Wed., March 13, 9:30–12:30 Room A

Understanding of field plants and development of innovative techniques toward these plant regulation

Language: Japanese

Organizers: Nobutoshi Yamaguchi (NAIST)
Yoko Mizuta (Nagoya University)
Shigeo Sugano (Ritsumeikan Universtiy)

● Chairperson: Shigeo Sugano

09:30 Opening remarks
Nobutoshi Yamaguchi

09:30 **S01-1** Molecular genetic analysis for epigenetic memory and acquired traits
Nobutoshi Yamaguchi[1,2] ([1]NAIST, [2]JST PRESTO)

09:55 **S01-2** Evolution and diversification of sexual systems in plants: insights from "persimmon"
Takashi Akagi[1,2] ([1]Grad. Sch. Agric., Kyoto Univ., [2]JST-PRESTO)

10:20 **S01-3** Gene Expression Dynamics Of The Obligate Filamentous Pathogen Blumeria Spp. And Their Host Plant Under Field Environments
Kentaro Yoshida[1,2] ([1]Grad. Sch. Agric. Sci., Kobe Univ., [2]JST, Presto)

● Chairperson: Yoko Mizuta

10:45 **S01-4** Elucidating biological networks of plant-microbiota superorganism
Yasunori Ichihashi (RIKEN BioResource Research Center)

11:10 **S01-5** Precise control of auxin signaling by synthetic approach
Shinya Hagihara[1,2] ([1]CSRS, RIKEN, [2]ITbM, Nagoya Univ.)

● Chairperson: Nobutoshi Yamaguchi

11:35 **S01-6** Development of the core technology that allows quantitative evaluation of solute movement in a living plant using radioisotopes
Keitaro Tanoi[1,2], Ryohei Sugita[1], Natsuko I. Kobayashi[1] ([1]Grad. Sch. Agri. Life Sci., UTokyo, [2]JST PRESTO)

12:00 **S01-7** Genetic modification of plant reproductive cells using pollen tube as a vector and the study of plant reproduction
Yoko Mizuta[1,2], Shiori Nagahara[2], Daisuke Kurihara[1,2], Tetsuya Higashiyama[2,3]
([1]JST PRESTO, [2]ITbM, Nagoya Univ., [3]Grad. Sch. of Sci., Nagoya Univ.)

12:25 Closing remarks
Yoko Mizuta

Co-sponsored by JST PRESTO Creation of next-generation fundamental technologies for the control of biological phenomena in field-grown plants

Wed., March 13, 9:30–12:30 Room B

The final phase of the photosynthetic electron transport

Language: Japanese

Organizers: Shinji Masuda (Cent. Biol. Res. Inform., Tokyo Inst. Tech.)
Kentaro Ifuku (Grad. Sch. Biostu., Kyoto Univ.)

● Chairperson: Shinji Masuda

09:30 Shinji Masuda

09:40 **S02-1** Photosynthesis Organisms Favor O_2 to Suppress ROS Production
~Who Understands O_2 Worlds?~
Chikahiro Miyake (Fac Agri, Kobe University)

10:05 **S02-2** Roles of far-red light in regulation of photosynthesis in fluctuating light in land plants
Masaru Kono, Wataru Yamori, Ichiro Terashima (Sch. Sci. Univ. Tokyo)

10:30 **S02-3** Structural basis for the electron transfer mechanism between photosystem I and ferredoxin
Hisako Kubota-Kawai[1], Risa Mutoh[2], Takahisa Ikegami[3], Hideaki Tanaka[4], Genji Kurisu[4] ([1]Faculty of Sci., Yamagata Univ., [2]Faculty of Sci., Fukuoka Univ., [3]Faculty of Sci., Yokohama city Univ., [4]IPR. Osaka Univ.)

● Chairperson: Kentaro Ifuku

10:55 **S02-4** Crosstalk between $NADP^+$ supply system and electron transfer in photosynthesis
Shin-nosuke Hashida[1], Maki Kawai-Yamada[2] ([1]Environ. Sci. Res. Lab., CRIEPI, [2]Grad. Sch. Sci. Eng., Saitama Univ.)

11:20 **S02-5** Regulation of photosynthetic electron transport via proton motive force
Toshiharu Shikanai, Caijuan Wang (Kyoto University)

11:45 **S02-6** The role of cyclic electron flow in C_4 photosynthesis
Takako Ogawa, Kana Kobayashi, Yukimi Taniguchi, Yuri Munekage (Grad. Sch. Sci. & Tec., Univ. Kwansei Gakuin)

12:10 Kentaro Ifuku

Cosponsor: New photosynthesis

Wed., March 13, 9:30–12:10 Room N

Understanding the plant survival strategies from the perspective of stem cells

Language: English

Organizers: Masaaki Umeda (NAIST)
Hitoshi Sakakibara (Nagoya Univ.)

09:30 Opening remarks
Masaaki Umeda

● Chairperson: Masaaki Umeda

09:35 **S03-1** Towards understanding mechanisms controlling indeterminacy of plant stem cells
Junko Kyozuka (Tohoku Univ., Life Sciences)

09:55 **S03-2** Mechanisms for the timing of the stem cell production in plants
Shinjiro Yamaguchi[1,2] ([1]Kyoto Univ., Inst. Chem. Res., [2]Tohoku Univ., Grad. Sch. Life Sci.)

10:15 **S03-3** Role of cytokinins in maintenance and modulation of shoot meristem activity
Hitoshi Sakakibara, Takatoshi Kiba (Grad. Sch. Bioagr. Sci., Nagoya Univ.)

10:35 Break

● Chairperson: Hitoshi Sakakibara

10:50 **S03-4** Gene regulatory networks in root nodule symbiosis
Makoto Hayashi[1], Kai Battenberg[1], Tsuneo Hakoyama[1], Atsuko Hirota[1], Akihiro Yamazaki[1], Shiori Aki[2], Masaaki Umeda[2], Thomas Kelly[3], Nicola Hetherington[3], Aki Minoda[3] ([1]RIKEN CSRS, [2]NAIST, [3]RIKEN IMS)

11:10 **S03-5** Genome maintenance strategies in stem cells
Masaaki Umeda (Grad. Sch. Sci. Tech., NAIST)

11:30 **S03-6** Direct roles of MUTE in termination of asymmetric cell division and orchestration of stomata differentiation
Soon-Ki Han[1], Keiko Torii[1,2,3] ([1]ITbM, Nagoya University, [2]Howard Hughes Medical Institute, University of Washington, [3]Department of Biology, University of Washington)

11:50 **S03-7** Cell division in moss stem cells
Gohta Goshima (Nagoya University)

Cosponsor: Grant-in-Aid for Scientific Research on Innovative Areas 'Principles of pluripotent stem cells underlying plant vitality'

Wed., March 13, 14:00–17:00 Room A

Strategies of mechanical optimization in plants

Language: Japanese

Organizers: Haruko Ueda (Konan University)
Shinichiro Sawa (Kumamoto University)

● Chairperson: Shinichiro Sawa

14:00		Opening remarks
14:05	**S04-1**	Strategy of Mechanical Optimization During Plant Development by Regulation of Secondary Cell Wall Formation Taku Demura, Misato Ohtani (Division of Biological Science, Nara Institute of Science and Technology)
14:35	**S04-2**	Explore mechanical optimization strategies of jigsaw puzzle-shaped pavement cells Takumi Higaki (IROAST, Kumamoto Univ.)
15:00	**S04-3**	Organ bending and its restoration system for adjusting plant posture Haruko Ueda, Ikuko Hara-Nishimura (Fac. Sci. Engin., Konan Univ.)
15:25		Break

● Chairperson: Haruko Ueda

15:35	**S04-4**	Plant mechanosensory transduction as revealed by highly-sensitive biosensors Masatsugu Toyota (Dept Biochem and Mol Biol, Saitama Univ)
16:00	**S04-5**	Single cell detection and manipulation by atomic force microscopy and laser ablation Yoichiroh Hosokawa (Division of Materials Science, Nara Institute of Science and Technology)
16:25	**S04-6**	Plantphysiology and Structural Engineering Kenichi Kawaguchi (IIS, the University of Tokyo)
16:55		General discussion

Cosponsor: Plant-Structure Optimization Strategy

Wed., March 13, 14:00–17:00 Room B

Metabolisms as Survival Strategy in Plants

Language: English

Organizers: Mami Yamazaki (Grad. Sch. Pharm. Sci., Chiba Univ.)
Nobukazu Shitan (Kobe Pharm. Univ.)
Hikaru Seki (Grad. Sch. Engineering, Osaka Univ.)

14:00		Opening remarks Mami Yamazaki
14:05	**S05-1**	Polyphenolic polymorphism found in neo-functionalization related to production of UV light protectants Takayuki Tohge (NAIST)
14:30	**S05-2**	A heat-inducible lipase remodels chloroplastic glycerolipids in Arabidopsis leaves Yasuhiro Higashi[1], Yozo Okazaki[1,2], Kouji Takano[1], Fumiyoshi Myouga[1], Kazuo Shinozaki[1], Eva Knoch[1], Atsushi Fukushima[1], Kazuki Saito[1,3] ([1]CSRS, RIKEN, [2]Grad. Sch. Bioresources, Mie Univ., [3]Grad. Sch. Pharm. Sci., Chiba Univ.)
14:55	**S05-3**	Importance of chemical information on insect-plant network Masaaki Kotera (Dep. Eng., Univ. Tokyo)
15:20	**S05-4**	Investigating biosynthesis and regulation of plant triterpenoids: towards the elucidation of their biological functions Hikaru Seki (Grad. Sch. Eng., Osaka Univ)
15:45		Short break
16:00	**S05-5**	Transporters of secondary metabolites —Identification, characterization, and possible application to synthetic biology— Nobukazu Shitan (Kobe Pharm. Univ.)
16:25	**S05-6**	Neo-functionalization of enzymes commits to biosynthesis of bioactive alkaloids Mami Yamazaki (Grad. Sch. Pharm. Sci., Chiba Univ.)
16:50		General discussion

Cosponsor: Grant-in-Aid for Scientific Research on Innovative Areas FY2016-2020 "Redesigning Biosynthetic Machineries"; Grobal and Prominent Research, "Phytochemical Plant Molecular Sciences", Chiba University

Wed., March 13, 14:00–16:50 Room F

Plant adaptation strategies via ABA-mediated signaling in change of environmental conditions

Language: English

Organizers: Toshinori Kinoshita (Nagoya Univ.)
Noriyuki Nishimura (ICS, NARO)
Fuminori Takahashi (RIKEN CSRS)

14:00 Opening remarks
Noriyuki Nishimura

● Chairperson: Fuminori Takahashi

14:05 **S06-1** New Insights into Drought-Linked Stomatal Movements and Abscisic Acid Signal Transduction
Julian I. Schroeder[1], Yohei Takahashi[1], Zixing Li[1], Felix Hauser[1], Po-Kai Hsu[1], Shintaro Munemasa[2], Rainer Waadt[3] ([1]Division of Biological Sciences, University of California, San Diego, USA, [2]Graduate School of Environmental and Life Science, Okayama University, Okayama, Japan, [3]Centre for Organismal Studies, Plant Developmental Biology, Ruprecht-Karls-University of Heidelberg, Heidelberg, Germany)

14:30 **S06-2** Chemical genetics for elucidating stomatal movement
Yusuke Aihara[1], Shigeo Toh[2], Yosuke Toda[3,4], Gwanchol Sin[1], Takahiro Yuki[1], Ayato Sato[4], Toshinori Kinoshita[1,4] ([1]Grad.Sch.Sci., Nagoya Univ., [2]Grad.Sch.Agr., Meiji Univ., [3]PRESTO, JST, [4]WPI-ITbM, Nagoya Univ.)

14:55 **S06-3** A regulatory system of seed dormancy and germination regulated by abscisic acid signaling
Noriyuki Nishimura[1], Wataru Tsuchiya[2], James J. Moresco[3], Yuki Hayashi[4], Kouji Satoh[1], Nahomi Kaiwa[1], Tomoko Irisa[1], Toshinori Kinoshita[4], Julian I. Schroeder[5], John R. Yates, III[3], Takashi Hirayama[6], Toshimasa Yamazaki[2] ([1]ICS, NARO, [2]AAC, NARO, [3]TSRI, [4]Grad. Sch. Sci., Nagoya Univ, [5]UCSD, [6]IPSR, Okayama Univ)

15:20 Coffee break

● Chairperson: Noriyuki Nishimura

15:30 **S06-4** Phosphoproteomics of Highly ABA-Induced1 (HAI1) reveals new factors in growth and RNA splicing regulation during drought stress.
Paul Verslues (Academia Sinica, Institute of Plant and Microbial Biology)

15:55 **S06-5** Conserved and diversified signaling mechanisms revealed by molecular studies of ABA responses in bryophytes
Daisuke Takezawa[1], Kenji Komatsu[2], Izumi Yotsui[2], Taishi Umezawa[3], Yoichi Sakata[2] ([1]Saitama University, [2]Tokyo University of Agriculture, [3]Tokyo University of Agriculture and Technology)

16:20 **S06-6** Long-distance peptide signaling in drought stress responses
Fuminori Takahashi[1], Takehiro Suzuki[1], Yuriko Osakabe[2], Shigeyuki Betsuyaku[3], Yuki Kondo[4], Naoshi Dohmae[1], Hiroo Fukuda[4], Kazuko Yamaguchi-Shinozaki[4], Kazuo Shinozaki[1] ([1]RIKEN CSRS, [2]Tokushima Univ., [3]Tsukuba Univ., [4]The Univ. of Tokyo)

16:45 Closing remarks
Fuminori Takahashi

Cosponsor: Plant Memory

Thu., March 14, 9:00–11:40 Room B

Find out the mechanism supporting C4 photosynthesis

Language: English

Organizers: Yuri Munekage (Kwansei Gakuin Univ.)
Tsuyoshi Furumoto (Ryukoku Univ.)

09:00 Opening remarks
Yuri Munekage

● Chairperson: Tsuyoshi Furumoto

9:05 **S07-1** Evolutionary Assembly of C_4 Leaf Structure
Tammy Sage (Department of Ecology & Evolutionary Biology, University of Toronto)

9:30 **S07-2** Organelle positioning in C_4 photosynthetic cells
Mitsutaka Taniguchi[1], Takao Oi[1], Koji Yamane[2] ([1]Grad. Sch. Bioagricul. Sci., Nagoya Univ., [2]Facul. Agricul., Kindai Univ.)

9:55 **S07-3** Electron transport and energy production in chloroplasts of NADP-ME type C_4 plants
Yuri Munekage, Takako Ogawa, Yukimi Taniguchi (Sch Sci Tech, Kwansei Gakuin Univ.)

● Chairperson: Yuri Munekage

10:20 **S07-4** Optimum integration of C_4 cycle into Calvin-Benson cycle
Tsuyoshi Furumoto (Faculty of Agriculture, Ryukoku University)

10:45 **S07-5** The molecular evolution of C_4 photosynthesis
Julian Hibberd (Department of Plant Sciences, University of Cambridge)

11:10 **S07-6** Mechanisms regulating differentiation and positioning of the two chloroplast types in single-cell C_4 species
Sascha Offermann[1], Philipp Bohnhorst[1], Diana Wimmer[1], Inhwan Hwang[2] ([1]Institute of Botany, Leibniz University Hannover, [2]Pohang University of Science and Technology)

11:35 Closing remarks
Tsuyoshi Furumoto

Cosponsor: New photosynthesis

Thu., March 14, 13:30–16:00 Room A

How to inherit and rewrite cellular memory in plants

Language: English

Organizers: Momoko Ikeuchi (RIKEN CSRS)
Yosuke Tamada (NIBB, SOKENDAI)

13:30 Opening remarks
Momoko Ikeuchi

● Chairperson: Yosuke Tamada

13:35 **S08-1** Mechanisms underlying cell fate specification and plasticity
Roger Deal (Emory University, Department of Biology)

14:05 **S08-2** Reconfiguring the A. thaliana epigenome by bypassing epigenetic resetting in the germ line
Claude Becker[1,2] ([1]Gregor Mendel Institute of Molecular Plant Biology, [2]Austrian Academy of Sciences)

14:35 **S08-3** Balancing act in the control of plant cell reprogramming
Momoko Ikeuchi, Akira Iwase, Keiko Sugimoto (RIKEN CSRS)

● Chairperson: Momoko Ikeuchi

15:00 **S08-4** de novo Meristem Formation at Single Cell Resolution
Idan Efroni, Gil Naama, Omary Moutasem, Matosevich Rotem, Gedion Beatrice (The Hebrew University)

15:30 **S08-5** Role of the histone variant in the regulation of cellular memory
Yosuke Tamada[1,2] ([1]Div. Evol. Biol., Natl. Inst. Basic Biol., [2]Sch. Life Sci., SOKENDAI)

15:55 Closing remarks
Yosuke Tamada

Sponsored by Scientific Research on Innovative Areas, Integrative system of autonomous environmental signal recognition and memorization for plant plasticity

Thu., March 14, 13:30–16:00 Room B

Plant mineral transporters: from function to structure and modelling

Language: English

Organizer: Jian Feng Ma (IPSR, Okayama Univ.)

13:30 Opening remarks

● Chairperson: Jian Feng Ma

13:35 **S09-1** Node-based transporters for preferential distribution of mineral elements
Naoki Yamaji, Jian Feng Ma (IPSR, Okayama Univ.)

13:55 **S09-2** IRON MAN to the rescue: how plants take up iron
Louis Grillet[1], Ping Lan[1,2], Wenfeng Li[1,3], Girish Mokkapati[1,4,5], Wolfgang Schmidt[1,4] ([1]IPMB, Academia Sinica, Taiwan, [2]State Key Laboratory of Soil and Sustainable Agriculture, Institute of Soil Science, Chinese Academy of Sciences, China, [3]Collaborative Innovation Center of Sustainable Forestry in Southern China of Jiangsu Province, Nanjing Forestry University, China, [4]Graduate Institute of Biotechnology, National Chung-Hsing University, Taiwan, [5]Molecular Biology and Agricultural Sciences Program, Taiwan International Graduate Program, Academia Sinica and National Chung-Hsing University, Taiwan)

14:20 **S09-3** Regulation of nitrogen acquisition under low availability and beyond
Takatoshi Kiba (Grad. Sch. Bioagr., Nagoya Univ.)

14:45 **S09-4** Sensing external and internal nitrate by transceptors
Yi-Fang Tsay, Hui-Yu Chen (Institute of Molecular Biology, Academia Sinica, Taipei, Taiwan)

15:10 **S09-5** Structure of a silicon transporter in plant
Yasunori Saitoh[1], Kengo Matsuki[1], Shin-Ichiro Yonekura[1], Lingli Yang[1], Namiki Mitani-Ueno[2], Naoki Yamaji[2], Jian-Ren Shen[1], Jian Feng Ma[2], Michi Suga[1] ([1]Research Insititute for Interdisciplinary Science, Okayama Univ., [2]Institute of Plant Science and Resources, Okayama Univ.)

15:35 **S09-6** Integrated micro-scale and macro-scale modeling of silicon transportation system in rice
Gen Sakurai[1], Naoki Yamaji[2], Namiki Mitani-Ueno[2], Masayuki Yokozawa[3], Keisuke Ono[1], Jian Feng Ma[2] ([1]Institute for Agro-Environmental Sciences, NARO, [2]Institute of Plant Science and Resources, Okayama University, [3]Faculty of Human Sciences, Waseda University)

16:00 Closing remarks

Cosponsor: Specially Promoted Research
“Integrated analysis of mineral transport system in crops”