Institute for Plant Breeding Research)
- P-086 The ER-localized Arabidopsis Dolichol Kinase AtDOK1 Involved in Reproduction and Flowering Time Control  
 Yueh Cho, Kazue Kanehara (Institute of Plant and Microbial Biology, Academia Sinica)
- P-087 A mechanism of early flowering in *pect1-4* mutants of *Arabidopsis thaliana*  
Yuki Sato<sup>1</sup>, Natsumi Hoshino<sup>2</sup>, Takuto Shimizu<sup>2</sup>, Chiaki Kuga<sup>2</sup>, Yuki Fujiki<sup>2</sup>, Ikuo Nishida<sup>2</sup> (<sup>1</sup>School of Science, Saitama University, <sup>2</sup>Graduate School of Science and engineering, Saitama University)

### ■ Flowering/Clock (Rhythm/Others)

- P-088 Phosphorylation induces conformational change of CII hexameric ring in the cyanobacterial circadian oscillator KaiC  
Oyama Katsuaki, Chihiro Azai, Jun Matsuyama, Kazuki Terauchi (Life Sciences, Ritsumeikan University)
- P-089 Search for proteins involved in the degradation of KaiC and the effect on rhythm by KaiC turnover.  
Keiko Imai<sup>1</sup>, Yhoko Kitayama<sup>2</sup>, Masayuki Fujiwara<sup>3</sup>, Takao Kondo<sup>2</sup> (<sup>1</sup>Laboratory of Biology Kansai Med. Univ., <sup>2</sup>Div. Biol. Sci., Grad. Sch. Sci., Nagoya Univ., <sup>3</sup>Institute for Advanced Biosciences, Keio Univ.)
- P-090 Isolation of chloroplast-encoded genes that are regulated by circadian clock in Marchantia polymorpha  
Junichi Komuta<sup>1</sup>, Ginga Shimada<sup>1</sup>, Shinsuke Kutsuna<sup>2</sup>, Youichi Kondou<sup>1</sup> (<sup>1</sup>Kanto-Gakuin University, <sup>2</sup>Yokohama City University)
- P-091 ChIP-seq of LNK1, transcriptional activator of circadian clock  
Aya Matsumura<sup>1</sup>, Saori Takao<sup>2</sup>, Takamasa Suzuki<sup>3</sup>, Toshinori Kinoshita<sup>1,2</sup>, Norihito Nakamichi<sup>1,2</sup> (<sup>1</sup>Grad. Sch. Sci., Nagoya University, <sup>2</sup>ITbM, Nagoya University, <sup>3</sup>College of Biosci., Chubu University)
- P-092 The involvement of plant circadian clock in the regulation of cell cycle  
Yuki Kanesaka, Hanako Shimizu, Keita Bekki, Takashi Araki, Motomu Endo (Grad. Sch. Biostudies, Univ. Kyoto)
- P-093 The development of circadian rhythms is a key for cell-fate determination  
Hanako Shimizu, Kotaro Torii, Takashi Araki, Motomu Endo (Grad. Sch. Lif. Sci., Univ. Kyoto)
- P-094 The circadian clock controls cell-fate determination through cell division cycle  
Keita Bekki, Hanako Shimizu, Takashi Araki, Motomu Endo (Graduate School of Biostudies, Kyoto University)
- P-095 Investigating factors and mechanisms of long-distance clock information sharing  
Kyohei Uemoto, Takashi Araki, Motomu Endo (Grad. Sch. Biostudies., Univ. Kyoto)

- P-096 Studies on Nyctinastic Movement in *FT*-overexpressing Legume *Lotus japonicus*.  
Nanami Tsuji, Masahiro Takahara, Yoshiki Hosoya, Nobuyuki Kanzawa (Grad. Sch. Sci., Univ. Sophia)
- P-097 Comparative characterization of circadian behaviors of three duckweed species in the *Wolffia* genus  
Minako Isoda, Tokitaka Oyama (Dept. Bot., Grad. Sch. Sci., Kyoto Univ.)
- P-098 Analysis of circadian rhythms at a single-cell level by using cells isolated from *AtCCA1::LUC* Arabidopsis leaves  
Shunji Nakamura, Shogo Ito, Tokitaka Oyama (Department of Botany, Graduate School of Science, Kyoto University)

## ■ Photoreceptors/Photoresponses

- P-101 Chloroplast photorelocation movements in adaxial/abaxial polarity mutants of *Arabidopsis thaliana*  
Takahiro Kojima, Yasuhiro Ishida, Shingo Takagi (Grad. Sch. Sci., Univ. Osaka)
- P-102 Functional analysis of multimerization of BLUS1 in the blue light-dependent stomatal opening  
Sakurako Hosotani<sup>1</sup>, Shigekazu Koya<sup>2</sup>, Ken-ichiro Shimazaki<sup>2</sup>, Atsushi Takemiyama<sup>3</sup> (<sup>1</sup>Fac.Sci., Yamaguchi Univ., <sup>2</sup>Grad.Sch.Sci., Kyushu Univ., <sup>3</sup>Grad.Sch.Sci.Tech.Innov., Yamaguchi Univ)
- P-103 A plasma membrane syntaxin SYP132 mediates blue light-induced stomatal opening in *Arabidopsis*  
Shin-ichiro Inoue<sup>1</sup>, Yuta Tomokiyo<sup>2</sup>, Maki Hayashi<sup>1</sup>, Masaki Okumura<sup>1</sup>, Koji Okajima<sup>3</sup>, Tomoaki Horie<sup>4</sup>, Toshinori Kinoshita<sup>5</sup>, Ken-ichiro Shimazaki<sup>2</sup> (<sup>1</sup>Grad. Sch. Sci., Nagoya Univ., <sup>2</sup>Grad. Sch. Sci., Kyushu Univ., <sup>3</sup>Facul. Sci. Tech., Keio Univ., <sup>4</sup>Facul. Textile Sci. Tech., Shinshu Univ., <sup>5</sup>ITBM., Nagoya Univ.)
- P-104 *Physcomitrella patens* CDKA controls light signaling responses  
Natsumi Inoue<sup>1</sup>, Liang Bao<sup>1</sup>, Masaki Ishikawa<sup>2,3</sup>, Takeshi Higa<sup>4</sup>, Yuji Hiwatashi<sup>5</sup>, Masami Sekine<sup>6</sup>, Ooi-Kock Teh<sup>7</sup>, Mitsuyasu Hasebe<sup>2,3</sup>, Masamitsu Wada<sup>4</sup>, Tomomichi Fujita<sup>7</sup> (<sup>1</sup>Grad. Sch. of Life Sci., Hokkaido Univ., <sup>2</sup>Natl. Inst. Basic Biol., <sup>3</sup>Sch. Life Sci., Grad. Univ. Adv. Stud., <sup>4</sup>Fac. of Sci. and Eng., Tokyo Metro. Univ., <sup>5</sup>Sch. Food, Agri. Environ. Sci., Miyagi Univ., <sup>6</sup>Dept. of Bioprod., Ishikawa Pref. Univ., <sup>7</sup>Fac. of Sci., Hokkaido Univ.)
- P-105 The analysis of CDKA function in chloroplast photorelocation movement  
Hayato Sugawara<sup>1</sup>, Natsumi Inoue<sup>1</sup>, Bao Liang<sup>1</sup>, Ooi-Kock Teh<sup>2</sup>, Masaki Ishikawa<sup>3,4</sup>, Takeshi Higa<sup>5</sup>, Masami Sekine<sup>6</sup>, Masaaki Watahiki<sup>2</sup>, Akeo Kadota<sup>5</sup>, Mitsuyasu Hasebe<sup>3,4</sup>, Masamitsu Wada<sup>5</sup>, Tomomichi Fujita<sup>2</sup> (<sup>1</sup>Grad. Sch. of Life Sci., Hokkaido Univ., <sup>2</sup>Fac. of Sci., Hokkaido Univ., <sup>3</sup>Natl. Inst. Basic Biol., <sup>4</sup>Sch. Life Sci., Grad. Univ. Adv. Stud., <sup>5</sup>Fac. of Sci. and Eng., Tokyo Metro. Univ., <sup>6</sup>Dept. of Bioprod., Ishikawa Pref. Univ.)
- P-106 Genetic Basis of the Blue-Light-Directed Twisting of Arabidopsis Petiole  
Yuta Otsuka<sup>1</sup>, Ken Haga<sup>2</sup>, Tatsuya Sakai<sup>3</sup>, Hirokazu Tsukaya<sup>1,4</sup> (<sup>1</sup>Grad. Sch. Sci., Univ. Tokyo, <sup>2</sup>Dept. Hum. Sci. Com. Edu., NIT, <sup>3</sup>Grad. Sch. Sci. Tech., Niigata Univ., <sup>4</sup>OIIB, NINS)
- P-107 The Effects of Past Light Conditions on the Shade Avoidance Response  
Ryota Otsuki, Nobuyoshi Mochizuki, Tomomi Suzuki, Akira Nagatani (Graduate. School of Science, Kyoto University, Kyoto, Japan.)
- P-108 Possible involvement of phytochrome in mRNA stability control for cell cycle regulation in *Marchantia polymorpha*  
Keita Kinose, Ryo Manabe, Eri Nakamura, Takayuki Kohchi, Ryuichi Nishihama (Grad. Sch. Biostudies, Kyoto Univ.)
- P-109 Molecular action of OsELF3-1, a rice ELF3 homolog, has functionally diversified in growth and development  
Hironori Itoh<sup>1</sup>, Yuri Tanaka<sup>2</sup>, Fumiaki Hirose<sup>2</sup>, Makoto Takano<sup>1</sup>, Takeshi Izawa<sup>3</sup> (<sup>1</sup>NARO, Institute of Crop Science, <sup>2</sup>National Institute of Agrobiological Science, <sup>3</sup>The University of Tokyo, Faculty of Agriculture)
- P-110 Gene expression profiling: Identification of factors involved in light signal dependent life cycle of *Pediastrum duplex*.  
Harshavardhini Sridharan<sup>1</sup>, Shota Kato<sup>2</sup>, Yuki Tsuchikane<sup>3</sup>, Hiroyuki Sekimoto<sup>3</sup>, Noriko Nagata<sup>3</sup>, Tomohiro Suzuki<sup>4</sup>, Yutaka Kodama<sup>4</sup>, Haruna Aiso<sup>4</sup>, Masashi Asahina<sup>2</sup>, Tomoko Shinomura<sup>2</sup> (<sup>1</sup>Grad sch, Sci Eng, Teikyo Univ, <sup>2</sup>Dept Biosci, Sci Eng., Teikyo Univ, <sup>3</sup>Dept Chem Biol Sci, Japan Women's Univ, <sup>4</sup>C-bio, Utsunomiya Univ)
- P-111 Intracellular signaling by PixD and PixE controlling phototaxis in the cyanobacterium *Synechocystis* sp. PCC6803  
Hiroshi Nakamura<sup>1</sup>, Annik Jakob<sup>2</sup>, Atsuko Kobayashi<sup>3</sup>, Yuki Sugimoto<sup>1</sup>, Annegret Wilde<sup>2</sup>, Shinji Masuda<sup>3,4</sup> (<sup>1</sup>Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology, <sup>2</sup>Molecular Genetics, Institute of Biology III, University of Freiburg, Germany, <sup>3</sup>Earth-Life Science Institute, Tokyo Institute of Technology, <sup>4</sup>Center for Biological Resources and Informatics, Tokyo Institute of Technology)
- P-112 Construction of an artificial blue-light receptor by fusion of two different histidine kinases  
Mamiko Shimoji, Yusuke Fukuhara, Masahiro Kasahara, Kazuki Terauchi, Chihiro Azai (Grad. Sch. Life Sci., Univ. Ritsumeikan)



- P-113 Spectroscopic analysis of a light-gated cation channel *GtCCR4* from cryptophyta  
Yumeka Yamauchi<sup>1</sup>, Masae Konno<sup>1,2</sup>, Shota Ito<sup>1</sup>, Keiichi Inoue<sup>1,2,3,4</sup>, Hideki Kandori<sup>1,2</sup> (<sup>1</sup>Grad. Sch. Eng., NIT, <sup>2</sup>OBTRC, NIT, <sup>3</sup>FRIMS, NIT, <sup>4</sup>PRESTO, JST)
- P-114 Hypocotyl growth of transgenic *Arabidopsis* expressing *Adiantum* phytochrome3  
Mina Horiuchi<sup>1</sup>, Takeshi Kanegae<sup>1,2</sup>, Yuki Kimura<sup>2</sup> (<sup>1</sup>Div. of Biol. Sci., Sch. of Sci. and Eng., Tokyo Metropolitan Univ., <sup>2</sup>Dept. of Biol. Sci., Grad. Sch. of Sci. and Eng., Tokyo Metropolitan Univ.)

## ■ Cell cycle/Cell division

- P-117 The amount of FtsZ decreased under acid stress cause to enlargement of cell in *Synechocystis* sp.PCC6803  
Hidetaka Kohga<sup>1</sup>, Ayako Itagaki<sup>1</sup>, Haruna Ishikawa<sup>1</sup>, Ayami Nakahara<sup>2</sup>, Junji Uchiyama<sup>3</sup>, Hisataka Ohta<sup>1,2,3</sup> (<sup>1</sup>Grad. Sch. of Math. and Sci. Edu., Tokyo univ. of Sci., <sup>2</sup>Grad. Sch. of Sci., Tokyo univ. of Sci., <sup>3</sup>Fac. of Sci., Tokyo univ. of Sci.)
- P-118 Cell size regulation mediated by interaction between GRAS family protein E1M and AP2-type transcription factor AtSMOS1  
Rieko Noda<sup>1</sup>, Yuji Nomoto<sup>2,4</sup>, Toshiya Suzuki<sup>3</sup>, Masaki Ito<sup>2,4</sup> (<sup>1</sup>Sch. Agr. Sci., Nagoya Univ., <sup>2</sup>Grad. Sch. Bioagr. Sci., Nagoya Univ., <sup>3</sup>Plant Genet. Lab., Nat. Inst. Genet., <sup>4</sup>JST, CREST)
- P-119 Interaction of ESOFB2 F-box protein and *Orysa*;KRP4 during early stages of endosperm development in rice  
Shiori Oya, Teruki Sugiyama, Natsumi Fujiwara, Masanori Mizutani, Yasushi Saitoh (Fac. Agr., Univ. Iwate)
- P-120 The upstream open reading frame of the *Arabidopsis TTM3* gene encodes a component of the anaphase promoting complex  
Toshiya Kakiuchi<sup>1</sup>, Masaki Ito<sup>2</sup>, Hiro Takahashi<sup>3</sup>, Yuriko Osakabe<sup>4</sup>, Keishi Osakabe<sup>4</sup>, Satoshi Naito<sup>1,5</sup>, Hitoshi Onouchi<sup>1</sup> (<sup>1</sup>Grad. Sch. Agric., Hokkaido Univ., <sup>2</sup>Grad. Sch. Bioagr. Sci., Nagoya Univ., <sup>3</sup>Grad. Sch. Med. Sci., Kanazawa Univ., <sup>4</sup>Fac. Biosci. Bioind., Tokushima Univ., <sup>5</sup>Grad. Sch. Life Sci., Hokkaido Univ.)
- P-121 Functional analysis of cell division genes in *Marchantia polymorpha*  
Motoki Kurata<sup>1</sup>, Kento Otani<sup>2</sup>, Ryuichi Nishihama<sup>3</sup>, Takayuki Kohchi<sup>3</sup>, Taku Takahashi<sup>2</sup>, Hiroyasu Motose<sup>2</sup> (<sup>1</sup>Dep. Biol., Fac. Sci., Okayama Univ., <sup>2</sup>Grad. Sch. Nat. Sci. & Tech., Okayama Univ., <sup>3</sup>Grad. Sch. Biostudies, Kyoto Univ.)

## ■ Organelles/Cytoskeletons

- P-123 An analysis of chloroplast division process in *crl* of *Arabidopsis thaliana* and a *Ppcri1*, 2 double knockout line of *Physcomitrella patens*  
Yuka Kato<sup>1</sup>, Rina Yanase<sup>1</sup>, Chieko Sugita<sup>2</sup>, Mamoru Sugita<sup>2</sup>, Yasushi Yoshioka<sup>1</sup> (<sup>1</sup>Grad. Sch. Sci., Nagoya Univ., <sup>2</sup>Center Gene Res., Nagoya Univ.)
- P-124 The role of the calcium dependent stringent response factor CRSH in *Arabidopsis thaliana*  
Sumire Ono<sup>1</sup>, Yuta Ihara<sup>1</sup>, Shinji Masuda<sup>2</sup> (<sup>1</sup>Life Science and Technology, TITECH, <sup>2</sup>Center for Biological Resources and Informatics, TITECH)
- P-125 Role of a new gene for the stringent response in *Chlamydomonas reinhardtii*  
Doshun Ito<sup>1</sup>, Shinji Masuda<sup>2</sup> (<sup>1</sup>Dept. Life Sci. Technol., Tokyo Inst. Tech., <sup>2</sup>Cent. Biol. Res. Inform., Tokyo Inst. Tech.)
- P-126 Analysis of (p) ppGpp specific phosphatase GppA/Ppx homolog of *Arabidopsis thaliana*  
Masataka Inazu<sup>1</sup>, Doshun Ito<sup>1</sup>, Yuta Ihara<sup>1</sup>, Shinji Masuda<sup>2</sup> (<sup>1</sup>Graduate school of Bioscience and Biotechnology Tokyo Institute of Technology, <sup>2</sup>Center for Biological Resources and Informatics, Tokyo Institute of Technology)
- P-127 Two MurE homologs and their functions for chloroplast division and development in the moss *Physcomitrella patens*  
Kousuke Ikeda<sup>1</sup>, Hiromi Kudo<sup>1</sup>, Ichiro Kazisa<sup>2</sup>, Susumu Takio<sup>4</sup>, Katsuaki Takechi<sup>3</sup>, Hiroyoshi Takano<sup>3,5</sup> (<sup>1</sup>Graduate School of Science and Technology, Kumamoto Univ., <sup>2</sup>Faculty of Science, Kumamoto Univ., <sup>3</sup>Faculty of Advanced Science and Technology, Kumamoto Univ., <sup>4</sup>Center for Water Cycle, Marine Environment and Disaster Mitigation, Kumamoto Univ., <sup>5</sup>Institute of Pulsed Power Science, Kumamoto Univ.)
- P-128 Convergent evolution of HMG-box proteins in organelle nucleoids  
Mari Takusagawa<sup>1</sup>, Yusuke Kobayashi<sup>1</sup>, Yoichiro Fukao<sup>2</sup>, Isamu Miyakawa<sup>3</sup>, Toshiharuru Shikanai<sup>1</sup>, Osami Misumi<sup>3</sup>, Yoshiki Nishimura<sup>1</sup> (<sup>1</sup>Grad. Sch. Sci., Kyoto Univ., <sup>2</sup>Col. Life Sci., Ritsumeikan Univ., <sup>3</sup>Grad. Sch. Sci. Tech. Innov., Yamaguchi Univ.)
- P-129 Possible roles of Ca<sup>2+</sup> in the regulation of chloroplast functions  
Arisa Kubo, Miho Kotani, Takaki Murata, Takashi Shiina (Grad. Sch. Life and Env. Sci-Fi., Kyoto Pref. Univ)

- P-130 The role of chloroplast protein CAS in flg22-induced stomatal closure.  
Masaki Mizuno, Yuna Uemura, Miho Kotani, Takashi Shiina (Grad. Sch. Life and Env. Sci., Kyoto Pref. Univ)
- P-131 Delivering sulfur for biosynthesis of organic sulfur compounds in plant cells: pathways and subcellular localizations  
Yumi Nakai<sup>1</sup>, Akiko Harada<sup>2</sup>, Masato Nakai<sup>3</sup>, Takato Yano<sup>1</sup> (<sup>1</sup>Dept. of Biochemistry, Osaka Medical College, <sup>2</sup>Dept. of Biology, Osaka Medical College, <sup>3</sup>Protein Research Inc., Osaka Univ.)
- P-132 Intracellular localization of possible CO<sub>2</sub> transporter OsTIP2;2  
Yoshiki Nakahara<sup>1</sup>, Mineo Shibasaka<sup>1</sup>, Yojiro Taniguchi<sup>2</sup>, Maki Katsuhara<sup>1</sup> (<sup>1</sup>IPSR, Okayama Univ., <sup>2</sup>NIAS)
- P-133 Actin isovariant ACT8 regulates Arabidopsis lateral root developmental process  
Marika Yamauchi, Takahiro Numata, Abidur Rahman (Department of Plant Bio Sciences, Iwate University)
- P-134 Artificial effects of protein tags for organelle morphology and plant growth  
Shoji Segami<sup>1</sup>, Satoru Kinoshita<sup>1</sup>, Takashi L. Shimada<sup>2</sup>, Tomoo Shimada<sup>3</sup>, Ikuko Nishimura<sup>4</sup>, Masayoshi Maeshima<sup>1</sup> (<sup>1</sup>Grad. Sch. Bioagr., Nagoya Univ., <sup>2</sup>Grad. Sch. Hort., Chiba Univ., <sup>3</sup>Grad. Sch. Sci., Kyoto Univ., <sup>4</sup>Sch. Sci. Eng., Konan Univ.)
- P-135 Degradation mechanism of peroxisomes via selective autophagy in leaves  
Kazuya Inoue<sup>1</sup>, Loreto Naya<sup>2</sup>, Mayuko Sato<sup>3</sup>, Kiminori Toyooka<sup>3</sup>, Kohki Yoshimoto<sup>1</sup> (<sup>1</sup>Dept. Life Sci., Sch. Agri., Meiji Univ., <sup>2</sup>INRA-AgroParisTech, Inst. Jean-Pierre Bourgin, <sup>3</sup>RIKEN CSRS)
- P-136 Analysis of the microtubule-associated protein BPP family that involved in morphogenesis of leaf epidermal cells.  
Takehide Kato<sup>1</sup>, Jeh Haur Wong<sup>1</sup>, Nahoko Nagasaki-Takeuchi<sup>1</sup>, Nene Kinoshita<sup>1</sup>, Rie Shimizu<sup>1</sup>, Takumi Higaki<sup>2</sup>, Seiichiro Hasezawa<sup>3</sup>, Takashi Hashimoto<sup>1</sup> (<sup>1</sup>Grad. Sch. Biol. Sci., NAIST, <sup>2</sup>Kumamoto Univ., IROAST, <sup>3</sup>Grad. Sch. Frontier Sci., Univ. Tokyo)
- P-137 CLASP stabilizes microtubule plus ends after severing to facilitate light-induced microtubule reorientation  
Masayoshi Nakmaura<sup>1,2</sup>, Jelmer J. Lindeboom<sup>2</sup>, Marco Saltini<sup>3</sup>, Bela M. Mulder<sup>3</sup>, David W. Ehrhardt<sup>2,4</sup> (<sup>1</sup>Nagoya University, ITbM, <sup>2</sup>Carnegie Institution for Science, Department of Plant Biology, <sup>3</sup>Institute AMOLF, <sup>4</sup>Stanford University, Department of Biology)

## ■ Cell wall

- P-139 Mechanical analysis of root hair tip growth by atomic force microscopy  
Yudai Miyoshi<sup>1</sup>, Tomohiro Uemura<sup>2</sup>, Shigehiro Yoshimura<sup>3</sup> (<sup>1</sup>Faculty of Integrated Human Studies, Kyoto University, <sup>2</sup>Graduate School of Science, The University of Tokyo, <sup>3</sup>Graduate School of Biostudies, Kyoto University)
- P-140 Analysis of expression and function of EXPANSIN in tissue reunion process of Arabidopsis cut flowering stem  
Hirokata Yokogawa<sup>1</sup>, Bidadi Haniyeh<sup>1</sup>, Kimiyo Ono<sup>1</sup>, Michiyuki Ono<sup>1</sup>, Keita Matsuoka<sup>2</sup>, Masashi Asahina<sup>2</sup>, Hiroaki Iwai<sup>1</sup>, Shinobu Satoh<sup>1</sup> (<sup>1</sup>Graduate School of Life and Environmental Sciences, University of Tsukuba, <sup>2</sup>Department of Biosciences, Teikyo University)
- P-141 Pursuit for mechanisms responsible for the induction of tomato fruit blossom-end rot using the introgression line IL8-3  
Ryotaro Watanabe<sup>1</sup>, Ryota Tomizaki<sup>1</sup>, Hayato Maruyama<sup>2</sup>, Yoshinori Kanayama<sup>3</sup>, Toshihiro Watanabe<sup>2</sup> (<sup>1</sup>Fac. Agri., Hokkaido Univ., <sup>2</sup>Grad. Sch. Agri., Hokkaido Univ., <sup>3</sup>Grad. Sch. Agri., Tohoku Univ.)
- P-142 Activity of Pectin Methylesterase in Transgenic Poplar Trees with an Introduced Pectin Methylesterase Gene.  
Koichi Kakegawa<sup>1</sup>, Mitsuru Nishiguchi<sup>2</sup> (<sup>1</sup>Dept. Forest Resources Chemistry, Forestry and Forest products Res. Inst., <sup>2</sup>Dept. Forest Molecular Genetics and Biotechnology, Forestry and Forest products Res. Inst.)
- P-143 UDP-Arabinopyranose Mutase Gene Expressions are Required for the Biosynthesis of the Arabinose Side Chain of Both Pectin and Arabinoxylglucan, and Normal Leaf Expansion in *Nicotiana tabacum*  
Hideyuki Honta<sup>1</sup>, Takuya Inamura<sup>1</sup>, Teruko Konishi<sup>2</sup>, Shinobu Satoh<sup>1</sup>, Hiroaki Iwai<sup>1</sup> (<sup>1</sup>University of Tsukuba, Faculty of Life and Environmental Sciences, <sup>2</sup>Department of Bioscience and Biotechnology, Faculty of Agriculture, University of the Ryukyus)
- P-144 *Galacturonosyltransferase* gene mutations reduce the requirement of boron in *Arabidopsis thaliana*  
Masaki Kawase, Kyoko Miwa (Grad. Sch. Environ. Sci., Hokkaido Univ.)

## ■ Membrane trafficking

- P-147 Improvement of fluorescence proteins suitable for live-cell imaging in the oxidative environment in plant cells  
Kohji Nishimura<sup>1</sup>, Kazuhiro Kuga<sup>2</sup>, Takashi Iwase<sup>2</sup>, Ikuo Wada<sup>3</sup>, Hidehisa Shimizu<sup>2</sup>, Mitsuo Jisaka<sup>2</sup>, Kazushige Yokota<sup>2</sup>, Tsuyoshi Nakagawa<sup>1</sup> (<sup>1</sup>Inter. Cent. Sci. Res., Shimane Univ., <sup>2</sup>Fac. Life Env. Sci., Shimane Univ., <sup>3</sup>Dep. Cell Sci., Fukushima Med. Univ. Sch. Med.)
- P-148 Analysis on the Modification and Transport of an Arabinogalactan Protein Precursor  
Daiki Nagasato<sup>1</sup>, Yuto Sugita<sup>2</sup>, Yuhei Tsuno<sup>2</sup>, Ken Matsuoka<sup>1,2,3,4</sup> (<sup>1</sup>Sch. Agric., Kyushu Univ., <sup>2</sup>Grad. Sch. Bio., Kyushu Univ., <sup>3</sup>Fac. Agric., Kyushu Univ., <sup>4</sup>Biotron Appl. Ctr., Kyushu Univ.)
- P-149 The role of adaptor protein complex 4 (AP-4) in vacuolar targeting of a borate transporter AtBOR1  
Takuya Hosokawa<sup>1</sup>, Akira Yoshinari<sup>2</sup>, Tadashi Kunieda<sup>3</sup>, Tomoo Shimada<sup>4</sup>, Ikuko Hara-Nishimura<sup>5</sup>, Junpei Takano<sup>6</sup> (<sup>1</sup>Sch. Life Env. Sci., Univ. Osaka Pref., <sup>2</sup>WPI-ITbM, Univ. Nagoya, <sup>3</sup>Grad. Sch. Biosci., NAIST; Fac. Sci. Eng., Univ. Konan, <sup>4</sup>Grad. Sch. Sci., Univ. Kyoto, <sup>5</sup>Fac. Sci. Eng., Univ. Konan, <sup>6</sup>Grad. Sch. Life Env. Sci., Univ. Osaka Pref.)
- P-150 Nuclear localization of Plant-unique RAB5 effector 3 is regulated by RAB5 GTPases  
Emi Ito<sup>1</sup>, Seung-won Choi<sup>1</sup>, Kazuo Ebine<sup>2,3</sup>, Takashi Ueda<sup>2,3,4</sup>, Akihiko Nakano<sup>5,6</sup> (<sup>1</sup>Dept. Natural Sciences, ICU, <sup>2</sup>Div. Cellular Dynamics, NIBB, <sup>3</sup>Sch. Life Sci., SOKENDAI, <sup>4</sup>JST, PRESTO, <sup>5</sup>Grad. Sch. Science, Univ. Tokyo, <sup>6</sup>RIKEN, RAP)
- P-151 Identification of PH-domain-containing RAB5 effectors PEAR2 and PEAR3 in Arabidopsis  
Seung-won Choi<sup>1,2</sup>, Kazuo Ebine<sup>3,6</sup>, Naoya Kato<sup>2</sup>, Takafumi Ishihara<sup>2</sup>, Chie Suzuki<sup>2</sup>, Yuki Sugiyama<sup>2</sup>, Yumiko Tanaka<sup>2</sup>, Takashi Ueda<sup>3,5,6</sup>, Akihiko Nakano<sup>2,4</sup>, Emi Ito<sup>1,2</sup> (<sup>1</sup>Dept. Natural Sciences, ICU, <sup>2</sup>Grad. Sch. Science, Univ. Tokyo, <sup>3</sup>Div. Cellular Dynamics, NIBB, <sup>4</sup>RIKEN, RAP, <sup>5</sup>JST, PRESTO, <sup>6</sup>Sch. Life Sci., SOKENDAI)
- P-152 Functional analysis of a novel Arabidopsis ARF GAP protein in vesicular traffic  
Masaki Takeuchi (Graduate School of Science, The University of Tokyo)
- P-153 Intracellular Localization of *Arabidopsis thaliana* PLD $\zeta$ 1 and PLD $\zeta$ 2  
Ryota Shimamura<sup>1</sup>, Yukimi Y. Taniguchi<sup>2</sup>, Mariko Kato<sup>1</sup>, Tomohiko Tsuge<sup>1</sup>, Takashi Aoyama<sup>1</sup> (<sup>1</sup>Institute for Chemical Research, Kyoto University, <sup>2</sup>Graduate School of Science and technology, Kwansei Gakuin University)
- P-154 Analysis of plant adaptation to C/N nutrition balance through membrane traffic modification by ubiquitin ligase ATL31  
Akari Fujimaki<sup>1</sup>, Yoko Hasegawa<sup>2</sup>, Shota Hozuki<sup>2</sup>, Tomohiro Uemura<sup>3</sup>, Akihiko Nakano<sup>3,4</sup>, Takeo Sato<sup>2</sup>, Junji Yamaguchi<sup>2</sup> (<sup>1</sup>Sch. Sci., Hokkaido Univ., <sup>2</sup>Fac. Sci. and Grad. Sch. Life Sci., Hokkaido Univ., <sup>3</sup>Grad. Sch. Sci., Univ. Tokyo, <sup>4</sup>Live Cell Super-Resolution Imaging Research Team, RIKEN Center for Advanced Photonics)
- P-155 Clarification of intercellular localization of plant sterol biosynthetic enzymes  
Yuka Yamaroku<sup>1</sup>, Masatoshi Nakamoto<sup>1</sup>, Kazuo Ebine<sup>2,3</sup>, Takashi Ueda<sup>2,3</sup>, Daisaku Ohta<sup>1</sup> (<sup>1</sup>Grad. Sch. Life Environ. Sci., Osaka Pref. Univ., <sup>2</sup>Div. Cellular Dynamics, NIBB, <sup>3</sup>Sch. Life Sci., SOKENDAI)

## ■ Biomembrane/Ion and solute transport

- P-157 Membrane localization of Na<sup>+</sup>/H<sup>+</sup> antiporters in *Synechocystis* sp. PCC 6803  
Ayaka Kano, Masaru Tsujii, Kota Kera, Nobuyuki Uozumi (Dept. Biomol. Eng., Grad. Sch. Eng., Tohoku Univ.)
- P-158 Characterization of phosphate uptake mechanism in the marine diatoms  
Kanako Maeda, Nanae Kimura, Yohei Fukuchi, Toshiki Sugiyama, Kensuke Nakajima, Yoshinori Tsuji, Yusuke Matsuda (Department of Bioscience, Kwansei-Gakuin University, Sanda, Hyogo 669-1337, Japan)
- P-159 Search for membrane transporters associated with the color of plant pigment anthocyanins  
Mayuko Naganawa, Yuri Kimura, Midori Takemura, Takeshi Sako, Masayoshi Maeshima, Yoichi Nakanishi (Grad. Sch. Bioagr. Sci., Univ. Nagoya)
- P-160 Promotion of root cell elongation and stress tolerance in a tonoplast intrinsic protein TIP2;2-deficient mutant in *Arabidopsis thaliana*  
Miki Kato<sup>1</sup>, Yukako Yamanari<sup>2</sup>, Kumi Sato-Nara<sup>3</sup> (<sup>1</sup>Grad. Sch. Human Sci., Nara Women's Univ., <sup>2</sup>Fac. Sci., Nara Women's Univ., <sup>3</sup>Div. Nat. Sci., Nara Women's Univ.)
- P-161 Crystal structure of a plant MATE transporter  
Shigehiro Iwaki, Yoshiki Tanaka, Tomoya Tsukazaki (Dept. of Biological science., NAIST)

- P-162 Tissue specific expression of boron transporter reveals different roles of cell-types in overall boron transport  
Makiha Fukuda<sup>1</sup>, Shinji Wakuta<sup>2</sup>, Takehiro Kamiya<sup>1</sup>, Junpei Takano<sup>3</sup>, Toru Fujiwara<sup>1</sup> (<sup>1</sup>Grad. Sch. Agri. Sci., Univ. Tokyo, <sup>2</sup>Grad. Sch. Agri., Univ. Hokkaido, <sup>3</sup>Grad. Sch. Env. Sci., Osaka Pref. Univ.)
- P-163 Screening for specific inhibitors of Arabidopsis K<sup>+</sup> channels  
Kyota Suzuki, Tomoki Shimada, Kosuke Endo, Shin Hamamoto, Nobuyuki Uozumi (Dept. Biomol. Eng., Grad. Sch. Eng., Tohoku Univ.)
- P-164 Protein-protein interactions of barley tonoplast intrinsic proteins, HvTIPs, expressed in seeds.  
Shigeiko Utsugi, Mineo Shibasaka, Maki Katsuhara (IPSR, OKAYAMA UNIV.)
- P-165 Study on intracellular trafficking of OsPIP1s  
Keisuke Nakai, Sarasa Morita, Eiki Takahashi, Ikuko Iwasaki (Akita Pref. Univ.)
- P-166 Mechanical stimuli-induced calcium response in *var2* variegation mutant of *Arabidopsis*  
Akiko Harada, Chikako Tanaka, Kazuyo Mihara (Dept. Biol., Osaka Med. Col.)
- P-167 Optimization of phosphate use efficiency and distribution by chloroplast DNA degradation  
Tsuneaki Takami<sup>1</sup>, Norikazu Ohnishi<sup>1</sup>, Yuko Kurita<sup>2,3</sup>, Shoko Iwamura<sup>2</sup>, Miwa Ohnishi<sup>2</sup>, Tetsuro Mimura<sup>2</sup>, Wataru Sakamoto<sup>1</sup> (IPSR., Okayama Univ., <sup>2</sup>Grad. Sch. Sci., Kobe Univ., <sup>3</sup>Fac. Agric., Ryukoku Univ.)
- P-168 Dynamics of Cs in rice plants during ripening period and properties of gene expression of candidate transporters for Cs  
Junko Ishikawa<sup>1</sup>, Shigeto Fujimura<sup>2</sup>, Mari Murai-Hatano<sup>2</sup>, Akitoshi Goto<sup>1</sup>, Motohiko Kondo<sup>3</sup> (<sup>1</sup>NARO/NICS, <sup>2</sup>NATO/TARC, <sup>3</sup>Nagoya Univ.)

## ■ Photosynthesis (Photosystem/Electron transport)

- P-171 Intermediate structure and oxygen-evolving mechanism of photosystem II revealed by serial femtosecond crystallography  
Michi Suga<sup>1</sup>, Fusamichi Akita<sup>1</sup>, Michihiro Sugawara<sup>2</sup>, Minoru Kubo<sup>2</sup>, Yoshiki Nakajima<sup>1</sup>, So Iwata<sup>2</sup>, Jian-Ren Shen<sup>1</sup> (<sup>1</sup>Okayama University, <sup>2</sup>RIKEN SPring-8 Center)
- P-172 Gene expression analysis of NPQ7 and phenotypic analysis of NPQ7-RNAi lines in *C<sub>4</sub> Flaveria bidentis*  
Yuki Kidena, Tomonao Yasui, Takuya Hiroshima, Yukimi Y. Taniguchi, Yuri Munekage (Grad. Sch. Sci. & Tec., Univ. Kwansai Gakuin)
- P-173 Photoprotection mechanisms of the drought-tolerant *Jatropha curcas* plant  
Helena Sapeta<sup>1,2</sup>, Makio Yokono<sup>2,3</sup>, Atsushi Takabayashi<sup>2</sup>, Yoshifumi Ueno<sup>4</sup>, Seiji Akimoto<sup>4</sup>, Junko Kishimoto<sup>2</sup>, Ayumi Tanaka<sup>2</sup>, M. Margarida Oliveira<sup>1,5</sup>, Ryouichi Tanaka<sup>2</sup> (<sup>1</sup>ITQB, Universidade Nova de Lisboa, <sup>2</sup>Inst Low Temp Sci, Hokkaido Uni, <sup>3</sup>Innovation Center, Nippon Flour Mills Co., Ltd., <sup>4</sup>Grad Sch Sci, Kobe Uni, <sup>5</sup>iBET)
- P-174 Contribution of cyclic electron transport around photosystem I in ruptured chloroplasts  
Caijuan Wang<sup>1</sup>, Hiroko Takahashi<sup>2</sup>, Toshiharu Shikanai<sup>1</sup> (<sup>1</sup>Department of Botany, Graduate School of Science, Kyoto University, <sup>2</sup>Department of Biochemistry and Molecular Biology, Graduate School of Science and Engineering, Saitama University)
- P-175 Molecular interactions of fucoxanthin chlorophyll *a/c*-binding proteins with the photosystem I core complex  
Ryo Nagao<sup>1</sup>, Yoshifumi Ueno<sup>2</sup>, Seiji Akimoto<sup>2</sup>, Fusamichi Akita<sup>1</sup>, Jian-Ren Shen<sup>1</sup> (<sup>1</sup>RIIS, Okayama Univ., <sup>2</sup>Grad. Sch. Sci., Kobe Univ.)
- P-176 Structural analysis of a minor ferredoxin in *Thermosynechococcus elongatus*  
Taiki Motomura<sup>1,2</sup>, Lidia Zuccarello<sup>3</sup>, Alain Boussac<sup>3</sup>, Jian-Ren Shen<sup>1,2</sup> (<sup>1</sup>Grad. Sch. Sci., Univ. Hyogo, <sup>2</sup>Grad. Sch. Nat. Sci. Tech., Okayama Univ., <sup>3</sup>CNRS)
- P-177 Flux Balance Analysis of *Synechocystis* sp. PCC 6803 Grown under Different Spectral Lights  
Masakazu Toyoshima, Yoshihiro Toya, Fumio Matsuda, Hiroshi Shimizu (Dept. of Bioinfo. Eng., Grad. Sch. IST, Osaka Univ.)
- P-178 Isolation Of Stable PSII Supercomplexes With Amphipol  
Akimasa Watanabe<sup>1,2</sup>, Ryutaro Tokutsu<sup>1,2</sup>, Smith Raymond<sup>1</sup>, Eunchul Kim<sup>1</sup>, Jun Minagawa<sup>1,2</sup> (<sup>1</sup>NIBB, <sup>2</sup>SOKENDAI)
- P-179 Effect of site-directed mutations at D2-T231 interacting with a phosphatidylglycerol molecule (PG714) on the function of photosystem II  
Yuji Fujita<sup>1</sup>, Kaichiro Endo<sup>2</sup>, Kenjin Shin<sup>3</sup>, Asako Ishi<sup>4</sup>, Koichi Kobayashi<sup>2</sup>, Hajime Wada<sup>2,5</sup>, Naoki Mizusawa<sup>1,4,6</sup> (<sup>1</sup>Graduate School of Division of Frontier Bioscience, Hosei University, <sup>2</sup>Graduate School of Arts and Sciences, The University of Tokyo, <sup>3</sup>Graduate School of Natural Science and Technology, Okayama University, <sup>4</sup>Faculty of Bioscience and Applied Chemistry, Hosei University, <sup>5</sup>JST. CREST, <sup>6</sup>Research Center for Micro-Nano Technology, Hosei University)

- P-180 Attempt to prepare magnetically oriented microcrystal array of photosystem II for neutron diffraction.  
Hiroki Tabuchi<sup>1</sup>, Keisuke Kawakami<sup>2</sup>, Fumiko Kimura<sup>3</sup>, Tsunehisa Kimura<sup>3</sup>, Nobuo Kamiya<sup>1,2</sup> (<sup>1</sup>Grad. Sch. Sci., Univ. Osaka-City, <sup>2</sup>OCARINA, Univ. Osaka-City, <sup>3</sup>Grad. Sch. Agr., Univ. Kyoto)
- P-181 Light-induced hydrogen production by photosystem I-Pt nanoparticle immobilized in porous glass plate nanopores  
Makoto Hirano<sup>1</sup>, Tomoyasu Noji<sup>2</sup>, Keisuke Kawakami<sup>2</sup>, Tetsuro Jin<sup>3</sup>, Masaharu Kondo<sup>4</sup>, Hirozo Oh-oka<sup>5</sup>, Nobuo Kamiya<sup>1,2</sup> (<sup>1</sup>Grad. Sch. Sci., Univ. Osaka City, <sup>2</sup>OCARINA, Univ. Osaka City, <sup>3</sup>AIST, <sup>4</sup>Grad. Sch. Eng., Univ. Nagoya Institute of Technology, <sup>5</sup>Grad. Sch. Sci., Univ. Osaka University)
- P-182 Function of light-driven water-splitting device immobilizing photosystem II inside porous glass plate  
Tomoyasu Noji<sup>1</sup>, Yusuke Ikeda<sup>2</sup>, Keisuke Kawakami<sup>1</sup>, Tetsuro Jin<sup>3</sup>, Nobuo Kamiya<sup>1,2</sup> (<sup>1</sup>OCARINA, Univ. Osaka City, <sup>2</sup>Grad. Sch. Sci., Univ. Osaka City, <sup>3</sup>AIST)
- P-183 Pet9, a nuclear-encoded protein containing a rhodanese domain requires for the biogenesis of cytochrome *b<sub>6</sub>f* complex in maize  
Yukari Asakura<sup>1</sup>, Rosalind Williams-Carrier<sup>2</sup>, Alice Barkan<sup>2</sup>, Masato Nakai<sup>1</sup> (<sup>1</sup>Inst. Protein Res., Osaka Univ., <sup>2</sup>Inst. Mol. Biol., Univ. Oregon)
- P-184 Studies on Structure-function Relationships Among the Rieske Protein and Cytochromes in Green Sulfur Bacteria  
Hiraku Kishimoto<sup>1</sup>, Risa Mutoh<sup>2</sup>, Hideaki Tanaka<sup>3</sup>, Genji Kurisu<sup>3</sup>, Hirozo Oh-oka<sup>1</sup> (<sup>1</sup>Grad. Sch. Sci., Osaka Univ., <sup>2</sup>Fac. Sci., Fukuoka Univ., <sup>3</sup>Inst. Protein Res., Osaka Univ.)
- P-185 Effects of pretreatment of the SoxYZ on the activity of the thiosulfate oxidizing multi enzyme system (TOMES) in the green sulfur bacterium *Chlorobaculum tepidum*  
Nozomu Miura, Kazuhito Inoue, Hidehiro Sakurai (Dept. Biol. Sci., Kanagawa Univ.)
- P-186 A study on the D1-Asn338 mutants related to the hydrogen bond network in PSII  
Miho Nishimura, Hiroshi Kuroda, Yuichiro Takahashi (RIIS, Okayama Univ.)
- P-187 Life cycle and cell differentiation of the green alga Volvox: from the photosynthetic point of view  
Koichi Yoshi<sup>1</sup>, Kohei Sekine<sup>2</sup>, Ichiro Terashima<sup>1</sup>, Kintake Sonoike<sup>3</sup> (<sup>1</sup>Grad. Sch., Sci., Univ. Tokyo, <sup>2</sup>Fac. Edu., Sci., Univ. Waseda, <sup>3</sup>Fac. Edu. Integr. Arts Sci., Univ. Waseda)
- P-188 Preparation of new Photosystem II particles from *Thermosynechococcus vulcanus*  
Serika Sato<sup>1</sup>, Makiko Kosugi<sup>2</sup>, Hiroyuki Koike<sup>2</sup> (<sup>1</sup>Grad. Sch. Sci. Eng., Chuo Univ., <sup>2</sup>Fac. Sci. Eng., Chuo Univ.)
- P-189 Light-Induced Electron Spin-Polarized EPR Signal of the P800<sup>+</sup>MQ<sup>-</sup> Radical Pair State in Oriented Membranes of *Heliobacterium modesticaldum*  
 Toru Kondo<sup>1</sup>, Chihiro Azai<sup>2</sup>, Shigeru Itoh<sup>3</sup>, Hirozo Oh-oka<sup>4</sup> (<sup>1</sup>Dept. Chem., MIT, <sup>2</sup>Coll. Life Sci., Ritsumeikan Univ., <sup>3</sup>Grad. Sch. Sci., Nagoya Univ., <sup>4</sup>Grad. Sch. Sci., Osaka Univ.)
- P-190 Incorporating type-I reaction centers into purple photosynthetic bacteria  
Yusuke Tsukatani<sup>1</sup>, Chihiro Azai<sup>2</sup>, Jiro Harada<sup>3</sup>, Tadashi Mizoguchi<sup>4</sup>, Hitoshi Tamiaki<sup>4</sup>, Shinji Masuda<sup>5</sup> (<sup>1</sup>Japan Agency for Marine-Earth Science and Technology (JAMSTEC), <sup>2</sup>Fac. Life Sci., Ritsumeikan Univ., <sup>3</sup>Dept. Med. Biochem., Kurume Univ. Sch. Med., <sup>4</sup>Grad. Sch. Life Sci., Ritsumeikan Univ., <sup>5</sup>Center for Biological Resources and Informatics, Tokyo Tech)

## ■ Photosynthesis (CO<sub>2</sub> assimilation/Light harvesting/Pigment/Others)

- P-191 Direct Observation of Photosynthetic Oxygen in a Filamentous Cyanobacterium by Soft X-Ray Microscopy  
Takahiro Teramoto<sup>1</sup>, Chihiro Azai<sup>2</sup>, Masashi Yoshimura<sup>3</sup>, Kazuki Terauchi<sup>2</sup>, Toshiaki Ohta<sup>3</sup> (<sup>1</sup>Ritsumeikan University, College of Science & Engineering, Department of Electrical & Electronic Engineering, <sup>2</sup>Ritsumeikan University, College of Life Science, Department of Bioinformatics, <sup>3</sup>Ritsumeikan University, SR center)
- P-192 Photobiological hydrogen production by the uptake hydrogenase mutant ( $\Delta$ Hup) of the purple bacterium *Rubrivivax gelatinosus* in different growth media, and its utilization in combination with heterocystous cyanobacteria  
Takeshi Sato, Kotaro Sueki, Kazuki Goto, Kenji Nagashima, Hidehiro Sakurai, Kazuhito Inoue (Dept. Biol. Sci., Kanagawa Univ.)
- P-193 Relationship between the photosynthetic ability and the sign of phototaxis in the green alga *Chlamydomonas*  
Keisuke Okajima<sup>1,2</sup>, Ryoichi Sato<sup>2</sup>, Ryutaro Tokutsu<sup>1,2</sup>, Masako Nakajima<sup>3</sup>, Noriko Ueki<sup>3</sup>, Toru Hisabori<sup>3</sup>, Ken-ichi Wakabayashi<sup>3</sup>, Jun Minagawa<sup>1,2</sup> (<sup>1</sup>SOKENDAI (The Graduate University for Advanced Studies), <sup>2</sup>National Institute for Basic Biology, <sup>3</sup>Laboratory for Chemistry and Life Science, Tokyo institute of technology)

- P-194 Mapping and characterization of a QTL on chromosome 3 responsible for increased rate of photosynthesis of high-yielding *indica* rice  
Takanari  
Yasuhiro Kojima<sup>1</sup>, Chizuru Terasaki<sup>1</sup>, Tadamasu Ueda<sup>2</sup>, Taiichiro Ookawa<sup>1</sup>, Utako Yamanouchi<sup>2</sup>, Toshio Yamamoto<sup>2</sup>,  
Tadashi Hirasawa<sup>1</sup>, Shunsuke Adachi<sup>1,3</sup> (<sup>1</sup>Grad. Sch. Agric., Tokyo Univ. Agr. & Tech., <sup>2</sup>Inst. Crop Sci. NARO, <sup>3</sup>Inst. Global Innov.  
Res., Tokyo Univ. Agr. & Tech.)
- P-195 Evaluation of Genotypes within the *Flaveria linearis* Complex Exhibiting Unusually Low CO<sub>2</sub> Compensation Points of Photosynthesis:  
Implications for C<sub>4</sub> Evolution  
Shunsuke Adachi<sup>1</sup>, Rowan F Sage<sup>2</sup> (<sup>1</sup>Institution of Global Innovation Research, Tokyo University of Agriculture and Technology,  
<sup>2</sup>Department of Ecology and Evolutionary Biology, University of Toronto)
- P-196 *De novo* transcript assembly for identifying genes associated with CO<sub>2</sub>-concentrating mechanism in centric diatom *Chaetoceros gracilis*  
Noriko Kozai<sup>1</sup>, Yuri Fukuda<sup>1</sup>, Takashi Yamano<sup>1</sup>, Yu Kanesaki<sup>2</sup>, Hirofumi Yoshikawa<sup>3</sup>, Hideya Fukuzawa<sup>1</sup> (<sup>1</sup>Grad. Sch. Biostudies,  
Kyoto University, <sup>2</sup>NODAI Genome Res. Centr., Tokyo Univ. of Agric., <sup>3</sup>Dept. of Biosci., Tokyo Univ. of Agric.)
- P-197 Investigating the activity of cyanobacterial bicarbonate transporters expressed in *Arabidopsis* using the silicon oil centrifugation  
Susumu Uehara<sup>1</sup>, Yasuko Ito-Inaba<sup>2</sup>, Takehito Inaba<sup>2</sup> (<sup>1</sup>Grad. Sch. Agr. and Eng., Univ. Miyazaki, <sup>2</sup>Fac. Agr., Univ. Miyazaki)
- P-198 Functional analysis of a chlorophyll-dephytylating enzyme in *Synechococcus elongatus* PCC7942.  
Makoto Uenosono, Nobuyuki Takatani, Hisanori Yamakawa, Yuichi Fujita, Tatsuo Omata (Grad. Sch. Bioagr. Sci., Univ. Nagoya)
- P-199 Transcriptomic regulation in non-leaf green tissues of mung bean (*Vigna radiata*)  
Kai-Chieh Chang<sup>1,2</sup>, Tin-Han Shih<sup>2</sup>, Chih-Wen Sun<sup>1</sup>, Chi-Ming Yang<sup>2</sup> (<sup>1</sup>Department of Life Sciences, National Taiwan Normal  
University, Daan, Taipei 116, Taiwan, <sup>2</sup>Biodiversity Research Center, Academia Sinica, Nankang, Taipei 115, Taiwan)
- P-200 Induction of plant hormone synthesis through chlorophyll degradation by SGR  
Madoka Kimura<sup>1</sup>, Hideyuki Matsuura<sup>2</sup>, Ayumi Tanaka<sup>1</sup>, Hisashi Ito<sup>1</sup> (<sup>1</sup>Inst. Low Temp. Sci., Hokkaido Univ., <sup>2</sup>Fac. Agr., Hokkaido  
Univ.)
- P-201 Excitation Relaxation Dynamics Of Diatoxanthin  
Kohei Kagatani<sup>1</sup>, Ryo Nagao<sup>2</sup>, Jian-Ren Shen<sup>2</sup>, Seiji Akimoto<sup>1</sup> (<sup>1</sup>Grad. Sch. Sci., Kobe Univ., <sup>2</sup>RIIS, Okayama Univ.)
- P-202 Molecular genetic analysis of the rice stay-green mutant dye1  
Hiroshi Yamatani<sup>1</sup>, Kaori Kohzuma<sup>1</sup>, Michiharu Nakano<sup>1</sup>, Tsuneaki Takami<sup>2</sup>, Yusuke Kato<sup>2</sup>, Yoriko Hayashi<sup>3</sup>, Yuki Monden<sup>4</sup>,  
Yutaka Okumoto<sup>5</sup>, Tomoko Abe<sup>3</sup>, Toshihiro Kumamaru<sup>6</sup>, Ayumi Tanaka<sup>7</sup>, Wataru Sakamoto<sup>2</sup>, Makoto Kusaba<sup>1</sup> (<sup>1</sup>Grad. Sch. Sci.,  
Univ. Hiroshima, <sup>2</sup>Inst. Plant Sci. Res., Univ. Okayama, <sup>3</sup>Nishina Cent., RIKEN, <sup>4</sup>Grad. Sch. Env and Life Sci., Univ. Okayama, <sup>5</sup>Fac.  
Agri., Univ. Kyusyu, <sup>6</sup>Grad. Agri., Univ. Kyoto, <sup>7</sup>Inst. Low Temp. Sci, Univ. Hokkaido)
- P-203 Modification of light-harvesting functions of unicellular green algae in response to different light qualities  
Yoshifumi Ueno<sup>1</sup>, Shimpei Aikawa<sup>2</sup>, Akihiko Kondo<sup>3</sup>, Seiji Akimoto<sup>1</sup> (<sup>1</sup>Grad. Sch. Sci., Kobe Univ., <sup>2</sup>JIRCAS, <sup>3</sup>Grad. Sch. Sci. Tec.  
Innov., Kobe Univ.)
- P-204 The Conservation of Z-ISO Activity in Plant-type of Carotenoid Synthesis  
Keisuke Nakazawa<sup>1</sup>, Masaharu Yamada<sup>1</sup>, Shota Kato<sup>2</sup>, Tomoko Shinomura<sup>2</sup>, Jiro Harada<sup>3</sup>, Shinichi Takaichi<sup>4</sup>, Kenjiro Sugiyama<sup>1</sup>  
(<sup>1</sup>Sch. Adv. Eng., Univ. Kogakuin, <sup>2</sup>Fac. Sci. Eng., Univ. Teikyo, <sup>3</sup>Sch. Med., Univ. Kurume, <sup>4</sup>Fac. Life Sci., Univ. Tokyo Agri.)
- P-205 Comparative analysis of energy-transfer processes in cyanobacterial species grown under different colored lights  
Kaori Fujimoto<sup>1</sup>, Shimpei Aikawa<sup>2</sup>, Akihiko Kondo<sup>3</sup>, Seiji Akimoto<sup>1</sup> (<sup>1</sup>Grad. Sch. Sci., Kobe Univ., <sup>2</sup>JIRCAS, <sup>3</sup>Grad. Sch. Sci. Tec.  
Innov., Kobe Univ.)
- P-206 Search for Assembly Intermediates of Photosynthetic Proteins by Cryogenic Micro-spectroscopy  
Yutaka Shibata, Takanori Kobayashi, Tomofumi Chiba, Hiroto Nagasawa (Grad. Sch. Sci., Univ. Tohoku)
- P-207 Single-Molecule Spectroscopy of Photosystem I at low Temperature  
Takanori Kobayashi<sup>1</sup>, Sankar Jana<sup>2</sup>, Ting Du<sup>2</sup>, Ryo Nagao<sup>3</sup>, Takumi Noguchi<sup>4</sup>, Yutaka Shibata<sup>2</sup> (<sup>1</sup>Faculty of Sci., Tohoku Univ., <sup>2</sup>Grad.  
Sch. Sci., Tohoku Univ., <sup>3</sup>Res. Inst. Interdiscip. Sci., Okayama Univ., <sup>4</sup>Grad. Sch. Sci., Nagoya Univ.)
- P-208 Investigation on the thermodynamic dissociation kinetics of photosystem II supercomplexes to determine the binding strengths of light-  
harvesting complexes  
Eunchul Kim<sup>1</sup>, Ryutarou Tokutsu<sup>1,2</sup>, Akimasa Watanabe<sup>1,2</sup>, Jun Minagawa<sup>1,2</sup> (<sup>1</sup>National Institute for Basic Biology, <sup>2</sup>SOKENDAI)
- P-209 Red-light response in brown-colored green sulfur bacteria containing bacteriochlorophyll *e*  
Jiro Harada<sup>2</sup>, Tadashi Mizoguchi<sup>1</sup>, Yusuke Kinoshita<sup>1</sup>, Ken Yamamoto<sup>2</sup>, Hitoshi Tamiaki<sup>1</sup> (<sup>1</sup>Grad. Sch. Life Sci., Ritsumeikan  
Univ., <sup>2</sup>Dept. Med. Biochem., Kurume Univ. Sch. Med.)

## ■ Environmental response of photosynthesis or respiration

- P-211 Life history of heterocystous cyanobacterium Rivularia M-261 analyzed by multimodal spectral microscopy  
Kumazaki Shigeichi<sup>1</sup>, Shuho Nozue<sup>1</sup>, Shinji Fukuda<sup>1</sup>, Kouto Tamamizu<sup>1</sup>, Masahide Terazima<sup>1</sup>, Mitsunori Katayama<sup>2</sup> (<sup>1</sup>Grad. Sch. of Sci., Kyoto Univ., <sup>2</sup>Coll. of Ind. Tech., Nihon Univ.)
- P-212 Physiological properties of marimo cells that enables long-term survival in the dark  
Yasunari Nakazima<sup>1</sup>, Mari Ogawa<sup>2</sup>, Isamu Wakana<sup>3</sup>, Yoshihiro Suzuki<sup>4</sup> (<sup>1</sup>Grad. Sch. Sci., Kanagawa Univ., <sup>2</sup>Yasuda Women's Univ., <sup>3</sup>Kushiro District Office of Education, <sup>4</sup>Kanagawa Univ.)
- P-213 Role of chloroplast translation factor EF-Tu in photoinhibition of photosystem II in *Arabidopsis thaliana*  
Azusa Shinjo<sup>1</sup>, Haruhiko Jimbo<sup>2</sup>, Yuka Kumaki<sup>2</sup>, Yoshitaka Nishiyama<sup>1,2</sup> (<sup>1</sup>Dept. Biochem. Mol. Biol., Saitama Univ., <sup>2</sup>Grad. Sch. Sci. Eng., Saitama Univ.)
- P-214 Study of the survival strategy under very high light in the cyanobacterium *Synechocystis* sp. PCC 6803  
Taichi Izuhara<sup>1</sup>, Haruhiko Jimbo<sup>2</sup>, Shinichi Takaichi<sup>3</sup>, Yoshitaka Nishiyama<sup>1,2</sup> (<sup>1</sup>Dept. Biochem. Mol. Biol., Saitama Univ., <sup>2</sup>Grad. Sch. Sci. Eng., Saitama Univ., <sup>3</sup>Dept. Mol. Microbiol., Faculty of Life Science, Tokyo Univ. Agriculture)
- P-215 Function of a galactolipase, Galp1, in *Synechococcus elongatus* PCC 7942  
Nobuyuki Takatani<sup>1</sup>, Kazutaka Ikeda<sup>2</sup>, Tatsuo Omata<sup>1</sup> (<sup>1</sup>Grad. Sch. Bioagr. Sci. Nagoya Univ., <sup>2</sup>RIKEN IMS)
- P-216 Role of PATROL1, which enhances quick stomatal movements, in photosynthetic responses to environmental factors  
Haruki Kimura<sup>1</sup>, Mimi Hashimoto-Sugimoto<sup>2</sup>, Koh Iba<sup>3</sup>, Ichiro Terashima<sup>1</sup>, Wataru Yamori<sup>1</sup> (<sup>1</sup>Dept. Biol. Sci., Grad. Sch. Sci., Univ. Tokyo, <sup>2</sup>Grad. Sch. Bioagr. Sci., Nagoya Univ., <sup>3</sup>Dept. Biol., Fac. Sci., Kyushu Univ.)
- P-217 Tolerance Against High Temperature And Strong Light During Flowering Transition In Sorghum Evaluated By Real-time Chlorophyll Fluorescence Measurement  
Norikazu Ohnishi, Wataru Sakamoto (Inst. Plant Sci. Res., Okayama Univ.)
- P-218 A method for water stress prediction by P700 parameters in rice  
Shinya Wada<sup>1,4</sup>, Yuji Suzuki<sup>1,4</sup>, Daisuke Takagi<sup>3,4</sup>, Chikahiro Miyake<sup>3,4</sup>, Amane Makino<sup>2,4</sup> (<sup>1</sup>Fac. Agri., Univ. Iwate, <sup>2</sup>Grad. Sch. Agri., Univ. Tohoku, <sup>3</sup>Grad. Sch. Agri., Univ. Kobe, <sup>4</sup>CREST)
- P-219 A chloroplastic protein disulfide reductase OsCYO1 is essential for short-day growth in rice.  
Jun Tominaga<sup>1</sup>, Haru Tanaka<sup>1</sup>, Tsuneaki Tamaki<sup>2</sup>, Wataru Sakamoto<sup>2</sup>, Atsushi Sakamoto<sup>1</sup>, Hiroshi Shimada<sup>1</sup> (<sup>1</sup>Hiroshima University, <sup>2</sup>Institute of Plant Science and Resources, Okayama University)
- P-220 Regulation of Arabidopsis  $\beta$ -carotene Hydroxylase Gene Expression  
Takuya Fukuda, Natsumi Fujii, Satomi Takeda (Grad. Sch. Sci., Osaka Pref. Univ.)
- P-221 Phosphorylation of light harvesting complex II controls the energetic spillover between photosystems  
Ryutaro Tokutsu<sup>1</sup>, Eunchul Kim<sup>1</sup>, Seiji Akimoto<sup>2</sup>, Konomi Kamada<sup>1</sup>, Akimasa Watanabe<sup>1</sup>, Norikazu Ohnishi<sup>3</sup>, Jun Minagawa<sup>1</sup> (<sup>1</sup>Division of Environmental Photobiology, National Institute for Basic Biology, <sup>2</sup>Graduate School of Science, Kobe University, <sup>3</sup>Institute of Plant Science and Resources, Okayama University)
- P-222 Day-Length-dependent-Delayed-Greening1 (DLDG1) protein localizes in chloroplast envelope membrane and controls qE  
Kyohei Harada<sup>1</sup>, Ryoichi Sato<sup>2</sup>, Takatoshi Arizono<sup>1</sup>, Natsuhiko Maekawa<sup>1</sup>, Masaru Kono<sup>3</sup>, Shinji Masuda<sup>4</sup> (<sup>1</sup>Department of Life Sciences and Technology, Tokyo Institute of Technology, <sup>2</sup>Div. Env. Photobiol., NIBB, <sup>3</sup>School of Science, The University of Tokyo, <sup>4</sup>Center for Biological Resources and Informatics, Tokyo Institute of Technology)
- P-223 Physiological Analysis Of High Light Response Gated By Circadian Clock In Cyanobacterium *Synechococcus elongatus* PCC 7942.  
Tatsuhiko Tsurumaki<sup>1,2</sup>, Kan Tanaka<sup>2</sup> (<sup>1</sup>School of Life Science and Technology, Tokyo Institute of Technology, <sup>2</sup>Laboratory for Chemistry and Life Science, Institute of Innovative Research, Tokyo Institute of Technology)
- P-224 Seasonal changes in photosynthesis and pigments in *Sasa senanensis* leaves  
Kiyomi Ono (ILTS, Hokkaido University)
- P-225 Identification of two chemical compounds inhibiting photosynthetic electron transport and analysis of inhibitory targets.  
Fumiyoshi Myouga, Kazuo Shinozaki (RIKEN CSRS)
- P-226 SqrR, a master regulator of sulfide-dependent photosynthesis, acts as a heme-sensing transcriptional factor  
Takayuki Shimizu<sup>1,2</sup>, Tatsuru Masuda<sup>1</sup>, Shinji Masuda<sup>2</sup> (<sup>1</sup>Grad. Sch. Arts Sci., Univ. Tokyo, <sup>2</sup>Cent. Biol. Res. and Info., Tokyo Inst. Technol.)

- P-227      Photosynthesis under the light conditions different from the Earth  
Kenji Takizawa<sup>1,2</sup>, Norio Narita<sup>2,3,4</sup>, Nobuhiko Kusakabe<sup>2,3</sup> (<sup>1</sup>National Institute for Basic Biology, <sup>2</sup>AstroBiology Center, <sup>3</sup>National Astronomical Observatory of Japan, <sup>4</sup>The University of Tokyo)

## ■ Primary metabolism

- P-229      Contribution ratio of NADPH consumption system in *ndhF* mutant strain of *Synechocystis* sp. PCC 6803 using <sup>13</sup>C-metabolic flux analysis  
Keisuke Wada, Yoshihiro Toya, Fumio Matsuda, Hiroshi Shimizu (Graduate School of Information Science and Technology, Osaka University)
- P-230      Regulatory mechanism of C/N-nutrient response via phosphorylation of ubiquitin ligase ATL31 in *Arabidopsis*  
Shota Hozuki, Shigetaka Yasuda, Yoko Hasegawa, Takeo Sato, Junji Yamaguchi (Fac. Sci. and Grad. Sch. Life Sci., Hokkaido Univ.)
- P-231      Suppression of ADP-glucose pyrophosphorylase affects cell-wall composition as well as fruit sugar and sugar phosphate contents in tomato fruit  
Chiaki Matsukura<sup>1</sup>, Haruka Suzuki<sup>2</sup>, Momoko Miyachi<sup>2</sup>, Yves Gibon<sup>3</sup>, Christophe Rothan<sup>3</sup>, Hiroaki Iwai<sup>1</sup>, Hiroshi Ezura<sup>1</sup> (<sup>1</sup>Fac. Life Env. Sci., Univ. Tsukuba, <sup>2</sup>Grad. Sch. Life Env. Sci., Univ. Tsukuba, <sup>3</sup>INRA-Bordeaux, France)
- P-232      *OsNLP4* is a key gene regulating growth under nitrate condition in rice  
Mengyao Wang<sup>1</sup>, Takahiro Hasegawa<sup>1</sup>, Makoto Hayashi<sup>2</sup>, Yoshihiro Ohmori<sup>1</sup>, Koji Yano<sup>1</sup>, Takehiro Kamiya<sup>1</sup>, Toru Fujiwara<sup>1</sup> (<sup>1</sup>Graduate School of Agricultural and Life Sciences, The University of Tokyo, <sup>2</sup>RIKEN Center for Sustainable Resource Science)
- P-233      Temporal and spatial analysis of metabolites in a single cell of *Chara australis*  
Ami Okuda<sup>1</sup>, Suguru Terashima<sup>1</sup>, Ryosuke Sasaki<sup>2</sup>, Tetsuro Mimura<sup>3</sup>, Kazuki Saito<sup>2,4</sup>, Akira Oikawa<sup>1,2</sup> (<sup>1</sup>Fac. Agri., Yamagata Univ., <sup>2</sup>RIKEN CSRS, <sup>3</sup>Grad. Sch. Sci., Kobe Univ., <sup>4</sup>Grad. Sch. Pharm. Sci., Chiba Univ.)
- P-234      Functional analysis of bZIP3 transcription factor involved in sugar signal transduction in *Arabidopsis*  
Miho Sanagi<sup>1</sup>, Shoki Aoyama<sup>1</sup>, Yu Lu<sup>1</sup>, Nobutaka Mitsuda<sup>2</sup>, Masaru Ohme-Takagi<sup>2,3</sup>, Takeo Sato<sup>1</sup>, Junji Yamaguchi<sup>1</sup> (<sup>1</sup>Fac. Sci. and Grad. Sch. Life Sci., Hokkaido Univ., <sup>2</sup>Bioproduction Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), <sup>3</sup>Grad. Sch. Sci. Eng., Saitama Univ.)
- P-235      Physiological Importance of Pyrophosphatases in Lateral Nectary of *Arabidopsis thaliana*  
Satoru Kinoshita, Shoji Segami, Masayoshi Maeshima (Grad. Sch. Bioagr. Sci., Nagoya Univ.)
- P-236      Identification of phosphorylases involved in anaerobic paramylon degradation in *Euglena gracilis*  
Yuji Tanaka<sup>1,2</sup>, Kyo Goto<sup>1,2</sup>, Khohei Nishino<sup>2</sup>, Takanori Maruta<sup>1,2</sup>, Takahisa Ogawa<sup>1,2</sup>, Takahiro Ishikawa<sup>1,2</sup> (<sup>1</sup>Dept. Life Sci. Biotechnol., Fac. Life Environ. Sci., Shimane Univ., <sup>2</sup>JST/CREST)
- P-237      Regulation mechanism of anaerobic wax ester production in *Euglena gracilis*  
Mitsuhiro Kimura<sup>1,2</sup>, Yuuki Ishii<sup>1,2</sup>, Takahisa Ogawa<sup>1,2</sup>, Takanori Maruta<sup>1,2</sup>, Masaru Mori<sup>3,4</sup>, Takahiro Ishikawa<sup>1,2</sup> (<sup>1</sup>Fac. Life Environ. Sci., Shimane Univ., <sup>2</sup>JST/CREST, <sup>3</sup>Inst. Adv. Biosci., Keio Univ., <sup>4</sup>SFC Grad. Sch. Media Govern., Keio Univ.)
- P-238      Functional analysis of glycolipid epimerase specific for cyanobacteria.  
Yayoi Fujisawa<sup>1</sup>, Kouichirou Awai<sup>1,2</sup> (<sup>1</sup>Sch. Integ. Sci. Tech., Shizuoka Univ., <sup>2</sup>Res. Inst. Erectro., Shizuoka Univ.)
- P-239      Phosphocholine Biosynthesis is involved in the Leaf Vein Development in *Arabidopsis*  
Yu-chi Liu, Ying-Chen Lin, Kazue Kanehara, Yuki Nakamura (Institute of Plant and Microbial Biology, Academia Sinica)
- P-240      Analysis of oligogalactolipids and their biosynthetic enzyme GGGT from a charophyte alga *Klebsormidium nitens*  
Shinsuke Shimizu<sup>1</sup>, Tei Watanabe<sup>2</sup>, Koichi Hori<sup>1,2</sup>, Yuka Madoka<sup>2</sup>, Mie Shimojima<sup>1,2</sup>, Hiroyuki Ohta<sup>1,2,3</sup> (<sup>1</sup>School of Life Science and Technology, Tokyo Institute of Technology, <sup>2</sup>Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology, <sup>3</sup>Earth-Life Science Institute, Tokyo Institute of Technology)
- P-241      Effects of elevated CO<sub>2</sub> on expression of genes involved in trehalose metabolism in rice plants: comparison between mature and developing leaves  
Yonghyun Kim<sup>1</sup>, Masae Konno<sup>2</sup>, Mitsue Miyao-Tokutomi<sup>1</sup> (<sup>1</sup>Grad. Sch. Agricul. Sci., Tohoku Univ., <sup>2</sup>Grad. Sch. Eng., Nagoya Inst. Tech.)
- P-242      Identification and characterization of novel factors involved in the flavin metabolism in plants  
Madoka Kikuchi<sup>1</sup>, Jyunya Namba<sup>1</sup>, Takanori Maruta<sup>1</sup>, Takahiro Ishikawa<sup>1</sup>, Kazuya Yoshimura<sup>2</sup>, Shigeru Shigeoka<sup>3</sup>, Takahisa Ogawa<sup>1</sup> (<sup>1</sup>Dept. Life Sci. Biotechnol., Fac. Life Environ. Sci., Shimane Univ., <sup>2</sup>Dept. Food Nutr. Sci., Coll. Biosci. Biotech., Chubu Univ., <sup>3</sup>Dept. Adv. Biosci., Fac. Agr., Kindai Univ.)



- P-243 Functional analysis of the energy sensor SnRK1 in Carbon/Nitrogen-nutrient response in *Arabidopsis*  
Yu Lu<sup>1</sup>, Miho Sanagi<sup>1</sup>, Saleh Alseekh<sup>2</sup>, Alisdair R. Fernie<sup>2</sup>, Takeo Sato<sup>1</sup>, Junji Yamaguchi<sup>1</sup> (<sup>1</sup>Fac. Sci. and Grad. Sch. Life Sci., Hokkaido Univ., <sup>2</sup>Max Planck Institute of Molecular Plant Physiology)
- P-244 Functional Analysis Of A Plant Specific Deubiquitinating Enzyme Involved In Plant C/N-Nutrient Response  
Yongming Luo, Shigetaka Yasuda, Yu Lu, Yoko Hasegawa, Takeo Sato, Junji Yamaguchi (Fac. Sci. and Grad. Sch. Life Sci., Hokkaido Univ.)
- P-245 Screening of transcription factors regulating plant response to carbon/nitrogen-nutrient availability in *Arabidopsis*  
Hinako Hase<sup>1</sup>, Shoki Aoyama<sup>2</sup>, Yoshie Morita<sup>2</sup>, Nobutaka Mitsuda<sup>3</sup>, Masaru Ohme-Takagi<sup>3,4</sup>, Takeo Sato<sup>2</sup>, Junji Yamaguchi<sup>2</sup> (<sup>1</sup>Sch. Sci., Hokkaido Univ., <sup>2</sup>Fac. Sci. and Grad. Sch. Life Sci., Hokkaido Univ., <sup>3</sup>Bioproduction Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), <sup>4</sup>Grad. Sch. Sci. Eng., Saitama Univ.)
- P-246 Selection of rice cultivars showing different nitrogen responses from NIAS core collections and their transcriptomic comparison  
 Yonghyun Kim<sup>1</sup>, Shuichi Yanagisawa<sup>2</sup>, Mitsue Miyao-Tokutomi<sup>1</sup> (<sup>1</sup>Grad. Sch. Agric. Sci., Tohoku Univ., <sup>2</sup>Biotech. Res. Center, Univ. Tokyo)
- P-247 Glutamine-induced Repression of a High-affinity Nitrate Transporter Gene Promoter in *Arabidopsis*  
Pengcheng Guo, Mineko Konishi, Shuichi Yanagisawa (Biotech. Res. Center, Univ. Tokyo)

## ■ Secondary metabolism

- P-249 Coordination Of Glucosinolate Metabolism By The Light Conditions In *Arabidopsis* Leaf  
Tomomi Ichinose<sup>1</sup>, Yuzo Yamazaki<sup>2</sup>, Daisuke Miura<sup>1</sup>, Akiko Maruyama-Nakashita<sup>1</sup> (<sup>1</sup>Kyushu Univ., <sup>2</sup>Shimadzu Corporation)
- P-250 Photo-control of Carotenoid Synthesis in *Euglena gracilis*  
Yuri Tanno<sup>1</sup>, Shota Kato<sup>2</sup>, Mineo Iseki<sup>3</sup>, Hiroyuki Tanaka<sup>4</sup>, Yutaka Kodama<sup>4</sup>, Shinichi Takaichi<sup>5</sup>, Takahiro Ishikawa<sup>6</sup>, Masashi Asahina<sup>1,2</sup>, Senji Takahashi<sup>1,2</sup>, Tomoko Shinomura<sup>1,2</sup> (<sup>1</sup>Grad Sch Sci Eng, Teikyo Univ, <sup>2</sup>Dept Biosci, Teikyo Univ, <sup>3</sup>F Pharm Sci, Toho Univ, <sup>4</sup>Center Biosci Res & Edu, Utsunomiya Univ, <sup>5</sup>Dept Mol Microbiol, Tokyo Univ Agric, <sup>6</sup>Dept Life Sci Biotech, Shimane Univ)
- P-251 Identification Of The Tyrosine Hydroxylase Gene In Yellow Four-o'clock (*Mirabilis jalapa*)  
Ryuta Kunii (Ozeki and Yamada Lab., TUAT)
- P-252 Secretion of lipids from *Lithospermum erythrorhizon* cells and its relevance to shikonin production  
Kanade Tatsumi<sup>1</sup>, Yoza Okazaki<sup>2,3</sup>, Masataka Kajikawa<sup>4</sup>, Ikuyo Ichi<sup>5</sup>, Takuji Ichino<sup>1</sup>, Kazuki Saito<sup>2,6</sup>, Hideya Fukuzawa<sup>4</sup>, Kazufumi Yazaki<sup>6</sup> (<sup>1</sup>RISH, Kyoto Univ., <sup>2</sup>RIKEN CSRS, <sup>3</sup>Grad. Sch. Bioresources, Mie Univ., <sup>4</sup>Grad. Sch. Biostudies, Kyoto Univ., <sup>5</sup>Fac. Human Life and Environmental Sci., Ochanomizu Univ., <sup>6</sup>Grad. Sch. Pharm. Sci., Chiba Univ.)
- P-253 Study for Taxane Compound Biosynthesis in Yew Suspension Cultured Cells  
Hiroaki Kusano<sup>1</sup>, Hiroshi Minami<sup>2</sup>, Homare Tabata<sup>2</sup>, Kazufumi Yazaki<sup>1</sup> (<sup>1</sup>RISH, Kyoto Univ., <sup>2</sup>Hokkaido Mitsui Chem., Co., Ltd.)
- P-254 A phenylpropane-specific prenyltransferase catalyzes sequential prenylations in *Artemisia capillaris*  
Ryosuke Munakata<sup>1,2</sup>, Tomoya Takemura<sup>2</sup>, Akifumi Sugiyama<sup>2</sup>, Hideyuki Suzuki<sup>3</sup>, Hikaru Seki<sup>4</sup>, Toshiya Muranaka<sup>4</sup>, Noriaki Kawano<sup>5</sup>, Kayo Yoshimatsu<sup>5</sup>, Nobuo Kawahara<sup>5</sup>, Takao Yamaura<sup>6</sup>, Alain Hehn<sup>1</sup>, Kazufumi Yazaki<sup>2</sup> (<sup>1</sup>Lab. Agron. Environ., Univ. Lorraine-INRA, <sup>2</sup>RISH, Kyoto Univ., <sup>3</sup>Dept. R&D, Kazusa DNA Res. Inst., <sup>4</sup>Grad. Sch. Eng., Osaka Univ., <sup>5</sup>Tsukuba Div., Res. Cent. Med. Plant Resources, Nat. Inst. Biomed. Innov., Health Nut., <sup>6</sup>Nippon Shinyaku Co., Ltd.)
- P-255 Characterization of oxidosqualene cyclases involved in *Bauhinia forficata* Link. triterpenoid biosynthesis  
Pisane Srisawat, Ery Odette Fukushima, Shuhei Yasumoto, Hikaru Seki, Toshiya Muranaka (Grad. Sch. Eng., Osaka Univ.)
- P-256 Morphological and metabolic differentiation of laticifer and idioblast cells in *Catharanthus roseus* leaves.  
Mai Uzaki<sup>1</sup>, Kotaro Yamamoto<sup>2</sup>, Katsutoshi Takahashi<sup>3</sup>, Miwa Ohnishi<sup>1</sup>, Kimitsune Ishizaki<sup>1</sup>, Hidehiro Fukaki<sup>1</sup>, Tetsuro Mimura<sup>1</sup> (<sup>1</sup>Grad.Sch. Sci., Kobe Univ., <sup>2</sup>Dept. Chem. Biol., John Innes Centre, <sup>3</sup>AIST)
- P-257 Galled leaves of wolfberry (*Lycium chinense*) are benefit for human health  
Po-Yen Chen<sup>1</sup>, Tin-Han Shih<sup>2</sup>, Wen-Der Huang<sup>3</sup>, Yu-Sen Chang<sup>1</sup>, Chi-Ming Yang<sup>2</sup> (<sup>1</sup>Department of Horticulture and Landscape Architecture, National Taiwan University, Taipei, Taiwan, <sup>2</sup>Biodiversity Research Center, Academia Sinica, Taipei, Taiwan, <sup>3</sup>Department of Agronomy, National Taiwan University, Taipei, Taiwan)
- P-258 Identification of glycosyltransferases involved in hydrolyzable tannin biosynthesis in *Eucalyptus camaldulensis*  
Ko Tahara<sup>1,2</sup>, Mitsuru Nishiguchi<sup>1</sup>, Andrej Frolov<sup>3</sup>, Juliane Mittasch<sup>2</sup>, Carsten Milkowski<sup>2</sup> (<sup>1</sup>Forestry and Forest Products Research Institute, <sup>2</sup>Martin Luther University Halle-Wittenberg, <sup>3</sup>Leibniz Institute of Plant Biochemistry)

## ■ Environmental responses/Abiotic stresses (Temperature)

- P-261 Analysis of regulation of DREB2A stability via multiple pathways under normal and heat stress conditions  
Yoko Kamei<sup>1</sup>, Junya Mizoi<sup>1</sup>, Kyoko Morimoto<sup>1</sup>, Hikaru Sato<sup>1</sup>, Kazuo Shinozaki<sup>2</sup>, Kazuko Yamaguchi-Shinozaki<sup>1</sup> (<sup>1</sup>Grad. Sch. Agr. Life Sci., Univ. Tokyo, <sup>2</sup>Center for Sustainable Resource Science, RIKEN)
- P-262 Transcriptional regulation of cold-induction of Arabidopsis DREB1 genes by the circadian clock  
Satoshi Kidokoro<sup>1</sup>, Hiroki Haraguchi<sup>1</sup>, Tomona Ishikawa<sup>1</sup>, Satomi Toda<sup>1</sup>, Kazuo Shinozaki<sup>2</sup>, Kazuko Yamaguchi-Shinozaki<sup>1</sup> (<sup>1</sup>Grad. Sch. Agr. Life Sci., Univ. Tokyo, <sup>2</sup>Center for Sustainable Resource Science, RIKEN)
- P-263 Functional analysis of the HsfA1 transcription factor in Rice  
Moeko Noguchi<sup>1</sup>, Naohiko Ohama<sup>1</sup>, Daisuke Todaka<sup>1</sup>, Kazuo Shinozaki<sup>2</sup>, Kazuko Yamaguchi-Shinozaki<sup>1</sup> (<sup>1</sup>Grad. Sch. Agr. Life Sci., Univ. Tokyo, <sup>2</sup>Center for Sustainable Resource Science, RIKEN)
- P-264 A screening of devernalization mutants in Arabidopsis  
Takashi Maruoka<sup>1</sup>, Makoto Shirakawa<sup>1</sup>, Eng-Seng Gan<sup>2</sup>, Toshiro Ito<sup>1</sup> (<sup>1</sup>Nara Institute of Science and Technology, Graduate School of Biological Science, <sup>2</sup>Temasek Life Sciences Laboratory)
- P-265 Ca<sup>2+</sup>-permeable mechanosensitive channels MCA1 and MCA2 mediate cold-induced cytosolic Ca<sup>2+</sup> increase and cold tolerance in Arabidopsis  
Renhu Na<sup>1</sup>, Kendo Mori<sup>2</sup>, Maho Naito<sup>2</sup>, Aki Nakamura<sup>2</sup>, Hayato Shiba<sup>1</sup>, Tsuyoshi Yamamoto<sup>1</sup>, Takuya Suzuki<sup>1</sup>, Hidetoshi Iida<sup>2</sup>, Kenji Miura<sup>1</sup> (<sup>1</sup>Grad. Sch. Sci. life & environmental., Univ. Tsukuba, <sup>2</sup>Dept. Biol., Univ. Tokyo Gakugei)
- P-266 Role of *HTSI* in High Temperature Tolerance in *Arabidopsis*  
Takuya Ogata<sup>1</sup>, Yasunari Fujita<sup>1,2</sup> (<sup>1</sup>Biol. Resources Post-harvest Div., JIRCAS, <sup>2</sup>Grad. Sch. Life Environ. Sci., Univ. Tsukuba)
- P-267 High Temperature Stress Tolerance of Rice Developing Seed Induced by Hydrogen Peroxide Priming  
Yudai Mitsui<sup>1</sup>, Yukiko Sasuga<sup>1</sup>, Kentaro Kaneko<sup>2</sup>, Marouane Baslam<sup>2</sup>, Toshiaki Mitsui<sup>1,2</sup> (<sup>1</sup>Grad. Sch. Sci & Tech, Niigata Univ., <sup>2</sup>Dept. Applied Biol. Chem., Niigata Univ.)
- P-268 Identification proteins associated with reduced eating quality affected by chalky grains in rice  
Takeshi Shiraya<sup>1</sup>, Sayuri Ota<sup>1</sup>, Toshiaki Mitsui<sup>2,3</sup>, Toru Sato<sup>4</sup>, Satoshi Azuma<sup>4</sup> (<sup>1</sup>Niigata Agr. Res. Inst., <sup>2</sup>Grad.Sch.Sci.& Tech., Niigata Univ, <sup>3</sup>Dept. Applied Biol.Chem., Niigata Univ, <sup>4</sup>Niigata Crop Res. Center)
- P-269 Comparative proteomics analysis of frost susceptible cultivated and tolerant wild potato leaves  
Rie Katsumata<sup>1</sup>, Satoru Hiradoi<sup>1</sup>, Jiwan P. Palta<sup>2</sup>, Hiroyuki Imai<sup>3</sup>, Matsuo Uemura<sup>3</sup>, Ippei Habe<sup>4</sup>, Yu Sakamoto<sup>4</sup>, Jun Kasuga<sup>1</sup> (<sup>1</sup>Obihiro Univ., <sup>2</sup>CALS, Univ. of Wisconsin-Madison, <sup>3</sup>CRC, Iwate Univ., <sup>4</sup>Nagasaki Agr. For. Tech. Devel. Cent.)
- P-270 Effect of the temperature condition on the growth and development of tomato seedlings  
Kinuka Ohtaka<sup>1</sup>, Akiko Yoshida<sup>1,2</sup>, Kosuke Fukui<sup>1,3</sup>, Mikiko Kojima<sup>1</sup>, Yumiko Takebayashi<sup>1</sup>, Kanako Yano<sup>4</sup>, Shunsuke Imanishi<sup>4</sup>, Hitoshi Sakakibara<sup>1,5</sup> (<sup>1</sup>RIKEN Center for Sustainable Resource Science, <sup>2</sup>Kihara Institute of Biological Research, Yokohama City University, <sup>3</sup>Okayama University of science, Department of Biochemistry, <sup>4</sup>Institute of Vegetable and Floriculture Science, NARO, <sup>5</sup>Nagoya University)
- P-271 VPS9a, a RAB5 GTPase activator regulates the high temperature stress response in Arabidopsis thaliana  
Yukie Kobayashi<sup>1</sup>, Takashi Ueda<sup>2</sup>, Abidur Rahman<sup>3,4</sup> (<sup>1</sup>Graduate School of Agriculture, Iwate Univ., <sup>2</sup>National Institute for Basic Biology, <sup>3</sup>Department of Plant Bio Sciences, Faculty of Agriculture, Iwate Univ., <sup>4</sup>United Graduate School of Agricultural Sciences, Iwate Univ.)
- P-272 A novel MYC-type ICE-like transcription factor JcICE1 derived from *Jatropha curcas* L., enhances chilling tolerance in transgenic tobacco  
Shasha Wang, Fengfei Deng, Jiachang Cao, Ming Gong (Yunnan Normal University)
- P-273 Allantoin, a stress-responsive purine metabolite, enhances cold tolerance in Arabidopsis  
Yuhi Hashiguchi, Hiroshi Shimada, Atsushi Sakamoto (Grad. Sch. Sci., Hiroshima Univ.)

## ■ Environmental responses/Abiotic stresses (Ion/Salt/Mineral)

- P-274 Searching for cesium tolerance-related genes using C-ion beam mutagenised Arabidopsis  
Takae Miyazaki<sup>1</sup>, Eri Adams<sup>1</sup>, Yusuke Kazama<sup>2</sup>, Tsuzumi Mito<sup>1</sup>, Akino Yamaguchi<sup>1</sup>, Tomoko Abe<sup>2</sup>, Ryoung Shin<sup>1</sup> (<sup>1</sup>Yokohama Inst., Riken, <sup>2</sup>Wako Inst., Riken)

- P-275 Transcriptome Analysis of *Melastoma malabathricum* under Aluminum Stress  
Toshihiro Watanbae<sup>1</sup>, Sho Nishida<sup>2</sup>, Hayato Maruyama<sup>1</sup>, Kensuke Yoshii<sup>3</sup>, Jun Wasaki<sup>4</sup> (<sup>1</sup>Res. Fac. Agric., Hokkaido Univ., <sup>2</sup>Fac. Sci. Eng., Chuo Univ., <sup>3</sup>Sch. Agric., Hokkaido Univ., <sup>4</sup>Grad. Sch. Biosph. Sci., Hiroshima Univ.)
- P-276 Differences of low-phosphorus tolerance of *Arabidopsis thaliana* among natural variation  
Yuya Furukawa<sup>1</sup>, Ayumi Furutani<sup>1</sup>, Hayato Maruyama<sup>1,2</sup>, Keiki Okazaki<sup>3</sup>, Takurou Shinano<sup>4</sup>, Jun Wasaki<sup>1</sup> (<sup>1</sup>Grad.Sch.Biosphere Sci.,Hiroshima Univ., <sup>2</sup>Present: Res. Fac. Agric., Hokkaido Univ., <sup>3</sup>CARC, NARO, <sup>4</sup>TARC, NARO)
- P-277 Copper tolerance mechanisms mediated by copper transporter in *Scopelophila cataractae*  
Toshihisa Nomura<sup>1</sup>, Misao Itouga<sup>1</sup>, Takumi Higaki<sup>2</sup>, Tetsuya Sakurai<sup>1,3</sup>, Seiichiro Hasezawa<sup>4</sup>, Hitoshi Sakakibara<sup>1,5</sup> (<sup>1</sup>CSRS, RIKEN, <sup>2</sup>IROAST, Kumamoto Univ., <sup>3</sup>Mul. Sci., Kochi Univ., <sup>4</sup>Grad. Sch. Front. Sci., Univ. Tokyo, <sup>5</sup>Grad. Sch. Bioagri. Sci., Nagoya Univ.)
- P-278 Involvement of a transcription factor in root-to-shoot translocation of potassium in *Arabidopsis thaliana*  
Sho Nishida<sup>1</sup>, Nobuhiro Tanaka<sup>2</sup>, Toru Fujiwara<sup>2</sup> (<sup>1</sup>Fac. Sci. Eng., Chuo Univ., <sup>2</sup>Grad. Sch. Agri. Life Sci., Univ. Tokyo)
- P-279 SMU1 and SMU2 mediate *MRS2-7* pre-mRNA splicing and are required for low Mg adaptation in *Arabidopsis thaliana*  
Zhihang Feng<sup>1</sup>, Hiroshi Nagao<sup>1</sup>, Baohai Li<sup>1</sup>, Naoyuki Sotta<sup>1</sup>, Yusuke Shikanai<sup>1</sup>, Shuji Shigenobu<sup>2</sup>, Katsushi Yamaguchi<sup>2</sup>, Takehiro Kamiya<sup>1</sup>, Toru Fujiwara<sup>1</sup> (<sup>1</sup>Gra. Sch. Agr., Univ. Tokyo, <sup>2</sup>National Institute for Basic Biology, Okazaki)
- P-280 Possible boron-mediated regulation of translation through AUGUAA sequence in yeast  
Munkhtsetseg Tsednee, Mayuki Tanaka, Koji Kasai, Naoyuki Sotta, Toru Fujiwara (Graduate School of Agricultural and Life Sciences, University of Tokyo, Tokyo 113-8657)
- P-281 Heavy metal tolerance and virus resistance in a heavy metal hyper-accumulator *Arabidopsis halleri*  
Tatsuya Hara<sup>1</sup>, Yuta Hara<sup>1</sup>, Izumi Watanabe<sup>1</sup>, Shimpei Uraguchi<sup>2</sup>, Hiromitsu Moriyama<sup>1</sup>, Hideki Takahashi<sup>3</sup>, Toshiyuki Fukuhara<sup>1</sup> (<sup>1</sup>Tokyo University of Agriculture and Technology, <sup>2</sup>Sch. Pharm., Kitasato Univ., <sup>3</sup>Tohoku University)
- P-282 A study of high Co and Ni mutant of rice isolated by ionome screening  
Manman Kan, Toru Fujiwara, Takehiro Kamiya (Graduate School of Agricultural and Life Sciences, The University of Tokyo)
- P-283 Involvement of proanthocyanidin in accumulation of heavy metals in the roots of the fern *Athyrium yokoscense*  
Naoki Imai<sup>1</sup>, Ayaka Okamoto<sup>1</sup>, Kazuma Fujii<sup>1</sup>, Kazunori Morishita<sup>2</sup>, Hiroyuki Kamachi<sup>1</sup> (<sup>1</sup>Graduate School of Science and Engineering, University of Toyama, <sup>2</sup>Faculty of Science, University of Toyama)
- P-284 Molybdenum accumulation in wheat grown under nitrogen deficiency  
Soyoka Tokunaga<sup>1</sup>, Hayato Maruyama<sup>2</sup>, Ryousuke Okada<sup>2</sup>, Toshihiro Watanabe<sup>2</sup> (<sup>1</sup>Fac. Agri., Hokkaido Univ., <sup>2</sup>Grad. Sch. Agri., Hokkaido Univ.)
- P-285 Photo-environment in root system affects plant phosphate responses  
Yusuke Yoshioka<sup>1</sup>, Miwa Ohnishi<sup>1</sup>, Kimitsune Ishizaki<sup>1</sup>, Toshinori Kinoshita<sup>2</sup>, Hidehiro Fukaki<sup>1</sup>, Tetsuro Mimura<sup>1</sup> (<sup>1</sup>Grad. Sch. Sci., Kobe Univ., <sup>2</sup>WPI-ITbM, Nagoya Univ.)
- P-286 Evaluation of the effect of glutathione in root zone on cadmium behaviors in oilseed rape plants  
Shin-ichi Nakamura<sup>1</sup>, Nobuo Suzui<sup>2</sup>, Yong-Gen Yin<sup>2</sup>, Satomi Ishii<sup>2</sup>, Shu Fujimaki<sup>2</sup>, Naoki Kawachi<sup>2</sup>, Koji Noge<sup>3</sup>, Hiroki Rai<sup>3</sup>, Kanna Izawa-Sato<sup>1</sup>, Takashi Matsumoto<sup>1</sup> (<sup>1</sup>Tokyo University of Agriculture, <sup>2</sup>TARRI, QST, <sup>3</sup>Akita Prefectural University)

## ■ Environmental responses/Abiotic stresses (Oxidative stress/Redox regulation/Wounding/UV)

- P-287 Nitrogenase activity in a transformant CN1 of *Synechocystis* sp. PCC 6803 carrying the *nif* gene cluster from *Leptolyngbya boryana*  
Konomi Yokomizo, Hiroya Kotani, Ryoma Tsujimoto, Hisanori Yamakawa, Yuichi Fujita (Grad. Sch. Bio. Sci., Nagoya Univ.)
- P-288 Electron-donor-specificity conversion of NADH-dependent monodehydroascorbate reductase  
Hirokazu Mizoguchi, Kazufumi Takano, Satoshi Sano (Grad. Sch. Life Environ. Sci., Kyoto Pref. Univ.)
- P-289 Contributions of dehydroascorbate reductases and glutathione to ascorbate recycling in *Arabidopsis*  
Yusuke Terai, Hiromi Ueno, Takahisa Ogawa, Takahiro Ishikawa, Takanori Maruta (Dept. Life Sci. Biotechnol., Fac. Life Environ. Sci., Shimane Univ.)
- P-290 The characteristics of aerial biomass production of oxidized glutathione-fed *Arabidopsis* plants overexpressing *AtPrx47*  
Soichiro Noda, Ken'ichi Ogawa (Research Institute for Biological Sciences (RIBS Okayama), Okayama Prefectural Technology Center for Agriculture, Forestry and Fisheries)
- P-291 Effects of Glutathione Feeding on the Yield and Accumulation of Metabolites in Crown Daisy  
Kenji Henmi, Ken'ichi Ogawa (RIBS Okayama)

- P-292 Tissue-specific analysis of gene expression and endogenous phytohormone in tissue-reunion process of *Arabidopsis* incised flowering stem using laser microdissection.  
Kazuki Yamada<sup>1</sup>, Miyuki Nakanowatari<sup>1</sup>, Yukio Noda<sup>2</sup>, Takao Yokota<sup>2</sup>, Hisakazu Yamane<sup>1,2</sup>, Shinobu Satoh<sup>3</sup>, Masashi Asahina<sup>1,2</sup>  
 (<sup>1</sup>Grad. Sch. Sci. & Eng., Teikyo University, <sup>2</sup>Dept. Bioscience, Teikyo University, <sup>3</sup>Life & Environ Sci, University of Tsukuba)
- P-293 Gummosis in petioles of culinary rhubarb (*Rheum rhabarbarum* L.): Relevance to methyl jasmonate as its key chemical compound and chemical composition of gum polysaccharides  
Kensuke Miyamoto<sup>1</sup>, Justyna Góraj-Koniarska<sup>2</sup>, Mariko Oka<sup>3</sup>, Junichi Ueda<sup>4</sup>, Marian Saniewski<sup>2</sup> (<sup>1</sup>Fac. Liberal Arts & Sciences, Osaka Prefecture Univ., <sup>2</sup>Res. Inst. Horticulture, Skierniewice, Poland, <sup>3</sup>Fac. Agriculture, Tottori Univ., <sup>4</sup>Grad. Sch. Sci., Osaka Prefecture Univ.)
- P-294 UVB sensitivity and CPD photolyase of Africa rice cultivars *O. glaberrima*, *O. barthii* and *O. sativa*  
Gideon Mmbando, Mika Teranishi, Jun Hidema (Grad. Sch. Life Sci., Tohoku Univ.)
- P-295 Isolation of useful genes that could improve UV-B tolerance of land plants  
Koutarou Iinuma<sup>1</sup>, Miki Oguchi<sup>1</sup>, Yuta Miyagi<sup>1</sup>, Yoko Hori<sup>2</sup>, Takeshi Yoshizumi<sup>2</sup>, Minami Matsui<sup>2</sup>, Ryuichi Nishihama<sup>3</sup>, Takayuki Kohchi<sup>3</sup>, Youichi Kondou<sup>1</sup> (<sup>1</sup>Univ. Kanto-Gakuin, <sup>2</sup>CSRS., Riken, <sup>3</sup>Grad. Sch. Biostudies, Univ. Kyoto)

## ■ Environmental responses/Abiotic stresses (Drought/Water/Osmotic pressure)

- P-296 A small peptide mediates stomatal responses under drought stress  
Fuminori Takahashi<sup>1</sup>, Takehiro Suzuki<sup>1</sup>, Yuriko Osakabe<sup>1,2</sup>, Shigeyuki Betsuyaku<sup>3,4</sup>, Naoshi Dohmae<sup>1</sup>, Hiroo Fukuda<sup>4</sup>, Kazuko Yamaguchi-Shinozaki<sup>4</sup>, Kazuo Shinozaki<sup>1</sup> (<sup>1</sup>RIKEN CSRS, <sup>2</sup>Tokushima University, <sup>3</sup>JST PREST, <sup>4</sup>The University of Tokyo)
- P-297 A novel AP2/ERF transcription factor regulates cuticular wax formation during dehydration response  
Kaoru Urano<sup>1</sup>, Kyonoshin Maruyama<sup>2</sup>, Yoshimi Oshima<sup>3</sup>, Kazuko Yamaguchi-Shinozaki<sup>4</sup>, Kazuo Shinozaki<sup>1</sup> (<sup>1</sup>RIKEN/CSRS, <sup>2</sup>JIRCAS, <sup>3</sup>AIST, <sup>4</sup>Grad. Sch. Agri., Univ. Tokyo)
- P-298 Abiotic stress responses of the endoplasmic reticulum in relation to activation of abscisic acid production  
 Yiping Han<sup>1</sup>, Shunsuke Watanabe<sup>2</sup>, Hiroshi Shimada<sup>1</sup>, Atsushi Sakamoto<sup>1</sup> (<sup>1</sup>Grad. Sch. Sci., Hiroshima Univ., <sup>2</sup>RIKEN CSRS)
- P-299 Characterizations of Arabidopsis mutants deficient in deadenylases or RNA binding protein, APUM5 under stress conditions  
Kotone Morita<sup>1</sup>, Toshihiro Arae<sup>2</sup>, Yuya Suzuki<sup>2</sup>, Yukako Chiba<sup>2,3</sup> (<sup>1</sup>Schl. Sci., Hokkaido Univ., <sup>2</sup>Grad. Schl. Life Sci., Hokkaido Univ., <sup>3</sup>Fac. Sci., Hokkaido Univ.)
- P-300 Characterization of a novel gene essential for the fast growth in *Synechococcus* sp. NKBG 15041c and expression in *Arabidopsis thaliana*  
Kumiko Oe, Hitomi Yoshizu, Osuke Sekimata, Yoshihiro Ozeki, Akiyo Yamada (TUAT)
- P-301 Analysis of the transcription factors that regulate the expression of Arabidopsis *PIF4* gene in response to drought stress  
Kanako Tagami<sup>1</sup>, Satoshi Kidokoro<sup>1</sup>, Jin-Seok Moon<sup>1</sup>, Yuta Yamamura<sup>1</sup>, Youhei Ariga<sup>1</sup>, Hikaru Sato<sup>2</sup>, Daisuke Todaka<sup>1</sup>, Kazuo Shinozaki<sup>2</sup>, Kazuko Yamaguchi-Shinozaki<sup>1</sup> (<sup>1</sup>Grad. Sch. Agr. Life Sci., Univ. Tokyo, <sup>2</sup>Center for Sustainable Resource Science, RIKEN)
- P-302 Protein-protein interaction analysis of MAPKKs and subclass III SnRK2s in ABA signaling  
Yoshiaki Kamiyama<sup>1</sup>, Misaki Hirotani<sup>1</sup>, Mika Nomoto<sup>2</sup>, Tomotaka Itaya<sup>2</sup>, Ryo Yoshimura<sup>2</sup>, Yasuomi Tada<sup>3</sup>, Taishi Umezawa<sup>1</sup>  
 (<sup>1</sup>BASE, Tokyo Univ. Agric. Tech., <sup>2</sup>Grad. Sch. Sci., Nagoya Univ., <sup>3</sup>Centr. Gene Res., Nagoya Univ.)
- P-303 The cyanobacterial homolog of the gene for diacylglycerol acyltransferase  
 Kazuho Hirai<sup>1</sup>, Taku Sagami<sup>1</sup>, Yoshitaka Nishiyama<sup>2</sup>, Mikio Tsuzuki<sup>1</sup>, Norihiro Sato<sup>1</sup> (<sup>1</sup>Tokyo University of Pharmacy and Life Sciences, <sup>2</sup>Saitama University)
- P-304 Elucidation of the physiological roles of locally expressed ABA biosynthesis genes  
Yuma Tagawa<sup>1</sup>, Junro Mogami<sup>1</sup>, Hiroki Tsutsui<sup>2</sup>, Michitaka Notaguchi<sup>2,3</sup>, Kazuko Yamaguchi-Shinozaki<sup>1</sup> (<sup>1</sup>Grad. Sch. Agr. Life Sci., Univ. Tokyo, <sup>2</sup>Grad. Sch. Bioagri. Sci., Univ. Nagoya, <sup>3</sup>Japan Science and Technology Agency, PRESTO)
- P-305 Exploration of upstream regulatory proteins that mediate SnRK2 activations in Arabidopsis  
Yuta Sato<sup>1</sup>, Junro Mogami<sup>1</sup>, Fumiyuki Soma<sup>1</sup>, Karin Sato<sup>1</sup>, Fuminori Takahashi<sup>2</sup>, Kazuo Shinozaki<sup>2</sup>, Kazuko Yamaguchi-Shinozaki<sup>1</sup>  
 (<sup>1</sup>Grad. Sch. Agr. Life Sci., Univ. Tokyo, <sup>2</sup>Center for Sustainable Resource Science, RIKEN)

## ■ Environmental responses/Abiotic stresses (Gravity/Others)

- P-306 Effects of 3 G-hypergravity on the formation of tissues in the peduncle of *Arabidopsis*  
 Kimitaka Sasaki, Masaki Muramoto, Daisuke Tamaoki, Ichirou Karahara (Graduate School of Science and Engineering, University of Toyama)
- P-307 Regulation of root hair growth by polarly localized kinases in *Arabidopsis*  
Hiromasa Shikata<sup>1</sup>, Naoki Yanagisawa<sup>1</sup>, Yoshikatsu Sato<sup>1</sup>, Tetsuya Higashiyama<sup>1</sup>, Claus Schwechheimer<sup>2</sup> (<sup>1</sup>WPI-ITbM, Nagoya University, <sup>2</sup>Plant Systems Biology, Technical University of Munich)
- P-308 Cell death induction experiment using a series of metacaspase gene disruptants  
 Yukina Imura, Yasunori Ohta, Takaya Ito, Hirota Kobayashi, Hiroshi Hayashi (Fac. Biotech., Fukui Pref. Univ.)
- P-309 A role of NADPH oxidases in mechanical stimuli-induced local expression of defense genes  
Shota Tagawa, Seiya Yamaoka, Takuya Watanabe, Takashi Shiina (Grad.sch.Life and Env.sci.,Kyoto Pref.Univ)
- P-310 Effects of elevated CO<sub>2</sub> concentration on distribution of stomatal guard cells  
Kae Akita<sup>1</sup>, Takumi Higaki<sup>2</sup>, Seiichiro Hasezawa<sup>1</sup> (<sup>1</sup>GSFS, The Univ. Tokyo, <sup>2</sup>IROAST, Kumamoto Univ.)
- P-311 Functional analysis of histone demethylase in response to DNA damage of plants  
Takeshi Hirakawa<sup>1</sup>, Keiko Kuwata<sup>2</sup>, Sachihiko Matsunaga<sup>1</sup> (<sup>1</sup>Dept. Applied Bio. Sci., Fac. Sci. Tech., Tokyo Univ. Sci., <sup>2</sup>WPI-ITbM, Nagoya Univ.)
- P-312 Phosphate Starvation-Induced Lipid Remodeling in the Liverwort *Marchantia Polymorpha*  
Masashi Nakamura<sup>1</sup>, Ginga Kitaura<sup>2</sup>, Yuko Sasaki-Sekimoto<sup>1</sup>, Koichi Hori<sup>1</sup>, Masako Iwai<sup>1</sup>, Hiroyuki Ohta<sup>1</sup>, Kimitsune Ishizaki<sup>2</sup>, Mie Shimojima<sup>2</sup> (<sup>1</sup>School of Life Science and Technology, Tokyo Institute of Technology, <sup>2</sup>Graduate School of Science, Kobe University)
- P-313 Functional analyses of a putative regulator of phosphate starvation response in *Nannochloropsis oceanica* NIES-2145  
Natsue Kakutani, Hiroki Murakami, Mie Shimojima, Hiroyuki Ohta (Tokyo Institute of Technology)
- P-314 Investigation of the unfolded protein response using a fluorescent reporter  
Shimpei Hayashi, Yuha Wakasa, Taiji Kawakatsu (NARO)
- P-315 Nitrogen dioxide decreases PIF4 protein content and/or its transcriptional activity to suppress hypocotyl elongation in *Arabidopsis thaliana*  
Misa Takahashi, Atsushi Sakamoto, Hiromichi Morikawa (Grad. Sci., Hiroshima Univ.)
- P-316 NAC domain transcription factor VNI2 regulates senescence by forming protein complexes  
 Isura Nagahage<sup>1</sup>, Kohei Matsuda<sup>2</sup>, Shingo Sakamoto<sup>3</sup>, Toshiki Ishikawa<sup>1</sup>, Minoru Nagano<sup>1</sup>, Nobutaka Mitsuda<sup>1,3</sup>, Maki Kawai-Yamada<sup>1</sup>, Taku Demura<sup>2</sup>, Masatoshi Yamaguchi<sup>1</sup> (<sup>1</sup>Grad. Sch. Sci. Engineer., Saitama Univ., <sup>2</sup>Grad. Sch. Bio.Sci., NAIST, <sup>3</sup>Advanced Inst. Sci. Technol.)
- P-317 The SIII180 and SIII181, ABC transporter complexes, involved in acid stress tolerance export SIII1951 to extracellular via the outer membrane protein TolC.  
Junji Uchiyama<sup>1</sup>, Ayako Itagaki<sup>2</sup>, Haruna Ishikawa<sup>2</sup>, Yu Tanaka<sup>2</sup>, Hiroko Tahara<sup>2</sup>, Hisataka Ohta<sup>1,2</sup> (<sup>1</sup>Fac. of Sci., Tokyo univ. of Sci., <sup>2</sup>Grad. Sch. of Math. and Sci. Edu.Sci., Tokyo univ. of Sci)
- P-318 Isolation of green algal mutants accumulating high levels of TAG and chlorophyll under nitrogen deficient conditions  
Asuka Miyamoto, Yuki Niikawa, Daisuke Shimamura, Tomoya Honjo, Noriko Kozai, Donghui Hu, Chihana Toyokawa, Haruka Shinkawa, Masataka Kajikawa, Takashi Yamano, Hideya Fukuzawa (Grad. Sch. Biostudies, Kyoto Univ.)
- P-319 Large-scale screening of CO<sub>2</sub>-requiring mutants for identifying novel regulatory factors of CO<sub>2</sub>-concentrating mechanism in the green alga, *Chlamydomonas reinhardtii*  
Yuki Niikawa, Donghui Hu, Daisuke Shimamura, Tomoya Honjo, Noriko Kozai, Asuka Miyamoto, Chihana Toyokawa, Takashi Yamano, Hideya Fukuzawa (Grad. Sch. Biostudies, Kyoto Univ.)
- P-320 Transcription analysis of *sll0914* in the Cyanobacterium *Synechocystis* sp. PCC 6803 under acid stress condition  
Ayami Nakahara<sup>1</sup>, Haruna Ishikawa<sup>2</sup>, Ayako Itagaki<sup>2</sup>, Hidetaka Kouga<sup>2</sup>, Yu Kanesaki<sup>3</sup>, Hirofumi Yoshikawa<sup>4</sup>, Junji Uchiyama<sup>5</sup>, Hisataka Ohta<sup>1,2</sup> (<sup>1</sup>Dept. of Math. and Sci. Edu., Grad. Sch. of Sci., Tokyo Univ. of Sci., <sup>2</sup>Dept. of Math. and Sci. Edu., Grad. Sch. of Math. and Sci. Edu., Tokyo Univ. of Sci., <sup>3</sup>Genome Reser. Cent., Nodai Reser. Inst., Tokyo Univ. of Agri., <sup>4</sup>Dept. of Biol., Tokyo Univ. of Agri., <sup>5</sup>Dept. of Biol., Fac. of Sci., Tokyo Univ. of Sci.)

## ■ Plant-microbe interaction (Symbiosis)

- P-323 Genetic approach of the aberrant nodulation phenotypes induced by Rhizobium mutant on the legume  
Yasuyuki Kawaharada<sup>1,2</sup>, Huijun Liu<sup>2</sup>, Kasper Anersen<sup>2</sup>, Niels Sandal<sup>2</sup>, Simon Kelly<sup>2</sup>, Jens Stougaard<sup>2</sup> (<sup>1</sup>Faculty of Agriculture, Iwate University, <sup>2</sup>Aarhus University)
- P-324 *Lotus japonicus* HY5 homologue modulates nodulation and has the N-terminal structure characteristic to legumes  
Nao Okuma<sup>1,2</sup>, Takashi Soyano<sup>1,2</sup>, Masayoshi Kawaguchi<sup>1,2</sup> (<sup>1</sup>NIBB, <sup>2</sup>Sch. Life Sci., SOKENDAI)
- P-325 Assessment of plant characteristics of *Polygala paniculata* (Polygalaceae) for an evolutionary study of legume-Rhizobium symbiosis  
Yuji Tokumoto<sup>1</sup>, Takashi Soyano<sup>1,2</sup>, Seishiro Aoki<sup>3</sup>, Mai Fukuhara<sup>2</sup>, Tomomi Nakagawa<sup>4</sup>, Jun Yokoyama<sup>5</sup>, Hironori Fujita<sup>1,2</sup>, Masayoshi Kawaguchi<sup>1,2</sup> (<sup>1</sup>National Institute for Basic Biology, <sup>2</sup>The Graduate University for Advanced Studies, <sup>3</sup>The University of Tokyo, <sup>4</sup>Nagoya University, <sup>5</sup>Yamagata University)
- P-326 Genetic Basis for Obligate Biotrophy of AM Fungi by de novo Genome Sequencing of *Rhizophagus clarus* HR1  
Yuuki Kobayashi<sup>1,2</sup>, Taro Maeda<sup>1,2</sup>, Katsushi Yamaguchi<sup>3</sup>, Hiromu Kameoka<sup>1,2</sup>, Sachiko Tanaka<sup>1,2</sup>, Tatsuhiro Ezawa<sup>2,4</sup>, Shuji Shigenobu<sup>1,3,5</sup>, Masayoshi Kawaguchi<sup>1,2,5</sup> (<sup>1</sup>Division of Symbiotic Systems, NIBB, <sup>2</sup>JST ACCEL, <sup>3</sup>Functional Genomics Facility, NIBB, <sup>4</sup>Research Faculty of Agriculture, Hokkaido University, <sup>5</sup>SOKENDAI)
- P-327 Gibberellin functions in nodule symbiosis via regulation of NIN expression  
Miwa Nagae<sup>2</sup>, Satsuki Ninomiya<sup>1</sup>, Akira Akamatsu<sup>1</sup>, Masayoshi Kawaguchi<sup>2</sup>, Naoya Takeda<sup>1</sup> (<sup>1</sup>Kwansei Gakuin Univ., <sup>2</sup>NIBB)
- P-328 Gibberellin positively regulates Paris-type arbuscular mycorrhizal symbiosis in *Eustoma grandiflorum*  
Takaya Tominaga<sup>1</sup>, Chihiro Miura<sup>1</sup>, Yoshihiro Takemura<sup>1</sup>, Naoya Takeda<sup>2</sup>, Masahide Yamato<sup>3</sup>, Hironori Kaminaka<sup>1</sup> (<sup>1</sup>Fac. Arg., Tottori Univ., <sup>2</sup>Schl. Sci. Tech., Kwansei Gakuin Univ., <sup>3</sup>Fac. Edu., Chiba Univ.)
- P-329 'Fairy chemicals' affect the arbuscular mycorrhizal fungi-plant symbiosis  
Akira Akamatsu, Issei Suzuki, Naoya Takeda (KWANSEI GAKUIN UNIVERSITY)
- P-330 Functional Investigation Of A Ph/Beach/Wd Domain Protein Crinkle On The Root Nodule Symbiosis  
Aya Shimomura, Keisuke Yokota, Atsuko Hirota, Takashi Soyano, Makoto Hayashi (RIKEN)
- P-331 A novel regulation of nodulation by a calmodulin-binding transcriptional activator  
Akihiro Yamazaki<sup>1,2</sup>, Akira Miyahara<sup>2</sup>, Miwa Nagae<sup>2</sup>, Yosuke Umehara<sup>2</sup>, Makoto Hayashi<sup>1,2</sup> (RIKEN, <sup>2</sup>NIAS)
- P-332 Investigation of factors influencing the degree of mycoheterotrophy in *Cephalanthera falcata*  
Yuta Inoue, Toshiya Okuro (Grad. Sch. Ag. & Life Sci., Univ. Tokyo)
- P-333 Survey for rice LysM-RLKs involved in mycorrhizal symbiosis.  
Kana Miyata<sup>1,2</sup>, Shun Hasegawa<sup>1</sup>, Yoshiki Masuda<sup>1</sup>, Ayano Yumoto<sup>1</sup>, Yoshitake Desaki<sup>1</sup>, Naoto Shibuya<sup>1</sup>, Hanae Kaku<sup>1</sup> (<sup>1</sup>Meiji University, <sup>2</sup>Wageningen University)
- P-334 Lichenized Cyanobacteria From *Peltigera polydactylon* And Study On Its Photosynthetic Activity  
Takaya Muto<sup>1</sup>, Tomoki Sato<sup>1</sup>, Raku Hojo<sup>1</sup>, Shigeru Ito<sup>2</sup>, Ikuko Iwasaki<sup>1</sup> (<sup>1</sup>Akita Pref. Univ., <sup>2</sup>Nagoya Univ.)
- P-335 Estimation of phosphate acquisition through the mycorrhizal pathway via transcriptome responses in *Nicotiana benthamiana*  
Hayato Maruyama<sup>1</sup>, Ayumi Tezuka<sup>2</sup>, Atsushi J. Nagano<sup>2</sup>, Tatsuhiro Ezawa<sup>1</sup> (<sup>1</sup>Grad. Sch. Agri., Hokkaido Univ., Sapporo, Japan, <sup>2</sup>Fac. Agri., Ryukoku Univ., Ohtsu, Japan)

## ■ Plant-microbe interaction (Immunity)

- P-336 Characterization of novel chemical compounds that activate plant defense responses based on ROS production, transcriptomics and disease resistance  
Masataka Nakano<sup>1</sup>, Nobutaka Kitahata<sup>1,2</sup>, Ayumi Yoshida<sup>1</sup>, Yuho Saitou<sup>1</sup>, Shizuka Sato<sup>1</sup>, Keito Yasue<sup>1</sup>, Takamitsu Kurusu<sup>1</sup>, Takako Ishiga<sup>3</sup>, Yasuhiro Ishiga<sup>3</sup>, Seisuke Kimura<sup>4</sup>, Kengo Morohashi<sup>1</sup>, Tadao Asami<sup>5</sup>, Kazuyuki Kuchitsu<sup>1,2</sup> (<sup>1</sup>Dept. Appl. Biol. Sci., Tokyo Univ. of Sci., <sup>2</sup>Imaging Frontier Center, Tokyo Univ. of Sci., <sup>3</sup>Faculty of Life & Envi. Sci., Univ. of Tsukuba., <sup>4</sup>Dept. of Bioresource and Envi. Sci., Kyoto Sangyo Univ., <sup>5</sup>Grad. Sch. Agri. & Life Sci., Univ. of Tokyo)
- P-337 Involvement of tryptophan-derived metabolites in the post-invasive resistance of *Arabidopsis thaliana* against multiple fungal pathogens with different infection strategies  
Ayumi Kosaka<sup>1</sup>, Marta Pastorczyk<sup>2</sup>, Masanori Kaido<sup>1</sup>, Kazuyuki Mise<sup>1</sup>, Yoshitaka Takano<sup>1</sup> (<sup>1</sup>Grad. Sch. Agri., Kyoto Univ., <sup>2</sup>Polish Academy of Science)

- P-338 Classification and expression dynamics of subtilases in the parasitic plant *Phtheirospermum japonicum*  
Satoshi Ogawa<sup>1</sup>, Takanori Wakatake<sup>1</sup>, Satoko Yoshida<sup>1,2</sup>, Yasunori Ichihashi<sup>1,3</sup>, Ken Shirasu<sup>1</sup> (<sup>1</sup>RIKEN, CSRS, <sup>2</sup>NAIST, <sup>3</sup>JST, PRESTO)
- P-339 The regulation of stomata density affects susceptibility to *S. gentianae* in gentian.  
Chika Tateda<sup>1</sup>, Reiko Tomita<sup>2</sup>, Kazue Obara<sup>1</sup>, Yoshiko Abe<sup>1</sup>, Ken-Taro Sekine<sup>2</sup>, Koki Fujisaki<sup>1</sup> (<sup>1</sup>IBRC, <sup>2</sup>Univ. Ryukyu)
- P-340 Accumulation of soluble boron suppresses defense responses in *Arabidopsis thaliana*.  
Takanobu Hoyu, Daisuke Chiba, Hiroya Funakawa, Kyoko Miwa (Grad. Sch. Environ. Sci., Hokkaido Univ.)
- P-341 Involvement of cytokinin and jasmonate in rice blast resistance  
Koji Miyamoto<sup>1</sup>, Masanobu Ishitsuka<sup>1</sup>, Eiichi Minami<sup>2</sup>, Yoko Nishizawa<sup>2</sup>, Hisatoshi Kaku<sup>3</sup>, Emi Yumoto<sup>1</sup>, Kyomi Shibata<sup>1</sup>, Tomoko Sakazawa<sup>1</sup>, Takao Yokota<sup>1</sup>, Masashi Asahina<sup>1</sup>, Moritoshi Iino<sup>4</sup>, Kazunori Okada<sup>5</sup>, Hisakazu Yamane<sup>1</sup> (<sup>1</sup>Dept. of Biosci., Teikyo Univ., <sup>2</sup>Inst. of Agrobiological Sci., NARO, <sup>3</sup>Sakata Seed Corporation, <sup>4</sup>Botanical Gardens, Osaka City Univ., <sup>5</sup>BRC, The Univ. of Tokyo)
- P-342 Secretory peptide SAR8.2m is specifically required for the resistance of *Nicotiana benthamiana* to *Phytophthora infestans*.  
Sayaka Imano, Youhei Kondou, Eri Miyazaki, Hiroki Kojima, Aki Mizutani, Yusuke Shibata, Tatuhiro Kondou, Ikuo Sato, Soutarou Chiba, Kazuto Kawakita, Daigo Takemoto (Grad. Sch. Bioagr. Sci., Nagoya Univ.)
- P-343 Involvement of factors for Nucleo-cytoplasmic transport of *Nicotiana benthamiana* in resistance to *Phytophthora infestans*.  
Yuri Mizuno, Yusuke Shibata, Mina Ohtsu, Makoto Ojika, Ikuo Sato, Soutarou Chiba, Kazuhito Kawakita, Daigo Takemoto (Grad. Sch. Bioagr. Sci., Nagoya Univ.)
- P-344 Analysis of a novel effector candidate of *Sclerospora graminicola*  
Michie Kobayashi<sup>1</sup>, Yukie Hiraka<sup>1</sup>, Akira Abe<sup>1</sup>, Hiroki Yaegashi<sup>1</sup>, Satoshi Natsume<sup>1</sup>, Hideko Kikuchi<sup>1</sup>, Ryohei Terauchi<sup>1,2</sup> (<sup>1</sup>Iwate Biotechnology Research Center, <sup>2</sup>Kyoto University)
- P-345 Ubiquitination of *Arabidopsis* chitin elicitor receptor kinase CERK1  
Saki Matsui, Masato Nakashima, Haruki Koizumi, Keiji Kito, Yoshitake Desaki, Naoto Shibuya, Hanae Kaku (Dept. Life Sciences, Sch. Agriculture, Meiji Univ.)
- P-346 Functional analysis of the phosphorylation site S493 of CERK1  
Maruya Suzuki, Issei Yoshida, Kenkichi Suto, Yoshitake Desaki, Naoto Shibuya, Hanae Kaku (Dept. Life Sci., Univ. Meiji)
- P-347 Evaluation of the potential role of *Arabidopsis* LysM-RLPs/RLKs for LPS signaling.  
Ryosuke Iwase<sup>1</sup>, Yoshitake Desaki<sup>1</sup>, Yoshinori Sekiguchi<sup>1</sup>, Naoto Shibuya<sup>1</sup>, Yoko Nishizawa<sup>2</sup>, Hanae Kaku<sup>1</sup> (<sup>1</sup>Dept. Life Sciences, Sch. Agriculture, Meiji Univ., <sup>2</sup>Inst. Agrobiological Sciences, NARO)
- P-348 Functional analysis of MAMP-responsive phosphoprotein MARK2  
Hina Shibutani<sup>1</sup>, Kazuki Maeda<sup>1</sup>, Izumi Yotsui<sup>2,3</sup>, Gang-Su Hyon<sup>2</sup>, Yuko Nomura<sup>2</sup>, Yuki Ichinose<sup>4</sup>, Hidenori Matsui<sup>2,4</sup>, Hirofumi Nakagami<sup>2,5</sup> (<sup>1</sup>Faculty of Agriculture, Okayama University, <sup>2</sup>Plant Proteomics Research Unit, Riken CSRS, <sup>3</sup>Tokyo University of Agriculture, <sup>4</sup>Grad. Sch. Envi. and Life Sci., Okayama University, <sup>5</sup>Max Planck Institute for Plant Breeding Research)

## ■ Plant-microbe interaction (Diseases and pests/Others)

- P-349 Characterization of Herbivory Resistance Traits in NERICA Rice Varieties  
Brandonel Joackin Andama<sup>1</sup>, Cyprian Osinde<sup>1,2</sup>, Tomonori Shinya<sup>1</sup>, Ivan Galis<sup>1</sup> (<sup>1</sup>IPSR, Okayama Univ., <sup>2</sup>Makerere Univ. Uganda)
- P-350 Identification of Novel Genes Involved in Phenolamide Biosynthesis and Regulation in Rice  
Hiroki Takahashi, Joackin Andama, Yuko Hojo, Tomonori Shinya, Hiroko Nakatani, Ivan Galis (IPSR, Okayama Univ.)
- P-351 OPDA Signaling Contributes to Regulation of Phenolamide Biosynthesis in Rice Defense  
Tomonori Shinya<sup>1</sup>, Yuko Hojo<sup>1</sup>, Koji Miyamoto<sup>2</sup>, Kenichi Uchida<sup>2</sup>, Hisakazu Yamane<sup>2</sup>, Kazunori Okada<sup>3</sup>, Ivan Galis<sup>1</sup> (<sup>1</sup>IPSR, Okayama Univ., <sup>2</sup>Dept. Biosci., Teikyo Univ., <sup>3</sup>Biotech. Res. Center, Univ. Tokyo)
- P-352 Phytohormone levels and associated gene expression in developing rice panicles  
Ivan Galis, Kaori Fukumoto, Yuko Hojo, Hiroko Nakatani, Tomonori Shinya (Okayama University, Institute of Plant Science and Resources)
- P-353 Functional analysis of OsSRO1a in rice JA signaling  
Keita Kashiwara<sup>1</sup>, Tomonori Onohata<sup>1</sup>, Yuki Okamoto<sup>1</sup>, Yuya Uji<sup>2</sup>, Suzumi Tanaka<sup>1</sup>, Miho Hamanaka<sup>1</sup>, Kazuya Akimitsu<sup>1,2</sup>, Kenji Gomi<sup>1,2</sup> (<sup>1</sup>Fac. of Agr., Kagawa Univ., <sup>2</sup>United Grad. Sch. Agric. Sci., Ehime Univ.)

- P-354 Is DN3, an Effector of *Colletotrichum orbiculare*, a Calmodulin-Binding Protein?  
Manaka Iino<sup>1</sup>, Sari Tomita<sup>1</sup>, Noriyoshi Isozumi<sup>1</sup>, Yoshitaka Takano<sup>2</sup>, Masashi Mori<sup>3</sup>, Shinya Ohki<sup>1</sup> (<sup>1</sup>JAIST, <sup>2</sup>Kyoto University, <sup>3</sup>Ishikawa Prefectural University)
- P-355 Capability of clover yellow vein virus propagation in pea carrying the *cyv1* recessive resistance gene at a single-cell level  
Yuka Hagiwara-Komoda<sup>1</sup>, Yohsuke Taninaka<sup>1</sup>, Kenji Nakahara<sup>2</sup> (<sup>1</sup>Rakuno Gakuen Univ., <sup>2</sup>Grad. Sch. Agr. Univ. Hokkaido)
- P-356 Genotype and phenotype analysis of root knot nematode (*Meloidogyne incognita*) isolates  
Erika Asamizu<sup>1</sup>, Kenta Shirasawa<sup>2</sup>, Hideki Hirakawa<sup>2</sup>, Hideaki Iwahori<sup>1</sup> (<sup>1</sup>Faculty of Agriculture, Ryukoku University, <sup>2</sup>Kazusa DNA Research Institute)
- P-357 Evaluation of biological activity in gall-forming aphid *Schlechtendalia chinensis* extracts on plant tissue development  
Naoe Ando, Maki Minami-Ohtsubo, Issei Ohshima, Norihiro Ohtsubo (Grad. Sch. Life Environ. Sci., Kyoto Pref. Univ.)

## ■ Epigenetic regulation

- P-359 Study on deposition mechanism for the centromeric histone H3 variant in land plants  
Hidenori Takeuchi<sup>1,2,3</sup>, Frederic Berger<sup>1</sup> (<sup>1</sup>Gregor Mendel Institute, Austria, <sup>2</sup>Institute for Advanced Research, Nagoya University, <sup>3</sup>Institute of Transformative Bio-Molecules, Nagoya University)
- P-360 Annual Dynamics of Epigenetic Landscape: Seasonal Synchrony of H3K27me3 Modifications.  
Haruki Nishio<sup>1</sup>, Atsushi J. Nagano<sup>1,2</sup>, Diana Buzas<sup>3</sup>, Koji Iwayama<sup>4</sup>, Tasuku Ito<sup>1</sup>, Hiroshi Kudoh<sup>1</sup> (<sup>1</sup>Cent. Ecol. Res., Kyoto Univ., <sup>2</sup>Fac. Agri., Ryukoku Univ., <sup>3</sup>Gene Res. Cent., Univ. Tsukuba, <sup>4</sup>Cent. Data Sci. Edu. Res., Shiga Univ.)
- P-361 Ecotype-specific response to environmental stress  
Kosuke Nozawa<sup>1</sup>, Atsushi Kato<sup>2</sup>, Hidetaka Ito<sup>2</sup> (<sup>1</sup>Grad. Sch. Life Sci., Univ.Hokkaido, <sup>2</sup>Grad. Sch. Sci., Univ.Hokkaido)
- P-362 Efficiency of gene silencing by direct transfer of various double-stranded RNAs in Arabidopsis protoplasts  
Juichi Eto, Sayaka Kakiyama, Yuki Nishibori, Hiromitsu Moriyama, Toshiyuki Fukuhara (Tokyo University of Agriculture and Technology)
- P-363 The relationship between regulation of an endogenous pararetrovirus (petunia vein clearing virus) and RNA interference in petunia  
Kazunori Kuriyama<sup>1</sup>, Midori Tabara<sup>2</sup>, Hideki Takahashi<sup>3</sup>, Hiromitsu Moriyama<sup>2</sup>, Toshiyuki Fukuhara<sup>2</sup> (<sup>1</sup>Tokyo University of Agriculture and Technology, <sup>2</sup>Tokyo University of Agriculture and Technology, <sup>3</sup>Tohoku University)
- P-364 Change in chromatin structure of MADS-box genes during bud dormancy in apple  
Takanori Saito (Grad. Sch. Hort., Chiba Univ.)

## ■ Transcriptional, post-transcriptional or translational regulations

- P-367 Early events of wound-induced cellular reprogramming in Arabidopsis  
Duncan Coleman<sup>1</sup>, Tatsuya Takahashi<sup>1</sup>, Momoko Ikeuchi<sup>1</sup>, Bart Ryman<sup>1</sup>, Akira Iwase<sup>1</sup>, Kazuko Yamaguchi-Shinozaki<sup>1,2</sup>, Kanji Miura<sup>3</sup>, Keiko Sugimoto<sup>1</sup> (<sup>1</sup>Cell Function Research Team RIKEN CSRS, Yokohama, <sup>2</sup>Laboratory of Plant Molecular Physiology, Graduate School of Agricultural and Life Sciences, The University of Tokyo, <sup>3</sup>Graduate School of Life and Environmental Sciences, University of Tsukuba)
- P-368 Experimental evolution approach reveals stochastic behavior of transcriptional activation of transgenes in plant genome  
Takayuki Hata<sup>1</sup>, Soichirou Satoh<sup>1,2</sup>, Naoto Takada<sup>1</sup>, Chihiro Hayakawa<sup>2</sup>, Mei Kazama<sup>2</sup>, Makoto Tachikawa<sup>1</sup>, Mitsuhiro Matsuo<sup>1</sup>, Kushnir Sergei<sup>3</sup>, Junichi Obokata<sup>1,2</sup> (<sup>1</sup>Graduate School of Life and Environmental Sciences, Kyoto Prefectural University, <sup>2</sup>Faculty of Life and Environmental Sciences, Kyoto Prefectural University, <sup>3</sup>Sustainable Development, Vale Institute of Technology)
- P-369 Cytokinin enhances photosystem assembly in Arabidopsis roots via transcriptional regulation  
Dwi Andi Listiawan<sup>1</sup>, Takeshi Obayashi<sup>2</sup>, Koichi Kobayashi<sup>1</sup>, Tatsuru Masuda<sup>1</sup> (<sup>1</sup>Graduate School of Arts and Sciences, The University of Tokyo, <sup>2</sup>Graduate School of Information Sciences, Tohoku University)
- P-370 Functional properties of CmTCP1, a TCP transcription factor involved in tendril formation in *Cucumis melo*  
Fumiya Narita<sup>1</sup>, Hiroki Hoshika<sup>1</sup>, Shinji Mizuno<sup>2</sup>, Masatoshi Sonoda<sup>1,3</sup> (<sup>1</sup>Faculty of Hort. Chiba Univ., <sup>2</sup>College of Bioresource. Sci., Nihon Univ., <sup>3</sup>Grad. Sch. of Hort. Chiba Univ.)



- P-371 The genome-wide identification of physical binding sites of *Hevea brasiliensis* transcription factors that possibly regulate natural rubber biosynthesis  
Tomoko Yamaguchi<sup>1,2</sup>, Yukio Kurihara<sup>2</sup>, Yuko Makita<sup>2</sup>, Mika Kawashima<sup>2</sup>, Setsuko Shimada<sup>2</sup>, Hiroko Tsuchida<sup>2</sup>, Hiroaki Shimada<sup>1</sup>, Minami Matsui<sup>2</sup> (<sup>1</sup>Dept. Biological Sci. and Tech., Tokyo Univ. Sci, <sup>2</sup>RIKEN CSRS)
- P-372 Characterization of an Arabidopsis Transcription Factor Involved in Regulation of Purple Acid Phosphatase Genes  
Chin-Wen Chang<sup>1</sup>, Chuan-Ming Yeh<sup>1</sup>, Chi-Nga Chow<sup>2</sup>, Wen-Chi Chang<sup>2</sup>, Masaru Ohme-Takagi<sup>1,3</sup> (<sup>1</sup>Grad. Sch. Sci. & Eng., Saitama Univ., <sup>2</sup>Inst. Trop. Plant Sci., Natl. Cheng Kung Univ., <sup>3</sup>Bioprod. Res. Inst., Natl. Inst. Adv. Ind. Sci. & Technol. (AIST))
- P-373 Characterization of Arabidopsis MYB Transcription Factors Regulating Phosphate and Sugar Starvation Responses  
Chuan-Ming Yeh<sup>1</sup>, Nobutaka Mitsuda<sup>2</sup>, Masaru Takagi<sup>1,2</sup> (<sup>1</sup>Grad. Sch. Sci. & Eng., Saitama Univ., <sup>2</sup>Bioprod. Res. Inst., Natl. Inst. Adv. Ind. Sci. & Technol. (AIST))
- P-374 Massive identification of promoter switching in Arabidopsis and rice  
 Kazutaka Kusunoki<sup>1</sup>, Mutsutomo Tokizawa<sup>1</sup>, Tomokazu Ushijima<sup>2</sup>, Tomonao Matsushita<sup>2</sup>, Yu Kanesaki<sup>3</sup>, Yuji Suzuki<sup>6</sup>, Koyama Hiroyuki<sup>1,5</sup>, Yoshiharu Y. Yamamoto<sup>1,5,7</sup> (<sup>1</sup>United Grad. Sch. Agr, Gifu Univ., <sup>2</sup>Fac. Agr, Kyushu Univ., <sup>3</sup>NODAI Genome Res. Ctr., Tokyo Univ. Agr., <sup>4</sup>CBMS, Univ. Tokyo, <sup>5</sup>Fac. Appl. Biol. Sci., Gifu Univ., <sup>6</sup>Fac. Agr., Iwate Univ., <sup>7</sup>RIKEN CSRS)
- P-375 Imaging Analysis of roles of mRNA degradation pathways at early plant development  
Kazuki Motomura<sup>1</sup>, Daisuke Maruyama<sup>2</sup>, Daisuke Kurihara<sup>3</sup>, Naoyoshi Kumakura<sup>4</sup>, Yuichiro Watanabe<sup>5</sup>, Tetsuya Higashiyama<sup>1,3</sup> (<sup>1</sup>WPI-ITbM, Nagoya Univ., <sup>2</sup>KIBR, Yokohama City Univ, <sup>3</sup>Grad. Sch. Sci., Nagoya Univ, <sup>4</sup>CSRS, RIKEN, <sup>5</sup>Grad. Sch. of Arts and Sci. The Univ. of Tokyo)
- P-376 Identification of novel upstream open reading frames that cause ribosomal arrest in Arabidopsis thaliana.  
Noriya Hayashi<sup>1</sup>, Shun Sasaki<sup>1</sup>, Feng Zhihang<sup>2</sup>, Toru Fujiwara<sup>2</sup>, Hiro Takahashi<sup>3</sup>, Yui Yamashita<sup>1</sup>, Satoshi Naito<sup>1,4</sup> (<sup>1</sup>Graduate School of Agriculture, Hokkaido University, <sup>2</sup>Graduate School of Agricultural and Life Sciences, The University of Tokyo, <sup>3</sup>Graduate School of Medical Sciences, Kanazawa University, <sup>4</sup>Graduate School of Life Science, Hokkaido University)
- P-377 Arabidopsis ribosomal protein uL4 modulates translation activity of ribosomes via interactions with growing nascent polypeptides  
Seidai Takamatsu<sup>1</sup>, Yubun Ohashi<sup>2</sup>, Noriyuki Onoue<sup>1</sup>, Hitoshi Onouchi<sup>2</sup>, Yui Yamashita<sup>2</sup>, Satoshi Naito<sup>1,2</sup> (<sup>1</sup>Grad. Schl. Life Sci., Hokkaido Univ., <sup>2</sup>Grad. Schl. Agr., Hokkaido Univ.)
- P-378 Ribosome Stalling Efficiency and Its Position Is Affected by the Amino Acid Sequences Encoded in *Arabidopsis CGSI* mRNA  
Shinya Yonezawa<sup>1</sup>, Takahiro Fujiwara<sup>1</sup>, Masashi Takeuchi<sup>2</sup>, Yoko Nagami<sup>3</sup>, Hitoshi Onouchi<sup>2,3</sup>, Yui Yamashita<sup>2,3</sup>, Satoshi Naito<sup>1,2,3</sup> (<sup>1</sup>Grad. Sch. Life Sci., Hokkaido Univ, <sup>2</sup>Fac. Agr., Hokkaido Univ, <sup>3</sup>Grad. Sch. Agr., Hokkaido Univ)
- P-379 Influence of G-U wobble base pairing in AGO1-RISC function  
Hirokazu Hori<sup>1</sup>, Kohei Yamashita<sup>1</sup>, Kimitaka Shiratani<sup>1</sup>, Miho Iwahashi<sup>1</sup>, Shinya Okuno<sup>1</sup>, Hiromasa Eguchi<sup>1</sup>, Kiyonari Terashima<sup>1</sup>, Akira Mine<sup>2</sup>, Atsushi Takeda<sup>1</sup> (<sup>1</sup>Dept. Lifesci., Ritsumeikan Univ., <sup>2</sup>R-GIRO, Ritsumeikan Univ.)
- P-380 RNA base recognition code for PPR editing factors in the moss *Physcomitrella patens*  
Takuya Matsuda<sup>1</sup>, Mamoru Sugita<sup>1</sup>, Mizuho Ichinose<sup>1,2</sup> (<sup>1</sup>Center for Gene Research, Nagoya University, <sup>2</sup>WPI-ITbM, Nagoya University)

## ■ Protein modification and degradation

- P-383 Observation of microautophagy in tobacco BY-2 cells  
Kazuki Iwahara, Takahiro Yanagisawa, Yukina Asanuma, Usaki Takamatsu, Yuko Inoue, Yuji Moriyasu (Faculty Sci., Saitama Univ.)
- P-384 Comparative analysis of GPI modification mechanisms between human and rice plant proteins focusing on two signal sequences  
Tatsuki Kikegawa<sup>1</sup>, Kenji Etchuya<sup>1</sup>, Hiromu Sugita<sup>1</sup>, Sho Ueda<sup>1</sup>, Hanae Kaku<sup>2</sup>, Yuri Mukai<sup>1</sup> (<sup>1</sup>Dept. Electr. Grad. Sch. Sci. & Tech., Meiji Univ., <sup>2</sup>Dept. Lifesci., Grad. Sch. Agr., Meiji Univ.)

## ■ Systems biology

- P-387 Alga-PrAS Update: New Contents for the Database of Comprehensive Annotation in Proteomes of Eukaryotic Algae  
Tetsuya Sakurai<sup>1,2</sup>, Atsushi Kurotani<sup>2</sup>, Yutaka Yamada<sup>2</sup>, Kazuki Saito<sup>2,3</sup> (<sup>1</sup>Mul. Sci., Kochi Univ., <sup>2</sup>RIKEN CSRS, <sup>3</sup>Grad. Pha. Sci., Chiba Univ.)

- P-388 Marpolbase: Construction of the Marchantia Polymorpha Genome Database  
Takako Mochizuki<sup>1</sup>, Yasuhiro Tanizawa<sup>1</sup>, Hideki Nagasaki<sup>2</sup>, Shohei Yamaoka<sup>3</sup>, Ryuichi Nishihama<sup>3</sup>, Takehiko Kanazawa<sup>4</sup>, Takashi Ueda<sup>4</sup>, Katsuyuki T. Yamato<sup>5</sup>, Takayuki Kohchi<sup>3</sup>, Yasukazu Nakamura<sup>1</sup> (<sup>1</sup>Genome Informatics Lab., NIG, <sup>2</sup>Kazusa DNA Research Institute, <sup>3</sup>Grad. Sch. of Biostudies, Kyoto Univ., <sup>4</sup>Div. of Cellular Dynamics, NIBB, <sup>5</sup>B.O.S.T., Kindai Univ.)
- P-389 CRISPR/Cas9-mediated targeted mutagenesis of flavanone 3-hydroxylase gene in tobacco, torenia and gentian plants  
 Keisuke Tasaki, Aiko Watanabe, Atsumi Higuchi, Yoshimi Kurokawa, Rie Washiashi, Hideyuki Takahashi,  
Masahiro Nishihara (Iwate Biotech. Res. Cent.)
- P-390 Plant Omics Databases: Plant Omics Data Center (PODC) and TOMATOMICS  
Aria Hisaoka<sup>1</sup>, Yukino Nakamura<sup>1</sup>, Maasa Kanno<sup>1</sup>, Misa Saito<sup>1</sup>, Shenton Matthew<sup>1</sup>, Toru Kudo<sup>1</sup>, Hajime Ohyanagi<sup>1,2</sup>, Kentaro Yano<sup>1</sup>  
 (<sup>1</sup>Bioinformatics Lab., Sch. of Agri., Meiji Univ., <sup>2</sup>King Abdullah Univ. Sci. & Technol.)
- P-391 Target Phosphoproteome Analysis of Synchocystis sp PCC 6803 Using Nano liquid Chromatography- Triple Quadrupole Mass Spectrometry  
Yuma Tokumaru, Masakazu Toyoshima, Fumio Matsuda, Hiroshi Shimizu (Grad. Sch. Bio., Univ. Osaka)
- P-392 Development of the simple, rapid and quantitative method to measure chlorophylls and carotenoids in tomato fruit  
Yusuke Aono<sup>1</sup>, Yonathan Asikin<sup>1</sup>, Di Lyu<sup>1</sup>, Ning Wang<sup>1</sup>, Harry Klee<sup>2</sup>, Miyako Kusano<sup>1,3</sup> (<sup>1</sup>Grad. Sch. Life\_Env. Sci., Univ. Tsukuba, <sup>2</sup>Plant Innov. Center, Univ. Florida, <sup>3</sup>CSRS, RIKEN)
- P-393 Field transcriptome reveals natural variation in constitutive and inducible responses to insect herbivory on *Arabidopsis thaliana*  
Yasuhiro Sato<sup>1,4</sup>, Ayumi Tezuka<sup>1</sup>, Makoto Kashima<sup>1</sup>, Ayumi Deguchi<sup>2</sup>, Rie Shimizu-Inatsugi<sup>3</sup>, Misako Yamazaki<sup>3</sup>, Kentaro K. Shimizu<sup>3</sup>, Atsushi J. Nagano<sup>1</sup> (<sup>1</sup>Faculty of Agriculture, Ryukoku University, <sup>2</sup>Graduate School of Horticulture, Chiba University, <sup>3</sup>Department of Evolutionary Biology and Environmental Studies, University of Zurich, <sup>4</sup>JST PRESTO)
- P-394 Diurnal transcriptome and gene network represented through sparse modeling in *Brachypodium distachyon*  
Satoru Koda<sup>1</sup>, Yoshihiko Onda<sup>2</sup>, Hidetoshi Matsui<sup>3</sup>, Kotaro Takahagi<sup>2,4</sup>, Yukiko Uehara-Yamaguchi<sup>2</sup>, Minami Shimizu<sup>2</sup>, Komaki Inoue<sup>2</sup>, Takuhiro Yoshida<sup>2</sup>, Tetsuya Sakurai<sup>5</sup>, Hiroshi Honda<sup>1</sup>, Shinto Eguchi<sup>6</sup>, Ryuei Nishii<sup>1</sup>, Keiichi Mochida<sup>2,4,7</sup> (<sup>1</sup>Kyushu Univ., <sup>2</sup>RIKEN CSRS, <sup>3</sup>Shiga Univ., <sup>4</sup>Yokohama City Univ., <sup>5</sup>Kochi Univ., <sup>6</sup>The Institute of Statistical Mathematics, <sup>7</sup>IPSR, Okayama Univ.)
- P-395 An integrated genome information resource in Pooideae and its application to identify homoeologous relations of transcription factors in barley and wheat  
Komaki Inoue<sup>1</sup>, Kotaro Takahagi<sup>1,2</sup>, Takashi Hirayama<sup>3</sup>, Keiichi Mochida<sup>1,2,3</sup> (<sup>1</sup>CSRS, RIKEN, <sup>2</sup>KIBR, Yokohama City Univ., <sup>3</sup>IPSR, Okayama Univ.)
- P-396 Barley developmental transition and its diversity revealed by filed transcriptomics  
Kotaro Takahagi<sup>1,2</sup>, Yasuhiro Matsushita<sup>3</sup>, Komaki Inoue<sup>1</sup>, Yukiko Uehara-Yamaguchi<sup>1</sup>, Daisuke Saisho<sup>4</sup>, Satoru Koda<sup>5</sup>, Ryuei Nishii<sup>6</sup>, Takashi Hirayama<sup>4</sup>, Keiichi Mochida<sup>1,2,4</sup> (<sup>1</sup>RIKEN CSRS, <sup>2</sup>KIBR, YCU, <sup>3</sup>SET Software Co., Ltd., <sup>4</sup>IPSR, Univ. Okayama, <sup>5</sup>Grad. Sch. Math., Univ. Kyushu, <sup>6</sup>IMI, Univ. Kyushu)
- P-397 Chloroplast genome analysis of green algae, *Ulva* species  
Chisa Mitsuhashi, Hiroshi Teramura, Hiroaki Shimada (Dept. Bio. Sci. & Technol., Tokyo University of Science)
- P-398 Exome analysis of rice mutants induced by carbon ion beams  
Yutaka Oono<sup>1</sup>, Hiroyuki Ichida<sup>2</sup>, Shigeki Nozawa<sup>1</sup>, Ryouhei Morita<sup>2</sup>, Hiroshi Kato<sup>3</sup>, Tomoko Abe<sup>2</sup>, Yoshihiro Hase<sup>1</sup> (<sup>1</sup>QST Takasaki, <sup>2</sup>Riken Nishina, <sup>3</sup>Inst. Radiation Breeding, NARO)

#### ■ New technology/Omics analysis/Bioresources/Education/Others)

- P-401 Evaluation of Plant Environmental Stress Response using “RIPPS”, an Automated Phenotyping System  
Miki Fujita<sup>1</sup>, Kaoru Urano<sup>1</sup>, Takanari Tanabata<sup>2</sup>, Saya Kikuchi<sup>1</sup>, Yasunari Fujita<sup>3,4</sup>, Masami Tosyoshima<sup>3</sup>, Kazuo Shinozaki<sup>1</sup>  
 (<sup>1</sup>RIKEN CSRS, <sup>2</sup>Kazusa DNA Inst., <sup>3</sup>JIRCAS Biol. Resources Post-harvest Div., <sup>4</sup>Univ. Tsukuba)
- P-402 Construction of an experimently system to estimate mutation frequency easily using plant pigment synthesis genes, *ban*, *TT4*, and *TT8*  
Shoya Hirata<sup>1,2</sup>, Issay Narumi<sup>1</sup>, Satoshi Kitamura<sup>2</sup>, Katsuya Satoh<sup>2</sup>, Yutaka Oono<sup>2</sup> (<sup>1</sup>Grad.life.sci.,Univ.Tuyou, <sup>2</sup>QST,Takasaki Inst)
- P-403 Toward construction of animal photoreceptors in photosynthetic bacterial chromatophore membranes.  
Kaori Shimizu<sup>1</sup>, Shinichi Takaichi<sup>2</sup>, Kazuhiko Saeki<sup>1</sup> (<sup>1</sup>Dept. Biol. Sci., Nara Women's Univ., <sup>2</sup>Dept. Mol. Microbio., Tokyo Univ. Agri.)
- P-404 Development of PCR based transient transformation system in *Cyanidioschyzon merolae*  
Yuki Kobayashi, Kan Tanaka (CLS, Tokyo tech)

- P-405 Morphological and Molecular Characterisation of Domatia Development in Myrmecophytes  
Emma Sarath<sup>1</sup>, Hirokazu Tsukaya<sup>1,2</sup>, Hiroyuki Koga<sup>1</sup> (<sup>1</sup>The University of Tokyo, <sup>2</sup>NIIS, OIIB)
- P-406 Quantitative Computational Image Analysis of Motility of *Marchantia polymorpha* Spermatozoa  
Taisuke Togawa, Daijiro Harada, Katsuyuki T. Yamato (Fac. Biol.-Oriented Sci. Tech., Kindai Univ.)
- P-407 Does the chaperone complex (HSP90-SGT1-RAR1) play a role in hybrid lethality of interspecific F<sub>1</sub> hybrid between *Nicotiana glauca* Domin and *N. tabacum* L.?  
Sachi Shioya<sup>1</sup>, Sanae Hane<sup>1</sup>, Momoko Yoshioka<sup>1</sup>, Chika Miyahara<sup>1</sup>, Tomomichi Ogawa<sup>1</sup>, Shuichi Date<sup>1</sup>, Yoshikazu Tanaka<sup>2</sup>,  
Masanobu Mino<sup>1</sup> (<sup>1</sup>Graduate School of Life and Environmental Sciences, Kyoto Prefectural University, <sup>2</sup>The Wakasa Wan Energy Research Center)
- P-408 Reconstitution of rubber synthase on rubber particle by *Escherichia coli* cell-free translation system  
Kouji Kojima<sup>1</sup>, Satoshi Yamashita<sup>2</sup>, Yuzuru Tozawa<sup>3</sup>, Haruhiko Yamaguchi<sup>4</sup>, Yukino Inoue<sup>4</sup>, Kazuhisa Fushihara<sup>4</sup>, Toru Nakayama<sup>1</sup>, Seiji Takahashi<sup>1</sup> (<sup>1</sup>Grad. Eng., Tohoku Univ., <sup>2</sup>Grad. Sci. Eng., Kanazawa Univ., <sup>3</sup>Grad. Sci. Eng., Saitama Univ., <sup>4</sup>Sumitomo Rubber Ind., Ltd.)
- P-409 Creation of a low-amylose potato mutant using a CRISPR/Cas9 vector system employing a translational enhancer, dMac3  
Hiroaki Kusano<sup>1,2</sup>, Hiroshi Teramura<sup>1</sup>, Tomohiro Imamura<sup>1,3</sup>, Hiromi Mutsuro-Aoki<sup>1</sup>, Mariko Ohnuma<sup>1</sup>, Takaaki Horie<sup>1</sup>, Takahiro Asahi<sup>1</sup>, Namfa Singthongsai<sup>1</sup>, Hiromi Onodera<sup>1</sup>, Dai Ichinosawa<sup>1</sup>, Kou Fukumoto<sup>1</sup>, Miho Kihira<sup>1</sup>, Kenji Asano<sup>4</sup>, Takahiro Noda<sup>4</sup>, Hiroaki Shimada<sup>1</sup> (<sup>1</sup>Dept. Bio. Sci. & Technol., Tokyo University of Science, <sup>2</sup>Present address: Inst. for Sustainable Humanosphere, Kyoto University, <sup>3</sup>Present address: Ishikawa Pref. University, <sup>4</sup>Hokkaido Res. Sta., NARO)
- P-410 *In planta* genome editing in tomato meristem tissues  
Nozomu Kira, Eiko Takayanagi, Hideki Sakamoto, Takahito Watanabe, Chihiro Abe, Ryosuke Hashimoto, Yuriko Osakabe, Keishi Osakabe (Fac. Biosci.Bioindust., Tokushima Univ.)
- P-411 Genome editing by electroporation-mediated direct gene transfer in *Arabidopsis*.  
Risa Ueta, Maki Fukuhara, Yuriko Osakabe, Keishi Osakabe (Faculty of Bioscience and Bioindustry, Tokushima University)
- P-412 Genome editing with SpCas9 variant in *Arabidopsis thaliana*  
Akihiro Yamamoto<sup>1</sup>, Takashi Ishida<sup>2</sup>, Yuri Kimura<sup>3</sup>, Mika Yoshimura<sup>2</sup>, Chie Shimaoka<sup>3</sup>, Shinichiro Sawa<sup>3</sup> (<sup>1</sup>Fac. Sci, Kumamoto Univ., <sup>2</sup>IROAST, <sup>3</sup>Grad. Sci. Tech, Kumamoto Univ.)
- P-413 Generation of carotenoid accumulating rice callus using CRISPR/Cas9 system  
Akira Endo<sup>1</sup>, Miho Takemura<sup>2</sup>, Norihiko Misawa<sup>2</sup>, Seiichi Toki<sup>1,3</sup> (<sup>1</sup>Plant Genome Eng. Res. Unit, Inst. of Agro. Sci., NARO, <sup>2</sup>Res. Inst. for Bioreso. and Biotech., Ishikawa Prefectural Univ., <sup>3</sup>Kihara Inst. for Bio. Res., Yokohama City Univ.)
- P-414 Evaluation of split-Cas9s for the RNA virus vector-mediated genome editing in plants  
Hirotaaka Ariga<sup>1</sup>, Hidetaka Kaya<sup>2</sup>, Seiichi Toki<sup>2,3,4</sup>, Kazuhiro Ishibashi<sup>1</sup> (<sup>1</sup>Plant and Microbe Research Unit, Inst. of Agrobiol. Sci., NARO, <sup>2</sup>Plant Genome Engineering Research Unit, Inst. of Agrobiol. Sci., NARO, <sup>3</sup>Grad. Sch. Nanobio., Yokohama City Univ., <sup>4</sup>Kihara Inst. Biol. Res., Yokohama City Univ.)
- P-415 Field crop data acquisition for the data driven crop design technology  
Daisuke Saisho<sup>1</sup>, Norikatsu Sumi<sup>2</sup>, Koosuke Hattori<sup>3</sup>, Yoko Ikeda<sup>1</sup>, Keiichi Mochida<sup>1,4</sup>, Taizo Umezaki<sup>2,5</sup>, Takashi Hirayama<sup>1</sup> (<sup>1</sup>Okayama Univ., <sup>2</sup>Nagoya Institute of Technology, <sup>3</sup>Chubu University, <sup>4</sup>RIKEN, CSRS, <sup>5</sup>Tokyo Univ.)
- P-416 Field multi-omics approaches in barley to reveal crop phenology  
Yoko Ikeda<sup>1</sup>, Daisuke Saisho<sup>1</sup>, Takakazu Matsuura<sup>1</sup>, Jun Ito<sup>2</sup>, Hiroyuki Tsuji<sup>2</sup>, Keiichi Mochida<sup>1,2,3</sup>, Takashi Hirayama<sup>1</sup> (<sup>1</sup>IPSR, Okayama Univ., <sup>2</sup>KIBR, Yokohama City Univ., <sup>3</sup>RIKEN CSRS)
- P-417 New database for Ds Transposon-tagged lines of *Arabidopsis thaliana* in RIKEN BRC  
Satoshi Iuchi, Masatomo Kobayashi (Experimental Plant Division, BRC, RIKEN)
- P-418 Collection and Maintenance of Plant Cell Lines at RIKEN BRC in 2018  
Toshihiro Kobayashi, Masatomo Kobayashi (RIKEN BRC)
- P-419 Practical curriculum for wide range of research literacy in graduate course to understand scientific injustice  
Emiko Harada<sup>1</sup>, Misako Urabe<sup>1</sup>, Takayoshi Kusumoto<sup>1,2</sup>, Ko-Ichi Takakura<sup>1</sup>, Takayoshi Nishida<sup>1</sup>, Masahiro Mauro<sup>1</sup> (<sup>1</sup>The University of Shiga Prefecture, <sup>2</sup>Kusumoto Patents & Trademarks)
- P-420 Announcement for the safety handling manual for using exemption level of unsealed radioisotopes  
Mikio Tsuzuki<sup>1,2</sup>, Jun Furukawa<sup>1,3</sup>, Keitaro Tanoi<sup>1,4</sup> (<sup>1</sup>Japan Radioisotope Association, <sup>2</sup>Tokyo Univ. Pharm. Life Sci., <sup>3</sup>CRiED, Univ. Tsukuba, <sup>4</sup>Grad. Sch. Agri. Life Sci., Univ. Tokyo)