PCP sponsored symposium

Intercellular and Inter-organismal Communication

Date Fri., March 14, 9:30–12:25 **Venue** Room X

Organizers: Jenny Russinova (VIB-UGent Cent. Plant Sytem. Biol.) / Tetsuya Higashiyama (Grad. Sch. Sci., Univ. Tokyo)

This symposium focuses on intercellular and inter-organismal communication, a key research area highlighted in four recent and upcoming special issues of Plant and Cell Physiology (PCP). Editors of PCP associated with these topics and special issues will come together to present their research, exploring the similarities and differences in the cellular and molecular genetic bases underlying various biological phenomena. Attendees will gain cutting-edge insights into this field, learn about the related PCP special issues, and have an opportunity to connect with editors in this area.

9:30 Opening Remarks
Miki Matoba (Oxford Univ. Press)

9:35 Introduction of PCP's Upcoming Special Issues
Lili Costa (Oxford Univ. Press)

Chairperson: Tetsuya Higashiyama

9:40 S01-1 Brassinosteroids in Transit: The Role of Short-Distance Transport in Maintaining Brassinosteroid Homeostasis
Eugenia Russinova[1,2] ([1]Department of Plant Biotechnology and Bioinformatics, Ghent University, 9052 Ghent, Belgium, [2]Center for Plant Systems Biology, VIB, 9052 Ghent, Belgium)

Chairperson: Eugenia Russinova

10:10 S01-2 Cell-to-cell communication in Sexual Reproduction
Tetsuya Higashiyama (Grad. Sch. Sci., Univ. Tokyo)

10:40 Break

10:50 S01-3 The form of plant vascular biology to come
Koh Aoki[1,11], Yuki Kondo[2,11], Michitaka Notaguchi[3,11], Misato Ohtani[4,11], Masatsugu Toyota[5,11], Masashi Asahina[6,11], Tomomichi Fujita[7,11], Tomoyuki Furuya[2,11], Takahiro Hamada[8,11], Kensuke Kawade[5,11], Ken-ichi Kurotani[9,11], Kazuki Motomura[10,11], Kyoko Ohashi-Ito[4,11] ([1]Grad. Sch. Agric., Osaka Metro. Univ., [2]Osaka Univ., [3]Kyoto Univ., [4]Univ. of Tokyo, [5]Saitama Univ., [6]Teikyo Univ., [7]Hokkaido Univ., [8]Okayama Univ. of Sci., [9]Nagoya Univ., [10]Ritsumeikan Univ., [11]PVB2025 Local Org. Com.)

11:20 S01-4 The biology of parasitic plants – kin recognition in plant-plant interactions
Satoko Yoshida (NAIST Bio)

Chairperson: Tetsuya Higashiyama

11:50 S01-5 Local and systemic regulation of nodulation in *Medicago truncatula*
Florian Frugier (Institute of Plant Sciences - Paris Saclay (IPS2), CNRS, Paris-Saclay University, France)

12:20 Closing Remarks
Eugenia Russinova

To be or not to be: intricate controls on developmental fate determination

Date Fri., March 14, 9:30–12:30 **Venue** Room Y

Organizers: Momoko Ikeuchi (Nara Institute of Science and Technology) / Makoto Shirakawa (Nara Institute of Science and Technology)

The appropriate control on developmental decisions are among key survival strategies for plants. Recent advances in revolutionary technologies including single-cell omics and live imaging have enabled us to describe developmental events with unprecedented spatiotemporal resolution. Mathematical and computational approaches have proven powerful in interpreting these high-resolution data. In this symposium, we will highlight interdisciplinary approaches to understanding the key principles of developmental fate decisions.

9:30 Introduction
Momoko Ikeuchi

Chairperson: Momoko Ikeuchi

9:35 S02-1 START domains generate paralog-specific regulons from a single network architecture
Aman Husbands (University of Pennsylvania)

10:00 S02-2 Vascular cell fate bifurcation: Xylem or Phloem?
Shunji Shimadzu, Yuki Kondo (Grad. Sch. Sci., Osaka Univ.)

10:25 S02-3 Florigen relay in rice shoot apical meristem
Moeko Sato[1], Hiroyuki Tsuji[1,2] ([1]Kihara Institute for Biological Research, Yokohama City University, [2]Bioscience and Biotechnology Center, Nagoya Univ.)

10:50 S02-4 Co-option and neofunctionalization of stomatal executors for defense against herbivores in Brassicales
Makoto Shirakawa (Nara Institute of Science and Technology)

11:10 Break

Chairperson: Makoto Shirakawa

11:15 S02-5 Mechanical interactions between tissue layers underlie plant morphogenesis
Daniel Kierzkowski[1], Sylvia Silveira[1], Loann Collet[1], Sahil Haque[1], Luc Lapierre[1], Agnieszka Bagniewska-Zadworna[3], Frederick Gosselin[2], Richard Simon Smith[4], Anne-Lise Routier-Kierzkowska[1] ([1]University of Montreal, Canada, [2]Politechnique Montreal, Canada, [3]Adam Mickiewicz University, Poland, [4]John Innes Center, UK)

11:40 S02-6 Modelling growth constraints of plant organ shape and arrangement
Koichi Fujimoto[1], Naoya Kamamoto[1], Motohiro Fujiwara[2] ([1]Hiroshima Univ., [2]RIKEN BDR)

12:05 S02-7 Cell fate specification and self-organization during shoot regeneration
Momoko Ikeuchi, Yuki Doll (NAIST, bio)

12:25 Concluding remarks
Makoto Shirakawa

New horizon of plant cell biology: novel insights into organization, dynamics, and functions of plant cell cortex

Date Fri., March 14, 9:30–12:30 **Venue** Room Z

Organizers: Yoshihisa Oda (Grad. Sch. Sci., Nagoya Univ.) / Masayoshi Nakamura (ITbM, Nagoya Univ.)

The plant cell cortex is occupied by characteristic structures and molecules that play important roles in plant development and physiological responses. In recent years, new findings have been reported that challenge conventional models of their organization, dynamics, and signaling at the plant cell cortex. This symposium will focus on the emerging trend that marks a new era in plant cell biology.

9:30 Introduction
Yoshihisa Oda

Chairperson: Yoshihisa Oda

9:35 S03-1 Polaritome: Proteomic identification of cell polarization factors in plants
Akira Yoshinari[1,2] ([1]IAR, Nagoya Univ., [2]WPI-ITbM, Nagoya Univ.)

10:00 S03-2 The role of motor-mediated intracellular transport in de novo formation of the plant cell cortex
Moe Yamada (Grad. Sch. Sci., Nagoya Univ.)

10:25 S03-3 Microtubule nucleation apparatus in plant cells
Masayoshi Nakamura (Nagoya University, ITbM)

10:50 Break

Chairperson: Masayoshi Nakamura

11:05 S03-4 Control of plasma membrane-associated actin polymerization specifies the pattern of the cell wall in xylem vessels
Saku Kijima[1], Takema Sasaki[2], Yuichiro Kikushima[2], Daisuke Inoue[3], Shingo Sakamoto[1], Yuki Kondo[4], Soichi Inagaki[5], Masatoshi Yamaguchi[6], Nobutaka Mitsuda[1], Yoshihisa Oda[2] ([1]AIST, Bioproduct. Res. Inst., [2]Nagoya Univ., Grad. Sci., [3]Kyushu Univ., Fac. Des., [4]Osaka Univ., Grad. Sci., [5]Univ. Tokyo, Biol. Sci., [6]Saitama Univ., Sci. Eng.)

11:30 S03-5 Temporal changes in surface tension guide the accurate asymmetric division of Arabidopsis zygotes
Satoru Tsugawa[1], Zichen Kang[1], Sakumi Nakagawa[2], Hikari Matsumoto[2], Yukitaka Ishimoto[3], Tomonobu Nonoyama[1], Yuga Hanaki[2], Minako Ueda[2] ([1]Mech. Eng., Akita Pref. Univ., [2]Grad. Sch. Life. Sci., Tohoku Univ., [3]Sci. Eng., Saga Univ.)

11:55 S03-6 The regulatory platform for auxin transport at the cell cortex determined by organelle position
Miyo T. Morita, Shogo Mori, Hiromasa Shikata, Takeshi Nishimura (NIBB)

12:20 Discussion
Masayoshi Nakamura

Underground Chatter: The hidden but lively exchange at the root-soil interface

Date Fri., March 14, 14:00–16:45 **Venue** Room X

Organizers: Ryohei Thomas Nakano (Hokkaido Univ.)

Plant immunity plays a significant role in interactions not only with pathogens but also with commensal microbial communities (plant microbiota). While the mechanisms of plant immunity in aerial tissues have been extensively studied, much remains unknown about how immunity functions in underground tissues. This symposium aims to explore the functions of root immunity from multiple aspects.

14:00 Opening Remark
Ryohei Thomas Nakano

Chairperson: Hiroaki Adachi

14:05 S04-1 Pipecolic Acid at the Crossroads: Orchestrating Microbiota Dynamics and Immunity Along the Root-Shoot Axis
Ruidong Huang, Yuxin Ren, Kenichi Tsuda (Huazhong Agricultural University)

14:35 S04-2 The role of root immunity in root-commensal interactions
Ryohei Thomas Nakano (Faculty of Science, Hokkaido Univ)

Chairperson: Ryohei Thomas Nakano

15:05 S04-3 Root-Nematode interaction: How do cyst nematodes regulate the host system?
Mina Ohtsu[1,2] ([1]NAIST, Bio Sci., [2]JST Sakigake)

15:35 S04-4 Molecular evolution of plant NLR immune receptors to recognize pathogens
Hiroaki Adachi (Grad. Sch. Agri., Kyoto Univ.)

16:05 S04-5 Root immune components mediate microbiome feedbacks in Arabidopsis
Klaus Schlaeppi (University of Basel, Switzerland)

16:35 Closing Remark
Ryohei Thomas Nakano

Toward Elucidating PHYTOCOSM: Multiscale Symbioses Between Photosynthetic and Heterotrophic Organisms on Earth

Date Fri., March 14, 14:00–16:45 **Venue** Room Z

Organizers: Kei Hiruma (Univ. Tokyo) / Makoto Hayashi (RIKEN) / Akira Mine (Kyoto. Univ)

In this symposium, we introduce the concept of "Phytocosm," a multiscale symbiotic system between photosynthetic organisms and microbes that emerges across diverse terrestrial and aquatic environments. Utilizing advanced techniques such as radioisotope imaging, metabolomics, and metagenomics, we aim to elucidate the mechanisms underlying the formation and function of the Phytocosms.

Chairperson: Kei Hiruma

14:00 Opening remark
Kei Hiruma

14:05 S05-1 Regulation of root symbioses in legumes
Makoto Hayashi (RIKEN Center for Sustainable Resource Science)

Chairperson: Makoto Hayashi

14:30 S05-2 Toward understanding the mechanisms of nutrient exchange between plants, fungi, and bacteria within root systems
Kei Hiruma (Grad. Sch. Art. Sci., Univ. Tokyo)

14:50 S05-3 Phosphate transport and response mechanisms revealed by micro-regional tracer imaging
Satomi Kanno (IAR., Nagoya Univ.)

15:15 Break

Chairperson: Akira Mine

15:25 S05-4 Application of metabolomics to visualize the dynamics of compounds in PHYTOCOSM
Nozomu Sakurai[1], Tetsuya Mori[2] ([1]Microalgal Metabolic Engineering Team, Kazusa DNA Res. Inst., [2]CSRS, RIKEN)

15:50 S05-5 Bacteria-mediated viral resistance in diatoms: A crucial system in phytoplankton-virus interactions
Kei Kimura (Faculty Agr., Saga Univ.)

16:15 S05-6 Adaptation of aquatic microbes to oligotrophic environments through photosymbiosis
Shin-ya Miyagishima[1,2], Ayumi Sato[1,2], Kaoru Okada[1,2] ([1]Natl. Inst. of Genet., [2]SOKENDAI)

16:40 Closing remark

Multi-signal processing mechanisms: how plants simultaneously deal with different stimuli?

Date Sat., March 15, 9:00–11:50 **Venue** Room X

Organizers: Ryuichi Nishihama (Tokyo University of Science) / Dolf Weijers (Wageningen University & Research)

Plants always face to various stimuli from the environment and process information of multiple signals at the same time via integration or distinction to optimize their growth or environmental responses. Recent studies reveal mechanisms by which plants do this at different levels in a signaling pathway, such as membrane receptors and cytoplasmic protein kinases, and even at the final enzyme level. This symposium showcases several examples of multi-signal processing mechanisms and provides a platform for discussion on strategies plants take to cope with various stimuli.

9:00 Opening remarks
Ryuichi Nishihama

Chairperson: Ryuichi Nishihama

9:05 S06-1 The regulatory mechanism of plasma membrane H^+-ATPase activity through multi-signal processing in light-induced stomatal opening
Saashia Fuji, Atsushi Takemiya (Grad. Sch. Sci. Tech. Innov., Yamaguchi Univ.)

9:30 S06-2 Phosphoproteomic screening for Raf36 substrates to elucidate the growth-stress tradeoff in Arabidopsis
Hinano Takase, Aina Nagano, Yoshiaki Kamiyama, Kota Yamashita, Sotaro Katagiri, Yangdan Li, Taishi Umezawa (Tokyo University of Agriculture and Technology)

9:55 S06-3 Comparative analysis identified deeply conserved mediators of rapid signaling
Dolf Weijers (Wageningen University, Laboratory of Biochemistry, the Netherlands)

Chairperson: Dolf Weijers

10:25 S06-4 Multi-signal processing of growth-promoting and stress-derived cues through granule formation of the B4 Raf-like kinase PRAF
Ryuichi Nishihama, Shota Yamauchi (Dept. Appl. Biol. Sci., Fac. Sci. Tech., Tokyo Univ. Sci.)

10:50 S06-5 Evolution and Divergence of ABA Signaling Regulation Through the Ethylene Receptor/RAF Complex
Yoichi Sakata (Dept. Bioscience, Tokyo Univ. Agricuture)

11:15 S06-6 Secrets of signalling specificity and crosstalk
Yan Ma (Gregor Mendel Institute, Vienna, Austria)

11:45 Closing remarks
Dolf Weijers

Advanced plant -omics in plant sustainability and environmental resilience

Date Sat., March 15, 9:00–12:00 **Venue** Room Y

Organizers: Yuki Nakamura (RIKEN CSRS) / Pao-Yang Chen (IPMB, Academia Sinica)

This symposium will bring together scientists using cutting-edge omics approaches at spatial, single-cell, and tissue levels to investigate plant sustainability and environmental resilience. The speakers will discuss recent advances in multi-omics technology, including transcriptomics, epigenomics, lipidomics, and proteomics, integrated into multidisciplinary systems to study plant function and its underlying mechanisms from genetics, epigenetics to downstream metabolites.

9:00 Opening remarks
Yuki Nakamura

Chairperson: Yuki Nakamura

9:10 S07-1 A spatial understanding of metabolic cooperation between plastids and ER in plant seed oil accumulation
Yuki Nakamura[1,2], Van Nguyen[1], Niña Alyssa M Barroga[1], Artik Elisa Angkawijaya[1] ([1]RIKEN CSRS, [2]Grad Sch Sci, U Tokyo)

9:25 S07-2 Lipid rhytmicity in *Arabidopsis thaliana* leaves and its importance in plant growth control
Artik Elisa Angkawijaya[1], Van Nguyen[1], Katharina Gutbrod[2], Helga Peisker[2], Peter Dörmann[2], Yuki Nakamura[1,3] ([1]Center for Sustainable Resource Science, RIKEN, Yokohama, 230-0045 Japan., [2]Institute of Molecular Physiology and Biotechnology of Plants, University of Bonn, D-53115 Bonn, Germany., [3]Department of Biological Sciences, Graduate School of Science, The University of Tokyo, Tokyo, 113-8654 Japan)

9:40 S07-3 Lipidomic dynamics in duckweeds under abiotic stress conditions
Yasuyo Yamaoka (Dept. of Biotechnology, The Catholic University of Korea)

9:55 S07-4 Detecting the Interplay Between DNA Methylation and Lipid Production in Plants
Jo-Wei Hsieh[1], Kuan-Lin Chen[1], Chia-Yen Wu[1], Van Nguyen[2], Anh H. Ngo[2], Nguyen M. Linh[2], Kuan-Ting Hsin[1], Yuki Nakamura[2], Paoyang Chen[1] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei, Taiwan, [2]RIKEN Center for Sustainable Resource Science, Yokohama, Japan)

10:10 S07-5 The unique biological properties of AGO1 reveal the autonomy of gene regulation in RNA silencing
Shih-Shun Lin, Zhao-Jun Pan, Wei-Lun Wei, Phuong-Anh Tran (Institute of Biotechnology, National Taiwan University)

10:25 Break

Chairperson: Pao-Yang Chen

10:45 S07-6 Epigenetic-Driven Synergistic Regulation of Transposons in Arabidopsis
Jo-Wei Hsieh[1,2], Ming-Ren Yen[1], Fuyu Hung[3,4], Keqiang Wu[3], Paoyang Chen[1,2] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 115201, Taiwan, [2]Genome and Systems Biology Degree Program, Academia Sinica and National Taiwan University, Taipei 10617, Taiwan, [3]Institute of Plant Biology, National Taiwan University, Taipei 10617, Taiwan, [4]RIKEN Center for Sustainable Resource Science, Yokohama 230-0045, Japan)

11:00 S07-7 Auxin fluctuation and PIN polarization in moss leaf cell reprogramming
Han Tang[1], Jiri Friml[2] ([1]Graduate Institute of Biochemistry, NCHU, [2]Institute of Science and Technology, Austria)

11:15 S07-8 Single-cell transcriptomics unveils xylem cell development and evolution
Chia-Chun Tung[1], Shang-Che Kuo[2], Chia-Ling Yang[3], Jhong-He Yu[1], Chia-En Huang[1], Pin-Chien Liou[1], Ying-Hsuan Sun[4], Peng Shuai[5], Jung-Chen Su[6], Chuan Ku[2,3], Ying-Chung Jimmy Lin[1,2] ([1]Department of Life Science and Institute of Plant Biology, National Taiwan University, Taipei 10617, Taiwan, [2]Genome and Systems Biology Degree Program, National Taiwan University and Academia Sinica, Taipei 10617, Taiwan, [3]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [4]Department of Forestry, National Chung Hsing University, Taichung 40227, Taiwan, [5]College of Forestry, Fujian Agriculture and Forestry University, Fuzhou 350002, China, [6]Department of Pharmacy, National Yang Ming Chiao Tung University, Taipei 11221, Taiwan)

11:30 S07-9 Divergence in Plasmodesmata Composition: A Proteomic Analysis Reveals Low Conservation Between Marchantia and Arabidopsis
Kuan Ju Lu, Hui Yu Chang (Grad. Inst. Biotech., Nat. Chung Hsing Univ.)

11:45 General discussion and closing remarks
Pao-Yang Chen

The Symposium of Phototrophic Microorganisms

Date Sat., March 15, 9:00–12:00 **Venue** Room Z

Organizers: Jiro Harada (Kurume Univ. Sch. Med.) / Yusuke Tsukatani (JAMSTEC, MRU) / Chihiro Azai (Fac. Sci. & Eng., Chuo Univ.)

In the current situation, various researches using photosynthetic microorganisms can be found in dispersed fields and societies. Here, we hold the symposium designated for "The Phototrophic Microorganisms" to expand super-interdisciplinary and cross-society exchanges leading new collaboration and other exciting activities. This symposium is also the 10th of the Symposium on Phototrophic Prokaryotes, which has been annually held as an associated meeting of the annual meeting of the JSPP.

9:00 Opening remarks
Jiro Harada

Chairperson: Chihiro Azai

9:05 S08-1 Reaction center of heliobacteria: structure, function, and properties
Hirozo Oh-oka (CELAS, Osaka University)

9:30 S08-2 Lipid modification of the extrinsic proteins of photosystem II in cyanobacteria
Hisako Kubota-Kawai[1], Mayuko Oshiumi[2], Naoki Mizusawa[2,3] ([1]Fac. Sci., Yamgata Univ., [2]Grad. Sch. Sci. Eng., Hosei Univ., [3]Res. Micro-Nano Tech., Hosei Univ.)

9:45 S08-3 Stabilization of photosystem II by lipid-modifications of proteins
Mayuko Oshiumi[1], Hisako Kawai-Kubota[2], Naoki Mizusawa[1,3] ([1]Grad. Sch. Sci. Eng., Hosei Univ., [2]Fac. Sci., Yamagata Univ., [3]Res. Micro-Nano Tech., Hosei Univ.)

10:00 S08-4 *Acaryochloris marina* NIES2412 absorbs and utilizes long-wavelength light
Mai Watanabe (Sch. Sci., Dep. Biol. Sci., Tokyo Metropolitan Univ.)

Chairperson: Yusuke Tsukatani

10:20 S08-5 Detection of light-harvesting bilin synthases via structural similarity and their relationship with light environments and molecular evolution
Keita Miyake[1], Naoki Konno[2], Wataru Iwasaki[2,3] ([1]Grad, Sch, Arts Sci., Univ. Tokyo, [2]Grad, Sch, Sci., Univ. Tokyo, [3]Grad, Sch, Frontier Sci., Univ. Tokyo)

10:40 S08-6 The Circadian Clock of Photosynthetic Prokaryotes
Kazuki Terauchi (College of Life Sciences, Ritsumeikan University)

11:05 S08-7 Co-evolution of life and photosynthesis: new chapters uncovered
Masaru Konishi Nobu[1], Arisa Nishihara[2], Yusuke Tsukatani[3], Chihiro Azai[4] ([1]JAMSTEC X-star, [2]Dept. of Life Sci. and Biotech., The Nat. Inst. of Adv. Indust. Sci. and Tech., [3]JAMSTEC Biogeochemistry Research Center, [4]Chuo U. Dept. Biological Sciences)

11:30 S08-8 Loss of photosynthesis and fates of non-photosynthetic plastid functions in multiple eukaryotic algal lineages
Keishiro Sano, Ryoma Kamikawa (Graduate School of Agriculture, Kyoto University)

11:55 Closing remarks
Yusuke Tsukatani

Singularity of the research on light-harvesting antenna complexes

Date Sun., March 16, 9:00–12:00 **Venue** Room Y

Co-sponsored by Grant-in-Aid for Transformative Research Areas (A) Photosynthesis ubiquity: Supramolecular complexes and their regulations to enable photosynthesis all around the globe
Grant-in-Aid for Transformative Research Areas (B) Restorative Cellular Functional Science: Reconstruction of Photosynthetic Antenna Complexes

Organizers: Yukako Hihara (Grad. Sch. Sci. Eng., Saitama Univ.) / Satoru Watanabe (Dept. Biosci., Tokyo Univ. Agric.)

Photosynthetic organisms have adapted to various growth habitats by evolving diverse light-harvesting antenna complexes. Here, researchers from different fields such as planetary science, data science, plant science and synthetic biology will gather to discuss the evolution and diversity of the light-harvesting antenna complex, with the aim of creating a singularity that will transform the research field.

9:00 Opening remarks
Yukako Hihara, Satoru Watanabe

Chairperson: Takako Ogawa

9:05 S09-1 Multidisciplinary approach to understanding the optimization mechanisms of light harvesting systems in green plants
Eunchul Kim[1], Yudai Nishitani[2], Daekyung Lee[3], Souichi Sakamoto[4], Heetae Kim[3], Akihito Ishizaki[4], Daisuke Yamamoto[2], Jun Minagawa[1] ([1]National Institute for Basic Biology, [2]Fukuoka University, [3]Korea Institute of Energy Technology, [4]Institute for Molecular Science)

9:25 S09-2 Analysis of environmental adaptation mechanisms of photosynthetic complex via molecular phylogeny and machine-laeraning
Ryuhei Mienei[1], Satoshi Ohmori[1], Atsushi Hijikata[2], Yuko Tuchiya[3], Tsuyoshi Shirai[1] ([1]Nagahama Inst. Biosci. Tech., Bioscience, [2]Tokyo Univ. Pharm. LifeSci., Lifescience, [3]AIST · AIRC)

9:50 S09-3 Green Ocean Hypothesis: Coevolution of Cyanobacteria and Surface Environment
Taro Matsuo[1], Kumiko Miwa[1], Yuri I. Fujii[2], Satomi Kanno[3], Yoko Yoshiyama[4], Keita Miyake[5], Naoki Konno[6], Hideaki Miyashita[2] ([1]Grad. Sch. Sci., Nagoya Univ., [2]Grad. Sch. Human Environ. Studies, Kyoto Univ., [3]Inst. Adv. Res., Nagoya Univ., [4]Dep. Agr., Ryukoku Univ., [5]Grad. Sch. Arts Sci., Univ. Tokyo, [6]Grad. Sch. Sci., Univ. Tokyo)

Chairperson: Eunchul Kim

10:15 S09-4 Dynamics of light-harvesting antenna complexes under natural environments revealed through metatranscriptomic analysis
Takako Ogawa[1], Jun Minagawa[2], Yukako Hihara[1] ([1]Saitama Univ., [2]National Institute for Basic Biology)

10:35 S09-5 Regulation of multiple phycobilisomes in response to light color and iron availability in cyanobacteria
Mutsumi Kubushiro, Masako Hamada, Toshihiko Eki, Shigeru Kawai, Yuu Hirose (Toyohashi Tech. Dept. of Appl. Chem. and Life Sci.)

Chairperson: Yu Hirose

10:55 S09-6 Functional modification of cyanobacterial phycobiliprotein and phycobilisomes through bilin metabolism control
Misaki Iwata[1], Mizuho Sato[1], Takeshi Kawaguchi[1], Kaisei Maeda[2], Mai Watanabe[3], Masahiko Ikeuchi[4], Rei Narikawa[3], Satoru Watanabe[1] ([1]Dept. Biosci., Tokyo Univ. Agric., [2]Inst. Innov. Res., Sci. Tokyo, [3]Dept. Sci., Tokyo Metro. Univ., [4]Grad. Arts Sci., Tokyo Univ.)

11:15 S09-7 A strategy for utilizing DNA nanostructures to construct light-harvesting complexes in vitro
Eiji Nakata[1], Futa Komatsubara[1], Ryunosuke Kondo[1], Peng Lin[1], Takashi Morii[1,2] ([1]IAE, Kyoto Univ., [2]Kyoto Koka Women's University)

Chairperson: Yukako Hihara

11:40 Panel discussion

Spatial sensing, design, production control and functional analysis of plant molecules

Date Sun., March 16, 9:00–12:00 **Venue** Room Z

Co-sponsored by JST PRESTO

Organizers: Kazuhiko Nishitani (Kanagawa Univ.) / Kanako Sekimoto (Yokohama City Univ.) / Yasuyuki Yamada (Kobe Pharma. Univ.)

JST PRESTO "Function and Regulation of Plant Molecules" [Plant Molecules] defines plant-derived compounds and related genes as "plant molecules" and promotes innovative and cross-disciplinary research to elucidate biological phenomena within living organisms and ecosystems for the effective use of molecules. In this symposium, six PRESTO researchers will present their recent results involved in "plant molecules".

Chairperson: Yasuyuki Yamada

9:00 S10-1 Spatiotemporal imaging of volatile molecules emitted from plants into the atmosphere
Kanako Sekimoto (Yokohama City Univ.)

9:30 S10-2 Molecular mechanisms of carbon dioxide sensing and signal transduction in plants
Yohei Takahashi (Nagoya Univ., ITbM)

10:00 S10-3 Mechanistic investigation and functional modification of terpene cyclases and oxidases using Computational Chemistry
Hajime Sato (Tokyo Univ., Grad. Sch. Agri. & Life Sci.)

Chairperson: Kanako Sekimoto

10:30 S10-4 Metabolic engineering of plant-specialized metabolism based on the diversified regulatory mechanisms
Yasuyuki Yamada (Kobe Pharma. Univ.)

11:00 S10-5 Integrated analysis of the cell wall-cuticle continuum: relationship between chemical structure, composition and transcriptional regulation
Yoshimi Oshima (AIST, Bioprod. Res. Inst.)

11:30 S10-6 Development of an artificial control system for seed germination: the application of germination-suppressing factors broken by the germination-inducing chemical
Kosuke Fukui (TUS, Applied Chemistry)