General Presentations

Program of Poster Presentations

- Poster viewings and discussions will be held on-site. You can also view the posters online.

- During the online poster viewing period (March 11, 9:00 a.m. - March 16), you can also use the comment box on the abstract page of your poster posted on the web abstract portal (ORSAM portal) for questions and answers. Please respond to questions in the comments section in a timely manner.

- Presentations submitted for the PCP Poster Award are indicated by adding **P** to their presentation numbers in the poster presentation program. Additionally, a special mark is placed on the number cards of the posters to signify their submission for the award.

- Schedule

Presentation No.	1P001–1P212	2P001–2P211
Mounting	March 14　9:00–12:00	March 15　10:30–12:00
Discussion	March 14 Odd numbers 17:00–17:45 Even numbers 17:45–18:30	March 15 Odd numbers 13:30–14:15 Even numbers 14:15–15:00
Removal	March 15　9:00–10:30	March 16　15:00–16:30

・The presenters should be in front of their posters during the discussion time.
・Any posters remaining after removal time will be removed by the Meeting Committee.

■ Photosynthesis

1P001 Effect of iron deficient/excess condition on energy-transfer processes of microalgae, probed by time-resolved fluorescence

Nozomi Sakai[1], Miyu Furutani[1], Shimpei Aikawa[2], Seiji Akimoto[1] ([1]Grad. Sch. Sci., Kobe Univ., [2]JIRCAS)

1P002 Effect of iron/copper deficient condition on primary photosynthetic processes of microalgae

Nozomi Sakai[1], Miyu Furutani[1], Shimpei Aikawa[2], Seiji Akimoto[1] ([1]Grad. Sch. Sci., Kobe Univ., [2]JIRCAS)

1P003 Microspectroscopic analysis of photosynthetic pigments in Kaiike-sediment samples

Risa Kojima[1], Tomohiro Ishikawa[2], Ryosuke Saito[3], Toru Kondo[4] ([1]NIBB, [2]Dept. of Life Sci and Tech., Tokyo Tech., [3]Dept. of Earth Sci., Yamaguchi Univ., [4]ExCELLS)

1P004 Energy transfer pathway to carotenoid triplet in photosynthetic reaction center complex of the green sulfur bacterium *Chlorobaculum tepidum*

Tomomi Inagaki[1], Masatoshi Kida[2], Daisuke Kosumi[3], Chihiro Azai[4] ([1]Graduate School of Life Sciences, Ritsumeikan University, [2]Graduate School of Science and Technology, Kumamoto University, [3]Institute of Industrial Nanomaterials, Kumamoto University, [4]Faculty of Science and Engineering, Chuo University)

1P005 Site-directed mutations at D2-T231 interacting with one phosphatidylglycerol molecule (PG714) affects the repair of PSII

Takao Kurahashi[1], Mayuko Oshiumi[1], Toshiyuki Shinoda[2], Yoshiki Tanase[3], Kaichiro Endo[4], Jian-Ren Shen[5], Haruhiko Jimbo[3], Hajime Wada[4], Rimi Koyama[2], Naoki Mizusawa[1,2] ([1]Grad. Sch. Sci., Hosei Univ., [2]Res. Micro-Nano Tech., Hosei Univ., [3]Grad. Sch. Sci., Saitama Univ., [4]Grad. Sch. Arts Sci., Univ. Tokyo, [5]RIIS, Okayama Univ.)

1P006 Acclimation of photosynthetic system in red color red alga *Porphyridium cruentum* and green color red alga *P. aerugineum* grown under the different spectral lights

Masakazu Toyoshima[1], Ginga Shimakawa[2], Yusuke Matsuda[1] ([1]Sch. Biol. Environ. Sci., KGU, [2]Grad. Sch. Agri. Sci. Kobe Univ.)

1P007 High-resolution cryo-EM structure of photosystem II from *Thermosynechococcus vulcanus*

Koji Kato[1], Yoshiki Nakajima[1], Fusamichi Akita[1], Radostin Danev[2], Jian-Ren Shen[1] ([1]RIIS, Okayama Univ., [2]Grad. School of Med. UTokyo)

1P008 Structural changes and functional implications of extrinsic protein detachment and reconstitution in photosystem II revealed by X-ray crystallography

Yoshiki Nakajima[1], Jian-Ren Shen[1], Ryo Nagao[2] ([1]Res. Inst. Interdiscip. Sci., Okayama Univ., [2]Grad. Sch. Integr. Sci. Tech., Shizuoka Univ.)

1P009 Inhibition of the respiratory chain affects a balance between $\Delta\Psi$ and ΔpH in the photosynthetic regulation

Tatsuhisa Konishi, Ko Noguchi (Sch. Life Sci., Tokyo Univ. Pharm. and Life Sci.)

1P010 Photosynthetic response of massive marimo algae balls (*Aegagropila linnaei*)

Akina Obara[3], Yoichi Oyama[4], Keisuke Yoshida[2], Masaru Kono[1,2] ([1]ABC, [2]Inst. Integ. Res., Science Tokyo, [3]Grad. of Sci., Kanagawa Univ., [4]Kushiro Board of Education)

1P011 Analysis of RNAi knockdown lines of cytosolic glutamine synthetase 1a (GS1a) in Japanese cedar reveals that GS1a is involved in photorespiration in conifers

Shin-Ichi Miyazawa[1], Yasunori Ohmiya[2], Mitsuru Nishiguchi[1], Tsuyoshi E. Maruyama[1] ([1]Dep. Forest Molecular Genetics and Biotechnology, FFPRI, [2]International Cooperation Div., FTBC)

1P012 Novel Bestrophin-binding protein plays role in CO_2-concentrating mechanism in diatom *Phaeodactylum tricornutum*

Matthew Brown[1], Minori Nigishi[1], Ginga Shimakawa[2], Yusuke Matsuda[1] ([1]Kwansei Gakuin University, [2]Kobe University)

1P013 Features of photosynthetic function of the photoautotrophically cultured green cells of *Arabidopsis*

Daichi Suwa[1], Maya Tatumi[1], Kotarou Ogasa[2], Gen Takenaka[2], Satomi Takeda[1,2] ([1]College of Life, Environment, and Life Sciences, Osaka Prefecture Univ., [2]Grad. Sch. Sci., Osaka Metropolitan Univ.)

1P014 Exploring regulatory mechanisms of plastid-encoded RNA polymerase during chloroplast differentiation

Yuki Hagiwara, Sho Fujii (Fac. Agri. Life Sci., Hirosaki Univ.)

1P015 Intracellular thiol group modifications of transcription factors responsive to polysulfide and reactive oxygen species in purple photosynthetic bacteria

Otoha Takeda[1], Masaru Hashimoto[2], Tatsuru Masuda[3], Takayuki Shimizu[1] ([1]Faculty of Science, Nawa Women's University, [2]Faculty of Agriculture, The University of Tokyo, [3]Graduate School of Arts and Sciences, The University of Tokyo)

1P016 P Acclimation of white-light-adapted *Halomicronema hongdechloris* to different light qualities

Zhe Wang[1], Toshiyuki Shinoda[2], Tatsuya Tomo[2], Seiji Akimoto[1] ([1]Grad. Sch. Sci., Kobe Univ., [2]Grad. Sch. Sci., Tokyo Univ. Sci.)

1P017 P Structural analysis of the phycobilisome in the primitive red alga *Cyanidioschyzon merolae*

Yuya Fujita[1,2], Soichiro Seki[2], Akihiro Kawamoto[1,2], Yuu Hirose[3], Genji Kurisu[1,2] ([1]Osaka University, Grad. Eng., [2]Osaka University, Institute for Protein Research (IPR), [3]Toyohashi Tech., Grad. Sch. Appl. Chem. Life Sci.)

1P018 P Photosynthetic responses in the high-oil accumulating diatom, *Fistulifera solaris*

Haruka Yamamoto[1], Ginga Shimakawa[2], Yoshinori Tsuji[1], Tsuyoshi Tanaka[3], Yoshihiko Nishimura[4], Yusuke Matsuda[1] ([1]Dept. Biosci., Sch. Sci. Tech., Kwansei Gakuin Univ., [2]Kobe University Agriculture science Dept. Biol. Environ. Sci., Kobe Univ, [3]Inst. Engin, Tokyo Univ. Agricul. Technol., [4]Electric Power Development Co., Ltd)

1P019 P Structural analysis of the photosystem I-light harvesting I supercomplex from a cryptophyte alga *Rhodomonas sp.* (NIES-2332)

Wenyue Zhang[1], Mizuki Ishii[2], Nozomi Yonehara[2], Haowei Jiang[2], Romain La Rocca[3], Pi-Cheng Tsai[3], Hongjie Li[3], Koji Kato[3], Fusamichi Akita[3], Jian-Ren Shen[3] ([1]Graduate School of Natural Science and Technology, Okayama University, [2]Graduate School of Environmental, Life, Natural Science and Technology, Okayama University, [3]Research Institute for Interdisciplinary Science, Okayama University)

1P020 P Energy dessipation mechanism of the desert green alga *Chlorella ohadii* during desiccatioin

Soma Kawamura[1,2], Makio Yokono[1,2], Chiyo Noda[1], Jun Minagawa[1,2] ([1]NIBB, [2]SOKENDAI)

1P021 P Pyrenoid localization factors PtBST3 and Ptθ-CA1 pyrenoid transfer mechanisms in *Phaeodactylum tricornutum*

Karin Niwa, Minori Nigishi, Yusuke Matsuda (Bioscience, Biological and Environmental Sciences, Kwansei Gakuin Univ)

1P022 P Characterization of the chloroplast envelope-localized Ycf10 and DLDG1 proteins involved in plastidial pH regulation in *Arabidopsis*

Elham Esmailpourmoghadam[1], Issei Nakazato[2], Shin-ichi Arimura[2], Shinji Masuda[1] ([1]Dept. Life Sci & Tech., Science Tokyo, [2]Grad. Sch. Agri & Life Sci., Univ. Tokyo)

1P023 P Characterization of VIPP1 protein C-terminally tagged by GFP and overexpressed in tobacco chloroplasts

Sarah W. Gachie[1], Alexandre Muhire[1], Akihiro Kawamoto[2], Noriko Takeda-Kamiya[3], Yumi Goto[3], Mayuko Sato[3], Kiminori Toyooka[3], Ryo Yoshimura[1], Tsuneaki Takami[1], Lingang Zhang[4], Genji Kurisu[2], Toru Terachi[5], Wataru Sakamoto[1] ([1]Institute of Plant Science and Resources, Okayama University, Kurashiki, Okayama 710-0046, Japan, [2]Institute for Protein Research, Osaka University, Suita, Osaka 565-0871, Japan, [3]Center for Sustainable Resource Science, RIKEN, Yokohama, Kanagawa 230-0045, Japan, [4]School of Life Sciences, Inner Mongolia University/Key Laboratory of Herbage and Endemic Crop Biotechnology, Hohhot, 010070, China, [5]Faculty of Life Sciences, Kyoto Sangyo University, Kita-ku, Kyoto 603-8555, Japan)

1P024 Exploring Key Yield Factors in Sorghum Related to the Photosynthesis Pathway

Shinya Koizumi, Hiroto Naiki (TOYOTA MOTOR CORPORATION)

■ Primary metabolism

1P025 A Comparative Analysis of Respiration Rate Determinants in Sorghum Varieties

Miki Kitamoto, Shinya Koizumi (TOYOTA MOTOR CORPORATION)

1P026 P Investigation of the Role of the Transcription Factor OsHHO3 in Regulating the Balance between Carbon and Nitrogen Acquisition in Rice

Tomoya Hayashi, Yasuhito Sakuraba, Shuichi Yanagisawa (AgTECH, Grad. Sch. Agri. Life Sci., Univ. of Tokyo)

1P027 P Analysis of phospholipid degradation mechanism under phosphate starvation in *Marchantia polymorpha*

Kota Takahara[1], Kimitsune Ishizaki[2], Mie Shimojima[1] ([1]Sch. Life Sci. Tech., Inst. Sci. Tokyo, [2]Grad. Sch. Sci., Kobe Univ)

1P028 Introduction of Heterologous phaC gene into Purple Non-Sulfer Bacteria for PHBH Production

Kako Miura (Grad. Sch. Sci. Technol. Innov)

1P029 Functional Augmentation of the Purine Catabolic Pathway upon Angiosperm Evolution

Yuta Takeuchi, Kyoichi Kuriyama, Hiroshi Shimada, Atsushi Sakamoto (Grad. Sch. Integr. Sci. Life, Hiroshima Univ.)

1P030 Creation and selection of preferentially expressing strain of alternative nitrogenase in the cyanobacterium *Anabaena* sp. PCC 7120 and evaluation of its usefulness in hydrogen production

Takeshi Sato[1,2], Shunpei Uchida[1], Tatsuki Kamochi[1], Haruka Nakaji[1], Masaharu Kitashima[3], Hidehiro Sakurai[2], Kazuhito Inoue[2,3] ([1]Dept. Biol. Sci., Kanagawa Univ., [2]Res. Inst. Integr. Sci., Kanagawa Univ., [3]Dept. Biochem. Biotech., Kanagawa Univ.)

1P031 Functional analysis of phosphocholine in Arabidopsis roots

Moe Ito[1,2], Van Nguyen[2], Misako Kato[1], Yuki Nakamura[2,3] ([1]Fac Sci, Ochanomizu Univ, [2]RIKEN CSRS, [3]Grad Sch Sci, Univ Tokyo)

1P032 TALEN-mediated targeted editing of polyphosphate synthetase and lipase genes enhances oil accumulation under phosphorus starvation in oleaginous microalga *Nannochloropsisoceanica*

Kumiko Okazaki[1], Masako Iwai[2], Tomokazu Kurita[3], Koichi Hori[4], Mie Shimojima[4], Shinichiro Maeda[5], Akihide Takami[5], Takashi Yamamoto[1,3], Hiroyuki Ohta[2,4], Atsushi Sakamoto[1] ([1]Grad. Sch. Integr. Sci. Life, Hiroshima Univ., [2]Phytolipid Technologies, [3]Genome Editing Innov. Center, Hiroshima Univ., [4]Sch. Life Sci. Tech., Inst. Sci. Tokyo, [5]Tech. Res. Center, Mazda Motor Corp.)

1P033 Investigation of the dual functions of γ-glutamyl peptidase in sulfur metabolism in *Arabidopsis thaliana*

Takehiro Ito[1], Ryosuke Sugiyama[2,3], Hiroki Harata[4], Haruna Aoyama[4], Naoko Ohkama-Ohtsu[1,5] ([1]Inst. Agr., Tokyo Univ. Agr. & Technol., [2]Grad. Sch. Pharm. Sci., Chiba Univ., [3]PMSC, Chiba Univ., [4]Fac. Agr., Tokyo Univ. Agr. & Technol., [5]GIR, Tokyo Univ. Agr. & Technol.)

1P034 Characteristic Changes in Phytases Induced by Germination and Interspecific Differences Among Cereal Grains

Rioko Shibusawa, Tatsuki Akabane, Shota Kojima, Yusei Yamauchi, Naoki Hirotsu (Grad. Sch. Life Sci., Univ. Toyo)

■ Specialized (secondary) metabolism

1P035 Influence of light availability and wavelength on growth, 2-MIB production, and the expression of genes associated with 2-MIB biosynthesis in *Pseudanabaena foetida*

Kaushalya Dayarathne, Toshiki Ishikawa, Aikeranmu Kadeer, Masatoshi Yamaguchi, Maki Kawai-Yamada (Graduate School of Science and Engineering, Saitama University, Saitama, Japan)

1P036 RNA-seq profiling of diterpene metabolism in two chemotypes of medicinal plant *Scoparia dulcis* in Paraguay

Joichi Kawaguchi, Yoshimi Yamamura, Jung-Bum Lee (Grad. Sch. Pharm., Univ. Toyama)

1P037 Investigation of regulatory mechanism on metabolism during seed germination in *Catharanthus roseus*

Mai Uzaki[1], Hiromitsu Tabeta[1], Kotaro Yamamoto[2], Masami Hirai[1,3] ([1]RIKEN CSRS, [2]Sch. Sci., Yokohama City Univ., [3]Grad. Sch. Agricul. Sci., Nagoya Univ.)

1P038 P Biochemical studies on biosynthetic pathway of fairy chemicals in rice

Futa Morii[1], Jae-Hoon Choi[1,2,3,4,5], Yu Tokuoka[1], Tomoya Kawaminami[2], David C. Nelson[6], Hideo Dohra[4,5], Takahito Nomura[7], Hirofumi Hirai[1,2,3,4,5], Hirofumi Kawagishi[2,5] ([1]Grad. Sch. of Inte. Sci. and Tech., Shizuoka Univ., [2]Fac. Agr., Shizuoka Univ., [3]Fac. Glob. Int. Sci. Inno., Shizuoka Univ., [4]Res. Inst. Green Sci., Shizuoka. Univ., [5]Res. Inst, Mushroom Sci. Tech., Shizuoka Univ., [6]Bot. Plant Sci., UCR, [7]C-Bio, Utsunomiya Univ.)

1P039 P Analysis of Terpene-storing Lipid Droplets in *Zingiber officinale* (ginger)

Mayuko Naganawa, Ana Carolina Vilchez, Till Ischebeck (IBBP, Univ. Münster)

■ Biomembrane/Ion and solute transport

1P040 P Analysis of Mechanisms Underlying the Interplay between Nitrate and Potassium Acquisition in Arabidopsis

Kosuke Usuda, Mailun Yang, Yasuhito Sakuraba, Shuichi Yanagisawa (AgTECH., Grad. Sch. Agri. Life Sci., Univ. of Tokyo)

1P041 P A point mutation in a borate transporter BOR2 increases low-boron tolerance by enhancement of root-to-shoot translocation of boron and its distribution in leaves in *Arabidopsis thaliana*

Yo Tokunaga[1], Ena Fushiki[1], Kyoko Miwa[2] ([1]Grad. Sch. Environ. Sci., Hokkaido Univ., [2]Faculty of Environ. Earth Sci., Hokkaido Univ.)

1P042 P Multi-year field trials indicate that Autophagy plays a role in the Formation of Vertical Leaf Nitrogen Gradient and the Efficient Use of Nitrogen for biomass production in the Rice Population

Wataru Kikuchi, Hiroyuki Ishida (Grad. Sch. Agri. Sci., Tohoku Univ.)

1P043 P Analysis of PM H^+-ATPase phosphorylation mechanism in guard cells by protein kinase inhibitors

Shogo Kuwayama[1], Koji Takahashi[1], Maki Hayashi[2], Yuki Hayashi[1], Kohei Fukatsu[1], Yusuke Aihara[3], Keiko Kano[4], Emi Mishiro-Sato[4], Ayato Sato[4], Toshinori Kinoshita[1,4] ([1]Grad. Sch. Sci., Nagoya Univ., [2]Grad. Sch. Life Sci., Tohoku Univ., [3]Grad. Sch. Sci., Kobe Univ., [4]ITbM , Nagoya Univ.)

1P044 Evaluation of Salt Tolerance in Arabidopsis Overexpressing Three Na^+ Transporters

Satoshi Yoshida, Takeshi Uchiyama, Masaru Tsujii, Yasuhiro Ishimaru, Nobuyuki Uozumi (Graduate School of Engineering., Univ. Tohoku)

1P045 Phosphorylation of AtALMT12 activate malate transport function

Takayuki Sasaki[1], Hinano Takase[2], Taishi Umezawa[2], Izumi C. Mori[1] ([1]IPSR, Okayama Univ., [2]BASE, Tokyo Univ. Agric.)

1P046 Attempts to Modify Na^+ Transport Activity of OsHKT1;5, a Salt Tolerance Determinant in Rice (*Oryza sativa*), by Amino Acid Substitutions

Hikari Yamazaki[1], Maki Katsuhara[2], Natsuko I. Kobayashi[3], Keitaro Tanoi[3], Tomoaki Horie[1] ([1]Grad. Sch., Div. Appl Biol., Shinshu Univ., [2]IPSR, Okayama Univ., [3]Grad. Sch., Agric. Life Sci., Univ. Tokyo)

1P047 Identification and functional analysis of flavin transporters in Arabidopsis thaliana

Rui Shibata, Takanori Maruta, Takahiro Ishikawa, Takahisa Ogawa (Grad. Sch. Nat. Sci. Technol., Shimane Univ.)

1P048 Estimation of calcium spatiotemporal dynamics in large-fruits tomato plants using strontium as a tracer

Takuma Hirashima, Yusuke Shikanai, Akihiro Saito, Kyoko Higuchi (Grad. Appl. Biosci., Tokyo Univ. Agri)

■ Membrane trafficking

1P049 The epidermal chloroplast formation in the pathogen responses mediated by SYP4

Aimi Taura[1], Sae Endo[2], Yoko Ito[3], Emi Ito[4], Takashi Yaeno[5], Tomohiro Uemura[1,2,3,6] ([1]Faculty of Science, Ochanomizu Univ., [2]Grad. Sch. Humanities and Sciences., [3]EHLS., Ochanomizu Univ., [4]JSPS Researcher, [5]Department of Agriculture, Ehime Univ., [6]Faculty of Core Research, Natural Science Div., Ochanomizu Univ.)

1P050 Localization and functional analyses of *Arabidopsis* GOS1

Yoko Ito[1], Akihiko Nakano[2], Tomohiro Uemura[3] ([1]IHLS, Ochanomizu Univ., [2]RIKEN RAP, [3]Grad. Sch. Humanities and Sciences, Ochanomizu Univ.)

1P051 SYLK (Syntaxin 6-like protein in vascular plants), a Golgi localized factor specific to vascular plants in tomato

Momoko Kaneko[1], Emi Ito[2,3], Yoko Ito[4], Koichi Sugimoto[5,6], Tomohiro Uemura[1,3] ([1]Faculty of Science, Ochanomizu Univ., [2]JSPS Researcher, [3]Faculty of Core Research, Natural Science Div., Ochanomizu Univ., [4]IHLS., Ochanomizu Univ., [5]Faculty of Life and Environmental Sciences, University of Tsukuba, [6]Tsukuba-Plant Innovation Research Centre, University of Tsukuba)

■ Organelles/Cytoskeleton

1P052 TIC236 Interacts with OEP80 and Is Involved in OEP80 Complex Formation

Kotaro Goto[1], Alika Andjani Widada[1], Syun Minamikawa[1], Ryo Yoshimura[1], Takamasa Suzuki[2], Yasuomi Tada[3], Mika Nomoto[3], Emi Mishiro-Sato[4], Yasushi Yoshioka[1] ([1]Grad. Sch. Sci., Nagoya Univ., [2]Coll. Biosci. Biotech., Chubu Univ., [3]Cent. Gene Res., Nagoya Univ., [4]WPI-ITbM, Nagoya Univ.)

1P053 Elucidation of the translation mechanism in chloroplasts using tag lines in Arabidopsis thaliana

Sakura Takahira, Minori Yamashita, Ai Muramatsu, Reiko Motohashi (Agri., Shizuoka Univ.)

1P054 Exploration of proteins connecting the nucleus and chloroplasts

Kosei Saika[1], Tatsuo Kakimoto[1], Yuki Sakamoto[2] ([1]Grad.Sch.Sci., Osaka Univ, [2]Grad.Sch.Sci., Shinshu Univ)

1P055 Analysis of the function of *Arabidopsis thaliana* UCP1 in mitochondrial thermogenesis

Hiroki Matsui, Takashi Fukada, Noriko Inada (Osaka Metropolitan Univ., Schl. Of Agri)

1P056 An unraveling of plant organellar editosome by proximity labelling

Deborah Marie Schatz, Mizuki Takenaka (Grad. Sch. Sci., Univ. Kyoto)

1P057 Parameter Estimation of Cortical Microtubule Band Movement Using a Microtubule Agent-Based Simulation

Tomonobu Nonoyama[1], Zichen Kang[1], Hikari Matsumoto[2], Sakumi Nakagawa[2], Minako Ueda[2], Satoru Tsugawa[1] ([1]Akita-prefectual University, [2]Tohoku University)

1P058 Identification of novel peroxisome membrane proteins in plants

Junpei Takagi[1], Satoshi Nozaki[2], Emi Mishiro-Sato[3], Takeo Sato[1], Haruko Ueda[2], Ikuko Hara-Nishimura[2] ([1]Fac. Sci., Hokkaido Univ., [2]Fac. Sci. and Eng., Konan Univ., [3]WPI-ITbM, Nagoya Univ.)

1P059 Identification of Suppressor Mutation for Chloroplast EGY1 Protease Mutant

Kenta Maezaka, Yang Fee Kim, Yusuke Kato (Setsunan Univ. Faculty of Agriculture)

1P060 P A novel method for generating marker-free transplastomic plants utilizing both positive and negative selection markers

Ayu Osonoe[1], Naomi Ishikawa[2], Yuuto Matsumura[1], Sayoko Kuwata[2], Yoichi Nakahira[2] ([1]Grad. School Agri., Ibaraki Univ., [2]Coll. Agri., Ibaraki Univ.)

1P061 P Exploring for regulating factors of chloroplast positioning in *Physcomitrium patens* using TurboID

Chie Mitsui[1], Hina Yadome[1], Tsuyoshi Aoyama[2], Keiko Kano[2], Emi Mishiro-Sato[2], Yoshikatsu Sato[1,2] ([1]Grad. Sch. Sci., Nagoya Univ, [2]ITbM., Nagoya Univ)

1P062 P Roles of potential methyltransferase subunit pTAC14 in plastid RNA polymerase complex

Yushi Kurotaki, Sho Fujii (Grad. Sch. Agri. Life Sci., Hirosaki Univ.)

1P063 P Excision of 641Kb NUMT (Nuclear Mitochondrial DNA) in Arabidopsis thaliana chromosome 2

Rika Nakajima[1], Yugo Ito[2], Yuyang Zhong[2], Shin-ichi Arimura[2] ([1]Grad. Sch. Life Environ Sci., University of Tsukuba, [2]Grad. Sch. Agri. and Life. Sci., University of Tokyo)

1P064 P Accumulation of multiple species-derived mitochondria in wheat for broadening the variety of nucleus-cytoplasm combination

Yukiho Momose[1], Karin Kobayashi[1], Nonoka Onda[1], Aya Satoh[1], Shizuka Koshimizu[2,3], Takayoshi Ishii[4], Takashi Okamoto[1] ([1]Grad. Sch. Sci, [2]Dept. Informatics, NIG, [3]SOKENDAI, [4]ALRC, Tottori Univ)

1P065 P Elucidating the mechanisms of plant chiral growth

Eiki Meguro[1], Masayoshi Nakamura[2] ([1]Grad. Sch. Sci., Univ. Nagoya, [2]Institute of Transformative Bio-Molecules, Nagoya University)

1P066 P The functional analysis of two KCH kinesins at the preprophase band in *Nicotiana tabacum*

Hiroki Kurita[1], Hiroki Yasuhara[2], Ichirou Karahara[3], Yoshinobu Mineyuki[4], Daisuke Tamaoki[3] ([1]Grad. Sci. Eng., Univ. Toyama, [2]Fac. Chem. Mat. & Bioengn., Univ. Kansai, [3]Fac. Sci., Acad. Assemb., Univ. Toyama, [4]Grad. Sch. Life Sci., Univ. Hyogo)

1P067 P Towards the Decoding of Pyrenoid Biogenesis: From Live-imaging to Machine-learning-assisted Discovery

Kojiro Matsuo[1], Takashi Yamano[1,2] ([1]Graduate School of Biostudies, Kyoto University, [2]Center for Living Systems Information Science (CeLiSIS), Kyoto University)

■ Cell cycle/Cell division

1P068 P Kinematic and chromosomal insights into the effects of haploidization on root growth in *Arabidopsis thaliana*

Takafumi Miyashita[1], Suzuka Kikuchi[2], Akitoshi Iwamoto[1,3] ([1]Dept. Biol. Sci., Sch. Sci., Kanagawa Univ, [2]Grad. Sch. Sci. and Technol. for Innov., Yamaguchi Univ, [3]Dept. Biol. Fac. Sci., Kanagawa Univ)

1P069 P The Roles of MYB3R in Cell Division and Differentiation Processes During Male Gametophyte Development

Rihoko Senga[1], Yuji Nomoto[1], Shohei Yamaoka[2], Masaki Ito[1] ([1]Sch. Biol. Sci. & Tech., Kanazawa Univ., [2]Grad. Sch. Biostudies, Kyoto Univ.)

1P070 The role of DEFL peptides in zinc deficiency-induced inhibition of the cell cycle progression in Arabidopsis roots

Ryosuke Kato[1], Naoki Takahashi[2], Izumi C. Mori[3], Mami Kobayashi[1], Yoichiro Fukao[1] ([1]Grad. Life Sci., Ritsumeikan Univ., [2]Sch. Agri., Meiji Univ., [3]IPSR, Okayama Univ.)

1P071 Functional Framework of the Kinetochore and Spindle Assembly Checkpoint in Plants

Pettkó-Szandtner Aladár[1], Zoltán Magyar[1], Shinichiro Komaki[2] ([1]BRC. Szeged., Hungary, [2]Grad. Sch. Biol. Sci., NAIST)

1P072 Identification and functional analysis of SCL28-interacting factors in cell size regulation

Masaki Katagiri, Poyu Chen, Masaki Ito (Sch. Bio. Sci. Tech, Kanazawa Univ.)

1P073 Control of cell size by a GRAS-type transcription factor, SCL28, that localizes in both nuclei and plastids

Yuji Nomoto[1], Hirotomo Takatsuka[1], Keisuke Yamada[1], Yasushi Yoshioka[2], Masaki Ito[1] ([1]Sch. Biol. Sci. Tech., Kanazawa Univ., [2]Grad. Sch. Biol. Sci., Nagoya Univ.)

■ Development/Morphogenesis

1P074 Functional Analysis of CLE in Vascular Pattern Formation in Arabidopsis Roots

Haruka Taito[1], Pingping Qian[1,2], Tatsuo Kakimoto[1] ([1]Grad. Sch. Sci., Univ. Osaka, [2]Sch. Life Sci., Univ. Lanzhou)

1P075 Waving root growth by fine-tuning gravitropic response and frictional contact to the medium surface

Toya Suzuki[1], Koichi Fujimoto[1], Koichi Toyokura[1], Tatsuaki Goh[2] ([1]Grad. Sch. Sci., Univ. Hiroshima, [2]Grad. Sch. Sci., NAIST)

1P076 Functional analysis of transcription factors that interact with APL in phloem formation

Hikaru Fukuda[1], Pingping Qian[1,2], Tatsuo Kakimoto[1] ([1]Grad. Sch. Sci., Osaka Univ., [2]Sch. Life. Sci., Lanzhou Univ.)

1P077 High-polyploidization Induces Large-Scale Gene Expression Changes in Arabidopsis Roots

Suzuka Kikuchi[1], Akitoshi Iwamoto[2] ([1]Grad. Sch. Sci. and Technol. for Innov., Yamaguchi Univ., [2]Dept. Biol., Fac. Sci., Kanagawa Univ.)

1P078 Analysis of plant-specific rRNA processing factor PCP1

Shugo Maekawa (Inst. Nat. Sci., Senshu Univ.)

1P079 Effects of Light and Temperature on Floral Stem Elongation in *Aquilegia flabellata*

Mayu Nakagawa (Ishinomaki Senshu Univ.)

1P080 Functional analysis of ERF transcription factor in vegetative reproduction in *Marchantia polymorpha*

Saori Yamaya[1], Go Takahashi[1], Tomohiro Kiyosue[1], Yuki Hirakawa[2] ([1]Grad. Sch. Sci., Gakushuin Univ., [2]Grad. Sch. Integr. Sci. Life, Hiroshima Univ.)

1P081 The Role of Gibberellin Metabolism in Root Tip Regeneration in *Arabidopsis*

Aoi Ishikawa, Zen Machida, Naoki Takahashi (Sch. Agri., Uinv. Meiji)

1P082 The role of WSB and SCAP1 in *FAMA*-triggered morphological changes of hypocotyl epidermis

Hikari Kitani, Nobutoshi Yamaguchi, Makoto Shirakawa, Toshiro Ito (Grad. Sch. of Biol. Sci., Nara Inst. of Sci. and Tech.)

1P083 Analysis of cell wall localization and polarization in rice egg cells

Takunori Kitta[1], Moeno Tezuka[2], Erika Toda[2,3], Atsuko Kinoshita[2], Takashi Okamoto[2] ([1]Dept. Bio. Sci., Tokyo Metropolitan Univ., [2]Grad. Sch. Sci., Tokyo Metropolitan Univ., [3]Grad. Sch. Agric. Life Sci., Univ. Tokyo)

1P084 Temporal transcriptome analysis and database construction in the petals of Japanese morning glory (*Ipomoea nil*)

Atsushi Hoshino[1,2], Soya Nakagawa[1,2], Hiroyo Nishide[1], Katsuhiro Shiratake[3], Atsushi Nagano[4,5] ([1]Natl. Inst. Basic Biol., [2]SOKENDAI, [3]Grad. Sch. Bioagric. Sci., Nagoya Univ., [4]Facul. Agric., Ryukoku Univ., [5]Inst. Adv. Biosci., Keio Univ.)

1P085 Morphological and physiological studies on the assimilatory filaments in the liverwort *Marchantia polymorpha*

Chihiro Sugiyama[1], Yuuki Sakai[2], Ginga Shimakawa[3], Hidehiro Fukaki[2], Kimitsune Ishizaki[2] ([1]Fac. Sci. Kobe Univ., [2]Grad. Sch. Sci. Kobe Univ., [3]Grad. Sch. Agr. Kobe Univ.)

1P086 Comparative analysis of early-maturing and late-maturing cultivars of *Ginkgo biloba* that were cultivated in Sobue, Inazawa, Aichi, Japan

Tatsuya Shibutani[1], Hirofumi Yamashita[2], Kohta Yamada[3], Yoshie Uchida[3,4], Hakuto Kageyama[4], Masami Kobayashi[1], Kazuhito Inoue[5,6], Hidenobu Uchida[3,5] ([1]Dept. Mat. Sci., Univ. Tsukuba, [2]Dept. Inf. Env. Sci., Kyoto Pref. Univ., [3]Dept. Food Business, Nagoya Bunri Univ., [4]Grad. Sch. Environ. Hum. Sci., Meijo Univ., [5]Res. Inst. Integ. Sci., Kanagawa Univ., [6]Dept. Biochem. Biotechno., Kanagawa Univ.)

1P087 Floral organ number controled by the external organs positioning

Yoshino Mouri, Koichi Fujimoto (Grad. Sch. Sci., Univ. Hiroshima)

1P088 Analysis of sex chromosome evolution in the transition of sexual reproductive systems in liverwort

Yukiko Yasui[1], Giacomo Potente[2], Eita Shimokawa[1], Yuka Umeya[1], Tomoha Tanaka[1], Shogo Kawamura[1], Katsuyuki Yamato[3], Katsushi Yamaguchi[4], Shuji Shigenobu[4], Masaki Shimamura[5], Péter Szövényi[2], Takayuki Kohchi[1] ([1]Grad. Sch. Biostudies, Kyoto Univ., [2]Dept. Systematic and Evolutionary Botany, Univ. Zurich, [3]Fac. Biol. Sci. Technol., Kindai Univ., [4]Trans-Omics Fac., NIBB, [5]Grad. Sch. Integ. Sci. Life, Hiroshima Univ.)

1P089 P Evolutionary Analysis of a Sex Determining Factor in the Transition of Sexual Reproductive Systems in Liverwort

Yuka Umeya[1], Tomoha Tanaka[1], Yuki Akimoto[1], Eita Shimokawa[1], Masaki Shimamura[2], Takayuki Kohchi[1], Yukiko Yasui[1] ([1]Grad. Sch. Biostudies, Kyoto Univ., [2]Grad. Sch. Integrated Sciences for Life, Hiroshima Univ.)

1P090 P Activity of Novel Callus-inducing Compounds

Kotaro Fujino[1], Takumi Ogawa[1], Hayoung Lee[2], Atsushi Nagano[2,3], Motohiro Sonoda[1], Atsushi Okazawa[1] ([1]Grad. Sch. Agric., Osaka Met. Univ., [2]Fac. Agric., Ryukoku Univ., [3]IAB, Keio Univ.)

1P091 P Newly discovered morphological plasticity of root and the regulatory mechanism by phytohormone in amphibious plant *Callitriche palustris*

Tomo Sato[1], Yuki Doll[2], Hiroyuki Koga[1], Hirokazu Tsukaya[1] ([1]Grad. Sch. Sci., Univ. Tokyo, [2]Grad. Sch. Sci. Tech., NAIST)

1P092 P Investigation of the possibility of unifacial leaves in the genus *Curio* (Asteraceae) and the evolutionary process

Mikita Tamura (Fac. of Sci., Univ. Tokyo)

1P093 P Studies on the mechanism of heterophylly in *Juniperus chinensis*

Kazuma Okura[1], Ryota Outi[2], Shuka Ikematu[2], Tomoaki Sakamoto[2], Seisuke Kimura[2] ([1]Grad. Sch. Sci., Univ. KyotoSangyo, [2]Sci., Univ. KyotoSangyo)

1P094 P Functional analysis of bHLH transcription factors in regeneration of *Marchantia polymorpha*

Haruka Mine[1], Aya Iwaki[2], Emi Hainiwa[2], Shohei Yamaoka[2], Shota Yamauchi[1], Takayuki Kohchi[2], Ryuichi Nishihama[1] ([1]Department of Applied Biological Science, Faculty of Science and Technology, Tokyo University of Science, [2]Graduate School of Biostudies, Kyoto University)

1P095 P Functional Analysis of *Physcomitrium patens INDETERMINATE DOMAIN 5* (*PpIDD5*)

Ren Yamada[1], Masaki Ishikawa[2], Mitsuyasu Hasebe[2], Akiko Kozaki[1] ([1]Grad. Sch. bio., Shizuoka Univ, [2]Div. evo. bio., NIBB)

1P096 P The distribution and the function of plant hormone in fern *Ceratopteris richardii*

Yuta Hanada[1], Eiki Kawarabuki[2], Satoshi Naramoto[3,4] ([1]Sch. Sci. Hokkaido. Univ., [2]Grad. Sch. Life Sci. Hokkaido Univ., [3]Faculty Sci. Hokkaido Univ., [4]PRESTO, JST)

1P097 P Characterization of the frilled petal mutant in *Torenia fournieri* induced by heavy-ion-beam irradiation

Takahiro Mayuzumi[1], Kotaro Ishi[2], Keichi Takagi[3], Masanori Hatashita[3], Mikiko Kojima[4], Yumiko Takabayashi[4], Hitoshi Sakakibara[4,5], Tetsuya Higashiyama[6], Tomoko Abe[7], Yusuke Kazama[1,7] ([1]Fac. Biosci. Biotech., Fukui Pref. Univ, [2]NIRS, QST, [3]Wakasa-wan Ener. Cent, [4]RIKEN Center for Sustainable Resource Science, [5]Department of Applied Biosciences, Graduate School of Bioagricultural Sciences, Nagoya Univ, [6]Department of Biological Sciences, Graduate School of Science, Tokyo Univ, [7]RIKEN Nishina Center)

■ Reproduction

1P098 P Analysis of the target candidates of BONOBO-LRL/DROP heterodimers involved in the regulation of germ cell differentiation in land plants

Nako Watanabe[1], Yuki Tomita[1], Takuya Miyakawa[1], Keisuke Inoue[1,2], Yoshihiro Yoshitake[1,2], Kazuo Ebine[3,4], Takeshi Nakano[1], Takayuki Kohchi[1], Takashi Araki[1], Shohei Yamaoka[1] ([1]Grad. Sch. Biostudies, Kyoto Univ., [2]CeLiSIS, Kyoto Univ., [3]Div. Cellular Dynamics, NIBB, [4]Grad. Inst. for Adv. Stud., SOKENDAI)

1P099 P Single-nucleus RNA-seq analysis of plant germline differentiation in the liverwort *Marchantia polymorpha* using germline cell-like cell induction system

Takeru Kumagai, Tomoaki Kajiwara, Yoshihiro Yoshitake, Megumi Iwano, Shogo Kawamura, Yukiko Yasui, Shohei Yamaoka, Takayuki Kohchi (Grad. Sch. Biostudies., Kyoto Univ.)

1P100 P Genome-wide exploration of pollen factor(s) interact with pistil reproductive barrier factor in Arabidopsis

Kazuki Hirano[1], Takuya Nagae[1], Hiroki Miura[1], Sota Fujii[1,2], Seiji Takayama[1] ([1]Grad. Sch. of Agric. Life Sci., Univ. of Tokyo, [2]Suntory SunRiSE)

1P101 P Vacuole dynamics in *Arabidopsis thaliana* stigma papilla cells using live imaging

Kazuki Fukushima, Maki Hayashi, Masao Watanabe (Grad. Sch. Life Sci., Tohoku Univ.)

1P102 P The role of the EAR motif in MpBZR3, a regulator of gametangium development in Marchantia polymorpha

Yuki Takabatake[1], Kohei Ogawa[2], Yuzuha Kita[2], Masahiro Kasahara[2], Yuki Kondo[3], Tomoyuki Furuya[2,3] ([1]Sch. Sci., Osaka Univ., [2]Col. Sch. Sci., Ritsumeikan Univ., [3]Grad. Sch. Sci., Osaka Univ.)

1P103 Analysis of the mechanism by which ethylene induces petal abscission

Yuki Furuta, Nobutoshi Yamaguchi, Toshiro Ito (NAIST)

1P104 Analyses of SUN protein functions in sperm nuclear fusion during Arabidopsis fertilization

Hanano Horiuchi[1], Shuh-ichi Nishikawa[2] ([1]Grad. Sch. Sci. Tech., Niigata Univ., [2]Fac. Sci., Niigata Univ.)

1P105 Clarifying why endosperm does not develop in orchid seed

Nguyen Thanh Hai Nguyen[1], Ming-Bang Huang[1], Ming-Tsair Chan[1,2], Masaru Ohme-Takagi[1] ([1]Graduate Program in Translational Agriculture Sciences, National Cheng Kung University, Tainan, Taiwan, [2]Agricultural Biotechnology Research Center, Academia Sinica, Tainan, Taiwan)

1P106 Analysis of factors affecting vegetative reproduction in *Rorippa aquatica*

Ren Ariyama (Grad. Sch. Sci., Univ. Kyoto Sangyo)

■ Plant hormones/Signaling molecules

1P107 Detection of plant hormones from Arabidopsis root exudates

Yuri Kanno[1], Mitsunori Seo[1,2] ([1]RIKEN CSRS, [2]TBRC, Univ. Ryukyus)

1P108 Investigation of a non-canonical strigolactone pathway using *Nicotiana benthamiana*

Shiho Jitsukawa[1], Mayu Kawabuchi[1], Kozue Hiugano[1], Kenji Miura[2], Mikihisa Umehara[3], Takahito Nomura[1] ([1]Ctr. of Biosci. Res. and Edu., Utsunomiya Univ., [2]Fac. of Life and Environ. Sci., Univ. of Tsukuba, [3]Grad. Sch. of Life Sci., Toyo Univ.)

1P109 Screening for Arabidopsis mutants defective in self-standability

Masaki Okumura[1], Yusuke Kakei[2], Yukihisa Shimada[1] ([1]Kihara Inst. Biol. Res., Yokohama City Univ., [2]NARO)

1P110 Effect Of TGW6 Inhibitor Candidate Compounds On Field-Grown Rice

Yui Yamaguchi, Tatsuki Akabane, Shota Kojima, Naoki Hirotsu (Grad. Sch. Life Sci., Univ. Toyo)

1P111 Role of 5α-reductase in plant steroid metabolism

Rin Nakamura, Rikuto Hamada, Hitomi Kobuna, Takahito Nomura (Ctr. of Biosci. Res. & Edu., Utsunomiya Univ.)

1P112 Establishment of a method to quantify plant hormones from very small tissues

Yumiko Takebayashi[1], Hiromi Suzuki[1,2], Masami Hirai[1], Mitsunori Seo[1,3] ([1]RIKEN, CSRS, [2]School of Bioscience and Biotechnology, Tokyo University of Technology, [3]Tropical Biosphere Research Center, University of the Ryukyus)

1P113 P Analysis of Hormonal Changes and Disease Molecular Responses during Wheat Powdery Mildew Infection

Yuki Sato[1,2,3,6], Yuanjie Weng[1,2,3,4], Taichi Shimazaki[2,3,6], Yuri Kanno[1], Yumiko Takebayashi[1], Kentaro Yoshida[5], Kenichi Nihei[2,4,6], Masanori Okamoto[1,2,3,7] ([1]RIKEN, CSRS, [2]Grad. Sch. Reg. Dev.&Creat., Utsunomiya Univ., [3]C-Bio, Utsunomiya Univ., [4]UGSAS, Tokyo Univ. of Agri.&Tech., [5]Grad. Sch. Agri., Kyoto Univ., [6]Sch. Agri., Utsunomiya Univ., [7]KIBR, Yokohama City Univ.)

1P114 P Analysis of larger berry development mechanism on the bud mutant of 'Delaware'

Hikaru Ishikawa[1], Yasuyuki Togano[2], Tomoki Shibuya[1,3] ([1]United Grad. Sch. Agri. Sci., Univ. Iwate, [2]Shimane Pref., Agri. Tech. Cen., [3]Fac. Agri., Univ. Yamagata)

1P115 P Analysis of phosphorylation domains of brassinosteroid signaling factor BIL7

Senri Nakamura[1], Kaisei Nishida[1], Yusuke Nakamura[1], Ayumi Yamagami[1], Takuya Miyakawa[1], Takehiro Suzuki[2], Naoshi Dohmae[2], Akira Nozawa[3], Tatsuya Sawasaki[3], Tadao Asami[4], Takeshi Nakano[1] ([1]Grad. Sch. Biostudies., Univ. Kyoto, [2]CSRS, Riken, [3]PROS, Ehime University, [4]Grad. Sch. Agri. Life Sci., Univ. Tokyo)

1P116 P Identification of Δ^4-dn-iso-OPDA as a plant hormone in *Marchantia polymorpha* and evolutionary shift in plant hormone biosynthesis

Yuho Nishizato[1], Mai Morikawa[2], Takuya Kaji[1], Akiyoshi Yoda[2], Chini Andrea[3], Junko Kyozuka[2], Solano Roberto[3], Minoru Ueda[1] ([1]Grad. Sch. Sci., Univ. Tohoku, [2]Grad. Sch. Life Sci., Univ. Tohoku, [3]Plant Molecular Genetics Department, National Centre for Biotechnology)

1P117 P Gibberellin signaling in distant cell layers drives root growth, as revealed by sGA-mGID1 pair

Yuichiro Yagami[1], Ryotaro Yamada[1], Yuuma Ishikawa[2], Wolf B. Frommer[2,3], Shinya Hagihara[4], Masayoshi Nakamura[3] ([1]Grad. Sch. Sci., Univ. Nagoya, [2]HHU Düsseldorf, [3]ITbM, Univ. Nagoya, [4]Center for Sustainable Resource Science, RIKEN)

1P118 P Target analysis of promoter of plant growth (PPG) in callus induction

Ryoma Okada[1], Shota Tanaka[2,3], Shun Takeno[2,3], Kotomi Maekawa[1,3], Kazuma Ohata[1], Ayumi Yamagami[1], Shoji Segami[4], Masayoshi Maeshima[5], Yasumitsu Kondo[2], Naoshi Dohmae[2], Hiroyuki Osada[2], Tetsuo Kushiro[3], Tadao Asami[6], Takeshi Nakano[1] ([1]Grad. Sch. Bio., Univ. Kyoto, [2]Inst. CSRS., RIKEN, [3]Grad. Sch. Agri., Univ. Meiji, [4]Inst. Basic Bio., NIBB, [5]Grad. Sch. Bio Agri., Univ. Nagoya, [6]Grad. Sch. Agri Life., Univ. Tokyo)

■ Flowering/Clock

1P119 Modifying the flower shape of *Phalaenopsis* by manipulating orchid transcription factors

Ming-Bang Huang[1], Ming-Tsair Chen[2], Masaru Ohme-Takagi[1] ([1]College of Bioscience and Biotechnology, National Cheng Kung University, [2]ABRC, Academia Sinica)

1P120 Isolation Of *Nicotiana benthamiana FT* Gene Encoding A Florigenic Signal

Nariyuki Furukawa[1], Ken-ichi Kurotani[2], Kappei Kobayashi[1], Michitaka Notaguchi[3], Hidetaka Kaya[1] ([1]Fac. Agri., Ehime Univ., [2]BBC, Nagoya Univ., [3]Grad. sch. Sci, Kyoto Univ.)

1P121 *Pseudo-Response Regulator* (*InPRRs*) Transcription Factors are Involved in Photoperiodic Induction of Flowering and Flower Opening Time in *Ipomoea nil*

Kimiyo Sage-Ono[1,2], Kenta Watanabe[1], Yuki Tada[1], Daiki Takai[1], Eiji Nitasaka[3], Atsushi Hoshino[4,5], Kenta Shirasawa[6], Michiyuki Ono[1] ([1]T-PIRC, Univ. Tsukuba, [2]NIBIOHN, [3]Grad. Sch. Sci., Kyusyu Univ., [4]NIBB, [5]Grad. Inst. Adv. Stu., SOKENDAI, [6]Kazusa DNA Res. Inst.)

1P122 Research to Identify Genes Responsible for Evening Flower Opening in Japanese Morning glory (*Ipomoea nil*)

Daiki Takai[1], Nana Maeda[1], Kimiyo Sage-Ono[1,2], Seika Motoyama[1], Yohei Higuchi[3], Nobuo Nakamura[4], Eiji Nitasaka[5], Atsushi Hoshino[6,7], Kenta Shirasawa[8], Michiyuki Ono[1] ([1]T-PIRC, Univ. Tsukuba, [2]NIBIOHN, [3]Dept Agr Env Biol., Univ. Tokyo, [4]Hakodate Shirayuri Gakuen, [5]Grad. Sch. Sci., Univ Kyushu, [6]NIBB, [7]Grad. Inst. Adv. Stud., Sokendai, [8]Kazusa DNA Res. Inst.)

1P123 Regulation of the circadian clock by quantitative control via alternative splicing of a central oscillator PRR7 in *Arabidopsis thaliana*
Seiya Izawa, Chiaki Teramae, Yusuke Takata, Takafumi Yamashino (Grad. Sch. Bioagri. Sci., Nagoya Univ.)

1P124 Functional analysis of the receiver-like domain of the PRR family that is implicated in the circadian clock in *Arabidopsis thaliana*
Marina Kishi, Seiya Izawa, Chiaki Teramae, Yusuke Takata, Takafumi Yamashino (Grad. Sch. Bioagri. Sci., Nagoya Univ.)

■ Environmental response A/Physiological responses

1P125 P Characterization of a novel compound that inhibits haustorium induction in the parasitic plant *Strigahermonthica* and gravitropism in *Arabidopsis thaliana*
Chika Tsuboyama[1], Natsuki Sato[1], Ayato Sato[2], Takanori Wakatake[1], Satoko Yoshida[1] ([1]NAIST, [2]ITbM, Nagoya Univ.)

1P126 P Analysis of subcellular localization of MIZU-KUSSEI1, a protein essential for root hydrotropism
Kotaro Akita[1], Yutaka Miyazawa[2] ([1]Grad.Sch. Sci & Eng., Yamagata univ, [2]Faculty of Science, Yamagata univ)

1P127 Possibility of RP proteins involvement in potassium response in *Arabidopsis thaliana*
Mobina Ulfat[1,2], Naoyuki Sotta[1], Arpna Kumari[1], Dichao Ma[1], Shuying Li[1], Toru Fujiwara[1] ([1]Gad. Sch. Agri. Sci., Univ. Tokyo, [2]Lahore College for Women Univ., Lahore, Pakistan)

1P128 Three-dimensional morphological analysis of the gametophore of *Physcomitrium patens* by X-ray micro-CT
Keisuke Tabata[1], Naoki Yagihara[2], Miyu Senryu[2], Ryohei Yamaura[2], Daisuke Tamaoki[3], Hiroyuki Kamachi[3], Toshiaki Kozuka[4], Daisuke Yamauchi[5], Yoshinobu Mineyuki[5], Masato Hoshino[6], Kentaro Uesugi[6], Yuji Hiwatashi[7], Yuko Hanba[8], Atsushi Kume[9], Tomomichi Fujita[10], Ichirou Karahara[3] ([1]Fac. Sci., Univ. Toyama, [2]Grad. Sch. Sci. Eng., Univ. Toyama, [3]Fac. Sci., Univ. Toyama, [4]Col. Sci. Eng., Kanazawa Univ., [5]Grad. Sch. Sci., Univ. Hyogo, [6]JASRI, SPring-8, [7]Sch. Food Ind. Sci., Miyagi Univ., [8]Dept. Applied Biol., Kyoto Inst. Technol., [9]Fac. Agric., Kyushu Univ., [10]Fac. Sci., Hokkaido Univ.)

1P129 Elucidation of PP2C.D function in stomatal movements
Kosuke Murakami[1], Yuki Hayashi[1], Yohei Takahashi[1,2], Daichi Kinoshita[1], Miya Mizutani[3], Yoshikatsu Matsubayashi[1], Toshinori Kinoshita[1,2] ([1]Grad. Sch. Sci., Univ. Nagoya, [2]ITbM., Univ. Nagoya, [3]Grad. Sch. Bio., NAIST)

1P130 Analysis of C1 Raf-like kinase BHP in light-induced stomatal opening
Akinori Tange[1], Yuki Hayashi[1], Taku Sakakibara[1], Maki Hayashi[2], Yoshikatsu Matsubayashi[1], Toshinori Kinoshita[1,3] ([1]Grad. Sch. Sci., Univ. Nagoya, [2]Grad. Sch. Life Sci., Tohoku Univ., [3]WPI-ITbM, Univ. Nagoya)

■ Environmental response B/Environmental stresses

1P131 P 14-3-3 protein that functions as a downstream factor of BAM receptor mediates root development
Ami Omata[1], Takeru Nakayama[1], Torataro Kurumida[1], Fuminori Takahashi[2] ([1]Grad. Sch. Fac. Adv. Eng., TUS, [2]Fac. Adv. Eng., TUS)

1P132 P Elucidating The Role of A Novel Peptide in Salt Tolerance of Lateral Roots in *Arabidopsis thaliana*
Sachi Esumi, Yoichiro Fukao (Grad. Sch. Life Sci., Ritsumeikan Univ.)

1P133 P Fructan accumulation is associated with changes in freezing tolerance under diurnal temperature fluctuations
Takuma Kikuchi[1], Sushan Chowhan[2], Toshihisa Kotake[1], Daisuke Takahashi[1] ([1]Grad. Sch. Sci. Eng., Saitama Univ., [2]Bangladesh Inst. Nucl. Agr.)

1P134 P Functional analysis of BZR1 and BES1-mediated growth regulations for suppressing drought stress responses
Xinai Wu (Grad. Sch. Fac. Adv. Eng., TUS)

1P135 P Identification of a NaCl sensing receptor-like protein in *Arabidopsis*
Yun Fan, Tomoko Hirano, Masa H. Sato (Graduate School of Life and Environmental Sciences, Kyoto Prefectural University)

1P136 P Elucidation of salt stress response mechanisms by B4 Raf-like kinase in *Marchantia polymorpha*
Tomoki Kuribayashi[1], Shota Yamauchi[1], Eri Koide[2], Asuka Shintaku[2], Nodoka Handa[1], Takayuki Kohchi[2], Ryuichi Nishihama[1] ([1]Dept. Appl. Biol. Sci., Fac. Sci. Tech., Tokyo Univ. Sci., [2]Grad. Sch. Biostudies, Kyoto Univ.)

1P137 Investigation of the hormesis effect of bismuth on the growth of Arabidopsis thaliana
Takeshi Nagata, Naoya Ura, Tsukasa Kobayashi, Haruka Nakamura (Setsunan Univ.)

1P138 P Elucidation that effect of Ti on plant growth in *Arabidopsis thaliana*
Kazuki Indo[1], Tokuma Oiwa[2], Takeshi Nagata[2] ([1]Setsunan univercity graduate school of science and engneering life science, [2]Setsunan univercity paculty of science and engneering)

1P139 Detection of changes in gene expression during exposure to low-doses of radiation using *Arabidopsis thaliana*

Shinya Takahashi[1,2], Satoru Araya[2], Masanori Tamaoki[3] ([1]ILES, Univ. Tsukuba, [2]BRES, Univ. Tsukuba, [3]Biodiversity Div., Natl. Inst. Env. Stud.)

1P140 Analysis of the mechanisms of antagonism between ABA and ethylene in the oxygen supply system induced by hypoxia in rice roots

Momoka Kojima, Akihisa Shinozawa, Kanna Izawa, Shin-ichi Nakamura (Dept. Bioscience, Tokyo Univ. Agric.)

1P141 Cytosolic ascorbate peroxidase 1 regulates cell death and DNA damage response via glutathione redox control

Satsuki Sato, Kana Kikuraku, Gen Mitomi, Takanori Maruta (Grad. Sch. Nat. Sci. Technol., Shimane Univ.)

1P142 Ascorbate Recycling System Protects Cells from Photooxidative Stress Through a Mechanism Independent of Ascorbate Pool Size

Akane Hamada[1,2], Takanori Maruta[1,2] ([1]Grad. Sch. Nat. Sci. Technol., Shimane Univ., [2]United Grad. Sch. Agr. Sci., Tottori Univ.)

1P143 Stress Turns Sweet: *O*-GlcNAcylation in Salt Response of *Arabidopsis*

Pei-Wen Lo[1], Keiko Kano[1], Jiun-Jie Shie[2], Emi Mishiro-Sato[1], Masayoshi Nakamura[1] ([1]ITbM, Nagoya University, [2]Institstute of Chemistry, Academia Sinica (Taiwan))

1P144 Identification of Novel Factors Mediating Oxidative Stress-Induced Cell Death in Arabidopsis Catalase-Deficient Mutants

Nanami Fujimoto[1], Itsuka Nakashima[2], Kana Ishibashi[1], Takanori Maruta[1,2,3], Amna Mhamdi[3], Frank Van Breusegem[3] ([1]Grad. Sch. Nat. Sci. Technol., Shimane Univ., [2]Life Environ. Sci., Shimane Univ., [3]Plant Systems Biol., VIB-Ghent Univ.)

1P145 Analysis of environmental factors causing blossom-end-rot in soil-grown Micro-Tom

Yusuke Shikanai, Natsuki Yamamoto, Akihiro Saito, Kyoko Higuchi (Agri. chem., Tokyo Univ. Agri.)

1P146 WRKY transcription factors mediate stress tolerance under fluctuating environments in *Arabidopsis*

Hiroshi Mori[1], Mika Nomoto[1,2,3], Emi Okada[1], Susumu Uehara[2], Fumika Okamoto[1], Kazuha Mori[1], Takakazu Matsuura[4], Tsuyoshi Mori[1], Tomotaka Itaya[2], Takuya Nagae[5,6], Yu Saito[1], Sumire Fujiwara[7], Hiroki Tsutsui[8], Hiroshi Takagi[2,8], Takaya Ogawa[8], Tetsuya Higashiyama[5,9], Nobutaka Mitsuda[7], Hirofumi Yoshioka[8], Izumi C. Mori[4], Yoshiharu Y. Yamamoto[10], Yasuomi Tada[1,2] ([1]Grad. Sch. Sci., Nagoya Univ., [2]Centr. Gene Res., Nagoya Univ., [3]JST, PRESTO, [4]Inst. Plant Sci. Resour. (IPSR), Okayama Univ., [5]Inst. Transform. Bio-Mol. (WPI-ITbM), Nagoya Univ., [6]Dep. Appl. Bio. Chem., Grad. Sch. Agri. Life Sci., Univ. Tokyo, [7]Bioprod. Res. Inst., Natl. Inst. Adv. Ind. Sci. Technol. (AIST), [8]Grad. Sch. Bioagric. Sci., Nagoya Univ., [9]Dep. Biol. Sci., Grad. Sch. Sci., Univ. Tokyo, [10]Appl. Biol. Sci., Gifu Univ.)

1P147 Synergistic Brassinosteroid and AsA/GSH Pathway Signaling Promotes Flowering via BZR1-PIF4 Interaction in Oncidium Orchid Under Prolonged Heat Stress

Senthil Kumar Rajendran, Hui-Ju Chiang, Kehao Wu, Shih-Han Cheng, Ching-Hui Yeh (Department of Life Science, National Central University, Zhongda Road, Zhongli District, Taoyuan City, Taiwan ROC)

1P148 Involvement of KATANIN1, a microtubule-severing enzyme, in hypergravity-induced modification of growth anisotropy in Arabidopsis hypocotyls

Takayuki Hattori[1], Sayoko Hishii-Higuchi[2], Hiroko Inoue[2], Takehide Kato[3], Takashi Hashimoto[3], Kazuyuki Wakabayashi[1], Takayuki Hoson[2], Kouichi Soga[1] ([1]Grad. Sch. Sci., Osaka Metropol. Univ., [2]Grad. Sch. Sci., Osaka City Univ., [3]Grad. Sch. Biol. Sci., Nara Inst. Sci. Tech.)

1P149 [Cancelled]

1P150 Redefining the development of the awn and its physiological role through the history of rice breeding in Japan

Mao Suganami[1], Hideki Yoshida[1], Makoto Matsuoka[1], Soichi Kojima[2] ([1]Faculty of Food and Agricultural Sciences, Institute of Fermentation Sciences, Fukushima University, [2]Graduate School of Agricultural Science, Tohoku University)

1P151 Identification and Functional Analysis of Novel Factors Involved in the Combined Stress Responses in *Arabidopsis*

Shunsuke Adegawa, Shoutaro Okiyama, Tomohiro Takeuchi, Naoki Takahashi (Sch. Agric., Meiji Univ.)

1P152 Effect of Overexpression of an RNA Chaperone Gene Derived from Ice Plant on Salinity and Osmotic Stress Tolerance in Poplar

Taichi Oguchi[1,2], Shiryu Hasegawa[1], Miho Imakita[1], Yuhei Shikakura[1] ([1]Life Env. Sci., Univ. Tsukuba, [2]T-PIRC, Univ. Tsukuba)

1P153 An elucidation of mechanisms of drought tolerance in parsley

Ayaka Hosotani[1], Rikako Hirata[2], Akira Mine[2], Eri Kamon[1], Takeshi Ishimizu[1,3], Kazuya Ishikawa[3] ([1]College of Life Sciences, Ritsumeikan University, [2]Graduate School of Agriculture, Kyoto university, [3]R-GIRO, Ritsumeikan University)

1P154 Increase in *N*-acetylglucosamine-related substances and enhancement of abiotic stress tolerance through moderate activation of the hexosamine pathway in *Arabidopsis thaliana*

Masataka Murakami[1], Yousuke Matoba[1], Hisashi Nishiwaki[2], Yasushi Sato[1] ([1]Grad. Sch. Sci. Eng., Ehime Univ., [2]Grad. Sch. Agr., Ehime Univ.)

1P155 Involvement of Mitochondrial/Chloroplastic Monodehydroascorbate Reductase (MDAR5/6) in Sensitivity to Aromatic Nitro Compounds in Arabidopsis

Natsumi Taniguchi[1], Naoya Kashima[2], Satoshi Sano[1] ([1]Grad. Sch. Life Envr. Sci., Kyoto Pref. Univ., [2]Fac. Life Envr. Sci., Kyoto Pref. Univ.)

1P156 Investigation of conditions inducing the UV-absorbing compound in the cyanobacterium *Gloeocapsa* sp. BRSZ strain newly isolated from a hot spring in Thailand

Taiki Aono[1], Sasiprapa Samsri[2], Rungaroon Waditee-Sirisattah[2], Hakuto Kageyama[1] ([1]Grad. Sch. Env .Hum. Sci., Meijo Univ., [2]Chulalongkorn Univ.)

1P157 Seasonal variation of alkaloid profile in *Amsonia elliptica*

Kotaro Yamamoto[1], Takayuki Azuma[2] ([1]Sch. Sci., Yokohama City Univ., [2]Botanic Garden, FSC, Hokkaido Univ.)

1P158 How do silicon dioxide nanoparticles alleviate salt stress during early development in sorghum and rice?

Ryoichi Araki[1,2], Hidetoshi Miyazaki[3], Ping An[4] ([1]Fac. Edu., Wakayama Univ., [2]Ctr. Food Agric. Res. Edu., Wakayama Univ., [3]Sci. Res. Unit, Glb. Environ. Forum, [4]Arid Land Res. Ctr., Tottori Univ.)

■ Plant-organism interaction A

1P159 Contribution of ARF5 and Dof transcription factors on the feeding cell establishment by plant-parasitic root-knot nematodes

Daiki Matsunaga[1], Mizuki Yamada[2,3], Shingo Sakamoto[4], Nobutaka Mitsuda[4], Shinichiro Sawa[1,2,3] ([1]Faculty of science, Kumamoto Univ, [2]FAST, Kumamoto Univ, [3]IRCAEB, FAST, Kumamoto Univ, [4]BPRI, AIST)

1P160 Phytoplasma and Its Application in Orchids

Shunnitsu You (Institute of Biochemistry, National Chung Hsing University, Taichung 402, Taiwan)

1P161 Characterization of LysM receptors with biotinylated chitin oligomers

Wendi Jiang, Shingo Maruyama, Ryota Katakai, Yuna Saito, Ikuma Ogura, Yuta Fukuda, Hanae Kaku (Dept. Life Sciences, Sch. Agriculture, Meiji University)

1P162 Functional analysis of TGA transcription factors in the moss *Physcomitrium patens*

Hiroki Takauo, Teruaki Taji, Yoichi Sakata, Izumi Yotsui (Dept. of Biosci., Tokyo Univ. of Agri.)

1P163 Analysis of whole plant systemic defense responses against herbivores in rice

Ivan Galis[1], Yuko Hojo[1], David Wari[1,2], Tomonori Shinya[1] ([1]Okayama University IPSR, [2]Western Region Agricultural Research Center (Kinki, Chugoku and Shikoku Regions), NARO)

1P164 A pilot study to evaluate the use of World Rice Core Collection in study of plant-insect interactions

Thanh Nhan Ho[1,2], Tomonori Shinya[1], Ivan Galis[1] ([1]Okayama University IPSR, [2]Cuu Long Delta Rice Research Institute, Vietnam)

1P165 P Morphological and chemical defense variation in two *Oryza* cultivars under brown planthopper infestation

Xiaoji Yang, Yuko Hojo, Tomonori Shinya, Ivan Galis (Okayama University Institute of Plant Science and Resources)

1P166 P Functional analysis of a phytopathogenic ascomycete-associated gene in host plant penetration

Arisa Kuramoto[1], Ryushin Yamaguchi[2], Koh Aoki[2], Ayako Tsushima[2] ([1]Coll. Life Environ. Sci., Osaka Pref. Univ., [2]Grad. Sch. Agric., Osaka Metro. Univ.)

1P167 P Functional Analysis of Effectors in Raphanus sativus L. witches'-broom disease

Kaikin Jo, Shunnitsu You (Institute of Biochemistry, National Chung Hsing University)

1P168 P *Volatile Organic Compound Insensitive1* (*VIS1*) Regulates Responses to *Piriformospora indica* VOCs

Pertunia Nxumalo[1], Yi-Ting Chen[2], Nguyen Thanh Hai Nguyen[1], Masaru Ohme-Takagi[1,2], Ming-Tsair Chan[3] ([1]College of Bioscience and Biotechnology, National Cheng Kung University, [2]NCKU-AS Graduate-Program in Translational Agriculture Sciences, Taiwan, [3]Academia Sinica, Agriculture Biotechnology Research Center in Southern Taiwan)

1P169 P Transciptomic changes induced by application of a sulfur-based foliar formulation on orient melon plant

Chien Hao Chai[1], Cheng-Fang Hong[2], Jenn-Wen Huang[1,3] ([1]Doctoral Program in Plant Health Care, Academy of Circular Economy, National Chung Hsing University, Nantou City, 540001, Taiwan., [2]Department of Plant Pathology, National Chung Hsing University, Taichung City, 402202, Taiwan., [3]CH Biotech R&D., LTD., Nantou City, 540001, Taiwan.)

1P170 P Investigate the interaction between induced resistance and leaf bacterial endophytes

Yan-Cheng Mou[1,2,3], Yun-Chu Chen[1,2,3], Wen-Chi Chang[1] ([1]Inst. Tropical Plant Sciences and Microbiology, NCKU, Taiwan, [2]Biotechnology Center in Southern Taiwan, Academia Sinica, Tainan 711, Taiwan, [3]Agricultural Biotechnology Research Center, Academia Sinica, Taipei 115, Taiwan)

■ Plant-organism interaction B

1P171 P Analysis of LysM receptors for chitin-triggered immunity in Parasponia; non-legume host plants of rhizobial symbiosis
Ryo Takaoka[1], Mirei Furuta[1], Souta Kawasaki[1], Kana Miyata[2] ([1]Dept. Life Sciences, Sch. Agriculture, Meiji University, [2]Fac. life sci., Toyo Univ)

1P172 P Elucidation of the root symbiotic microbiome in plants adapted to solfatara fields
Akifumi Murata[1], Mikihito Noguchi[1], Hirokazu Toju[2] ([1]Grad. Sch. Sci., Univ. Kyoto, [2]Grad. Sch. Bio., Univ. Kyoto)

1P173 P Exploring key regulators of intrusive cell differentiation in a parasitic plant, *Phtheirospermum japonicum*
Chiharu Ito[1], Songkui Cui[2], Takamasa Suzuki[3], Satoko Yoshida[1] ([1]Bio. sci., NAIST, [2]KIB, [3]Bio. sci. and Biotech., Chubu Univ.)

1P174 P Aluminum tolerance mechanisms of solfatara plants and involvement of endophytic fungi
Daisuke Aoshima[1], Soshi Osaki[1,2], Akihiro Yamamoto[3], Hayato Maruyama[4], Toshihiro Watanabe[4], Takayuki Nakatsubo[1,5], Jun Wasaki[1,6] ([1]GSISL, Hiroshima Univ., [2]FEIAS, Waseda Univ., [3]Hiroshima Botanical Garden, [4]Grad Sch Agr, Hokkaido Univ., [5]Hiroshima Univ. Museum, [6]S-CNC, Hiroshima Univ.)

1P175 Exploring the mechanism of stomatal opening by a leaf-inhabiting non-pathogenic bacterium
Rikako Hirata[1], Yuniar Devi Utami[2], Kei Hiruma[2], Akira Mine[1] ([1]Grad. Sch. Agr., Kyoto Univ., [2]Grad. Sch. Arts and Sci., Univ. Tokyo)

1P176 Elucidating the molecular basis of Strigolactones and Karrikins-induced signals in plant growth promotion by the beneficial root endophytic fungus *Colletotrichum tofieldiae*
Momoko Takagi, Kei Hiruma (Grad. Sch. Arts and Sci., Univ. Tokyo)

1P177 Towards establishing a forward genetics approach to uncover genetic determinants of mutualism in plant associated fungi
Takuya Wada, Hiromi Haba, Kei Hiruma (Grad. Sch. Art. Sci., Univ. Tokyo)

1P178 Analysis of organelle dynamics in *Lotus japonicus* during the symbiotic infection process
Kazusato Oikawa[1], Sachiko Tanaka[1], Shoji Mano[2], Takashi Soyano[1], Masayoshi Kawaguchi[1] ([1]Divi. Symb. Sys., NIBB, [2]Labo. Orga. Reg., NIBB)

1P179 Contraction of NLR immune receptors during parasitic plant evolution
Takaya Tominaga, Satoko Yoshida (Grad. Sch. Sci. and Tech., NAIST)

■ Genome function/gene regulation

1P180 Functional Analysis of B4-RAF kinases in the moss *Physcomitrium patens*
Maho Mizuno, Izumi Yotsui, Teruaki Taji, Yoichi Sakata (Dept. of Biosci., Tokyo Univ. of Agri.)

1P181 Effect of boron conditions on chromatin structures in Arabidopsis cultured cells
Rina Hidaka[1], Shigeru Hanamata[1], Yuduki Nakamura[2], Shimpei Uraguchi[2], Masako Kiyono[2], Takuya Sakamoto[1] ([1]Fac. Sci. Sci., Kanagawa Univ., [2]Dep. Public Health., Sch. Pharm., Kitasato Univ.)

1P182 Validation of a live imaging tool for histone acetylation in *Arabidopsis thaliana*
Koki Ibayashi[1], Takuya Sakamoto[1], Shigeru Hanamata[1], Mio Shibuta K.[2], Yuko Sato[3], Hiroshi Kimura[4], Sachihiro Matsunaga[5] ([1]Fac. Sci., Kanagawa Univ., [2]Fac. Sci., Yamagata Univ., [3]Med. Inst. Bioreg., Kyushu Univ., [4]Cell Biol. Center, Instit. Innov. Res., Science Tokyo, [5]Grad. Sch. Sci., Univ. Tokyo)

1P183 Activation of the *FERRITIN2* gene in rice endosperm by an adjacent 35S enhancer
Ting-Iun Nieh, Chih-Yun Chen, Shu-Heng Chang, Wilhelm Gruissem (National Chung Hsing University, Taiwan)

1P184 Comprehensive analysis of genes whose expression is under the control of PFP
Yuri Yokoyama[1], Yurina Sugimoto[2], Shin-ichiro Kidou[1,2] ([1]Research Center for Biological Diversity, Nagoya City Univ., [2]Dept. Biol. & Integr. Sci., Nagoya City Univ.)

1P185 The analysis of binding affinity of zooxanthella *Breviolum minutum* CSP to double-stranded DNA
Kota Higashi[1], Rei Tanaka[2], Shizue Yoshihara[1,2] ([1]Dept. Sci., Osaka Metro. Univ., [2]Grad. Sch. Sci., Osaka Metro. Univ.)

1P186 Identification of mRNA Cleavage Sites by the Arabidopsis ER Membrane-localized Stress Sensor Ire1
Honoka Matsumoto, Hitomi Ueda, Nozomu Koizumi, Yuji Iwata (Osaka Metropolitan University)

1P187 Suppression of *NIP5;1* mRNA accumulation under excess boron condition is mediated through an AUGUAA independent mechanism
Mayuki Tanaka[1], Naoyuki Sotta[1], Toru Fujiwara[2] ([1]Gra.d Sch. Agri., Osaka Metropolitan Univ., [2]Grad. Sch. of Agri., Univ. Tokyo)

1P188 Deadenylases in the AtCCR4-NOT Complex: Key Regulators of Arabidopsis Development

Yukako Chiba[1], Haruka Aoyama[1], Yuki Horiuchi[1], Kosuke Kawai[1], Sota Kurachi[1], Kenta Yoshihira[1], Yoshiki Ohmuro[1], Toshihiro Arae[2], Kazuki Motomura[3], Misato Ohtani[2] ([1]Grad. Sch. Life Sci., Hokkaido Univ., [2]Grad. Sch. Front.Sci., Univ. Tokyo, [3]Res. Org. Sci. and Tech., Ritsumeikan Univ.)

1P189 A prokaryotic expression system for plant protein farnesylation demonstrates that *Arabidopsis* AtJ3, when produced and farnesylated in *E. coli*, retains its ability to protect proteins from heat-induced inactivation

Pei-Hua Chang, Jia-Rong Wu, Rida Zohra, Ngoc Kieu Thi Duong, Ching-Hui Yeh, Chung-An Lu, Shaw-Jye Wu (Department of Life Sciences, NCU)

1P190 P Comparative transcriptome analysis of somatic mutant lines to elucidate the mechanism of the fruit shape determination in persimmon

Ayano Horiuchi[1,2], Ryusuke Matsuzaki[3], Noriyuki Onoue[3], Mai Minamikawa[4], Yasutaka Kubo[2], Koichiro Ushijima[2], Takashi Akagi[2] ([1]Grad. Sch. Hort., Chiba Univ., [2]Grad. Sch. Environ. Life Nat. Sci., Okayama Univ., [3]Inst. Fruit Tree and Tea Sci., NARO, [4]IAAR, Chiba Univ.)

1P191 P A time-lapse transcriptome analysis uncovering transitions of the molecular networks in kiwifruit ripening process

Eriko Kuwada[1], Shotaro Higashiyama[1], Tomoka Matsuda[1], Koichiro Ushijima[1], Takashi Akagi[1,2] ([1]Grad Sch Environ, Life, Nat. Sci. & Tech., Okayama University, [2]Nihon BioData Co.Ltd.)

1P192 P Generation of efficient regeneration system for resource crops by transcriptional activation using CRISPR-dCas9

Jo Nishimura[1], Jun Sakaguchi[1], Miki Takehara[1], Satoshi Kidokoro[1], Keishi Osakabe[2], Yuriko Osakabe[1] ([1]Sch. of Life Sci. & Tech., Science Tokyo., [2]Grad. Sch. of Tech., Ind. & Soc. Sci., Tokushima Univ.)

1P193 P Functional analysis of RNA exosome in red light response of *Arabidopsis*

Yoshiro Murakami[1], Tomokazu Ushijima[2], Takamasa Suzuki[3], Mitsuhiko Tomita[4], Noriyuki Suetsugu[5], Tomoo Shimada[1], Yoshito Oka[1], Tomonao Matsushita[1] ([1]Grad. Sch. Sci., Univ. Kyoto, [2]Grad. Sch. Ag., Univ. Setsunan, [3]Grad. Sch. BioSci., Univ. Chubu, [4]Grad. Sch. Ag., Univ. Kyushu, [5]Grad. Sch. Sci., Univ. Tokyo)

■ Systems biology

1P194 P Integrated metabolomics and transcriptomics analysis of MBW-transcriptional complex in *Marchantia polymorpha*

Akari Harada[1], Haruka Arai[2], Kazuya Yanagiura[2], Kengo Morohashi[1,2] ([1]Grad. Sci. Tech., CIST, [2]Grad. Sci. Tech., TUS)

1P195 P Simulation study of factors affecting the accuracy of transcriptome models under complex environmentsSimulation study of factors affecting the accuracy of transcriptome models under complex environments

Dan Eiju[1,4], Yoichi Hashida[2], Taro Maeda[1], Atsushi Nagano[3,4] ([1]Grad. Media and Governance., Univ keio, [2]Fac. Agri., Univ. Takasaki Health and Welfare, [3]Fac. Agri., Univ. Ryukoku, [4]Inst. Advanced Biosciences., Univ keio)

1P196 Exploration of transcriptional regulatory mechanism of the DREAM complex underlying cell-cycle progression from ChIP-Seq and RNA-Seq datasets

Hidekazu Iwakawa[1], Yuji Nomoto[1], Takamasa Suzuki[2], Masaki Ito[1] ([1]Sch. Biol. Sci. Technol., Kanazawa Univ., [2]Col. Biosci. Biotech., Chubu Univ.)

1P197 Meta-analysis of Domestication-induced Gene Expression Changes Using Public Database of Wild and Cultivated Species

Makoto Yumiya, Hidemasa Bono (Grad. Sch. Int. Sci., Hiroshima Univ.)

1P198 Establishing an Experimental and Analytical Method for Modeling the 3D Movement Dynamics of Maranta Leaves

Shotaro Sakita[1], Jion Shimoyama[1], Itsuki Kunita[2], Masashi Toda[3,4], Takumi Higaki[3,5], Masahiro Takahara[5], Miyuki Nakata[3,5] ([1]Kumamoto Univ, Sci, [2]Ryukyu Univ, FOE, [3]Kumamoto Univ, IRCABE, [4]Kumamoto Univ, REISI, [5]Kumamoto Univ, FAST)

1P199 *Nicotianabenthamiana* genome and transcriptome database construction

Ken-ichi Kurotani[1], Hideki Hirakawa[2], Kenta Shirasawa[3], Koya Tagiri[4], Moe Mori[4], Ramadan Abedelaziz[5], Yasunori Ichihashi[6], Takamasa Suzuki[7], Yasuhiro Tanizawa[8], Kenji Miura[5], Yasukazu Nakamura[8], Sachiko Isobe[9], Michitaka Notaguchi[1,10] ([1]Biosci. Biotech. Center, Nagoya Univ., [2]Grad. Sch. Bioresource and Bioenv Sci., Kyushu Univ., [3]Dept. Front. Res. Dev., Kazusa DNA Res. Inst., [4]Grad. Sch. Bioagri., Nagoya Univ., [5]Grad. Sch. Life Earth Sci., Univ. Tsukuba, [6]BRC, RIKEN, [7]Col. Biosci. Biotech., Chubu Univ., [8]Genome Info., Natl. Inst. Genet., [9]Grad. Sch. Agri. Life Sci., Univ. Tokyo, [10]Grad. Sch. Sci., Kyoto Univ.)

■ New technology

1P200 P Trial to create high-sugar fruits harboring tomato by genome editing for *BPG4*, a chloroplast regulating factor in Brassinosteroid signaling
Shunshu Ri[1], Ryo Tachibana[1], Ayumi Yamagami[1], Magdalena Rossi[2], Koichi Sugimoto[3], Hiroshi Ezura[3], Takeshi Nakano[1] ([1]Grad. Sch. Biostudies., Univ Kyoto, [2]Univ. Sao Paulo, [3]Grad. Sch. Bioindustrial Sci., Univ. Tsukuba)

1P201 P Production of Eustoma (*Eustoma grandiflorum*) Double-flowers without Affecting Fertility by Genome Editing of *EgAP2* Gene
Shiori Sakamoto[1], Yukiko Shimbo[2], Noriko Ohnuma[3], Hirotaka Adachi[3], Yuriko Ikeda[2], Tsubasa Yano[4], Maki Ohtsubo[2], Kimitoshi Sakaguchi[4], Takashi Kasai[4], Teruhiko Terakawa[4], Seiji Takeda[2], Norihiro Ohtsubo[2] ([1]Life Environ. Sci., Kyoto Pref. Univ., [2]Grad. Sch. Life Environ. Sci., Kyoto Pref. Univ, [3]Miyoshi & Co., Ltd., [4]Inplanta Innovations Inc.)

1P202 P Attempts To Suppress *Agrobacterium* Overgrowth Using Antimicrobial Genes Derived From Bacteriophages
Haruka Suwazono[1,2], Mika Ikegaya[2], Shigeo S. Sugano[2] ([1]Dept. Appl. Biol. Sci., Fac. Sci. Tech., Tokyo Univ. Sci., [2]Bioproduction Research Institute, AIST)

1P203 Enhancement of gene editing efficiency using HAT-mediated epigenetic modification in plants
Takayuki Kondo[1,2], Hideki Narukawa[1], Kazuma Sakoda[3], Ryo Miyokawa[1], Takehito Kobayashi[1], Yu Sawai[1], Mayu Iida[1], Yuka Ishioka[1], Kaoru Sanda[1], Yuki Watanabe[1], Satomi Negoro[1], Huiyuan Jia[1], Masaki Niwa[1], Atsushi Sakurai[3], Sousuke Imamura[3] ([1]GRA&GREEN Inc., [2]Grad. Sch. Bioagri. Sci., Nagoya Univ., [3]Space Environment and Energy Laboratories, NTT Corporation)

1P204 Genome editing in *Arabidopsis* using engineered compact AsCas12f with heat treatment
Yui Michigami[1], Hiroaki Saika[2], Seiichi Toki[2,3,4,5], Masaki Endo[2] ([1]Grad. Sch. Agr., Ryukoku Univ., [2]Inst. Agrobiol. Sci., NARO, [3]Grad. Sch. Nanobio., Yokohama City Univ., [4]Kihara Inst. Biol. Res., Yokohama City Univ., [5]Fac. Agr., Ryukoku Univ.)

1P205 Enhanced Frequency of Precision Genome Editing in Plants by Suppression of the DNA Mismatch Repair System
Rina Kojima[1], Yuya Hiura[2], Hiroaki Saika[3], Ayako Yokoi[3], Tomasz Wiktor Oleszkiewicz[2], Seiichi Toki[1,2,3,4,5] ([1]Grad. Sch. Agr., Ryukoku Univ., [2]Fac. of Agr., Ryukoku Univ., [3]Inst. Agrobiol. Sci., NARO, [4]Grad. Sch. Nanobio., Yokohama City Univ., [5]Kihara Inst. Biol. Res., Yokohama City Univ.)

1P206 High-efficient genome editing of tomato by an AalCas9 containing multiple introns
Reika Hasegawa[1], Hiroshi Yamamoto[2], Akiyoshi Nakamura[2], Shigeo S. Sugano[2], Tsubasa Yano[1], Yoichi Makino[3], Seiichiro Ito[3], Nobutaka Mitsuda[2], Teruhiko Terakawa[1] ([1]Inplanta Innovations Inc., [2]AIST · BPRI, [3]TOPPAN Inc.)

1P207 Improving efficiency of the *Agrobacterium*-mediated transformation by an anti-tumor compound
Yutaro Shimizu[1], Kotaro Nishiyama[1], Jekson Robertlee[1], Shigeo S. Sugano[2], Shinya Hagihara[1] ([1]Center for Sustainable Resource Science, RIKEN, [2]Bioproduction Research Institute, AIST)

1P208 Block-face Serial Fluorescence Microscopy for Plant Tissue Imaging at a Cellular Level
Dongbo Shi[1], Atsushi Kasai[2] ([1]RIKEN CSRS, [2]Nagoya Uni. RIEM)

1P209 Analysis of leaf position-dependent phosphorus allocation in a deciduous woody plant *Populus alba* L.
Aoi Hirata[1], Yuko Kurita[1], Kimitsune Ishizaki[2], Natsuko I. Kobayashi[1], Keitaro Tanoi[1,3] ([1]Grad. Sch. of Agr. and Life Sci., UTokyo, [2]Grad. Sch. of Sci., Univ. Kobe, [3]F-REI)

1P210 Analysis of root system architecture under heterogeneous nutrient conditions using hydrogel-based transparent soil system
Naoyuki Sotta[1,2], Wenhao Li[2], Toru Fujiwara[2] ([1]Grad. Sch. Agr., Osaka Metropolitan Univ., [2]Grad. Sch. Agr. Life Sci., Univ. Tokyo)

1P211 Generation and analysis of histone-miniSOG oxerexpressors in *Marchantia polymorpha*
Hinata Takano[1], Go Takahashi[1], Saori Yamaya[1], Tomohiro Kiyosue[1], Yuki Hirakawa[2] ([1]Grad. Sch. Sci., Gakushuin Univ., [2]Grad. Sch. Integr. Sci. Life, Hiroshima Univ.)

1P212 Development of artificial carbon fixation technology with a plant derived enzyme
Shuhei Kusano, Yuma Shisaka, Shinya Hagihara (RIKEN · CSRS)

■ Photosynthesis

2P001 Adaptation of energy transfer in cyanobacterium *Synechococcus leopoliensis* to light qualities
Hidetaka Kurachi[1], Nozomi Sakai[2], Shimpei Aikawa[3], Seiji Akimoto[1,2] ([1]Fac. Sci., Kobe Univ., [2]Grad. Sch. Sci., Kobe Univ., [3]JIRCAS)

2P002 Correlation of Energy Transfer Distance and Exciton Coherence Length in Artificial Photosynthetic Light-Harvesting Antenna
Yuki Kamiie[1,2], Shogo Matsubara[3], Toru Kondo[2,4] ([1]Dept. of Life Sci. and Tech., Institute of Science Tokyo, [2]National Institute for Basic Biology, [3]Grad. Sch. Eng, Nagoya Tech., [4]Exploratory Research Center on Life and Living Systems)

2P003 Green underwater world: the coevolution of light-harvesting system of cyanobacteria and underwater light environment

Kumiko Ito[1,2], Taro Matsuo[1,2], Yosuke Hoshino[2,3], Yuri I. Fujii[2,4], Satomi Kanno[2], Kazuhiro J. Fujimoto[1,5], Rio Tsuji[1], Shinnosuke Takeda[4], Chieko Onami[4], Chihiro Arai[1], Yoko Yoshiyama[6], Yuki Kato[1], Takeshi Yanai[1,5], Yuichi Fujita[7], Shinji Masuda[8,9], Hideaki Miyashita[4] ([1]Grad. Sch. Sci., Nagoya Univ., [2]IAR, Nagoya Univ., [3]NUSR, Nagoya Univ., [4]Univ. Kyoto, Grad. Sch. Human Environmenta, [5]ITbM, Nagouya Univ., [6]Fac. of Agr., Ryukoku Univ., [7]Bioagr., Nagoya Univ., [8]Dept. Life Sci. & Tech., Science Tokyo, [9]ELSI, Science Tokyo)

2P004 Chlorophyll *a* accumulation in a purple bacterium requires genes for the type-I reaction center and galactolipid synthesis

Yusuke Tsukatani[1], Hitoshi Tamiaki[2], Shinji Masuda[3] ([1]Biogeochemistry Research Center, JAMSTEC, [2]Graduate School of Life Sciences, Ritsumeikan University, [3]Department of Life Science and Technology, Institute of Science Tokyo)

2P005 Structural analysis of PSII-ACPII from a cryptophyte alga *Rhodomonas sp.* (NIES-2332)

Nozomi Yonehara[1], Wenyue Zhang[1], Koji Kato[2], Pi-Cheng Tsai[2], Fusamichi Akita[2], Jian-Ren Shen[2] ([1]Grad. Sch. Env. Lif. Nat. Sci. Tec., Univ. Okayama, [2]Res. Ins. Int. Sci., Univ. Okayama)

2P006 Analyses of the homolog composition of Lhcb1 and functions of photosystems in transgenic rice harboring barley HvLhcb1.12

Ayane Konno, Shunpei Ueyama, Yusuke Shikanai, Akihiro Saito, Kyoko Higuchi (Grad. Sch. Appl. Biosci., Tokyo Univ. Agri.)

2P007 Fluorescence spectral analysis of photosystem II (PSII) under repair from photoinhibition by exhaustive single molecule spectroscopy

Kyosuke Watanabe, Shen Ye, Yutaka Shibata (Graduate School of Science, Tohoku Univ.)

2P008 Phenotypic analyses of the loss-of-function mutants of *f*- and *m*-type thioredoxin in *Marchantia polymorpha*

Taichi Sugiyama[1], Yuuki Sakai[2], Masaru Kono[1,3], Kimitsune Ishizaki[2], Keisuke Yoshida[1] ([1]CLS, Sci. Tokyo, [2]Grad. Sch. Sci. Kobe Univ., [3]ABC, NINS)

2P009 Investigation of redox regulation of photosynthetic electron transfer via PIFI proteins

Kenta Miura[1], Minami Murai[2], Ko Imaizumi[2], Keisuke Yoshida[3,4], Toru Hisabori[3,5], Kaori Kohzuma[1,2], Kentaro Ifuku[1,2] ([1]Fac. Agric., Kyoto Univ., [2]Grad. Sch. Agric., Kyoto Univ., [3]CLS, Tokyo Tech., [4]CLS, Science Tokyo, [5]SOKENDAI)

2P010 The ammonium recycling pathway in photorespiration allows for subcellular translocation of glutamine synthetase in Arabidopsis

Shinya Wada[1], Hayato Sato[2], Keiki Ishiyama[1], Takanori Maruta[3], Hiroyuki Ishida[1], Chikahiro Miyake[2] ([1]Grad. Sch. Agri., Tohoku Univ., [2]Grad. Sch. Agri., Kobe Univ., [3]Grad. Sch. Nat. Sci. Tech., Shimane Univ.)

2P011 Environmental responses in leaf photosynthetic and hydraulic characteristics of C3 and C4 Flaveria

Yusuke Mizokami, Riku Ukai, Rino Tsuchigauchi, Yuki Shiraishi, Ko Noguchi (Univ. Tokyo Pharm. Life Sci.)

2P012 Sink-source transition mechanism in soybean leaves elucidated by using $^{14}CO_2$ for fixation and RNA-seq analysis

Ai Soma[1], Ryohei Sugita[2], Yuko Kurita[1], Natsuko I. Kobayashi[1], Keitaro Tanoi[1,3], Tomoko M. Nakanishi[1] ([1]Graduate School of Agricultural and Life Sciences, The University of Tokyo, [2]Radioisotope Research Center, Nagoya University, [3]Fukushima Institute for Research, Education and Innovation)

2P013 Co-expression and chloroplast localization of multiple proteins in plant cells using ribosome skipping

Yui Shimizu[1], Haruki Yamamoto[1], Toshiaki Kozuka[2], Takafumi Yamashino[1], Masaki Ito[2], Yuichi Fujita[1] ([1]Grad. Sch. Bioagri. Sci., Nagoya Univ., [2]Sch. Biol. Sci. & Tech., Kanazawa Univ.)

2P014 Analysis on a partner switching system involved in switching between photoautotroph and dark heterotroph in the cyanobacterium *Leptolyngbya boryana*

Takafumi Ueno, Mari Banba, Haruki Yamamoto, Yuichi Fujita (Grad. Sch. Bioagri. Sci., Nagoya Univ.)

2P015 Analysis of transporter and associated factors involved in the efflux and metabolism of sulfur globules in purple photosynthetic bacteria

Miyu Ikushima[1], Nanako Kanno[2], Shigeru Kawai[3], Takeru Masuda[4], Christiane Dahl[5], Takayuki Shimizu[1] ([1]Faculty of Science, Nara Women's University, [2]Department of Chemistry, School of Science, Kwansei Gakuin University, [3]Department of Applied Chemistry and Life Science, [4]Graduate School of Arts and Sciences, The University of Tokyo, [5]Institut für Mikrobiologie & Biotechnologie, Rheinische Friedrich-Wilhelms-Universität Bonn)

2P016 Evaluations for three types of C8-vinyl reductase found in bacteriochlorophyll biosynthetic pathways of anoxygenic photosynthetic bacteria

Jiro Harada[1], Ken Yamamoto[1], Hitoshi Tamiaki[2] ([1]Dept. Med. Biochem., Kurume Univ. Sch. Med., [2]Grad. Sch. Life Sci., Ritsumeikan Univ.)

2P017 P Role of structural heterogeneity for light-harvesting process in chlorosome revealed by single-particle transient absorption spectroscopy

Shun Arai[1,2,3], Tomomi Inagaki[4], Jiro Harada[5], Chihiro Azai[6], Toru Kondo[1,2] ([1]Div. Photophys. Biol., NIBB, [2]Interconnective Photobiology Group, ExCELLS, [3]Dept. of Life Sci. & Tech., Science Tokyo, [4]Grad. Sch. Life Sci., Ritsumeikan Univ., [5]Dept. of Med. Biochem., Kurume Univ. Sch. of Med., [6]Fac. of Sci. & Eng., Chuo Univ.)

2P018 P Intercellular transport of protochlorophyllide via extracellular vesicles of the cyanobacterium *Leptolyngbya boryana*
Kentaro Usui, Haruki Yamamoto, Yuichi Fujita (Grad. Sch. Bioagri. Sci., Nagoya Univ.)

2P019 P Cryo-EM structure of photosystem II D1-V185T mutant from *Thermosynechococcus vestitus*
Haowei Jiang[1], Yoshiki Nakajima[1], Fusamichi Akita[1], Hongjie Li[1], Koji Kato[1], Miwa Sugiura[2], Jian-Ren Shen[1] ([1]Research Institute for Interdisciplinary Science, Okayama University, [2]Proteo-Science Research Center, Ehime University)

2P020 P Comparison of electrochromism on photosystem II bound to different chlorophylls
Yuki Ito[1], Kosuke Tada[1], Masaya Kimura[1], Naohiro Shimamoto[1], Yuki Takegawa[1], Natsuko Inoue-Kashino[2], Kyoko Shinzawa-Itoh[2], Koji Yonekura[3,4], Keisuke Kawakami[3], Yasuhiro Kashino[2], Miwa Sugiura[1,5] ([1]Graduate School of Science and Engineering, Ehime University, [2]Graduate School of Science, University of Hyogo, [3]Biostructural Mechanism Laboratory, RIKEN SPring-8 Center, [4]Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, [5]Proteo-Science Research Center, Ehime University)

2P021 P Two amino acid residues in the Rieske ISP subunit of the cytochrome b_6f complex controlling the pH sensitivity of photosynthetic control
Ryouhei Kobayashi, Toshiharu Shikanai (Grad. Sch. Sci., Kyoto Univ.)

2P022 P *YELLOW* gene encodes a GOLDEN2-LIKE transcription factor in Japanese morning glory *Ipomoea nil*
Hibika Umehara[1,2], Kyoko Takagi[1,3,4], Shigeru Iida[1,2], Atsushi Hoshino[1,2] ([1]Natl. Inst. Basic Biol., [2]SOKENDAI, [3]Grad. Sch. Agric., Hokkaido Univ., [4]Inst.Crop Sci., NARO)

2P023 P Chloroplastic HSP70 affects dynamic behavior of VIPP1 by interacting with VIPP1 C-terminal tail
Di Li[1], Shin-Ichiro Ozawa[1], Michael Hippler[1,2], Wataru Sakamoto[1] ([1]Institute of Plant Science and Resources, Okayama University, [2]University of Münster)

■ Primary metabolism

2P024 P Redox Regulation of Cytosolic Fructose-1,6-bisphosphate Aldolase from *Arabidopsis thaliana*
Kosuke Fujii[1], Toru Hisabori[2], Keisuke Yoshida[1] ([1]Lab Chem Life Sci, Science Tokyo, [2]SOKENDAI)

2P025 P Functional Analysis of Sphingolipid Fatty Acid 2-Hydroxylases in *Marchantia polymorpha*
Misa Inoue[1], Chika Tsuboyama[1], Yutaka Kodama[2], Toshiki Ishikawa[3], Yoichiro Fukao[1], Minoru Nagano[1] ([1]Ritsumeikan Univ., [2]Utsunomiya Univ., [3]Saitama Univ.)

2P026 P Improved production of sustainable aviation fuel (SAF) in the cyanobacterium using highly active alkane biosynthesis enzymes
Risako Ishida[1], Hiroki Kaneko[1], Yoichi Nakahira[2] ([1]Grad. School Agri., Ibaraki Univ., [2]Coll. Agri., Ibaraki Univ.)

2P027 Characterisation of excess sugar (manpuku) response in the leaves of *suc2* mutant
Satoru Naganawa Kinoshita[1], Till Ischebeck[1], Toshinori Kinoshita[2,3], Iris Finkemeier[1] ([1]IBBP, Univ. Münster, DE, [2]Grad. Sch. Science, Nagoya Univ., [3]ITbM, Nagoya Univ.)

2P028 Physiological Roles and Transcriptional Regulation of the *OsHHO3* Transcriptional Repressor Gene Under Fluctuating Nitrogen Conditions in Rice
Yuqiu Jiang, Mailun Yang, Yuying Wu, Yasuhito Sakuraba, Shuichi Yanagisawa (AgTECH., Grad. Sch. Agri. Life Sci., Univ. of Tokyo)

2P029 Nitrate inhibits growth and photosynthesis of *Drosera rotundifolia*
Shinichiro Ito[1], Juse Okamoto[1], Nobuyuki Takatani[2], Tatsuo Omata[2], Makiko Aichi[2] ([1]Grad. Sch. Biosci. Biotech., Chubu Univ., [2]Col. Biosci. Biotech., Univ. Chubu)

2P030 Starch dynamics in degenerating root of *Cuscuta* seedling
Mariko Asaoka[1], Hiromitsu Tabeta[2], Momoko Tobinai[1], Toranosuke Nakajima[1], Toshiya Yokoyama[1], Masami Hirai[2], Kazuhiko Nishitani[1] ([1]Kanagawa Uni. Faculty of Science, [2]RIKEN CSRS)

2P031 Analysis of oil accumulation in *Nannochloropsis oceanica* NIES-2145 in response to light and dark
Ryosuke Akimoto[1], Nozomu Sakurai[2], Yoshinori Hasegawa[2], Koichi Hori[1], Hiroyuki Ohta[1,2,3], Mie Shimojima[1] ([1]Sch. Life Sci. Tech., Inst. Sci. Tokyo, [2]Kazusa DNA Res. Inst., [3]Phytolipid Technologies Co., Ltd.)

2P032 Pleiotropic Effects of a Phosphatidylglycerol-Less Mutation in the Cyanobacterium *Synechocystis* sp. PCC 6803
Rinsei Negishi, Megumi Haga, Tatsunori Hiyoshi, Norihiro Sato (Tokyo University of Pharmacy and Life Sciences)

2P033 Changes In Phytic Acid Content And Phytase Activity During Rice Seed Development
Yusei Yamauchi, Rioko Shibusawa, Tatsuki Akabane, Naoki Hirotsu (Grad. Sch. Life Sci., Univ. Toyo)

■ Specialized (secondary) metabolism

2P034 Identification and functional characterization of terpene synthases in medicinal plant *Scoparia dulcis*

Yuka Uchida[1], Kazuya Ishita[1], Ryo Yamamoto[1], Yoshimi Yamamura[2], Jung-Bum Lee[2] ([1]Sch. Pharm., Univ. Toyama, [2]Fac. Pharm., Univ. Toyama)

2P035 Study on Asarone Biosynthesis in *Acorus calamus* L.

Nagomi Kashimoto[1], Oyundari Ganbat[1], Takumi Ogawa[1], Takao Koeduka[2], Bolortuya Ulziibat[3], Atsushi Okazawa[1] ([1]Grad. Sch. Agric., Osaka Met. Univ., [2]Grad. Sch. Sci. Tech., Yamaguchi Univ., [3]Dept. R&D Policy, Mongol. Acad. Sci.)

2P036 Study on physiological function of aspartate aminotransferase (AAT) in tomato fruit

Yinggemei Huang[1], Chiaki Matsukura[2] ([1]University of Tsukuba. Degree Programs in Life and Earth Sciences, [2]Institute of Life and Environmental Sciences, T-PIRC, University of Tsukuba, Japan)

2P037 P Effect of starch-deficiency on pectin and cutin metabolism in tomato fruit

Mingeng Li[1], Haruka Suzuki[2], Xiaoran Yu[2], Hiroaki Iwai[2], Chiaki Matsukura[3] ([1]Degree Programs in Life and Earth Sciences, University of Tsukuba, [2]Graduate School of Life and Environmental Sciences, University of Tsukuba, Japan, [3]Institute of Life and Environmental Sciences, T-PIRC, University of Tsukuba)

2P038 P Selective Switching of *CqCYP76AD1* Activities in Producing Betalains by Critical Amino Acids

Wan-Chu Fu, Shunnitsu You (Institute of Biochemistry, National Chung Hsing University)

2P039 P Detection of the accumulating and released molecules of the characteristic response of cats in silver vine by ambient ionization mass spectrometry

Shintaro Aritaki[1], Toshio Nishikawa[1], Masao Miyazaki[2], Reiko Uenoyama[2], Kanako Sekimoto[3], Naoya Ogawa[4], Kentaro Takahama[4], Katsuhiro Shiratake[1] ([1]Grad. Sch. Bioagri Sci., Nagoya Univ., [2]United Grad. Sch. Agric. Sci., Iwate Univ., [3]Grad. Sch. Nanobiosci., Yokohama City Univ., [4]Tech. Cent., Nagoya Univ.)

■ Biomembrane/Ion and solute transport

2P040 P Functional Analysis of Rice OsHKT1;1-V2 Variant

Shahin Imran[1], Shuntaro Ono[1], Tomoaki Horie[2], Maki Katsuhara[1] ([1]Institute of Plant Science and Resources, Okayama University, 2-20-1, Chuo, Kurashiki 710-0046, Japan, [2]Division of Applied Biology, Faculty of the Textile Science and Technology, Shinshu University, 3-15-1, Tokida, Ueda 386-8567, Japan)

2P041 P Identification and Characterization of Ion Channel Aquaporins of Tomato SlPIP2s

Newton Chandra Paul, Shahin Imran, Izumi C. Mori, Maki Katsuhara (Institute of Plant Science and Resources, Okayama University, 2-20-1, Chuo, Kurashiki 710-0046)

2P042 P Identification of Novel Factors Involved in Potassium Deficiency Responses Using Natural Variation in Potassium Deficiency Responses among Arabidopsis Accessions

Nana Sugimura[1], Kosuke Usuda[1], Namie Ohtsuki[1], Keina Monda[2], Koh Iba[2], Yasuhito Sakuraba[1], Shuichi Yanagisawa[1] ([1]AgTECH., Grad. Sch. Agri. Life Sci., Univ. of Tokyo, [2]Dept. Biol., Fac. Sci., Kyushu Univ.)

2P043 Generation and phenotypic characterization of Arabidopsis mutants lacking four paralogs of the heme-specific ABC transporter functioned in plastid

Mayo Ota[1], Yuuma Yoshioka[2], Kohji Nishimura[3], Shinji Masuda[4], Takaaki Miyaji[2,5], Tatsuru Masuda[6], Takayuki Shimizu[1] ([1]Faculty of Science, Nara Women's University, [2]Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University, [3]Faculty of Life and Environmental Sciences, Shimane University, [4]Department of Life Science and Technology, Institute of Science Tokyo, [5]Advanced Science Research Center, [6]Graduate School of Arts and Sciences, The University of Tokyo)

2P044 Analysis of the evolutionary process of membrane transport proteins

Tatsuya Hiei, Yoichi Nakanishi, Sumie Ishiguro, Shin-ichi Maeda (Grad. Sch. Bioagr., Univ. Nagoya)

2P045 Structure-function relation of barley tonoplast intrinsic proteins, HvTIPs, regulating water transport in seeds

Shigeko Utsugi, Maki Katsuhara (IPSR, Okayama Univ.)

2P046 Functional Characterization of a Splicing Variant from the *MpHKT1* Gene Encoding a Na^+-permeable Channel in the Liverwort *Marchantia polymorpha*

Takumi Koen[1], Chihiro Takegami[2], Kimitsune Ishizaki[3], Shahin Imran[4], Maki Katsuhara[4], Takayuki Kohchi[5], Natsuko I. Kobayashi[6], Keitaro Tanoi[6], Tomoaki Horie[1] ([1]Grad. Sch., Div. Appl. Biol., Shinshu Univ, [2]Fac. Tex. Sci. Tech., Shinshu Univ, [3]Grad. Sch., Sci., Kobe Univ, [4]IPSR, Okayama Univ, [5]Grad. Sch., Biostudies., Kyoto Univ, [6]Grad. Sch., Agric. Life Sci., Univ. Tokyo.)

2P047 Search for signals that are travelling via sieve tubes in oilseed rape plants using transcriptome analysis and other techniques
Shin-ichi Nakamura, Mayu Tashiro, Akihisa Shinozawa, Kanna Sato-Izawa (Dept. Bioscience, Tokyo Univ. Agric.)

■ Organelles/Cytoskeleton

2P048 Which fluorescent protein is most appropriate for live imaging of chloroplast nucleoids in *Chlamydomonas reinhardtii*?
Kyoko Takagi, Yui Mizuki, Minori Ebihara, Ayano Ikeda, Yusuke Kobayashi (Ibaraki Univ. Sci.)

2P049 Transitions of DPD1 nuclease during evolution of plants
Tsuneaki Takami, Wataru Sakamoto (Inst. Plant Sci. Res., Okayama Univ.)

2P050 Transcriptome analysis of *cref3* mutant defective in *PSBE* RNA editing in *Arabidopsis thaliana*
Mitsuhiro Matsuo[1], Hikaru Fukuoka[1], Makoto Yoshitaka[1], Soichirou Satoh[2], Junichi Obokata[1] ([1]Fac. Agric, Setsunan Univ., [2]Grad. Sch. Life& Envi Sci., Kyoto Prefect. Univ.)

2P051 A pentatricopeptide protein co-expressed gene, *PCIS1*, is involved in splicing of three mitochondrial nad transcripts in seed plants
Brody Frink[1], Matthias Burger[4], Maya Yarkoni[2], Sofi Shevtsov-Tal[2], Hagit Zer[2], Shohei Yamaoka[3], Oren Ostersetzer-Biran[2], Mizuki Takenaka[1] ([1]Grad. Sch. Sci., Kyoto Univ., [2]The Alexander Silberman Institute of Life Sciences, The Hebrew University of Jerusalem, [3]Grad. Sch. Biostudies, Kyoto University, [4]Molekulare Botanik, Universität Ulm)

2P052 Investigation of multiple transcription initiation sites of *atp9* gene in *Arabidopsisthaliana*
Jingxiu Ji[1], Chang Zhou[2], Sachi Takenaka[1], Shin-ichi Arimura[2], Mizuki Takenaka[1] ([1]Graduate School of Science, Kyoto University, [2]Grad. School of Agriculture. & Life Sci, The Univ of Tokyo)

2P053 The adjustment mechanism for hypergravity-induced alteration of the microtubule structures position and axis
Mizuki Yamada[1], Ichirou Karahara[2], Daisuke Tamaoki[2] ([1]Grad. Sci. Eng., Univ. Toyama, [2]Fac. Sci., Acad. Assemb., Univ. Toyama)

2P054 Blue and Red light-dependent regulation of dynamics and orientation of cortical microtubules
Yui Ueda[1], Juri Kikuchi[1], Shotaro Hayashi[1], Kota Higashi[2], Takahiro Hamada[3], Shizue Yoshihara[1,2] ([1]Col. Life Env. Adv. Sci., Osaka Pref. Univ., [2]Dept. Sci., Osaka Metro. Univ., [3]Dept. Life Sci., Okayama Univ. Sci.)

2P055 Chloroplast localized mechanosensitive channel *MSL2* is involved in the osmoregulation of guard cell chloroplasts
Miho Yamahana, Atsushi Tougaki, Chikako Tanaka, Kanako Yamasaki, Yoko Ishizaki, Takashi Shiina (Setunan Univ.Faculty of Agriculutule)

2P056 P Anionic lipids PG and SQDG facilitate chloroplast formation from etioplasts
Akiko Yoshihara[1], Risa Uwatoko[2], Keiko Kobayashi[2], Noriko Nagata[2], Koichi Kobayashi[1] ([1]Grad. Sch. Sci., Osaka Metro. Univ., [2]Fac. Sci., Japan Women's Univ.)

2P057 Analysis of The Physiological Role of Heat-Induced Increase in Stromal Ca^{2+} Concentration in *Arabidopsis*
Yudai Takenaka, Honoka Takeuchi, Atsushi Togaki, Yoko Ishizaki, Takashi Shiina (Faculty of Agriculture, Setsunan University)

2P058 P A Novel Mechanism for the Consolidation of Chloroplast Gene Expression for the Construction of Pyrenoids, accelerator of Photosynthesis in Algae
Haruki Kanazawa[1,2], Mari Takusagawa[1], Daisuke Shimamura[3,4], Yoshimi Kinoshita[5], Tomoko Nishiyama[5], Ryutaro Tokutsu[6], Masayuki Onishi[7], Toshiharu Shikanai[1], Takashi Yamano[3,8], Yoshiki Nishimura[1,2] ([1]Lab of Plant Molecular Genetics, Grad. Sch. Sci., Kyoto Univ., [2]Grad. Sch. Sci. Eng., Waseda Univ., [3]Grad. Sch. Bio., Kyoto Univ., [4]RIKEN Center for Sustainable Resource Science (CSRS), [5]Department of Biophysics, Grad. Sch. Sci., Kyoto Univ., [6]Lab of Plant Molecular Physiology, Grad. Sch. Sci., Kyoto Univ., [7]Department of Biology, Duke Univ., [8]CeLiSIS, Kyoto Univ.)

2P059 P Mitochondrial morphology of mitochondrial fission mutants, *drp3* and *fis1* in Arabidopsis thaliana
Masaru Hashimoto[1], Yugo Ito[2], Issei Nakazato[2], Shin-ichi Arimura[2] ([1]Faculty of Agriculture, The University of Tokyo, [2]Graduate School of Agricultural and Life Sciences, The University of Tokyo)

2P060 P Analysis of the Role of Actin Filament in the Regulation of Chromatin Structure via the Nuclear Envelope
Tomoko Matsumoto, Noriko Inada (Osaka Metropolitan Univ., Grad. Schl. of Agri.)

2P061 P Elucidating the role of MPB2C in cortical microtubule nucleation
Yuto Yamazumi[1,2], Noriyoshi Yagi[2], Masayoshi Nakamura[2] ([1]Grad. Sch. Sci., Univ. Nagoya, [2]ITbM, Univ. Nagoya)

2P062 P Identification and functional analysis of novel lipid-droplet-localized lipases in *Arabidopsis thaliana* Leaves
Yuri Kurosawa[1], Haruhiko Jimbo[2], Yoshitaka Nishiyama[2], Takashi L. Shimada[1] ([1]Fac. Hort., Chiba Univ., [2]Saitama Univ.)

■ Cell wall

2P063 P Biochemical characterization of TPFLA1 required for pollen wall formation in Arabidopsis

Seiya Nishihara, Kaho Kumazawa, Akari Isogai, Hitoshi Mori, Sumie Ishiguro (Bio-Agric. Sci., Nagoya Univ.)

2P064 P Analysis of mutants accumulating less lignin on xylem secondary cell wall

Maho Kuroda[1], Risa Wakasugi[2], Shunji Shimadzu[3], Yuki Kondo[3] ([1]Sch. Sci., Osaka Univ., [2]Grad. Sch. Sci., Kobe Univ., [3]Grad. Sch. Sci., Osaka Univ.)

2P065 Functional analysis of reactive oxygen species during the tissue-reunion process of incised *Arabidopsis* stem

Yusuke Ohba[1,2], Li Jiuyi[2], Keita Matsuoka[1], Yuki Kondo[3], Kazuyuki Kuchitsu[4], Shinobu Satoh[5], Hiroaki Iwai[5], Masashi Asahina[1,6] ([1]Dept. Biosci, Teikyo Univ., [2]Gard. Sch. Sci. and Tech., Univ. Tsukuba, [3]Grad. Sch. Sci. Dept. Bio. Sci., Osaka Univ., [4]Dept. appl. Bio. Sci., Tokyo Univ. Sci., [5]Fac. Life and Env. Sci., Univ. Tsukuba, [6]Adv. Inst. anal. Ctr., Teikyo Univ.)

2P066 Analysis of Seed Coat Mucilage Formation in Arabidopsis *amuc2* Mutant

Naoya Kitamon[1], Taku Demura[1,2], Tadashi Kunieda[1,2] ([1]Div. of Biol. Sci., NAIST, [2]CDG, NAIST)

2P067 Deciphering the biological function of fatty acid omega-hydoroxylase in bryophytes

Kanade Tatsumi[1,2], Hugues Renault[2] ([1]RISH, Kyoto Univ., [2]CNRS, IBMP)

■ Development/Morphogenesis

2P068 Understanding the meristematic organization and identity of a*daxial-abaxial bipolar leaf* (multiple-forming) mutants and identification and expression analysis of the causal genes

Kaito Chiba[1], Miki Kikuchi[1], Kaho Yashima[1], Tadashi Yamazaki[1], Risa Okamoto[1], Mayo Watanabe[1], Hidehiko Sunohara[2], Nobuhiro Nagasawa[1], Namiko Satoh-Nagasawa[1] ([1]Fac. Biores. Sci., Akita Pref., [2]Fac. Sci., Univ. Kumamoto)

2P069 Characteristics of cell division induced by the RGF8 peptide

Mitsuki Noda[1], Sanae Kaneta[2], Tatsuo Kakimoto[2] ([1]Sch. Sci., Osaka Univ., [2]Grad. Sch. Sci., Osaka Univ.)

2P070 Regulation of lateral root formation by *MYBs* downstream of PFA/PFB

Keigo Yokouchi, Rin Yamamoto, Tatsuo Kakimoto (Grad. Sch. Sci., Osaka Univ.)

2P071 Functional analysis of a cytokinin initially inducible bHLH-type transcription factor expressed in the root stele in Arabidopsis thaliana

Shoya Takahashi, Yoshiyuki Sakurai, Kazuma Uesaka, Takafumi Yamashino (Grad. Sch. Bioagri. Sci., Nagoya Univ.)

2P072 Arabidopsis transcription factor NTL9 suppresses vascular cambium differentiation during secondary vascular development in inflorescence stems

Hiroki Sugimoto, Tomoko Tanaka, Nobuhiko Muramoto, Ritsuko Kitagawa-Yogo, Norihiro Mitsukawa (TOYOTA CENTRAL R&D LABS., INC.)

2P073 AS2 and nucleolar protein RH10, involved in leaf development in *Arabidopsis thaliana,* affect the localization of 45S rDNA repeats to perinucleolar region

Rina Kawamoto[1], Sayuri Ando[1], Yasuhiro Kamei[2], Misako Saita[2], Yasunori Machida[3], Chiyoko Machida[1], Shoko Kojima[1] ([1]Grad.Sch.Biosci. and Biotech., Chubu Univ., [2]NIBB, [3]Grad.Sch.Sci., Nagoya Univ.)

2P074 Genetic analysis of transcription factors involved in mesophyll air space formation in Arabidopsis

Kazuma Nunogami[1], Miku Tashiro[2], Chihiro Kanzaki[2], Yuki Yoshida[3], Shinichiro Sawa[1,2,3] ([1]Dept. Sci., Kumamoto Univ., [2]GSST, Kumamoto Univ., [3]IRCAEB, Kumamoto Univ.)

2P075 Establishment of the Artificial Gall-inducing System Without Insect Parasitism in Veronica peregrina

Sawako Ueda, Seiji Takeda, Masa H. Sato, Tomoko Hirano (Grad. Sch. Life and Environment. Sci., Kyoto Pref. Univ.)

2P076 Cytological observations of early ectopic cell division during adventitious bud formation and somatic embryogenesis induced by modified transcription factors

Miho Ikeda[1,3], Takuya Ikoma[1], Ryo Nishijima[1], Nobutaka Mitsuda[2], Jun Nakayama[3], Tsubasa Yamagata[3] ([1]Biosci. Biotech., Fukui Prefectural Univ., [2]BPRI., AIST, [3]Grad. Sch. of Sci., Saitama Univ.)

2P077 Imaging analysis of zygote dynamics in the fern *Ceratopteris richardii*

Hidemasa Suzuki[1], Sjoerd Woudenberg[2], Naoki Minamino[3], Yoshikatsu Sato[4], Takumi Higaki[3], Dolf Weijers[2], Minako Ueda[1] ([1]Grad. Sch. Life Sci., Tohoku Univ., [2]Lab. Biochem., Wageningen Univ., [3]Grad. Sch. Sci. Tech., Kumamoto Univ., [4]Grad. Sch. Sci., Nagoya Univ.)

2P078 Causal gene identification of the air chamber-less mutant *zunberabo* in the liverwort *Marchantia polymorpha*
Ayana Sano[1], Airi Hayashi[2], Yuuki Sakai[3], Kimitsune Ishizaki[3], Yoh Sakuma[1], Hirotaka Kato[1] ([1]Grad. Sch. Sci. Eng., Ehime Univ., [2]Fac. Sci. Kobe Univ., [3]Grad. Sch. Sci., Kobe Univ.)

2P079 The Role of *PaHECs* Played In Gynostemium/Ovary Development of *Phalaenopsis aphrodite*
Yu-Chun Lin (Institute of Tropical Plant Sciences and Microbiology in National Cheng Kung University)

2P080 *Agrobacterium tumefacience*-Mediated *In Planta* Transformation of *Phtheirospermum japonicum*
Fumi Kawaguchi, Masayuki Isshiki (KIBR. Yokohama City Univ.)

2P081 Structural mechanics analysis of abscission layer inhibition and panicle shape related to the initial loss of seed shattering in rice domestication
Ryo Ishikawa, Naohiro Matsubara, Kazuya Inoue, Takashige Ishii (Grad. Sch. Agr. Sci., Kobe Univ.)

2P082 Analysis of the common functions of the sex-determining gene *BPCU* and its gametolog *BPCV* in the liverwort *Marchantia polymorpha*
Ryuichi Tamura[1], Aoi Takano[1], Yoshihiro Yoshitake[1,2], Yukiko Yasui[1], Takayuki Kohchi[1] ([1]Grad.Sch. Biostudies, Kyoto Univ, [2]CeLiSIS, Kyoto Univ)

2P083 P Development of an Efficient Transformation System for Ice Plant Utilizing Fast-TrACC Technology
Renge Kanda[1], Keita Ogusi[1], Yukako Arima[1], Yuri Kondo[1], Sakae Agarie[2] ([1]Graduate School of Bioresource and Bioenvironmental Sciences, Kyushu University, [2]Faculty of Agriculture, Kyushu University)

2P084 P Investigation of the mechanism of wound-induced adventitious shoot formation in *Drosera rotundifolia*
Yosuke Sasai[1,2], Shoji Segami[4,5], Noriko Takeda[2], Hatsune Morinaka[2], Akira Iwase[2,3], Kiminori Toyooka[2], Mitsuyasu Hasebe[4,5], Keiko Sugimoto[1,2] ([1]Univ. Tokyo, Dep. Biol. Sci., [2]CSRS, RIKEN, [3]JST PRESTO, [4]NIBB, [5]SOKENDAI)

2P085 P Development of an Experimental System for Nuclear Isolation for Single-Nucleus RNA-Seq and Single-Cell Resolution 3D Imaging of Barley Shoot Apex
Ryota Takeda[1], Jun Ito[1], Yuko Nomura[1], Nao Sato[1], Atsuko Hirota[2], Makoto Hayashi[2], Hiroshi Hisano[3], Tomoki Uchino[4], Shuhei Nasuda[4], Kaoru Tonosaki[1], Tetsu Kinoshita[1], Makoto Kashima[5], Hiroyuki Tsuji[1,6] ([1]KIBR, Yokohama City Univ., [2]CSRS, RIKEN., [3]IPSR, Okayama Univ., [4]Grad. Sch. Agric., Kyoto Univ., [5]Fac. Sci., Toho Univ., [6]Bioscience and Biotechnology Center, Nagoya Univ.)

2P086 P Investigating the Role of Cis-Zeatin in Root Development During Nitrogen Starvation
Graziella Valencia Cong, Fanny Bellegarde, Miki Shibutani, Hitoshi Sakakibara (Nagoya University, School of Agricultural Sciences)

2P087 P The Role of Auxin in Vine Twining—Visualization of Auxin Response in *DR5::GUS* Transgenic Morning Glory
Yu Takarada, Tsuyoshi Kaneta (Grad. Sch. Sci. & Eng., Ehime Univ.)

2P088 P The Developmental Roles of Auxin in the Shoot Regeneration and the Meristem Maintenance
Kaisei Maruyama, Momoko Ikeuchi (NAIST)

2P089 P Comparative Analysis of a Chromatin Regulator Governing Vegetative Growth Determination from Embryogenesis Across Species
Koki Nakamura[1], Hiroshi Hisano[1,2], Yoko Ikeda[1,2] ([1]Grad. sch. Env. Life. Sci., Okayama Univ., [2]IPSR, Okayama Univ.)

2P090 P Morphological Traits and Genetic Analysis to Reveal the Loss of Phenotypic Plasticity in the Aquatic Plant *Callitriche hermaphroditica*
Hiroki Mizoguchi, Tomo Sato, Hiroyuki Koga, Hirokazu Tsukaya (Grad. Sci., Univ. Tokyo)

2P091 P Plastid DJC75/CRRJ/NdhT/DNAJC75 plays a role in nitrate-promoted seed germination in Arabidopsis
Wen-Ya Hou, Huai-Syuan Ciou, Chi-Chou Chiu (Inst. Tropical Plant Sciences and Microbiology, NCKU, Taiwan)

2P092 P Molecular genetic analysis of *SACL2* belonging to the *SAC51* family, a target of thermospermin in *Arabidopsisthaliana*
Yao Xu, Mitsuru Saraumi, Koki Mutsuda, Yuichi Nishii, Taku Takahashi (Grad. Sch. Env. Lif. Nat. Sci.& Tech. Okayama Univ.)

■ Reproduction

2P093 P Insights into dioecious evolution in *Silene latifolia* through functional analysis of two *CLV3* orthologs
Taiki Kobayashi[1], Hidefumi Shinohara[1], Ryo Nishijima[1], Miho Ikeda[1], Dmitry Filatov[2], Yusuke Kazama[1,3] ([1]Graduate School of Bioscience and Biotechnology, Fukui Prefectural University, 4-1-1 Kenjojima, Matsuoka, Eiheiji-cho, Japan, [2]Department of Plant Sciences, University of Oxford, Oxford OX1 3RB, UK, [3]RIKEN Nishina Center, 2-1 Hirosawa, Wako, Saitama 351-0198, Japan)

2P094 P Application of a motion-tracking microscope to pollen tube growth
Fumika Okamoto[1], Nagisa Sugimoto[2], Tsuyoshi Aoyama[2], Yoshikatsu Sato[1,2] ([1]Grad. Sch. Sci., Nagoya Univ., [2]ITbM, Nagoya Univ.)

2P095 P Exploration of interacting factors with *SRK*, female *S* determinant, in self-incompatibility of Brassicaceae plants using BioID
Yurika Harada[1], Maki Hayashi[1], Akira Nozawa[2], Tatsuya Sawasaki[2], Masao Watanabe[1] ([1]Grad. Sch. Life Sci., Tohoku Univ., [2]PROS, Ehime Univ.)

2P096 P Analysis of the *cis*-regulatory region of *LBD35,* which is expressed in an embryonic development-dependent manner
Yi-Ting Chen[1], Yilin Zhang[2], Hironori Takasaki[2], Masaru Ohme-Takagi[1] ([1]Graduate Program of Translational Agricultural Sciences, National Cheng Kung University, Taiwan, [2]Graduate School of Science and Engineering, Saitama University, Japan)

2P097 P Role of male germ cell-specific histone H1 variants involved in spermiogenesis in *Marchantia*
Kanta Kotani[1], Ruri Nishida[1], Asuka Higo[1], Shohei Yamaoka[1], Keisuke Inoue[1,2], Takashi Araki[1] ([1]Graduate School of Biostudies, Kyoto University, [2]Center for Living Systems Information Science (CeLiSIS), Kyoto University)

2P098 Dynamic changes in chromatin structure and transcriptional activity in bicellular pollen
Mio Shibuta K., Tsugumi Aso, Yutsuki Okawa (Fac. Sci., Yamagata Univ.)

2P099 Physiological role of CRMC, a protein possessing the cAMP-binding domain, in *Marchantia polymorpha*
Ranran Iwabuchi[1], Motoki Nakagami[1], Chiaki Yamamoto[1,2], Tomoyuki Furuya[1,3], Fumio Takahashi[1,4], Masahiro Kasahara[1] ([1]Grad. Sch. Life Sci., Ritsumeikan Univ., [2]Shimoda Marine Res. Center, Univ. Tsukuba, [3]Grad. Sch. Sci., Osaka Univ., [4]Faculty Pharma. Sci., Toho Univ.)

2P100 External Trehalose Application Potentially Enhanced Yield in Grapevines
Lia Ooi[1], Yoshinao Aoki[2], Shunji Suzuki[2] ([1]Plant & Microbial Research Unit, Research, Technology & Value Creation Division, Nagase Viita Co., Ltd., Okayama, Japan., [2]Laboratory of Fruit Genetic Engineering, The Institute of Enology and Viticulture, University of Yamanashi, Japan.)

2P101 Transcriptional regulation of TALE-class homeodomain transcription factors during male gametogenesis in *Marchantia polymorpha*
Mami Takagi[1], Keisuke Inoue[1,2], Kanta Kotani[1], Asuka Higo[1], Shohei Yamaoka[1], Takashi Araki[1] ([1]Grad. Sch. Biostudies, Univ. Kyoto, [2]Center for Living Systems Information Science (CeLiSIS), Univ. Kyoto)

■ Plant hormones/Signaling molecules

2P102 CYP83B1 mutant induces allelopathic effects by releasing IAA outside the plant body
Yui Kobayashi[1], Kang Xu[2], Emi Yumoto[4], Masashi Asahina[3,4], Ken-ichiro Hayashi[5], Hidehiro Fukaki[6], Masaaki Watahiki[7] ([1]Sch. Sci., Hokkaido Univ., [2]Sch. Agri. Biol., Shanghai Jiao Tong Univ., [3]Dept. Biosci., Teikyo Univ., [4]Adv. Inst. Anal. Center, Teikyo Univ., [5]Dept. Biochem., Okayama Univ. Sci., [6]Grad. Sch. Sci., Kobe Univ., [7]Fac. Sci., Hokkaido Univ.)

2P103 Isolation and characterization of *Arabidopsis* mutants hypersensitive to auxin by insertional tagging
Yoshiki Nishikawa, Hisabumi Takase, Jiro Sekiya, Rafael Prieto (Fac. Bioenviron. Sci., Kyoto Univ. Adv. Sci)

2P104 Small molecules and heat treatments reverse vernalization via epigenetic modification
Nana Otsuka[1], Hikaru Sawa[1], Yasuyuki Nomura[3], Nobutoshi Yamaguchi[1], Atsushi Nagano[3,4], Ayato Sato[2], Makoto Shirakawa[1], Toshiro Ito[1] ([1]Grad. Sch. Sci and Tech., NAIST, [2]WPI-ITbM, Nagoya Univ., [3]Fac. Agr., Ryukoku Univ., [4]IAB, Keio Univ.)

2P105 A devernalization inducer, DVR04, and its potential target in Arabiodopsis
Sena Harada[1], Nana Otsuka[1], Ayato Sato[2], Makoto Shirakawa[1], Toshiro Ito[1] ([1]Graduate School of Science and Technology, Nara Institute of Science and Technology, [2]Institute of Transformative Bio-Molecules, Nagoya University)

2P106 Comprehensive and High-Throughput Phytohormone Quantification Analysis at RIKEN CSRS
Mikiko Kojima[1], Yumiko Takebayashi[1], Hitoshi Sakakibara[1,2] ([1]CSRS., RIKEN, [2]Grad. Sch. BioagriSci., Nagoya Univ.)

2P107 Identification of key genetic player candidates in the biosynthesis of a putative plant hormone in *Arabidopsis thaliana*
Satoshi Ogawa[1,2,3], Kiyoshi Mashiguchi[1,4], Shinjiro Yamaguchi[1,4], David C. Nelson[2] ([1]Inst. for Chem. Res., Kyoto Univ., [2]Dept. of Bot. and Plant Sci., Univ. of California, Riverside, [3]CSRS, RIKEN, [4]Grad. Sch. of Agri., Kyoto Univ.)

2P108 P Selection and analysis of candidate biosynthetic genes for an unknown plant hormone that signals through KAI2
Qianfan Xu[1,2], Satoshi Ogawa[1,3], Kiyoshi Mashiguchi[1,2], Shinjiro Yamaguchi[1,2], David C. Nelson[3] ([1]Inst. for Chem. Res., Kyoto Univ., [2]Grad. Sch. of Agri., Kyoto Univ., [3]Dept. of Bot. and Plant Sci., Univ. of California, Riverside)

2P109 P Analysis of the small compound HYGIC that promotes hypocotyl growth
Yasuki Kawabata[1,2], Mizuki Murao[1], Asuka Higo[2], Naoyuki Uchida[2] ([1]Grad. Sch. Sci., Nagoya Univ., [2]Ctr. Gene Res., Nagoya Univ.)

2P110 P Functional analysis of a GRAS transcription factor that regulates GA-related far-red light response in *Marchantia polymorpha*
Eita Shimokawa[1], Shogo Kawamura[1], Rui Sun[1,2], Maiko Okabe[1], Yoshihiro Yoshitake[1], Yukiko Yasui[1], Shohei Yamaoka[1], Kiyoshi Mashiguchi[2], Shinjiro Yamaguchi[2], Takayuki Kohchi[1] ([1]Grad. Sch. Biostudies., Kyoto Univ., [2]Inst. Chem. Res., Kyoto Univ.)

2P111 P Transcriptome analysis of a SABATH methyltransferase mutant for exploring the genes responsive to GA-related compounds in *Marchantia polymorpha*

Takuya Segawa, Shogo Kawamura, Eita Shimokawa, Shohei Yamaoka, Yoshihiro Yoshitake, Takayuki Kohchi (Grad. Sch. Biostudies, Kyoto Univ.)

2P112 P The study for development of DLK2 agonist and evaluation of its activity

Yuki Saito, Kosuke Fukui (TUS, Applied Chemistry)

2P113 P Analysis of the molecular mechanism for novel plant growth promoter PPG

Sakurako Katsuta[1], Shun Takeno[2,3], Shota Tanaka[2,3], Keiya Kaga[1,7], Kazuma Ohata[1], Ayumi Yamagami[1], Takuya Miyakawa[1], Shoji Segami[4], Yasumitsu Kondo[2], Naoshi Dohmae[2], Kei Tsuzuki[3], Yoshiya Seto[3], Tetsuo Kushiro[3], Masayoshi Maeshima[5], Tadao Asami[6], Hiroyuki Osada[2], Takeshi Nakano[1] ([1]Grad. Sch. Bio., Univ. Kyoto, [2]RIKEN · CSRS, [3]Grad. Sch. Agr., Univ. Meiji, [4]NIBB, [5]Grad. Sch. Agr., Univ. Nagoya, [6]Grad. Sch. Agr., Univ. Tokyo, [7]Grad. Sch. S&E., Univ. Saitama)

2P114 P Chemical Screening for a Chemical Inhibitor of HTL/KAI2 Biosynthetic

Eri Niitsuma[1], Eri Adachi[2], Nao Endo[2], Kosuke Fukui[1,2], Jun Takeuchi[3,4] ([1]TUS, Grad. Sch. Sci, [2]TUS, Applied Chemistry, [3]Univ. Shizuoka, Agri, [4]Univ. Shizuoka, Inst. Green)

■ Photoreceptors/Photoresponses

2P115 Analysis of Phytochrome Signaling in the Temperature-dependent Light Responses in the Liverwort *Marchantia polymorpha*

Kentaro Goto[1], Keisuke Inoue[1,2], Rina Hattori[1], Yoshihiro Yoshitake[1,2], Takayuki Kohchi[1], Yukiko Yasui[1] ([1]Grad. Sch. Biostudies, Kyoto Univ., [2]Center for Living Systems Information Science (CeLiSIS), Kyoto Univ.)

2P116 Role of phytochromes in cold acclimation of the moss Physcomitrium patens

Seiya Inoue[1], Rin Ishikawa[1], Tatsunosuke Yamada[1], Hikaru Sugimori[1], Nana Eto[1], Airi Naka[1], Akihisa Shinozawa[1], Daisuke Takezawa[2], Izumi Yotsui[1], Teruaki Taji[1], Yoichi Sakata[1] ([1]Dept. of Biosci., Tokyo Univ. of Agri., [2]Grad. Sch. of Sci. and Eng., Saitama Univ.)

2P117 Functional Analysis of blue light signaling in stomatal opening mutants isolated by thermal imaging

Natsune Yukawa (Yamaguchi Univ.)

■ Flowering/Clock

2P118 P The effects of second messenger cyclic di-GMP on cyanobacterial circadian clock

Chihiro Yamaguchi[1], Robert Kanaly[1], Koichiro Takatsuki[1], Masaki Tsukamoto[2], Setsuyuki Aoki[2], Yoichi Nakahira[3], Yoshihiko Furuike[4], Shuji Akiyama[4], Mingxu Fang[5], Susan Golden[5], Shinsuke Kutsuna[1] ([1]Grad. Sch. Nanobioscience, Yokohama City Univ., [2]Grad. Sch. Informatics, Nagoya University, [3]Col. Agric., Ibaraki Univ., [4]Inst. Mol. Sci, Natl. Inst. Natural Sci., [5]Univ. California San Diego)

2P119 P CKL controls circadian clock period at higher temparatures

Mayuko Yamada, Akari Maeda, Norihito Nakamichi (Grad. Sch. Bio-agric., Univ. Nagoya)

2P120 P The light signaling modulates robustness of the circadian clock

Yoko Imakita[1], Takeshi Nomura[2], Yoshito Oka[3], Tomonao Matsushita[3], Norihito Nakamichi[2] ([1]School of agriculture, Nagoya Univ., [2]Graduate School of Bioagricultural Siences, Nagoya Univ., [3]Gradurate School of Science, Kyoto Univ.)

2P121 P Action mechanism of the period-shortening small molecule

Hiyori Fujikawa[1], Hiromi Matsuo[2], Ayato Sato[3], Norihito Nakamichi[2] ([1]School of Agriculture, Nagoya Univ., [2]Graduate School of Bioagricultural Scienses, Nagoya Univ., [3]Institute of Transformative Bio-Molcules, Nagoya Univ.)

2P122 Genes Characterizing the Japanese Morning Glory (*Ipomoea nil*) Strain Kidachi

Michiyuki Ono[1], Yining Yang[1], Daiki Takai[1], Yoshihito Suzuki[2], Yohei Higuchi[3], Kenta Shirasawa[4], Atsushi Hoshino[5,6], Eiji Nitasaka[7], Kimiyo Sage-Ono[1,8] ([1]T-PIRC, Univ. Tsukuba, [2]Col. Agr., Ibaraki Univ., [3]Dept. Agr. Env. Biol., Univ. Tokyo, [4]Kazusa DNA Res. Inst., [5]NIBB, [6]Grad. Inst. Adv. Stud., Sokendai, [7]Grad. Sch. Sci., Univ. Kyushu, [8]NIBIOHN)

2P123 The Effect of UV-B Irradiation on CO Stabilization and *FT* Expression in *Arabidopsis thaliana*

Ami Takahashi, Yuki Takahashi, Jun Hidema, Mika Teranishi (Grad. Sch. Life Sci., Tohoku Univ.)

■ Environmental response A/Physiological responses

2P124 Discovery of nutritropism in sorghum

Michiro Kazama, Runa Takei, Kiyoshi Yamazaki, Toru Fujiwara (Grad. Sch. Agri-Sci., Univ. Tokyo)

2P125 Contribution of amyloplasts to the gravity response of *M. polymorpha*

Mimi Hashimoto-Sugimoto[1], Takuya Norizuki[2,3], Shoji Segami[1,3], Yusaku Ohta[3,4], Noriyuki Suetsugu[5], Takashi Ueda[3], Miyo T. Morita[3] ([1]Grad. Sch. Bioagri. Sci, Nagoya Univ., [2]Inst. Mol. Cell. Reg., Gunma Univ., [3]NIBB, [4]ExCELLS, [5]Grad. Sch. Arts, Sci., Univ. Tokyo)

2P126 Specific Gravity of Stems (Caulids) in the Moss *Physcomitrium patens* Gametophores Grown in Hypergravity Environment

Hiroyuki Kamachi[1], Riu Ikeda[2], Ichirou Karahara[1], Yuko Hanba[3], Yuji Hiwatashi[4], Atsushi Kume[5], Tomomichi Fujita[6] ([1]Fac. Sci., Univ. Toyama, [2]Fac. Sci., Univ. Toyama, [3]Dept. Applied Biol., Kyoto Inst. Tech., [4]Sch. Food ind. Sci., Miyagi Univ., [5]Fac. Agri., Kyushu Univ., [6]Grad. Sch. Sci., Hokkaido Univ.)

2P127 Three-dimensional morphological analysis of rhizoid architecture of *Physcomitrium patens* using X-ray micro-CT data and machine learning

Naoki Yagihara[1], Takahisa Wakabayashi[2], Ryohei Yamaura[1], Daisuke Tamaoki[3], Hiroyuki Kamachi[3], Daisuke Yamauchi[4], Yoshinobu Mineyuki[4], Makoto Hoshino[5], Kentaro Uesugi[5], Yuji Hiwatashi[6], Yuko Hanba[7], Atsushi Kume[8], Tomomichi Fujita[9], Ichirou Karahara[3] ([1]Grad. Sch. Sci. Eng., Univ. Toyama, [2]Fac. Sci., Univ. Toyama, [3]Fac. Sci., Acad. Assemb., Univ. Toyama, [4]Grad. Sch. Sci., Univ. Hyogo, [5]JASRI, SPring-8, [6]Sch. Food Ind. Sci., Miyagi Univ., [7]Dept. Applied Biol., Kyoto Inst. Technol., [8]Fac. Agric., Kyushu Univ., [9]Fac. Sci., Hokkaido Univ.)

2P128 Regulation of plasma membrane H^+-ATPase dephosphorylation by PP2C.D in guard cells

Seiya Kimpara[1], Koji Takahashi[3], Kosuke Murakami[3], Yuki Hayashi[3], Toshinori Kinoshita[2,3] ([1]Sch. Sci., Univ. Nagoya, [2]WPI-ITbM, Univ. Ngoya, [3]Grad. Sch. Sci., Univ. Nagoya)

2P129 Analysis of the TOR Signaling Pathway in *Physcomitrella patens*

Kaito Yuki[1], Tatsuki Abe[1], Akiko Kozaki[1,2,3] ([1]Grad Sch of Sci Tech., Shizuoka Univ., [2]Fac of Sci., Shizuoka Univ., [3]Grad Sch of int Sci and Tech., Shizuoka Univ.)

■ Environmental response B/Environmental stresses

2P130 P Identification of Novel Stress-Responsive Genes in Rice Through Integrated Analysis of Public RNA-Seq Data Under Salt and Drought Stress Conditions

Mitsuo Shintani, Hidemasa Bono (Grad. Sch. Int. Sci., Hiroshima Univ)

2P131 P *Arabidopsis* GPPA dephosphorylates guanosine-pentaphosphate

Takanari Nemoto, Masataka Inazu, Shinji Masuda (Dept. Life Sci & Tech., Science Tokyo)

2P132 P Ethylene signaling-mediated submergence and droughtresponses in *Marchantiapolymorpha*

Tenra Ouchi[1], Ayaka Hasegawa[1], Chinatsu Nakajima[1], Akihisa Shinozawa[2], Yoichi Sakata[2], Daisuke Takezawa[1] ([1]Grad. Sch. Sci and Engineering., Saitama Univ., [2]Depart.Biosci. Tokyo Univ Agri.)

2P133 P Molecular Mechanisms Underlying DNA Damage-Induced Early Onset of Endoreduplication in *Arabidopsis*

Toshiki Wada[1], Ayako Sakamoto[2], Naoki Takahashi[1] ([1]Sch. Agri., Meiji Univ., [2]TIAQS, QST)

2P134 P Analysis of physiological responses to Fairy Chemicals in *Arabidopsis thaliana*

Koharu Nagai[1], Saika Kohinata[1], Yuki Taniguchi[1], Jun Takeuchi[1], Yasushi Todoroki[1], Jae-Hoon Choi[2], Hirokazu Kawagishi[1], Reiko Motohashi[1] ([1]Agr., Shizuoka Univ., [2]Glob. Int. Sci. Inno., Shizuoka Univ.)

2P135 P Decoding Gravity Responses for Space Agriculture: The Role of AP2/ERF Transcription Factors in *Physcomitrium patens*

Miyu Takata[1], Huong Thi Do[2], Alisa Vyacheslavova[2], Yuko Hanba[3], Hiroyuki Kamachi[4], Yoichi Sakata[5], Ichirou Karahara[4], Atsushi Kume[6], Tomomichi Fujita[7] ([1]Dept. Sci., Fac. Biol., Hokkaido Univ., [2]Grad. Sch. Life Sci., [3]Apld. Bio., Kyoto Inst Tech., [4]Fac. sci., Toyama Univ., [5]Dept. Biosci., Tokyo Univ. of Agric., [6]Fac. Agric., Kyusyu Univ., [7]Fac. Sci., Hokkaido Univ.)

2P136 Functional analysis of lipoxygenase involved in the biosynthesis of a novel UV-absorbing substance, saclipins, in *Aphanothece sacrum*

Yoshie Uchida, Hakuto Kageyama (Grad. Sch. Environ. Hum. Sci., Meijo Univ.)

2P137 Microalga *Euglena gracilis* accumulates diatoxanthin in response to low temperature stress

Shun Tamaki[1], Marumi Ishikawa[2], Keiichi Moshida[1,3,4,5] ([1]RIKEN CSRS, [2]CSRC, Fukuoka Univ., [3]RIKEN BZP, [4]Yokohama City Univ., [5]Nagasaki Univ.)

2P138 Impact of Drought Stress on Root Growth: Physiological and Molecular Perspectives

Selwan Abdelhakam (Tsukuba University)

2P139 Elucidation of mechanisms of plant stress memory induced by chemical priming with a specific class of lipid-based compounds in Arabidopsis and rice

Manhlinh Nguyen (Hiroshima University)

2P140 Oxylipin KODA enhances the early growth of rice (*Oryza sativa* L.) under low-temperature stress at night for a simulated natural temperature condition

Mineyuki Yokoyama[1,5], Takamitsu Kurusu[2], Hirokazu Ohno[3], Ouji Ifuku[3], Rayan Harada[4], Yuichi Tada[5] ([1]Organ. Strat. Coord. Res. Intell. Prop, Meiji Univ., [2]Depart. Mech. Electric. Engin., Suwa Univ. Sci., [3]Res. Devel. Div., Maruzen Pharm Co., Ltd., [4]Avisa Co., Ltd., [5]Sch. Biosci. Biotech, Tokyo Univ. of Tech.)

2P141 An analysis of a novel temperature-responsive gene, *STTP*, identified from weekly field transcriptome data of *Arabidopsis halleri* subsp. *gemmifera*

Kenta C. Moriya[1], Hanako Shimizu[1], Susumu Uehara[2], Genki Yumoto[1], Jiro Sugisaka[1], Ryutaro Tokutsu[3], Tomoo Shimada[3], Mika Nomoto[2], Yasuomi Tada[2], Haruki Nishio[1,4], Mie N. Honjo[1], Hiroshi Kudoh[1] ([1]CER, Kyoto Univ., [2]Center for Gene Res., Nagoya Univ., [3]Grad. Sch. Sci., Kyoto Univ., [4]DS AI Center, Shiga Univ.)

2P142 Analysis of light and environmental stress responses in ascorbate accumulation of *Nopalea cochenillifera*

Qiaochu Wang[1], Mai Takayama[2], Kazuya Yoshimura[1,2] ([1]Coll. Biosci. Biotech., Chubu Univ., [2]Dept. Food Nutr. Sci., Coll. Biosci. Biotech., Chubu Univ.)

2P143 Morphological Changes and Gene Expression Analysis of *Physcomitrium patens* under Artificial Microgravity Using a 3D Clinostat

Chiyo Jinno[1], Shingo Horiguchi[2], Satoshi Naramoto[1], Atsushi Kume[3], Tomomichi Fujita[1] ([1]Fac. Sci., Univ. Hokkaido, [2]DigitalBlast Co., Ltd., [3]Fac., Agr., Univ. Kyusyu)

2P144 Isolation of a *highly osmo-sensitive* (*hos*) mutant in the moss *Physcomitrium patens* and genetic mapping of its causal gene

Masaki Nakazawa, Takeru Ichihashi, Teruaki Taji, Yoichi Sakata, Izumi Yotsui (Dept. of Biosci., Tokyo Univ. of Agri.)

2P145 Light-Intensity-Dependent Quantitative Alterations in Acylplastoquinone Species

Ryo Ito, Mizuki Endo, Motohide Aoki, Shoko Fujiwara, Norihiro Sato (Tokyo University of Pharmacy and Life Sciences)

2P146 QTL Analysis for acclimation of photosystems to iron deficiency using barley cultivars Sarab1 and Musashinomugi

Karin Irie, Soichiro Matsuoka, Takehiro Kobayashi, Mayuko Furuhata, Yusuke Shikanai, Akihiro Saito, Kyoko Higuchi (Grad. Sch. Appl. Biosci., Tokyo Univ. Agri.)

2P147 Polyphosphate kinase 1 gene: Its role in polyphosphate synthesis and environmental stress acclimation in the cyanobacterium *Synechocystis* sp. PCC 6803

Mizuki Endo, Hiroki Nishi, Shoko Fujiwara, Mikio Tsuzuki, Norihiro Sato (Tokyo University of Pharmacy and Life Sciences)

2P148 Hyperosmolarity-induced suppression of group B1 Raf-like protein kinases modulates drought-growth trade-off in *Arabidopsis*

Yoshiaki Kamiyama[1,2], Sotaro Katagiri[1], Kota Yamashita[1], Yangdan Li[1], Hinano Takase[1], Taishi Umezawa[1] ([1]BASE, Tokyo Univ. Agric. Tech., [2]Grad. Sci. Sci., Kyoto Univ.)

2P149 Distinct Regulatory Gene Expression for Triacylglycerol Accumulation Between Arsenate-Stressed and Phosphorus-Depleted *Chlorella kessleri* Cells

Sorao Motegi, Yukari Izima, Yutaro Oishi, Reina Goto, Eriko Kimura, Shoko Fujiwara, Norihiro Sato (Grad. Life Sci. , Univ. Tokyo of Life Sci.)

2P150 Environmental responses after osmotic stress release in Arabidopsis root tips

Mayumi Nakayama[1], Nahoko Higashitani[1], Shinichi Sato[2] ([1]Grad. Sch. Life Sci., Tohoku Univ., [2]FRIS, Tohoku Univ)

2P151 Temperature Dependence of Photosynthetic activity and Xanthophyll cycle in *Racomitrium japonicum*

Fumino Maruo[1], Chihiro Azai[2], Satoshi Imura[3,4], Makiko Kosugi[5] ([1]New Field Pioneering Div. Toyota Boshoku Corp., [2]Faculty of Science and Engineering Chuo Univ., [3]National Institute of Polar Research, [4]The Graduate University for Advanced Studies (SOKENDAI), [5]National Institute for Basic Biology)

2P152 Chelation-based iron uptake enhances resilience to prolonged high-temperature stress in cool-season grasses

Anzu Minami[1,2], Yoshihiko Onda[1], Minami Shimizu[1], Yukiko Uehara-Yamaguchi[1], Tomoko Nozoye[3,4], Motofumi Suzuki[5], Asaka Kanatani[1], Keitaro Tanoi[4], Keiichi Mochida[1,2,6] ([1]RIKEN, CSRS, [2]Kihara Institute for Biological Research, Yokohama City University, [3]Center for Liberal Arts, Meiji Gakuin University, [4]Graduate School of Agricultural and Life Sciences, The University of Tokyo, [5]Aichi Steel Corporation, [6]School of Information and Data Sciences, Nagasaki University)

2P153 Analysis of hyperosmotic stress responses using Tak-1 and Tak-2 standard lines
Hiroki Kato, Takehide Kato, Ko Kato (Nara Institute of Science and Technology)

2P154 Dauciform root formation and nutrient status of Cyperaceae plants grown in harsh environments
Jun Wasaki[1,2], Xiao-Long Li[3], Akihiro Yamamoto[4], Daisuke Aoshima[1], Hirotsuna Yamada[1], Ryusuke Inoue[1], Soshi Osaki[1,5], Takayuki Nakatsubo[1,6], Jinniu Wang[7], Fei Peng[8], Toshihiro Watanabe[9], Jun Zhou[3] ([1]GSISL, Hiroshima Univ., [2]S-CNC, Hiroshima Univ., [3]IMHE, CAS, [4]Hiroshima Botanical Garden, [5]FEIAS, Waseda Univ., [6]Hiroshima Univ. Museum, [7]CIB, CAS, [8]NIEER, CAS, [9]Grad. Sch. Agr., Hokkaido Univ.)

2P155 Effects of seasonal changes and processing on antioxidant accumulation in *Neopyropia yezoensis*
Hakuto Kageyama[1], Rikio Nakamura[2], Satoru Kamohara[3] ([1]Grad. Sch. Env. Hum. Sci., Meijo Univ., [2]Onizaki Fish. Coop. Assoc., [3]IDEA Consultants, Inc.)

2P156 Isolation and characterization of γ-Glutamylcyclotransferase knockout mutants (*atggct*) in *Arabidopsis*
Kazue Horita[1], Minori Kosagi[1], Akihiro Okuda[2], Hisabumi Takase[1], Jiro Sekiya[1], Rafael Prieto[1] ([1]Fac. Bioenviron. Sci., Kyoto Univ. Adv. Sci, [2]Grad. Sch. Environ., Okayama Univ.)

2P157 Enhancement of growth under non-24 h period lighting conditions in Arabidopsis thaliana
Yuko Yamamoto (TOYOTA BOSHOKU CORPORATION)

■ Plant-organism interaction A

2P158 Identification of pathogenic bacterial effectors that suppress humidity-triggered immunity in *Arabidopsis thaliana*
Temma Takazawa, Shigetaka Yasuda, Yusuke Saijo (Div. Biol. Sci., NAIST)

2P159 Functional Analysis of CAP Family Genes in Root Gall Formation of Plant Parasitic Nematodes
Yujiro Sasamoto[1], Nao Kamino[2], Tomoko Hirano[4], Masa H. Sato[4], Shinichiro Sawa[3] ([1]Faculty of Science, Univ. Kumamoto, [2]GSST, Univ. Kumamoto, [3]IRCAEB, Univ. Kumamoto, [4]Grad. Sch. Life and Environ. Sci., Univ. Kyoto Pref.)

2P160 A fungal lncRNA secreted via extracellular vesicles of *Ustilago maydis* binds to the host plant LSm4 protein
You Tanaka, Hinata Ohtani, Fumiko Ishida, Miyuki Yamaguchi, Rei Yoshimoto, Shigeyuki Tanaka (Faculty of Agriculture, Setsunan Univ.)

2P161 Exploration of wheat metabolites involved in field resistance to fusarium head bright by non-target metabolome analysis
Masataka Nakano[1], Nana Ashikaga[2], Shizen Ohnishi[2], Makoto Kimura[3], Takumi Nishiuchi[1] ([1]Bioscience Core Facility, Kanazawa University, [2]Kitami Agricultural Experiment Station, Hokkaido Research Organization, [3]Graduate School of Bioagricultural Sciences, Nagoya University)

2P162 Relationships among temporal pattern of the two layers of defense responses accompanying hypersensitive cell death in tobacco BY-2 cells
Shigeru Hanamata[1,2], Kie Takeuchi[1], Tomoki Oshima[1], Ayumi Yoshida[1], Shigemi Seo[3], Ichiro Mitsuhara[3], Masaaki Okada[1], Takuya Sakamoto[2], Takamitsu Kurusu[4], Kazuyuki Kuchitsu[1] ([1]Appl. Biol. Sci., Tokyo Univ. of Sci., [2]Fac. Sci., Kanagawa Univ., [3]Inst. Agro. Sci., NARO, [4]Eng. and Mgmt., Suwa Univ. of Sci.)

2P163 Exploring lipid-based molecular dialogs between plants and microorganisms
Lin-Jie Shu, Yasuhiro Kadota, Ken Shirasu (RIKEN CSRS Plant Immunity Group)

2P164 Comparison of early transcriptomic changes to diverse microbial volatiles in *Arabidopsis*
Ching-Han Chang[1], Chung-Chih Huang[2], Pei-Yu Su[2], Yi-Rong Li[2], Yu-Shuo Chen[3], Chong-Yue Wang[2], Yuan-Yun Zhang[1], Hieng-Ming Ting[1,4], Hao-Jen Huang[2,3,5] ([1]Institute of Plant Biology, National Taiwan University, Taiwan, [2]Department of Life Sciences, National Cheng Kung University, Taiwan, [3]Institute of Tropical Plant Sciences and Microbiology, National Cheng Kung University, Taiwan, [4]Department of Life Science, National Taiwan University, Taiwan, [5]Graduate Program in Translational Agricultural Sciences, National Cheng Kung University and Academia Sinica, Taiwan)

2P165 P Molecular determinants of *Colletotrichum tofieldiae* virulence on *Arabidopsis thaliana* are phosphate-status dependent
Jacy Newfeld, Hiromi Haba, Kei Hiruma (Department of Life Sciences, University of Tokyo)

2P166 P Tracing Phytoplasma Secreted Effectors with Rearrangement Signatures
Isei Kyuu[1,2], Shikou Kaku[2,3], Shunnitsu You[1,2] ([1]Institute of Biochemistry, National Chung Hsing University, Taichung 402, Taiwan, [2]PhD Program in Microbial Genomics, National Chung Hsing University and Academia Sinica, Taichung 402, Taiwan, [3]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 115, Taiwan)

2P167 P Investigate the Potential Roles *VIP3* and *TSN* 1/2 in Defensing Viral PTGS in *Arabidopsis thaliana*
LiangHe Chen (Institute of Biotechnology, National Taiwan University)

2P168 P Comparative analysis of Arabidopsis responses in pattern-triggered immunity induced by chitin oligosaccharides with varying degrees of polymerization

Ayae Sakai[1], Hironori Kaminaka[2] ([1]Dept. Agr. Sci., Grad. Sch. Sust. Sci., Tottori Univ., [2]Fac. Agr., Tottori Univ.)

2P169 P Investigation of the mechanisms by which the endophytic fungus *Colletotrichum tofieldiae* suppresses pathogen virulence in *Arabidopsis thaliana* roots

Akito Shiina, Kei Hiruma (Grad. Sch. of Arts and Sci., Univ. Tokyo)

2P170 P Calcium-dependent protein kinases regulate sustained ROS production during effector-triggered immunity in *Nicotiana benthamiana*

Yuta Hino[1], Mitsuhiro Yada[1], Yutaro Shiraishi[1], Miki Yoshioka[1], Hiroaki Adachi[2], Hirofumi Yoshioka[1] ([1]Grad. Sch. Bioagr. Sci., Nagoya Univ., [2]Grad. Sch. Agri., Kyoto Univ.)

■ Plant-organism interaction B

2P171 P Reconsideration of a method for isolating arbuscules from arbuscular mycorrhiza in *Lotus japonicus*

Sota Koinuma[1], Kensuke Kawade[2] ([1]Faculty of Science, Saitama University, [2]Graduate School of Science and Engineering, Saitama University)

2P172 P Genome-wide association study identifies key chromosomal regions in rice promoting the enrichment of diazotrophic iron-reducing bacteria in paddy soils

Liyen Lin[1], Zhihang Feng[1], Hikaru Asano[2], Yoshihiro Ohmori[3], Hirotomo Ohba[4], Yoko Masuda[1,5], Keishi Senoo[1,5], Toru Fujiwara[1] ([1]Grad. Sch. Agr. Life Sci., Univ. Tokyo, [2]Tokyo Coll. Biotech, [3]Agri. Bioinfo. Res. Unit, Grad. Sch. Agr. Life Sci., Univ. Tokyo, [4]Niigata Agr. Res. Inst., [5]Collab. Res. Inst. Innov. Micro., Univ. Tokyo)

2P173 P Enhancing Crop Growth and Soil Fertility in Taiwan's Badlands with Green Manure and PGPR

Yu-Shan Hou, Chao-Li Huang (Inst. Tropical Plant Sciences and Microbiology, NCKU, Taiwan)

2P174 The involvement of mycorrhiza-inducible glycerol-3-phosphate dehydrogenase (*GPDH3*) in arbuscule development in arbuscular mycorrhizal symbiosis

Shoko Omori, Katsuharu Saito (Grad. Sch. Sci., Univ. Shinshu)

2P175 The function of purple acid phosphatase in phosphorus transport during arbuscular mycorrhizal symbiosis

Natsuki Maeda (Agr., Univ. Shinshu)

2P176 Characteristics of endophytic Agrobacterium species strains derived from wheat and barley plants

Katsunori Suzuki[1], Kazuya Kiyokawa[2], Kazuhide Rikiishi[3], Akio Tani[3] ([1]Hiroshima Univ, Integrat. Sci. Life, [2]Hiroshima Univ, Genome. Edit. Inov. Centr., [3]Okayama Univ. Inst. Plant Sci. Resource)

2P177 The symbiotic relationship between *Colletotrichum tofieldiae* and *Arabidopsis thaliana* under phosphate starvation

Takeshi Higa, Yen-Ting Lu, Kei Hiruma (Grad. Sch. Arts and Sci., Univ. Tokyo)

2P178 The transcriptional regulator CoeR responds to sulfur-containing antimicrobial compounds and activates the transcription of the TAG lipase gene in *Burkholderia multivorans*

Shouta Nonoyama, Shinji Masuda (Dept. Life Sci & Tech., Science Tokyo)

2P179 Isolation and evaluation of microorganisms from Arabidopsis cultivation environment

Atsuko Iuchi[1], Megumi Narukawa[1], Akio Tani[2], Takao Iino[1], Yasunori Ichihashi[1], Satoshi Iuchi[1], Keitaro Tanoi[3], Natsuko I. Kobayashi[3], Masashi Asahina[4], Moriya Ohkuma[1], Hiroshi Abe[1], Masatomo Kobayashi[1] ([1]RIKEN BRC, [2]Okayama University, [3]Tokyo University, [4]Teikyo University)

■ Genome function/gene regulation

2P180 Genome sequencing of Arabis serrata, an alpine species

Tatsuaki Hirano[1], Kazuki Sugekawa[1], Yoshiharu Y. Yamamoto[1,2,3] ([1]Grad. Sch. Nat. Sci. Tech, Gifu Univ., [2]Fac. Appl. Biol. Sci, Gifu Univ., [3]RIKEN CSRS)

2P181 Analysis of DNA methylation and histone modification status in Marchantia Mp*met* mutant

Riko Kunou[1,2], Olivier Mathieu[3], Yoko Ikeda[1,2] ([1]Graduate School of Env., Life, Natural Sci., & Tech., Okayama Univ., [2]IPSR, Okayama Univ., [3]Universite Clermont Auvergne)

2P182 Functional analysis of endosperm-specific DNA methyltransferases in Arabidopsis

Hiroki Tsutsui, Hidetoshi Saze (Okinawa Institute of Science and Technology)

2P183 Gene expression optimization strategies in plant evolution: comparative analysis of expression manner between old and *de novo* genes in *Arabidopsis thaliana*

Takuya Nakagawa[1], Takuto Nakatsuji[2], Shoma Morita[1], Yusei Shigematsu[1], Soichirou Satoh[1,2] ([1]Grad. Life Env. Sci., Kyoto Pref. Univ., [2]Fac. Life Env. Sci., Kyoto Pref. Univ.)

2P184 A Seasonally Responsive Enhancer Regulates Transcription Through Repressive Chromatin Modification

Hanako Shimizu[1], Haruki Nishio[1,2], Hiroshi Kudoh[1] ([1]CER, Kyoto Univ., [2]DS center, Shiga Univ.)

2P185 Structural feature and function of pre-tRNA splicing enzymes from*Arabidopsis thaliana*

Kazuhito Akama[1,2], Moniruzzaman Mohammad[2], Naoki Okamoto[2] ([1]Faculty of Life and Environmental and Sciences, [2]Graduate School of Natural Science and Technology, Shimane University)

2P186 Transcriptome-wide analysis of poly(A) tail dynamics in the deadenylase mutant during shoot regeneration

Toshihiro Arae[1], Sota Kurachi[2], Kosuke Kawai[2], Riko Imahori[2], Yukako Chiba[2,3], Misato Ohtani[1] ([1]Grad. Sch. Frontier Sci., Univ. Tokyo, [2]Grad. Sch. Life Sci., Hokkaido Univ., [3]Fac. Sci., Hokkaido Univ.)

2P187 Exploring Recombinant Plant Cytidine to Uridine Editing Factors in Heterologous Setups

Jingchan Xie[1], Yingying Yang[2], Mareike Schallenberg-Ruedinger[2], Volker Knoop[2] ([1]Lab. Plant Molecular Genetics, Kyoto University, [2]IZMB-Institute of Cellular & Molecular Botany, University Bonn)

2P188 Functional analysis of the extended loop of ribosomal protein uL4c in chloroplast ribosome assembly

Yuki Hayashi[1], Seidai Takamatsu[2], Hitoshi Onouchi[1], Yui Yamashita[1], Satoshi Naito[1,2] ([1]Grad. Sch. Agr., Univ. Hokkaido, [2]Grad. Sch. Life Sci., Univ. Hokkaido)

2P189 Gene expression analysis of soybean grown in soil that different previous crops have grown

Hidefumi Hamasaki[1], Tomoko Kuriyama[1], Yuko Makita[2], Masaharu Kawauchi[1], Takashi Kenjyo[3], Katsuhiro Kojima[3], Toyoaki Anai[4], Haruko Takeyama[5], Minami Matsui[1,6] ([1]RIKEN CSRS, [2]Maebashi Institute of Tech., [3]ASAHI AGRIA CO., [4]Kyusyu Univ., [5]Waseda Univ., [6]Yokohama City Univ.)

2P190 P Effects of high temperature stress on the target preference of de novo DNA methylation in *Arabidopsis thaliana*

Shumpei Takeuchi[1,2], Sayaka Tominaga[1], Taiko To[1] ([1]Institute of Science Tokyo, School of Life Science and Technology, [2]University of Tokyo, Graduate School of Frontier Science)

2P191 P Identification of Factors Regulating the Expression of Crassulacean Acid Metabolism (CAM) Related Genes Involved in Photosynthetic Conversion in Ice plant

Yuri Kondo[1], Tien Nguyen[1], Wataru Tashiro[1], Manami Mori[1], Kazuyuki Saito[2], Sakae Agarie[2] ([1]Graduate School of Bioresource and Environmental Sciences, Kyushu University, [2]Graduate School of Agriculture, Kyushu University)

2P192 P Regulatory mechanisms of apocarotenoid accumulation in reddish somaclonal Satsuma mandarin mutant

Tomoka Matsuda[1], Eriko Kuwada[1], Maho Iida[2], Koichiro Ushijima[1], Yasutaka Kubo[1], Takashi Akagi[1,3] ([1]Grad. Sch. Environ. Life Nat. Sci. & Tech., Okayama University, [2]Faculty of Agriculture, Okayama University, [3]Nihon BioData Co.Ltd.)

2P193 P Identification and functional analysis of HISE1-interacting proteins in *Arabidopsis thaliana*

Soichiro Suda[1], Emi Mishiro-Sato[2], Keiko Kano[2], Takashi L. Shimada[1] ([1]Fac. Hort., Chiba Univ., [2]Nagoya Univ.)

■ New technology

2P194 P Establishment of a highly efficient *Agrobacterium*-mediated transformation system of the insect gall forming plant *Rhus chinensis*

Ayaka Nuruki[1], Hiroto Fujii[2], Norihiro Ohtsubo[2] ([1]Sch. Life Environ. Sci., Kyoto Pref. Univ., [2]Grad. Sch. Life Environ. Sci., Kyoto Pref. Univ.)

2P195 P Validation of Fluoppi, a new assay system for visually detecting protein-protein interactions in living plant cells

Tsubasa Hattori[1], Yuki Tomita[1], Keisuke Inoue[1,2], Takashi Araki[1], Shohei Yamaoka[1] ([1]Grad. Sch. Biostudies., Kyoto Univ., [2]CeLiSIS., Kyoto Univ.)

2P196 P Classification of plant phosphorus status using high-resolution camera

Jaime Villarraga, Jun Wasaki (Graduate School of Integrated Life Sciences, Hiroshima University)

2P197 Development of transgene-free and DSB-free genome-editing system using removable CRISPR base-editing vectors in microalga, *Nannochloropsis oceanica*

Keishi Moroi, Tomokazu Kurita, Takashi Yamamoto (Hiroshima Univ. Genome Editing Innov.)

2P198 Transport of Meganuclease Protein from Agrobacterium to Plant Cell via a Type III Secretion System

Kota Fujihara[1], Ichiro Mitsuhara[2], Masaki Endo[2], Mysore Kiran[3,4], Seiichi Toki[1,2,5,6] ([1]Grad. Sch. Agr., Univ. Ryukoku, [2]Inst. Agrobiol. Sci., NARO, [3]Dept. Biochem. Molbiol., [4]Oklahoma State Univ., [5]Grad. Sch. Nanobio., Yokohama City Univ., [6]Kihara Inst. Biol. Res., Yokohama City Univ.)

2P199 Construction of a Meiotic Recombination Detection System in Plants

Tomoka Asakawa[1], Masaki Endo[2], Seiichi Toki[1,2,3,4], Hiroaki Saika[2] ([1]Grad. Sch. Agr., Univ. Ryukoku, [2]Inst. Agrobiol. Sci., NARO, [3]Grad. Sch. Nanobio., Yokohama City Univ., [4]Kihara Inst. Res., Yokohama City Univ.)

2P200 T7 RNAP-based random mutagenesis in an intrinsic target gene in rice

Honoka Osabe[1], Hiroaki Saika[2], Seiichi Toki[1,2,3,4], Ayako Yokoi[2], Masaki Endo[2] ([1]Grad. Sch. Agr., Univ. Ryukoku, [2]Inst. Agrobiol. Sci., NARO, [3]Grad. Sch. Nanobio., Yokohama City Univ., [4]Kihara Inst. Biol. Res., Yokohama City Univ.)

2P201 Development of cloning system for problematic genes

Neo Araya[1], Junhao Wang[2], Yasuhiro Matsuo[3], Hideaki Nojiri[2], Takushi Hachiya[1], Kazunori Okada[2], Tsuyoshi Nakagawa[1] ([1]Cent. Integ. Res. Sci., Shimane Univ., [2]Agro-Biotech. Res. Cent. Grad. Sch. Agr. Life Sci., Univ. Tokyo, [3]Fac. Life Env. Sci., Shimane Univ.)

2P202 Deep learning-based cytoskeleton segmentation for accurate high-throughput measurement of cytoskeleton density

Ryota Horiuchi[1], Asuka Kamimura[1], Yuga Hanaki[2], Hikari Matsumoto[2], Minako Ueda[2], Takumi Higaki[1] ([1]GSST, Kumamoto Univ., [2]GSLS, Tohoku Univ.)

2P203 Virtual staining for label-free quantitative analysis of plant cell structures using bright-field microscopy

Manami Ichita[1], Haruna Yamamichi[2], Takumi Higaki[1] ([1]Grad. Sch. Sci. Tech., Kumamoto Univ., [2]Fac. Sci., Kumamoto Univ.)

2P204 Trial of vitrified cryopreservation of duckweed holobionts and analyses of regrowth rates after long-term storage in liquid nitrogen

Shogo Ito[1,3], Daisuke Tanaka[2], Tokitaka Oyama[1,3] ([1]Dept. Bot., Div. Biol. Sci., Grad. Sch. Sci., Kyoto Univ., [2]Research Center of Genetic Resources, NARO, [3]JST/JICA-SATREPS)

2P205 Developing Carbon Transformation Technology Inspired by Plant Enzymes

Yuma Shisaka, Shuhei Kusano, Shinya Hagihara (RIKEN CSRS)

■ Bioresources

2P206 New mutant collections in NBRP-Tomato developed by fast-neutron and heavy ion beam irradiation

Koichi Sugimoto[1], Norio Kikuchi[2], Takashi Shimokawa[3], May Sweet[2], Hiroshi Ezura[1] ([1]Univ. Tsukuba, T-PIRC, [2]Quantum Flowers & Foods Co. Ltd., [3]QST, Institute for Quantum Medical Science)

2P207 RIKEN BRC's 2024 Initiatives for the Collection, Distribution, and Quality Control of Plant Cell Resources

Toshihiro Kobayashi, Mayumi Sugawara, Yuri Shitomi, Yukie Aso, Atsuko Iuchi, Hiroko Saito, Masatomo Kobayashi (RIKEN BRC)

2P208 OrchidBase 6.0: Increasing the number of Cymbidium (Orchidaceae) genomes and new bioinformatic tools for orchid genome analysis

Wen-Chieh Tsai (Institute of Tropical Plant Sciences and Microbiolohy, National Cheng Kung University)

2P209 Characterization of Arabidopsis mutant lines provided by RIKEN BRC

Satoshi Iuchi, Fumie Mori, Atsuko Iuchi, Hiroko Saito, Yukie Aso, Masatomo Kobayashi (RIKEN BRC Experimental Plant Division)

■ Science education

2P210 How to understand appropriate or inappropriate authorship in research ethics education

Emiko Harada (The University of Shiga Prefecture)

2P211 Design, Print, Discover! - Using Computer-aided Design, 3D Printing, and Programming to Build Experimental Design Skills and Investigate *Euglena* Phototaxis

Andy Crofts[1,2], Chizuru Honda[1], Sota Minato[1] ([1]Akita Int. Univ., Dept. of Int. Liberal Arts, [2]Akita Pref. Univ., Dept. of Biol. Production)