Japan-Taiwan Plant Biology 2019 (JTPB2019)

Date: March 14 (Thu)–16 (Sat), 2019
Venue: Higashiyama Campus, Nagoya University

Preparatory Committee for JTPB2019

[Co-Chairs]

Yasuomi Tada / Yi-Fang Tsay

[Members]

Toshinori Kinoshita / Toshiro Ito / Wataru Sakamoto / Yuichiro Tsuchiya / Ryo Tabata /
Hirofumi Yoshioka / Masayoshi Nakamura / Masahiro Kanaoka / Mika Nomoto
Su-Chiung Fang / Ming-Tsair Chan / Yuki Nakamura / Shih-Long Tu /
Jun-Yi Yang / Yee-Yung Charng / Chwan-Yang Hong

JTPB2019 Office

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Abstract Book of JTPB2019

https://jspp.org/annualmeeting/JTPB2019/abstractbook.html

Abstract Book of JSPP2019

https://jspp.org/annualmeeting/60/abstractbook.html

***All contact regarding JTPB2019 should be made by e-mail if possible.**

Welcome Message

Dear Colleagues,

It is a great pleasure and an honor to announce that Japan-Taiwan Plant Biology 2019 (JTPB2019) will be held on March 14 to 16, 2019, at Nagoya University, Nagoya, Japan. Registration is open now, and we invite you to attend this second joint meeting.

JSPP (Japanese Society of Plant Physiologists) and TSPB (Taiwan Society of Plant Biologists) represent major scientific societies in Japan and Taiwan, respectively, both established in the late 1950's partly as a nation-representing plant science community tied with International Association of Plant Physiologists. Both societies promote communication within the members who are engaged or interested in researches on plant physiology and related subjects, ranging from basic sciences, agriculture, to pharmacology. Sharing the history and scientific background in plant research, both societies have been seeking for an opportunity for strengthening their intimate interactions, and agreed to co-organize a joint meeting. After the great success in the first joint meeting of TJPB2017 in Taiwan, we decided to organize the second one, JTPB2019, in Nagoya. The venue is Nagoya University (Higashiyama Campus), which is conveniently located (25 minute subway ride from Nagoya station).

JTPB2019 takes place as an extension of the JSPP annual meeting, which is open to both TSPB and JSPP members who wish to attend and present their scientific findings. We offer financial support for students and young researchers, who we hope be exposed to an international atmosphere through the presentation of their own work.

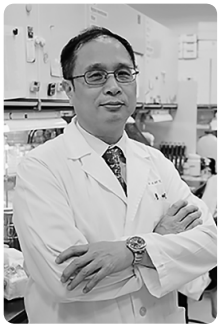
In this exciting joint meeting, we arrange eight Keynote talks from the leading scientists in plant biology, twelve concurrent oral sessions that include four speakers' and a few selected talks from your poster applications, and poster sessions. Each concurrent session will be co-chaired by designated JSPP and TSPB members. In addition to the scientific activity, we offer you Conference Gala Dinner at a wonderful, traditional BBQ restaurant in Nagoya.

Finally, we sincerely hope the meeting will bring us successful scientific and social forum for plant science.

Don't miss and join this exciting joint meeting!

三村 徹郎 Tetsuro Mimura

Dr. Tetsuro Mimura
President, Japanese Society fo Plant Physiologists



詹明才 Ming-Tsair Chan

Dr. Ming-Tsair Chan
President, Taiwan Society of Plant Biologists

Information for Participants and Presenters

1) Those who have registered in advance for participation in the 60th Annual Meeting of the Japanese Society of Plant Physiologists (JSPP) can participate in all sessions of JTPB2019. However, please note that an additional fee is required to attend the gala dinner held on March 16. If you have not registered and paid the fee by the due date, you can do it on-site.

2) Those who have registered for participation in JTPB2019 need not pay the attendance fee for the banquet of the 60th Annual Meeting of JSPP held on March 14 and for the gala dinner of JTPB2019 held on March 16. If you have not registered and paid the fee by the due date, you can do it on-site.

3) Participants of JTPB2019 will receive a copy of the program booklet at the venue. The PDF version of the JSPP Newsletter No. 135 (in Japanese) can be downloaded from the members-only page of the website of the 60th Annual Meeting of JSPP. All information necessary for the Annual Meeting, including the program and proceedings, will be available using the application that will be distributed on or after March 6. If you do not use the application, please download and use the PDF file of the proceedings. The application and the PDF file of the proceedings will be available only for those who have completed the registration. The program booklet of JPTB2019 will not be provided to participants registering of the 60th Annual Meeting of JSPP. Please search for the program on the JSPP Newsletter, proceedings, or application.

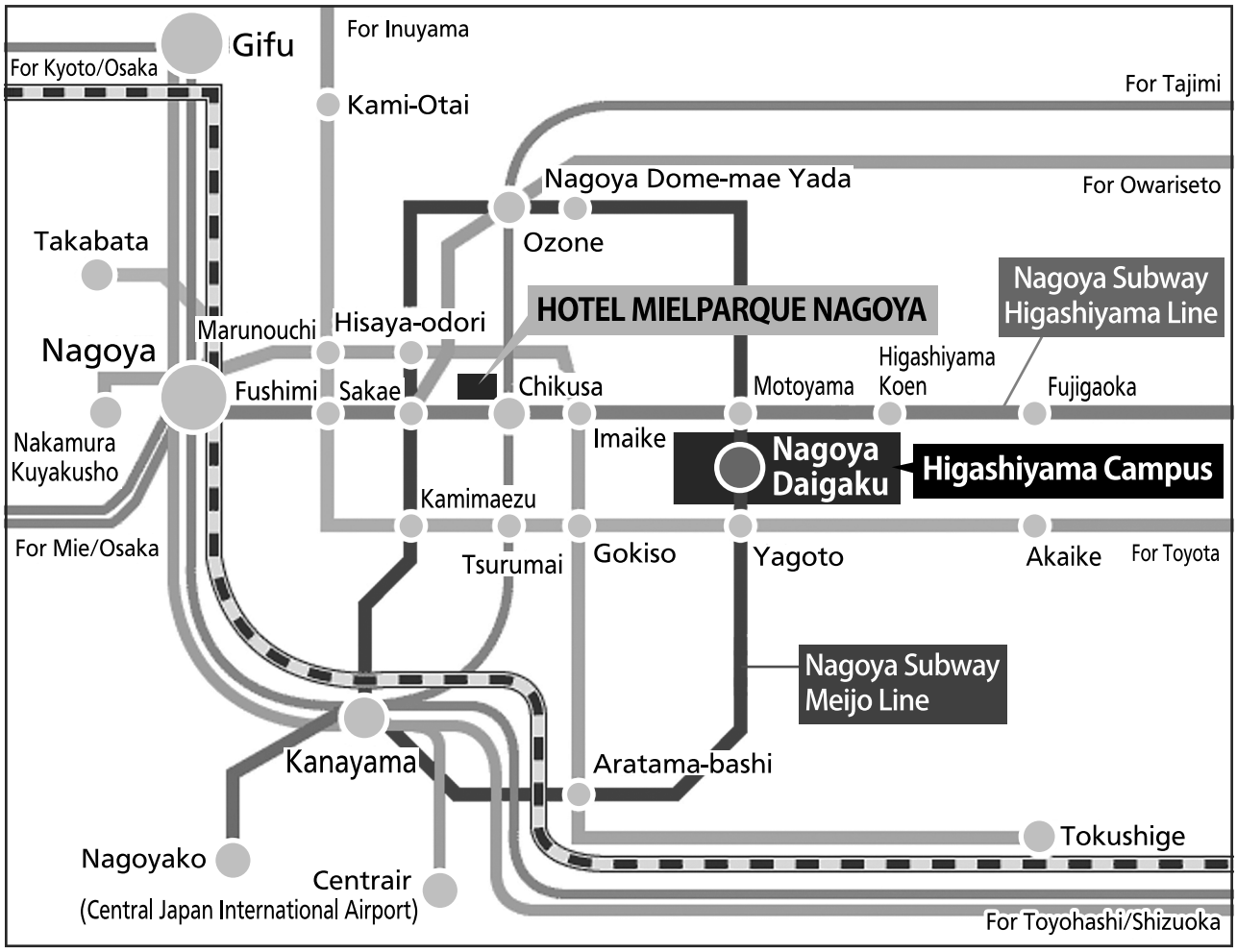
4) Participants of JTPB2019 can find detailed information about the 60th Annual Meeting of JSPP, including detailed information about the use of the nursery room, access to the proceedings on the application, and the use of Wi-Fi, on the application or in the PDF files. The cloak room will be available in the Toyoda Auditorium of Nagoya University from 8:30 to 17:00 on March 16 (Sat).

5) The banquet will be held at Hotel Mielparque Nagoya from 19:00 on March 14 (Thu), the second day of the 60th Annual Meeting of the Japanese Society of Plant Physiologists. It takes about 15 minutes by subway from Nagoya University to Hotel Mielparque Nagoya (3-16-16 Aoi, Higashi-ku, Nagoya, Aichi 461-0004, Japan; https://www.mielparque.jp/nagoya/).

6) The gala dinner will be held at Sapporo Beer, Nagoya Beer Garden Koyoen from 18:00 on March 16 (Sat), the third day of JTPB2019. Please note that a shuttle bus from Nagoya University to Koyoen (2-24-10, Chikusa, Chikusa-ku. Nagoya, Aichi 464-0858, Japan; http://www.kouyouen.jp/) will be available for participants.

7) Send e-mail to jtpb2019@gmail.com if you have any comments or questions regarding JTPB2019.

Venue and Access



Train

The closest station from Higashiyama Campus, Nagoya University is

Nagoya Daigaku Sta. (Subway Meijo Line).

- **Liberal Arts and Sciences Main Building:** 6 minutes walk from Exits 1
- **Toyoda Auditorium (JTPB2019 Keynote Symposia):** 3 minutes walk from Exits 2

From Nagoya Station:

Take the Subway Higashiyama Line to Motoyama Sta. (15 minutes),
then transfer to the Subway Meijo Line to Nagoya Daigaku Sta.
(Higashiyama Campus is just off the subway exit.).

Airplane

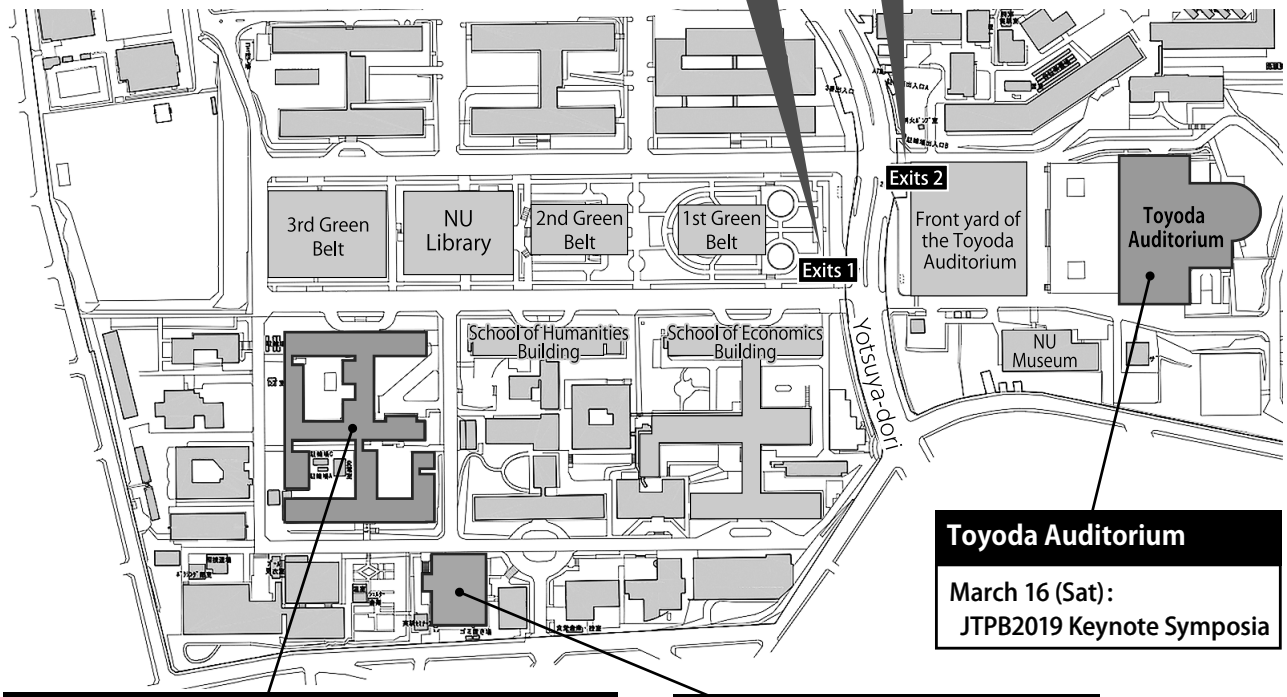
From Centrair (Central Japan International Airport):

Take the Meitetsu Line to Kanayama Sta. (30 min.),
then transfer to the Subway Meijyo Line to Nagoya Daigaku Sta. (21 min.).

Banquet **HOTEL MIELPARQUE NAGOYA** Take the Subway Higashiyama Line to **Chikusa Sta.**

Guide map (Nagoya University, Higashiyama Campus)

Nagoya Daigaku Sta. (Subway Meijo Line).
Exits 1 to **Liberal Arts and Sciences Main Building**
Exits 2 to **Toyoda Auditorium**



Toyoda Auditorium

March 16 (Sat):
JTPB2019 Keynote Symposia

Liberal Arts and Sciences Main Building

Registration Desk / Cloak
JSPP Awards Ceremony and Award Lectures (Room N)
Symposia (Room A/B/F/N)
JTPB2019 Symposia (Room A/B/F/G)
Database Workshop (Room F)
Oral Presentation (Room C-M, O)
Poster Presentations (Room P-Y)
Exhibition Booths (1F)
Board of Delegates' Meeting (Room N)

University Cafeteria (Mei-dining)

Mixer

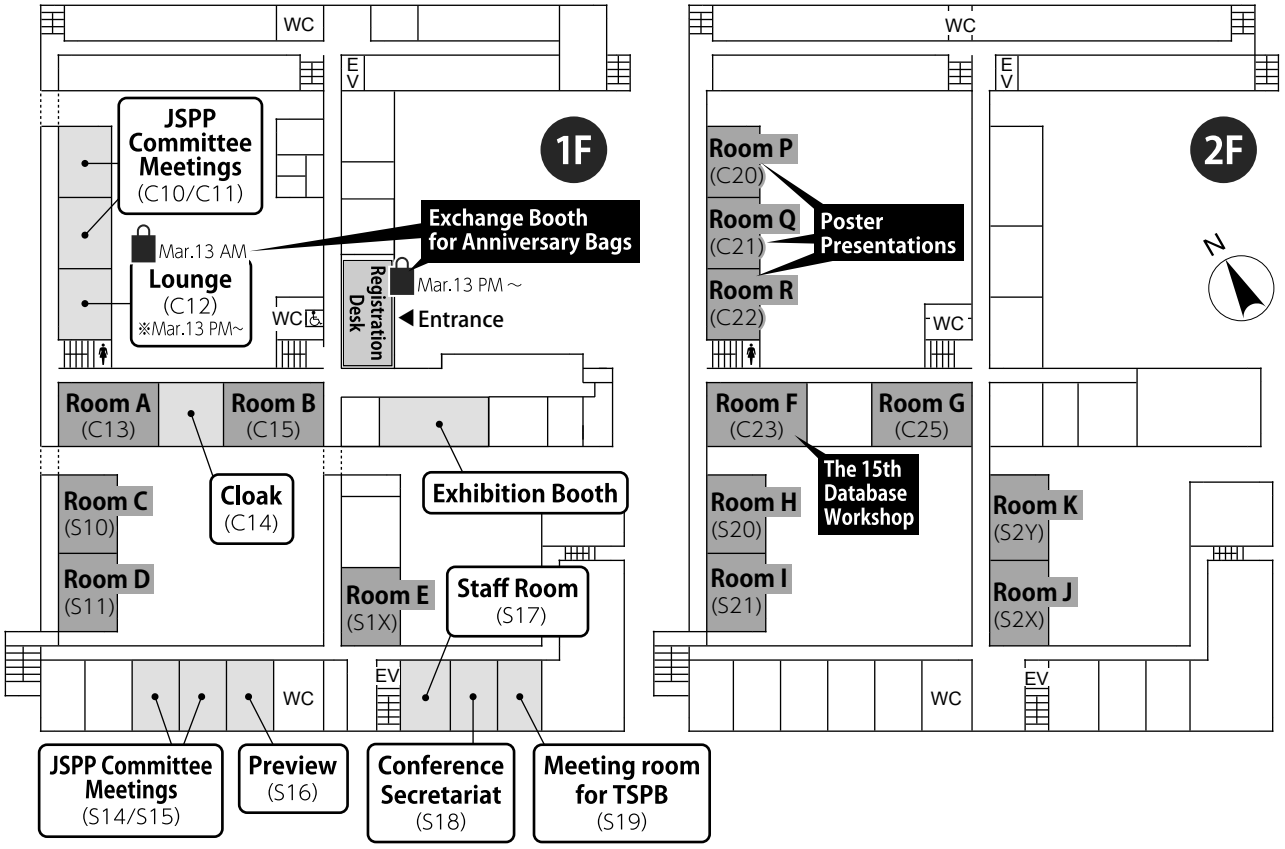
Nearby General Hospitals

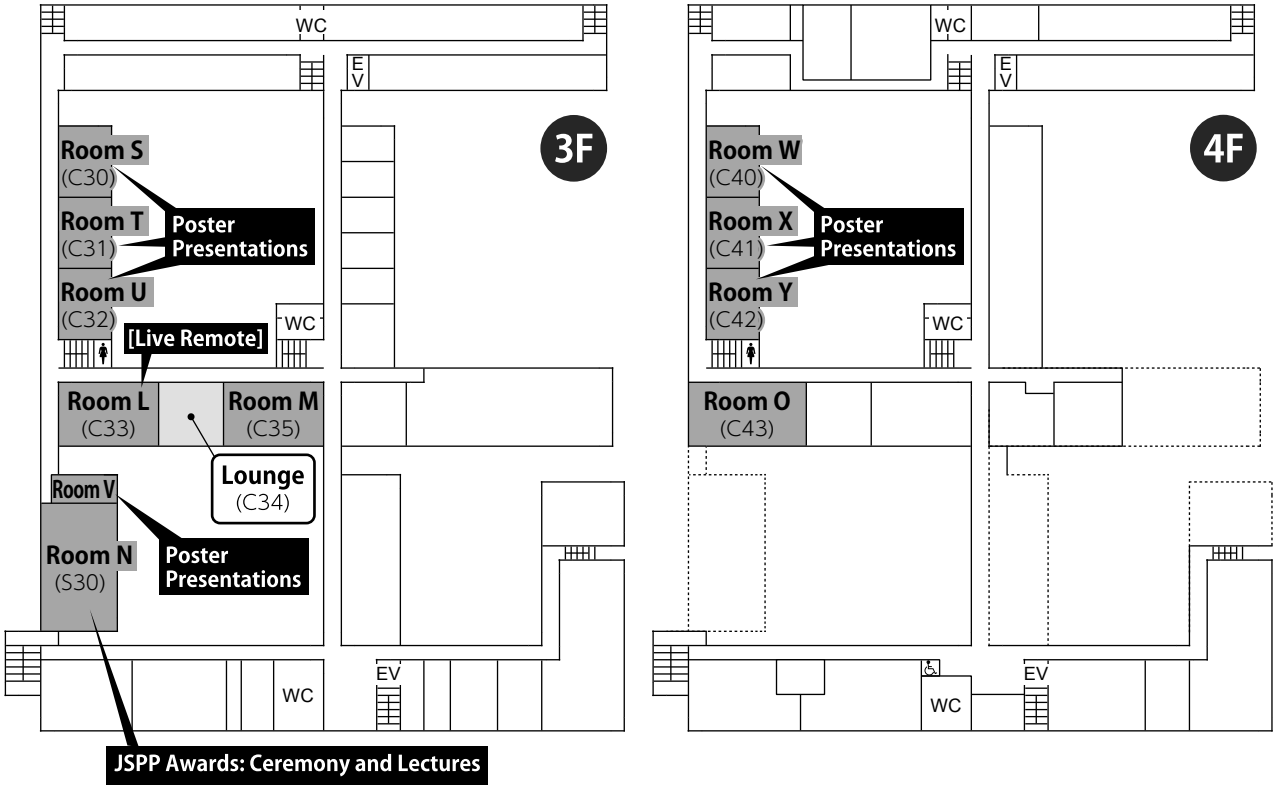
1. Japanese Red Cross Nagoya Daini Hospital（名古屋第二赤十字病院）
052-832-1121 (main number) https://www.nagoya2.jrc.or.jp (Japanese)

2. Nagoya University Hospital（名古屋大学医学部付属病院）
052-832-1121 (main number) https://www.med.nagoya-u.ac.jp/hospital_en/ (English)

3. Seirei Hospital（聖霊病院）
052-832-1181 http://www.seirei-hospital.org (Japanese)

Conference Room





2F
3F
4F
Room P
PF-
001 002 003 004 005 006 007 008 009 010 011 012 013 014 015 016 017 018 019 020 021 022 023 024 025
Photosynthesis
Environmental responses of photosynthesis
Primary metabolism
Room Q
PF-
026 027 028 029 030 031 032 033 034 035 036 037 038 039 040 041 042 043 044 045 046 047 048 049 050
Primary metabolism
Secondary metabolism
Biomembrane/Ion and solute transport
Membrane trafficking
Organelles/Cytoskelton
Room R
PF-
051 052 053 054 055 056 057 058 059 060 061 062 063 064 065 066 067 068 069 070 071 072 073 074 075
Organelles/Cytoskelton
Cell wall
Cell cycle/Cell division
Vegetative growth
Room S
PF-
076 077 078 079 080 081 082 083 084 085 086 087 088 089 090 091 092 093 094 095 096 097 098 099 100
Vegetative growth
Reproductive growth
Plant hormones/Signal molecules
Room T
PF-
101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125
Plant hormones/Signal molecules
Photoreceptors/Photoresponses
Room U
PF-
126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150
Photoreceptors/Photoresponses
Flowering/Clock
Environmental responses A
Environmental responses B
Room W
PF-
151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175
Environmental responses B
Environmental responses C
Room X
PF-
176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200
Environmental responses C
Plant-organism interaction A
Plant-organism interaction B
Room Y
PF-
201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225
Epigenetic regulation
Systems biology
Others
Transcriptional regulation…

2F

Room																																
P	PL-	001	002	003	004	PT-	001	002	PL-	005	006	007	008	009	PT-	003	004	170	PL-	010	011	012	013	014	PT-	005	006	007	008	009	010	
	Photosynthsis, Environmental responses of photosynthesis								Primary metabolism, Secondary metabolism										Biomenbarane/Ion and solute transport													
Q	PT-	011	012	013	014	015	016	PL-	015	PT-	017	018	019	020	021	PL-	016	017	018	019	020	021	PT-	022	023	024	025	026	PL-	022	023	
	Biomenbarane/Ion and solute transport								Cell cycle/Cell division							Vegetative growth							Reproductive									
R	PT-	027	028	029	030	031	032	033	034	035	036	037	038	039	PL-	024	025	026	027	028	029	030	PT-	040	041	042	043	044				
	Reproductive growth														Plant hormones/Signaling molecules																	

3F

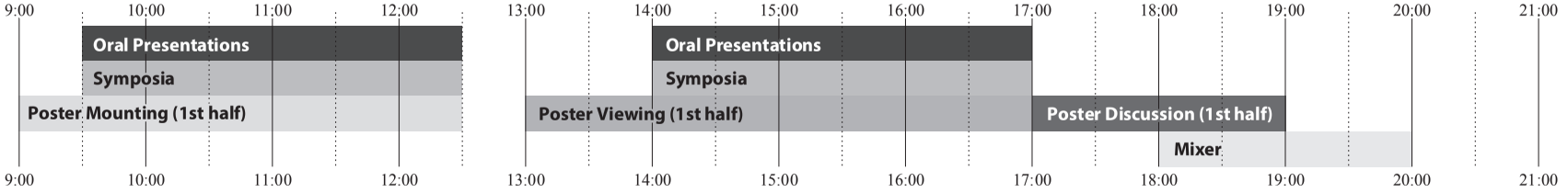
Room																																
S	PT-	045	046	047	048	049	PL-	031	032	033	034	035	036	037	PT-	050	051	052	053	054	055	056	057	058	059	060	061	062				
	Plant hormones/Signaling molecules						Photoreceptors/Photoresponses, Flowering/Clock																									
T	PT-	063	064	065	PL-	038	039	040	041	042	043	044	045	PT-	066	067	068	069	070	071	072	073	074	075	076	077	078	079				
	Photoreceptors/Photoresponses, Flowering/Clock													Environmental responses A, B																	
U	PT-	080	081	082	PL-	046	047	048	049	050	051	052	053	PT-	083	084	085	086	087	088	089	090	091	092	093	094	095	096				
	Environmental responses A, B													Environmental responses C																	
V	PL-	054	PT-	097	098	099	100	101	102	103	104	105	106																			
	Plant-organism interaction																															

4F

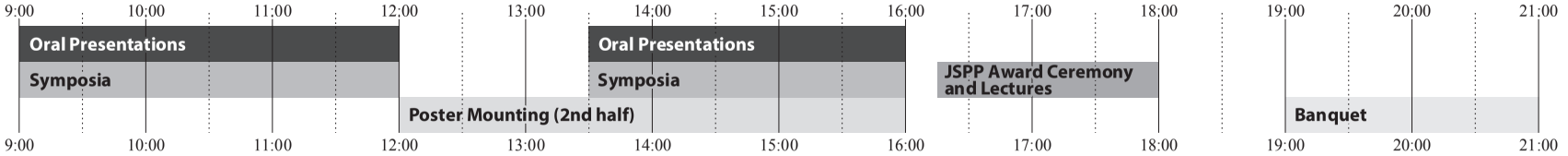
Room																																
W	PL-	055	PT-	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130					
	Plant-organism interaction																															
X	PT-	131	132	133	134	PL-	056	PT-	135	136	137	138	139	140	141	142	143	144	145	146	PL-	057	058	059	060	PT-	147	148	149	150		
	Plant-organism interaction					Epigenetic regulation, Transcriptional regulation....															Systems biology, Others											
Y	PL-	061	062	063	064	065	PT-	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	PT-	171				
	Systems biology, Others																					Plant hormones/Signaling molecules										

Time Table of 60th JSPP Annual Meeting and JTPB2019

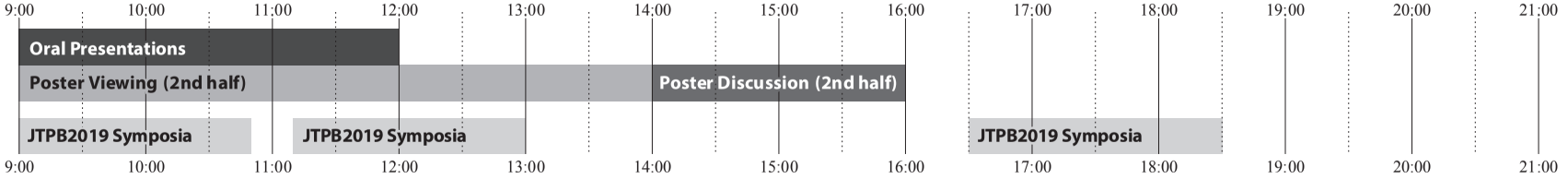
Day 1 (March 13, Wednesday)



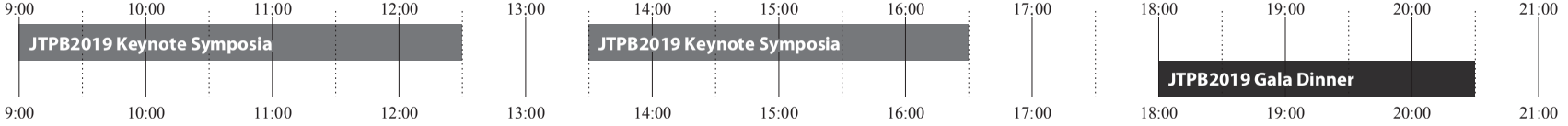
Day 2 (March 14, Thursday)



Day 3 (March 15, Friday)



JTPB2019 (March 16, Saturday)



Time table Wed., March 13

	9	10	11	12	13	14	15	16	17	18	19
A		Symposium S01 Understanding of field plants and development of innovative techniques toward these plant regulation					Symposium S04 Strategies of mechanical optimization in plants				
B		Symposium S02 The final phase of the photosynthetic electron transport					Symposium S05 Metabolisms as Survival Strategy in Plants				
C		Biomembrane/Ion and solute transport					Cell cycle/Cell division				
D		Primary metabolism					Primary metabolism, Secondary metabolism				
E		Environmental responses of photosynthesi					Photosynthesis, Environmental responses of photosynthesis				
F		Environmental responses A					Symposium S06 Plant adaptation strategies via ABA-mediated signaling in change of environmental conditions				
G		Plant hormones/Signaling molecules			Luncheon Seminar Leave a Nest		Plant hormones/Signaling molecules				
H		Epigenetic regulation					Reproductive growth				
I		Flowering/Clock					Organelles/Cytoskeleton				
J		Vegetative growth					Vegetative growth				
K		Plant-organism interaction A					Plant-organism interaction A				
L		Plant-organism interaction B					Transcriptional, post-transcriptional/ Translational regulations/Protein modification & degradation				
M		Environmental responses C					Environmental responses B				
N		Symposium S03 Understanding the plant survival strategies from the perspective of stem cells			Luncheon Seminar PCP						
O		Systems biology					Systems biology				
P-Y		Mounting posters (First half)			Poster presentation (First half)				Questions and answers Odd numbers	Even numbers	
Other										Mixer (Mei-dining)	

The 37th Meeting of the Japanese Society for Young Plant Physiologists
The 2nd Meeting of Plant Mathematical Modeling

Time table Thu., March 14

JSPP2019 Day 2 / JTPB2019 Day 1

	9	10	11	12	13	14	15	16	17	18	19
A						Symposium S08 How to inherit and rewrite cellular memory in plants					
B	Symposium S07 Find out the mechanism supporting C4 photosynthesis					Symposium S09 Plant mineral transporters: from function to structure and modelling					
C	Cell wall			Luncheon Seminar		Photoreceptors/ Photoresponses					
D	Secondary metabolism			Career Path Seminar on Gender Equality							
E	Photosynthesis					Photosynthesis					
F	The 15th Database Workshop					Flowering/Clock					
G	Plant hormones/Signaling molecules			Luncheon Seminar							
H	Reproductive growth			Leica Microsystemes K.K.		Membrane trafficking					
I	Organelles/Cytoskeleton					Organelles/Cytoskeleton					
J	Vegetative growth					Vegetative growth					
K	Plant-organism interaction A					Plant-organism interaction A, B					
L								[Live Remote] JSPP Awards: Ceremony and Lectures			
M	Environmental responses B					Environmental responses C					
N								JSPP Awards: Ceremony and Lectures			
O	Others (New technology, Bioresources)										
P-Y	Poster removal (First half)			JSPP2019 / JTPB2019 Mounting posters (Second half)							
Other											JSPP2019 / JTPB2019 Banquet (HOTEL MIELPARQUE NAGOYA)

Time table Fri., March 15

JSPP2019 Day 3 / JTPB2019 Day 2

	9	10	11	12	13	14	15	16	17	18	19
A	JTPB2019 Symposium Session 1 Environmental Responses, Abiotic Stresses I			JTPB2019 Symposium Session 5 Environmental Responses, Abiotic Stresses II					JTPB2019 Symposium Session 9 Growth and Development		
B	JTPB2019 Symposium Session 2 Biomembrane, Ion and Solute Transporters			JTPB2019 Symposium Session 6 Evolution, Taxonomy					JTPB2019 Symposium Session 10 Gene Regulation		
C	Photoreceptors/Photoresponses										
D											
E	Photosynthesis										
F	JTPB2019 Symposium Session 3 Cell Biology			JTPB2019 Symposium Session 7 Primary and Secondary Metabolism					JTPB2019 Symposium Session 11 Photobiology		
G	JTPB2019 Symposium Session 4 Plant-Micorbe Interaction			JTPB2019 Symposium Session 8 Plant Hormones, Signaling Molecules					JTPB2019 Symposium Session 12 Crop Improvement		
H											
I	Organelles/Cytoskeleton										
J	Vegetative growth										
K	Plant-organism interaction B										
L	Transcriptional, post-transcriptional/Translational regulations/Protein modification & degradation										
M	Environmental responses B										
N											
O											
P-Y	JSPP2019 / JTPB2019 Poster presentation (Second half)					Questions and answers: Odd numbers / Even numbers			Poster removal (Second half)		
Other											

March 16 (Sat) 9:00–16:50 Toyoda Auditorium

Keynote Symposia

Chairpersons: Tuan-Hua David Ho
Tetsuro Mimura
Chang-Hsien Yang
Toshinori Kinoshita

9:00		Opening
9:10	**KS01**	The link between the outer and inner membrane translocons of the chloroplast Hsou-min Li (Institute of Molecular Biology, Academia Sinica, Nankang, Taipei 11529, Taiwan)
9:50	**KS02**	Sophisticated translation control optimizes a young seedling's skotomorphogenic and photomorphogenic development Guan-Hong Chen, Geng-Jen Jang, Shu-Hsing Wu (Institute of Plant and Microbial Biology, Academia Sinica, Taipei, Taiwan)
10:30		Break
10:50	**KS03**	Regulation of vascular stem cell fates Hiroo Fukuda (Department of Biological Sciences, University of Tokyo, Tokyo, Japan)
11:30	**KS04**	Long distance peptide signaling critical for maintaining nitrogen homeostasis in plants Yoshikatsu Matsubayashi (Graduate School of Science, Nagoya University, Japan)
12:10		Lunch
13:30	**KS05**	Hidden Dynamics and Landscape of Plant Signaling Networks Jen Sheen (Department of Molecular Biology and Centre for Computational and Integrative Biology, Massachusetts General Hospital, and Department of Genetics, Harvard Medical School, Boston, USA)
14:10	**KS06**	Regulation of Translation Dynamics in *Arabidopsis* under Submergence Hsing-Yi Cho, Mei-Yi Chou, Ming-Che Shih (Agricultural Biotechnology Research Center, Academia Sinica, Taipei, Taiwan)
14:50		Break
15:10	**KS07**	How Do Plants Sense and Respond to the Continuing Increase in Atmospheric CO_2 Julian Schroeder[1], Jingbo Zhang[1], Po-Kai Hsu[1], Yohei Takahashi[1], Shintaro Munemasa[2], Rainer Waadt[3], Nuo Wang[4], Yinglong Miao[4], Andrew J. McCammon[4], Felix Hauser[1], Wouter-Jan Rappel[5] ([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, [4]Department of Chemistry and Biochemistry, University of California, San Diego, USA, [5]Physics Department, University of California, San Diego, USA)
15:50	**KS08**	Regulatory Gene Network in Drought Stress Responses and Tolerance Kazuo Shinozaki (RIKEN Center for Sustainalbe Resource Science, Japan)
16:30		Closing

March 15 (Fri) 9:00–10:50 Room A

Environmental Responses, Abiotic Stresses I

Chairpersons: Takashi Hirayama
Shaw-Jye Wu

9:00 **TS01-1** Root-to-shoot communications in drought stress responses and resistance
Fuminori Takahashi (Gene Discovery Research Group, RIKEN Center for Sustainable Resource Science, Japan)

9:20 **TS01-2** Small coding genes hidden in plant genomes, encode multiple hormone-like peptides
Kousuke Hanada (Department of Bioscience and Bioinformatics, Kyushu Institute of Technology, Iizuka, Japan)

9:40 **TS01-3** A heat-inducible lipase remodels chloroplastic glycerolipids in *Arabidopsis* leaves under heat stress
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]RIKEN Center for Sustainable Resource Science, Japan, [2]Graduate School of Bioresources, Mie University, Japan, [3]Graduate School of Pharmaceutical Sciences, Chiba University, Japan)

10:00 **TS01-4** Functional Study of Basic Helix-Loop-Helix (bHLHs) Transcription Factor Genes in Rice
Hung-Chi Chen[1], Wei-Fu Chien[1], Vicki Hsieh-Feng[1], Hsin-Hsiu Fang[1], Pei-Chun Liao[1], Wan-Hsing Cheng[2], Men-Chi Chang[1] ([1]Department of Agronomy, National Taiwan University, Taipei, Taiwan, ROC, [2]Institute of Plant and Microbial Biology, Academia Sinica, Taipei, Taiwan, ROC)

10:20 **PT-076** Metina: A Transcription factor involved in Iron Deficiency Tolerance in Arabidopsis thaliana
Reena Sharma[1], Kuo-Chen Yeh[1,2,4] ([1]Molecular and Biological Agricultural Sciences Program, Taiwan International Graduate Program, Academia Sinica, Taipei 11529, Taiwan, [2]Agricultural Biotechnology Research Center, Academia Sinica, Taipei 11529, Taiwan, [3]Graduate Institute of Biotechnology, National Chung Hsing University, Taichung 40227, Taiwan, [4]Biotechnology Center, National Chung Hsing University, Taichung 40227, Taiwan)

10:30 **PT-086** A heat stress-induced CCR4-association factor 1, OsCAF1H, participates in heat response in rice seedlings
Chung-An Lu, Wei-Lun Chou, Kai-Yin Liang (National Central University, Taoyuan City 32001, Taiwan)

10:40 **1aF09** Long-distance rapid Ca^{2+} and electrical signals in *Mimosa pudica*
Takuma Hagihara[1], Tomohiro Miura[2], Hiroaki Mano[3], Mitsuyasu Hasebe[3,4], Masatsugu Toyota[2] ([1]Sci., Univ. Saitama, [2]Grad. Sch. Sci., Univ. Saitama, [3]Evol. Biol., Natl. Inst. Basic Biol., [4]Life Sci., Grad. Univ. Advanced Studies, Japan)

March 15 (Fri) 9:00–10:50 Room B

Biomembrane, Ion and Solute Transporters

Chairpersons: Toshinori Kinoshita
Tzyy-Jen Chiou

9:00 **TS02-1** Role of a citrate transporter in acquisition of aluminum tolerance in barley
Jian Feng Ma (Institute of Plant Science and Resources, Okayama University, Japan)

9:20 **TS02-2** Regulation of plasma membrane H^+-ATPases in response to environmental signals
Koji Takahashi[1], Toshinori Kinoshita[1,2] ([1]Graduate School of Science, Nagoya University, Japan, [2]Institute of Transformative Bio-Molecules (ITbM), Nagoya University, Japan)

9:40 **TS02-3** LySWEET transporters regulate source-to-sink sugar allocation in tomato
Woei-Jiun Guo (Department of Biotechnology and Bioindustry Sciences, National Cheng Kung University, No.1, University Road, Tainan City, Taiwan)

10:00 **TS02-4** The role of novel regulators for the regulation of nitrogen transport
Cheng-Hsun Ho (ABRC, Academia Sinica, Taiwan)

10:20 **PT-159** Detection of membrane protein–protein interaction in planta based on dual-intein-coupled tripartite split-GFP association
Tzu-Yin Liu[1,2], Wen-Chun Chou[2], Wei-Yuan Chen[2], Ching-Yi Chu[2], Chen-Yi Dai[2], Pei-Yu Wu[2] ([1]Department of Life Science, National Tsing Hua University, Hsinchu 300, Taiwan, [2]Institute of Bioinformatics and Structural Biology, National Tsing Hua University, Hsinchu 300, Taiwan)

10:30 **PT-011** A strategy for improving plant nitrogen use efficiency (NUE) by manipulating a transporter involved in nitrate remobilization
Kuo-En Chen, Hui-Yu Chen, Shu-Chun Fan, Yi-Fang Tsay (Institute of Molecular Biology, Academia Sinica, Taipei 11529, Taiwan)

10:40 **1aC09** High affinity K^+ transporter *AtHAK5* expression is affected by both Internal and external K status
Satomi Kanno[1,2], Ludovic Martin[2], Laurent Nussaume[2], Arain Vavasseur[2], Nathalie Leonhardt[2] ([1]Fac. of Life and Environ. Sci. Univ. of Tsukuba, [2]CEA)

March 15 (Fri) 9:00–10:50 Room F

Cell Biology

Chairpersons: Takashi Ueda
Guang-Yuh Jauh

9:00 **TS03-1** All roads lead to the vacuole: Endosomal and autophagic trafficking in plants
Erika Isono (Department of Biology, University of Konstanz, Konstanz, Germany)

9:20 **TS03-2** Plant autophagy: an intracellular system for bulk and selective self-degradation
Kohki Yoshimoto (Department of Life Sciences, School of Agriculture, Meiji University, Japan)

9:40 **TS03-3** Seipin regulates sphingolipid synthesis at the contact site between endoplasmic reticulum and lipid droplets
Yi-Hsiu Lin, Wei-Cheng Su, Martin Pagac, Chao-Wen Wang (Institute of Plant and Microbial Biology, Academia Sinica, Taipei, Taiwan)

10:00 **TS03-4** The mitosis-to-meiosis transition of pollen mother cells in maize
Chung-Ju Rachel Wang (Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan)

10:20 **PT-010** Tic236 links the chloroplast outer and inner membrane translocons
Yih-Lin Chen[1], Lih-Jen Chen[1], Chiung-Chih Chu[1], Po-Kai Huang[2], Jie-Ru Wen[1], Hsou-min Li[1] ([1]Institute of Molecular Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Department of Plant Sciences, University of California, USA)

10:30 **PT-019** SUMO Protease Acts on Ribosomal Protein L30 to Regulate Cell Size Checkpoint Control
Yen-Ling Lin[1,2], Su-Chiung Fang[1], Chin-Lin Chung[1] ([1]Academia Sinica-Biotechnology Center in Southern Taiwan, Tainan 74145, Taiwan, [2]Ph.D. Program in Microbial Genomics, National Chung Hsing University, Taichung 402, Taiwan)

10:40 **2pH03** Regulatory Mechanisms of Biogenesis of the Oil Body in *Marchantia polymorpha*
Takehiko Kanazawa[1,2], Takashi Ueda[1,2] ([1]Cellular Dynamics, NIBB, [2]Life Sci., SOKENDAI, Japan)

March 15 (Fri) 9:00–10:50 Room G

PCP sponsored symposium

Plant-Microbe Interaction

Chairpersons: Yusuke Saijo
Jun-Yi Yang

Opening remarks Miki Matoba (Oxford University Press)

9:00 **TS04-1** Evolutionary dynamics of rice - *Magnaporthe* interactions
Ryohei Terauchi[1,2] ([1]Lab. Crop Evolution, Graduate School of Agriculture, Kyoto University, Muko, Kyoto, Japan, [2]Iwate Biotechnology Research Center, Kitakami, Iwate, Japan)

9:20 **TS04-2** Pattern-triggered immunity under water stress conditions
Yusuke Saijo (Nara Institute of Science and Technology, Grad Sch of Science and Technology, Japan)

9:40 **TS04-3** *Ustilago maydis* effectors as probes to explore the plant processes
Lay-Sun Ma (Institute of Plant and Microbial Biology, Academia Sinica, Taiwan)

10:00 **TS04-4** The Magic Broom of Phytoplasma
Jun-Yi Yang (Institute of Biochemistry, National Chung Hsing University, Taichung, Taiwan)

10:20 **PT-121** The nuclear carriers, importin α1 and α2, regulate anti-viral defense against Bamboo mosaic virus through RNA silencing pathway in *Nicotiana benthamiana*
Jiun-Da Wang, Na-Sheng Lin (Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan)

10:30 **PT-127** Investigation of mechanism of P1 protein of *Potyvirus* to enhance the HC-Pro-mediated miRNA pathway suppression
Hu-Sin Fen, Shih-Shun Lin (Laboratory of Plant Molecular Biology and Virology, Institute of Biotechnology, National Taiwan University, Taipei 106, Taiwan)

10:40 **1aL12** Cell biological analysis of the infection process in symbiotic interactions between orchids and mycorrhizal fungi
Chihiro Miura[1], Miharu Saisho[1], Yoshikatsu Sato[2], Takahiro Yagame[3], Tetsuya Higashiyama[2,4], Masahide Yamato[5], Hironori Kaminaka[1] ([1]Fac. Agr., Tottori Univ., [2]WPI-ITbM, Nagoya Univ., [3]Mizuho Kyo-do Mus., [4]Grad. Sch. Sci., Nagoya Univ., [5]Fac. Edu., Chiba Univ., Japan)

March 15 (Fri) 11:10–13:00 Room A

Environmental Responses, Abiotic Stresses II

Chairpersons: Taishi Umezawa
Chung-An Lu

11:10 **TS05-1** Dissecting the genetic control of natural variation in acquired osmotolerance among *Arabidopsis thaliana* accessions
Teruaki Taji (Department of BioScience, Tokyo University of Agriculture, Japan)

11:30 **TS05-2** Expression of a heat shock protein, Oshsp16.9A, enhances thermotolerance of rice seeds
Ching-Hui Yeh (Department of Life Sciences, National Central University, Taoyuan, Taiwan)

11:50 **TS05-3** AFL1 and other membrane-associated proteins involved in drought response
Paul E. Verslues (Institute of Plant and Microbial Biology, Academia Sinica, Taipei, Taiwan)

12:10 **TS05-4** Convergent sugar and O_2 deficiency signaling regulates underwater germination in rice
Su-May Yu (Institute of Molecular Biology, Academia Sinica, Taipei 115, Taiwan, ROC)

12:30 **PT-043** A Novel ABA-induced Protein Phosphatase Regulates Lateral Root Elongation and Diffusion Barriers Formation in Rice
Chun-Hsien Lu[1,2], Tuan-Hua David Ho[3], Su-May Yu[1,2] ([1]Institute of Molecular Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Genome and Systems Biology Degree Program, National Taiwan University and Academia Sinica, Taiwan, [3]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan)

12:40 **PT-009** Scopoletin 8-Hydroxylase is a critical component of the Arabidopsis iron acquisition system
Huei-Hsuan Tsai[1,2,3], Jorge Rodríguez-Celma[4], Ping Lan[5], Yu-Ching Wu[1], Isabel Cristina Vélez-Bermúdez[1], Wolfgang Schmidt[1,2,6] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Molecular and Biological Agricultural Sciences Program, Taiwan International Graduate Program, National Chung Hsing University and Academia Sinica, Taiwan, [3]Graduate Institute of Biotechnology, National Chung Hsing University, Taichung 40227, Taiwan, [4]John Innes Centre and University of East Anglia, Norwich Research Park, Norwich NR4 7UH, UK, [5]State Key Laboratory of Soil and Sustainable Agriculture, Institute of Soil Science, Chinese Academy of Sciences, Nanjing, 210008, P.R. China, [6]Biotechnology Center, National Chung Hsing University, Taichung 40227, Taiwan)

12:50 **PF-166** Analysis of relationship between maintenance of heat stress memory and chromosome higher order structure
Yui Fujiwara[1], Takuya Sakamoto[1], Yuki Sakamoto[2], Nobutoshi Yamaguchi[3], Toshiro Ito[3], Sachihiro Matsunaga[1] ([1]Dept. Applied Bio. Sci., Fac. Sci. Tech., Tokyo Univ. Sci., [2]IFC, RIST, Tokyo univ. sci., [3]Grad. Sch. Bio. Sci., NAIST, Japan)

March 15 (Fri) 11:10–13:00 Room B

Evolution, Taxonomy

Chairpersons: Mitsuyasu Hasebe
Shu-Miaw Chaw

11:10 **TS06-1** Evolution of Genetic Toolkits in Land Plants: Implication by Streptophyte Genomes
Tomoaki Nishiyama (Advanced Science Research Center, Kanazawa University, Kanazawa, Japan)

11:30 **TS06-2** Evolution of carnivory and movement in flowering plants
Mitsuyasu Hasebe (National Institute for Basic Biology, Okazaki, Japan)

11:50 **TS06-3** Stout camphor tree genome fills gaps in understanding of flowering plant evolution
Shu-Miaw Chaw (Biodiversity Research Center, Academia Sinica, Taipei 11529, Taiwan)

12:10 **TS06-4** Paper mulberry genomics supports the “out of Taiwan” hypothesis of Austronesian expansion and migration
Kuo-Fang Chung (Research Museum and Herbarium (HAST), Biodiversity Research Center, Academia Sinica, Taiwan)

12:30 **PT-167** Interactions between pine-associated microbiomes and fire regime
Chao-Li Huang[1], Hsin-Ni Liu[1], Tsai-Wen Hsu[2] ([1]Institute of Tropical Plant Sciences, National Cheng Kung University, Tainan 701, Taiwan, [2]Endemic Species Research Institute, Nantou County 552, Taiwan)

12:40 **PT-169** The genomic investigation of weedy Arabidopsis evolution
Cheng-Ruei Lee, Che-Wei Hsu, Cheng-Yu Lo (National Taiwan University, Taipei 106, Taiwan)

12:50 **1aJ09** Comparative analysis of molecular network of root cortex formation in *Arabidopsis* and *Cardamine*
Koichi Toyokura[1,2,3], Tatsuaki Goh[2,4], Masato Sakane[2,6], Yrjo Helariutta[3,5], Tatsuo Kakimoto[1], Hiroshi Kudoh[6], Hidehiro Fukaki[2] ([1]Grad. Sch. Sci., Osaka Univ., [2]Grad. Sch. Sci., Kobe Univ., [3]Sainsbury Lab., Univ. Cambridge, [4]Grad. Sch. Sci. Tech., Nara Inst. Sci. Tech., [5]Inst. Biotech., Univ. Helsinki, [6]Center Eco. Res., Kyoto Univ., Japan)

March 15 (Fri) 11:10–13:00 Room F

Primary and Secondary Metabolism

Chairpersons: Taku Demura
Yuki Nakamura

11:10 **TS07-1** Nitrogen starvation responses in Arabidopsis: transcriptional and metabolic regulations
Takatoshi Kiba (Graduate School of Bioagricultural Sciences, Nagoya University, Nagoya, Japan)

11:30 **TS07-2** Metabolomics-assisted breeding focused on tomato secondary metabolism
Takayuki Tohge (Nara Institute of Science and Technology, Japan)

11:50 **TS07-3** Intersection between inositol phosphate metabolism and phosphate signaling in Arabidopsis
Hui-Fen Kuo[1], Yu-Ying Hsu[1], Wei-Chi Lin[1], Kai-Yu Chen[1], Teun Munnik[2], Charles A. Brearley[3], Tzyy-Jen Chiou[1] ([1]Agricultural Biotechnology Research Center, Academia Sinica, Taipei 115, Taiwan, [2]Swammerdam Institute for Life Sciences, University of Amsterdam, Science Park 904, 1098XH Amsterdam, The Netherlands, [3]School of Biological Sciences, University of East Anglia, Norwich Research Park, Norwich, Norfolk, NR4 7TJ, U.K.)

12:10 **TS07-4** An essential methyltransferase trio in phosphatidylcholine biosynthesis
Yuki Nakamura, Yu-chi Liu, Ying-Chen Lin, Kazue Kanehara (Institute of Plant and Microbial Biology, Academia Sinica, Taiwan)

12:30 **PT-014** A pair of non-specific phospholipases C, NPC2 and NPC6, involved in gametophyte development and glycerolipid metabolism in Arabidopsis
Anh-Hai Ngo[1,2,3], Ying-Chen Lin[1,2,3], Yu-chi Liu[1], Katharina Gutbrod[4], Helga Peisker[4], Peter Dörmann[4], Yuki Nakamura[1,2,5] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Molecular and Biological Agricultural Sciences Program, Academia Sinica, Taiwan International Graduate Program, Taipei 11529, Taiwan, [3]Graduate Institute of Biotechnology, National Chung-Hsing University, Taichung 402, Taiwan, [4]Institute of Molecular Physiology and Biotechnology of Plants, University of Bonn, Germany, [5]Biotechnology Center, National Chung-Hsing University, Taichung 402, Taiwan)

12:40 **PT-004** Morphological studies of floral trichome for the scent orchid *Phalaenopsis bellina*
Ya-Lan Chang[1], Hong-Hwa Chen[1,2] ([1]Department of Life Sciences, National Cheng Kung University, Tainan 701, Taiwan, [2]Orchid Research and Development Center, National Cheng Kung University, Tainan 701, Taiwan)

12:50 **2aD04** Interaction and its functional correlation of factors constituting the biosynthetic machinery of natural rubber from *Hevea brasiliensis*
Kouji Kojima[1], Makoto Yamaguchi[1], Tomoki Ishii[1], Miki Hiromori[1], Toshiyuki Waki[1], Satoshi Yamashita[2], Yuzuru Tozawa[3], Haruhiko Yamaguchi[4], Yukino Inoue[4], Kazuhisa Fushihara[4], Toru Nakayama[1], Seiji Takahashi[1] ([1]Grad. Eng., Tohoku Univ., [2]Grad. Natural Sci. Tech., Kanazawa Univ., [3]Grad. Sci. Eng., Saitama Univ., [4]Sumitomo Rubber Ind., Ltd.)

March 15 (Fri) 11:10–13:00 Room G

Plant Hormones, Signaling Molecules

Chairpersons: Hitoshi Sakakibara
Hsu-Liang Hsieh

11:10 **TS08-1** New insights into auxin biosynthesis and inactivation in plants
Yuki Aoi[1], Noriko Takeda[2], Yumiko Takebayashi[2], Ken-ichiro Hayashi[3], Hiroyuki Kasahara[1,4] ([1]Grad. Sch. Agric., Tokyo Univ. Agric. Tech., Japan, [2]RIKEN CSRS, Japan, [3]Dep. Biochem., Okayama Univ. Sci., Japan, [4]GIR, Tokyo Univ. Agri. Tech., Japan)

11:30 **TS08-2** Interplay of auxin and cytokinin signaling in vasculature development
Ildoo Hwang (Department of Life Sciences, Pohang University of Science and Technology, Pohang 37673, Korea)

11:50 **TS08-3** The SALT HYPERSENSITIVE MUTANT 1 and 9, nucleolar proteins involved in pre-rRNA processing, mediate normal plant growth and salt sensitivity through auxin and ABA signaling in *Arabidopsis*
Wan-Hsing Cheng (Institute of Plant and Microbial Biology, Academia Sinica, Taipei, Taiwan)

12:10 **TS08-4** Mutation of Arabidopsis *SAURs* Impairs the Efficient Translation of Transcripts Essential for Pollen Tube Growth
Siou-Luan He[1,2], Guang-Yuh Jauh[2,3,4] ([1]Institute of Plant Biology, National Taiwan University, Taipei, Taiwan, [2]Institute of Plant and Microbial Biology, Academia Sinica, Taipei, Taiwan, [3]Molecular and Biological Agricultural Sciences, Taiwan International Graduate Program, National Chung-Hsing University, Academia Sinica, Taipei, Taiwan, [4]Biotechnology Center, National Chung-Hsing University, Taichung, Taiwan)

12:30 **PT-048** Phytosterols homeostasis, the missing piece, in brassinosteroids signaling mediated stomatal division orientation
Chih-Chung Yen[1], Ya-Wen Hsu[1], Kuan-Chieh Leu[1], Jei-Fu Shaw[2], Guang-Yuh Jauh ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Department of Biological Science & Technology, I-Shou University, Kaohsiung 840, Taiwan)

12:40 **PT-003** MYBR is a major player in sugar feedback repression of starch breakdown during germination and seedling growth in rice
Yi-Shih Chen[1,2], Chun-Hua Lee[1], Yi-Ru Chen[1,2], Tuan-Hua David Ho[3], Chung-An Lu[1], Su-May Yu[2] ([1]Dept. of Life Science, National Central University, Taoyuan 320, Taiwan, [2]Institute of Molecular Biology, Academia Sinica, Nankang, Taipei 115, Taiwan, [3]Institute of Plant and Microbial Biology, Academia Sinica, Nankang, Taipei 115, Taiwan)

12:50 **2aG06** Transcription Factor D53 Is Involved in the Determination of the Gemma Number Formed in Gemma Cups of *Marchantia polymorpha*
Aino Komatsu[1], Yohei Mizuno[1], Kyoichi Kodama[2], Shota Shimazaki[1], Satoshi Naramoto[1], Kimitsune Ishizaki[3], Junko Kyozuka[1] ([1]Grad. Sch., Life Sci., Tohoku Univ., [2]Fac. Sci., Tohoku Univ., [3]Grad. Sch. Sci., Kobe Univ., Japan)

March 15 (Fri) 16:30–18:20 Room A

Growth and Development

Chairpersons: Toshiro Ito
Tien-Shin Yu

16:30 **TS09-1** Regulation of leaf meristem
Hirokazu Tsukaya[1,2] ([1]Graduate School of Science, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-0033, Japan, [2]Bio-Next project, Exploratory Research Center on Life and Living Systems, NINS, Okazaki 444-8787, Japan)

16:50 **TS09-2** Multistep termination of floral stem cell activities
Toshiro Ito (Nara Institute of Science and Technology, Biological Science, Plant Stem Cell Regulation and Floral Patterning Laboratory, Nara 630-0192, Japan)

17:10 **TS09-3** Cell fate determination in asymmetrically dividing stomatal lineage cells in Arabidopsis
Chin-Min Kimmy Ho (Institute of Plant and Microbial Biology, Academia Sinica, Taipei, Taiwan)

17:30 **TS09-4** Inter-organ communication by plant mobile mRNAs
Tien-Shin Yu (Institute of Plant and Microbial Biology, Academia Sinica, Taipei, Taiwan)

17:50 **PT-023** The function of a small peptide in root meristem development in *Arabidopsis*
Masashi Yamada[1,2], Xinwei Han[2], Philip Benfey[2] ([1]Biotechnology Center in Southern Taiwan, Academia Sinica, Tainan 74145, Taiwan, [2]Department of Biology and HHMI, Duke University, Durham, NC 27710, USA)

18:00 **PT-032** Coexpression analysis of curd development in cauliflower (*Brassica oleracea* L. var. *botrytis*)
Jheng-Yang Ou[1], Po-Xing Zheng[1], Ta-Yu Yang[1], Wang Lin[1], Tzu-Chiao Liao[1], Chen-Yu Lin[2], Yao-Cheng Lin[1] ([1]Biotechnology Center in Southern Taiwan, Agricultural Biotechnology Research Center, Academia Sinica, Taipei 11529, Taiwan, [2]Department of Vegetable Crops, Fengshan Tropical Horticultural Experiment Branch, Taiwan Agricultural Research Institute, Kaoshiung 830, Taiwan)

18:10 **1pJ01** Genetic Analysis of Genes Influencing Stem-Cell Homeostasis in *Arabidopsis*
Ryuji Tsugeki (Grad. Sch. Sci., Kyoto Univ., Japan)

March 15 (Fri) 16:30–18:20 Room B

Gene Regulation

Chairpersons: Keiji Nakajima
Keqiang Wu

16:30 **TS10-1** Crosstalk between pre-mRNA splicing and transcription for the cell potency regulation in plants

Misato Ohtani[1,2] ([1]Nara Institute of Science and Technology, Ikoma 630-0192, Japan, [2]RIKEN, Center for Sustainable Resource Science, Wako 351-0198, Japan)

16:50 **TS10-2** AGO1 interacting proteins regulate developmental gene expression via siRNA-transposon modules

Takahiro Hamada[1,2] ([1]JST-PRESTO, [2]Graduate School of Arts and Science, Univ. of Tokyo, Meguro, Tokyo, Japan)

17:10 **TS10-3** The regulatory role of plant-specific transcription factor family BASIC PENTACYSTEINEs in *Arabidopsis* circadian clock

Huang-Lung Tsai (Institute of Molecular and Cellular Biology, National Taiwan University, Taipei, Taiwan)

17:30 **TS10-4** The *Arabidopsis* LDL1/2-HDA6 histone modification complex is functionally associated with CCA1/LHY in regulation of circadian clock genes

Keqiang Wu (Institute of Plant Biology, National Taiwan University, Taipei, Taiwan)

17:50 **PT-164** PlantPAN 3.0: an updated resource for interpreting transcriptional regulatory networks from ChIP-seq experiments and integrating protein structure-based features of regulatory factors in plants

Chi-Nga Chow[1], Tzong-Yi Lee[2], Yu-Cheng Hung[3], Guan-Zhen Li[3], Kuan-Chieh Tseng[4], Ya-Hsin Liu[4], Po-Li Kuo[3], Han-Qin Zheng[3], Wen-Chi Chang[1,3,4] ([1]Graduate Program in Translational Agricultural Sciences, National Cheng Kung University and Academia Sinica, Taiwan, [2]School of Science and Engineering, The Chinese University of Hong Kong, Shenzhen, China, [3]Institute of Tropical Plant Sciences, College of Biosciences and Biotechnology, National Cheng Kung University, Tainan 70101, Taiwan, [4]Department of Life Sciences, College of Biosciences and Biotechnology, National Cheng Kung University, Tainan 70101, Taiwan)

18:00 **PT-056** Phytochromes regulate alternative splicing through hnRNP and U1 snRNP in *Physcomitrella patens*

Chueh-Ju Shih[1,2,3], Hsiang-Wen Chen[1], Hsin-Yu Hsieh[1], Yung-Hua Lai[1], Fang-Yi Chiu[1], Yu-Rong Chen[1], Shih-Long Tu[1,2,4] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Molecular and Biological Agricultural Sciences Program, Taiwan International Graduate Program, Chung-Hsing University and Academia Sinica, Taipei 11529, Taiwan, [3]Graduate Institute of Biotechnology, National Chung-Hsing University, Taichung 402, Taiwan, [4]Biotechnology Center, National Chung-Hsing University, Taichung 402, Taiwan)

18:10 **PF-065** Functional analysis of a novel GRAS-type transcription factor E1M required for proper cell cycle regulation in meristem

Yuji Nomoto[1], Rieko Noda[1], Toshiya Suzuki[2], Takamasa Suzuki[3], Kenichiro Maeo[1], Masaki Ito[1] ([1]Grad. Sch. Bioagr. Sci., Nagoya Univ., [2]Plant Genet. Lab., Nat. Inst. Genet., [3]Coll. Biosci. Biotech., Chubu Univ., Japan)

March 15 (Fri) 16:30–18:20 Room F

Photobiology

Chairpersons: Tomonao Matsushita
Shih-Long Tu

16:30 **TS11-1** Signaling network of phototropin-regulated stomatal opening
Atsushi Takemiya (Graduate School of Sciences and Technology for Innovation, Yamaguchi University, Yamaguchi, Japan)

16:50 **TS11-2** Phototropin is thermosensory protein for chloroplast movement
Yutaka Kodama (Center for Bioscience Research and Education, Utsunomiya University, Tochigi, Japan)

17:10 **TS11-3** Photoprotective mechanisms of the photosystem II reaction center in Cyanobacteria
Yi-Fang Chiu, Jine-Yung Huang, Han-Yi Fu, Nien-Tzu Hung, Keng-Min Lin, Hsiu-An Chu (Institute of Plant and Microbial Biology, Academia Sinica, Taipei, 11529 Taiwan)

17:30 **TS11-4** Phytochrome B and FIN219/JAR1 antagonize each other to regulate shade light signaling in Arabidopsis
Kai-Chun Peng, Hsu-Liang Hsieh (Institute of Plant Biology, College of Life Science, National Taiwan University, Taipei 106, Taiwan)

17:50 **PT-059** Phytochrome regulates light-responsive alternative splicing through hnRNP-F1 and an exonic splicing silencer in *Physcomitrella patens*
Bou-Yun Lin[1,2,3], Chueh-Ju Shih[1,2,3], Shih-Long Tu[1,2,4] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Molecular and Biological Agricultural Sciences Program, Taiwan International Graduate Program, Chung-Hsing University and Academia Sinica, Taipei 11529, Taiwan, [3]Graduate Institute of Biotechnology, National Chung-Hsing University, Taichung 402, Taiwan, [4]Biotechnology Center, National Chung-Hsing University, Taichung 402, Taiwan)

18:00 **PT-052** Processing bodies regulate the timely and selective translation for optimal development of Arabidopsis young seedlings
Geng-Jen Jang[1,2], Jun-Yi Yang[3], Hsu-Liang Hsieh[2], Shu-Hsing Wu[1] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 115, Taiwan, [2]Institute of Plant Biology, National Taiwan University, Taipei 106, Taiwan, [3]Institute of Biochemistry, National Chung Hsing University, Taichung 402, Taiwan)

18:10 **2pC02** Cis-Element Analysis of Phytochrome-Mediated Alternative Promoter Selection in Arabidopsis
Jaewook Kim[1], Mika Nomoto[2], Yasuomi Tada[2], Tomonao Matsushita[1] ([1]Fac. Agr., Kyushu Univ., [2]Gene Research Center, Nagoya Univ., Japan)

March 15 (Fri) 16:30–18:20 Room G

Crop Improvement

Chairpersons: Yutaka Sato
Chwan-Yang Hong

16:30 **TS12-1** Rapid breeding of important traits in tomato by gene editing technologies
Hiroshi Ezura (University of Tsukuba, Tsukuba Plant Innovation Research Center, Japan)

16:50 **TS12-2** Trial of Rice breeding based on science
Moto Ashikari (Nagoya University, Bioscience and Biotechnology Center, Japan)

17:10 **TS12-3** Subtropical adaptation of a temperate plant (*Brassica oleracea* var. *italica*) utilizes non-vernalization-responsive QTLs
Yann-rong Lin (Department of Agronomy, National Taiwan University, Taipei 10617, Taiwan)

17:30 **TS12-4** *Rice Big Grain 1* promotes cell division to enhance organ development, stress tolerance and grain yield
Shuen-Fang Lo[1,2], Su-May Yu[1,2], Tuan-Hua David Ho[2,3] ([1]Institute of Molecular Biology, Academia Sinica, Nankang, Taipei 115, Taiwan, ROC, [2]Agricultural Biotechnology Center, National Chung Hsing University, Taichung 402, Taiwan, ROC, [3]Institute of Plant and Microbial Biology, Academia Sinica, Nankang, Taipei 115, Taiwan, ROC)

17:50 **PT-077** Unleashing the power of IRON MAN in rice
Chandan Kumar Gautam[1,2,3], Louis Grillet[1], Wolfgang Schmidt[1,2,4] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Molecular and Biological Agricultural Sciences Program, Taiwan International Graduate Program, National Chung Hsing University and Academia Sinica, Taiwan, [3]Graduate Institute of Biotechnology, National Chung Hsing University, Taichung 40227, Taiwan, [4]Biotechnology Center, National Chung Hsing University, Taichung 40227, Taiwan)

18:00 **PT-046** Hydrogen peroxide mediates glutathione-promoted seed germination in rice
Chin-Yu Wu, Chwan-Yang Hong (Department of Agricultural Chemistry, National Taiwan University, Taipei 10617, Taiwan)

18:10 **1pH03** Two quantitative trait loci for panicle length influence panicle architecture in rice
Ayumi Agata[1], Tokunori Hobo[2], Koki Ando[1], Yasuko Fujishiro[1], Takamasa Suzuki[4], Hitoshi Sakakibara[1,3], Sayaka Takehara[2], Miyako Ueguchi-Tanaka[2], Makoto Matsuoka[2], Kazuyuki Doi[1], Motoyuki Ashikari[2], Hidemi Kitano[2] ([1]Grad. Sch. Bioagr. Sci., Nagoya Univ., [2]Biosci. Biotec. Ctr., Nagoya Univ., [3]CSRS, RIKEN, [4]Grad. Sch. Biosci. Biotech., Chubu Univ., Japan)

■ Photosynthsis, Environmental responses of photosynthesis

PT-001 Photoprotective mechanisms of the photosystem II reaction center in Cyanobacteria

Hsiu-An Chu, Yi-Fang Chiu, Jine-Yung Huang, Han-Yi Fu, Nien-Tzu Hung, Kung-Min Lin (Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan)

PT-002 Arabidopsis AOS1 (Ammonia Over Sensitive 1) encoding a new regulator between nitrogen assimilation and photosynthesis

Ting-Hung Lin, Shan-Hua Lin, Yi-Fang Tsay (Institute of Molecular Biology, Academia Sinica, Taipei 11529, Taiwan)

■ Primary metabolism, Secondary metabolism

PT-003 MYBR is a major player in sugar feedback repression of starch breakdown during germination and seedling growth in rice

Yi-Shih Chen[1,2], Chun-Hua Lee[1], Yi-Ru Chen[1,2], Tuan-Hua David Ho[3], Chung-An Lu[1], Su-May Yu[2] ([1]Dept. of Life Science, National Central University, Taoyuan 320, Taiwan, [2]Institute of Molecular Biology, Academia Sinica, Nankang, Taipei 115, Taiwan, [3]Institute of Plant and Microbial Biology, Academia Sinica, Nankang, Taipei 115, Taiwan)

PT-004 Morphological studies of floral trichome for the scent orchid *Phalaenopsis bellina*

Ya-Lan Chang[1], Hong-Hwa Chen[1,2] ([1]Department of Life Sciences, National Cheng Kung University, Tainan 701, Taiwan, [2]Orchid Research and Development Center, National Cheng Kung University, Tainan 701, Taiwan)

■ Biomenbarane/Ion and solute transport

PT-005 EHD1 Define Endocytic Recycling Pathway for Cell Plate Formation and Root Development in Arabidopsis

Ho-Yin Angus Law[1], Liwen Jiang[2] ([1]Technological and Higher Education Institute of Hong Kong, Hong Kong SAR, China, [2]School of Life Sciences, Centre for Cell & Developmental Biology and State Key Laboratory of Agrobiotechnology, The Chinese University of Hong Kong, Hong Kong SAR, China)

PT-006 Mobile mRNAs utilize vesicle trafficking machineries for plasmodesmata-targeting

Kai-Ren Luo, Nien-Chen Huang, Tien-Shin Yu (Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan)

PT-007 Uncovering Genes Responsible for Phosphate Use and Acquisition Efficiency by Genome-Wide Association Studies Using Nature Variations of Arabidopsis

Pei-Shan Chien[1], Yu-Ying Hsu[1], Chih-Wei Tung[2], Tzyy-Jen Chiou[1] ([1]Agricultural Biotechnology Research Center, Academia Sinica, Taipei 11529, Taiwan, [2]Department of Agronomy, National Taiwan University, Taipei 106, Taiwan)

PT-008 Identification of sodium/myo-inositol transporters in seedlings of halophyte ice plant (Mesembryanthemum crystallinum L.)

Cheng Hsun Li, Hsing-Jung Tien, Hungchen Emilie Yen (Department of Life Sciences, National Chung Hsing University, Taichung 402, Taiwan)

PT-009 Scopoletin 8-Hydroxylase is a critical component of the Arabidopsis iron acquisition system

Huei-Hsuan Tsai[1,2,3], Jorge Rodríguez-Celma[4], Ping Lan[5], Yu-Ching Wu[1], Isabel Cristina Vélez-Bermúdez[1], Wolfgang Schmidt[1,2,6] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Molecular and Biological Agricultural Sciences Program, Taiwan International Graduate Program, National Chung Hsing University and Academia Sinica, Taiwan, [3]Graduate Institute of Biotechnology, National Chung Hsing University, Taichung 40227, Taiwan, [4]John Innes Centre and University of East Anglia, Norwich Research Park, Norwich NR4 7UH, UK, [5]State Key Laboratory of Soil and Sustainable Agriculture, Institute of Soil Science, Chinese Academy of Sciences, Nanjing, 210008, P.R. China, [6]Biotechnology Center, National Chung Hsing University, Taichung 40227, Taiwan)

PT-010 Tic236 links the chloroplast outer and inner membrane translocons

Yih-Lin Chen[1], Lih-Jen Chen[1], Chiung-Chih Chu[1], Po-Kai Huang[2], Jie-Ru Wen[1], Hsou-min Li[1] ([1]Institute of Molecular Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Department of Plant Sciences, University of California, USA)

PT-011 A strategy for improving plant nitrogen use efficiency (NUE) by manipulating a transporter involved in nitrate remobilization

Kuo-En Chen, Hui-Yu Chen, Shu-Chun Fan, Yi-Fang Tsay (Institute of Molecular Biology, Academia Sinica, Taipei 11529, Taiwan)

PT-012 Critical roles of Arabidopsis phospho-base methyltransferases in phosphatidylcholine biosynthesis and plant development

Yu-Chi Liu[1], Ying-Chen Lin[1,2,3], Kazue Kanehara[1], Yuki Nakamura[1] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Molecular and Biological Agricultural Sciences Program, Academia Sinica, Taiwan International Graduate Program, Taipei 11529, Taiwan, [3]Graduate Institute of Biotechnology, National Chung Hsing University, Taichung 402, Taiwan)

PT-013 Role of Arabidopsis lysophosphatidic acid acyltransferases (LPATs) in nitrogen starvation response and glycerolipid metabolism

Artik Elisa Angkawijaya, Van Cam Nguyen, Yuki Nakamura (Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan)

PT-014 A pair of non-specific phospholipases C, NPC2 and NPC6, involved in gametophyte development and glycerolipid metabolism in Arabidopsis

Anh-Hai Ngo[1,2,3], Ying-Chen Lin[1,2,3], Yu-chi Liu[1], Katharina Gutbrod[4], Helga Peisker[4], Peter Dörmann[4], Yuki Nakamura[1,2,5] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Molecular and Biological Agricultural Sciences Program, Academia Sinica, Taiwan International Graduate Program, Taipei 11529, Taiwan, [3]Graduate Institute of Biotechnology, National Chung-Hsing University, Taichung 402, Taiwan, [4]Institute of Molecular Physiology and Biotechnology of Plants, University of Bonn, Germany, [5]Biotechnology Center, National Chung-Hsing University, Taichung 402, Taiwan)

PT-015 Investigating the mechanism of targeting and oligomerization of the thylakoid membrane protein CURVATURE THYLAKOID1A (CURT1A)

Chen-Yi Dai, Tzu-Yin Liu (Institute of Bioinformatics and Structural Biology, National Tsing Hua University, Hsinchu 30013, Taiwan)

PT-016 N-terminal amino acid size is important for transmembrane domain to function as a stop transfer signal

Meng-Rong Chuang, Hsou-min Li (Institute of Molecular Biology, Academia Sinica, Taipei 11529, Taiwan)

■ Cell cycle/Cell division

PT-017 *MAC1* and *MSP1* promote mitotic quiescence of pollen mother cells by regulating the retinoblastoma-related pathway in maize

Ching-Chih Tseng[1,2], Chi-Ting Wang[1], Yun-Zhi Shi[1], Yu-Hsin Kao[1], Shih-Tong Jeng[2], Chung-Ju Rachel Wang[1] ([1]Institution of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Institute of Plant Biology, National Taiwan University, Taipei 106, Taiwan)

PT-018 The Arabidopsis YPEL gene, AtYIP1, acts as a repressor preventing cell division and growth in plant

Wei-Han Hsu[1], Chin-Wei Kuo[1], Tsai-Yu Tzeng[2], Chang-Hsien Yang[1] ([1]Graduate Institute of Biotechnology, National Chung-Hsing University, Taichung 402, Taiwan, [2]Genome Research Center, National Yang-Ming University, Taipei 112, Taiwan)

PT-019 SUMO Protease Acts on Ribosomal Protein L30 to Regulate Cell Size Checkpoint Control

Yen-Ling Lin[1,2], Su-Chiung Fang[1], Chin-Lin Chung[1] ([1]Academia Sinica-Biotechnology Center in Southern Taiwan, Tainan 74145, Taiwan, [2]Ph.D. Program in Microbial Genomics, National Chung Hsing University, Taichung 402, Taiwan)

PT-020 Geometric cues forecast the cell fate switch from 2D-to-3D growth in *Physcomitrella patens*

Han Tang[1], Kilian Duijts[1], Ben Scheres[2], Joop EM Vermeer[3], Viola Willemsen[2] ([1]Laboratory of Cell Biology, Wageningen University & Research, The Netherlands, [2]Plant Developmental Biology, Wageningen University & Research, The Netherlands, [3]Plant Cell Biology, Department of Plant and Microbial Biology, University of Zürich, Switzerland)

PT-021 HHAB is required for cytokinesis in early embryogenesis through its cytoskeleton bundling activity.

Ya-Wen Hsu[1], Chine-Ta Juan[1], Cian-Ling Guo[1], Huei-Jing Wang[1], Guang-Yuh Jauh[1,2] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Nankang, Taipei, 11529, Taiwan, [2]Biotechnology Center, National Chung-Hsing University, Taichung, 402, Taiwan)

■ Vegetative growth

PT-022 High ammonia concentration and pH value cause cell death of *Chlorella vulgaris* through programmed cell death and related with inhibition of photosynthesis efficiency

Hui-Ju Hsu[1], Jen-Chih Chen[1,2] ([1]Institute of Biotechnology, National Taiwan University, Taipei 106, Taiwan, [2]Agricultural Biotechnology Research Center, Academia Sinica, Taipei 115, Taiwan)

PT-023 The function of a small peptide in root meristem development in *Arabidopsis*

Masashi Yamada[1,2], Xinwei Han[2], Philip Benfey[2] ([1]Biotechnology Center in Southern Taiwan, Academia Sinica, Tainan 74145, Taiwan, [2]Department of Biology and HHMI, Duke University, Durham, NC 27710, USA)

PT-024 Genome-wide identification of YABBY genes involved in gynostemium development of Phalaenopsis equestris

Wen-Chieh Tsai[1], You-Yi Chen[1,2] ([1]Institute of Tropical Plant Sciences, National Cheng Kung University, Tainan 701, Taiwan, [2]Department of Life Sciences, National Cheng Kung University, Tainan 701, Taiwan)

PT-025 The sd1 alleles in Taiwan rice land races

Lin-Tzu Huang[1], Su-jein Chang[2], Yue-Ie Caroline Hsing[1] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Miaoli District Agricultural Research and Extension Station, Miaoli 363, Taiwan)

PT-026 Two-step evolution of an obligate heterodimer complex regulating vascular development

Kuan-Ju Lu[1], Nicole van 't Wout Hofland[1], Dolf Weijers[1], Bert De Rybel[2,3] ([1]Laboratory of Biochemistry, Wageningen University, Netherlands, [2]Department of Plant Biotechnology and Bioinformatics, Ghent University, Belgium, [3]VIB Center for Plant Systems Biology, Belgium)

■ Reproductive growth

PT-027 Functional characterization of PeMADS28, a B-sister MADS-box gene, from Phalaenopsis equestris

Hsiang-Chia Lu, Ching-Yu Shen, You-Yi Chen, Wen-Chieh Tsai (Institute of Tropical Plant Sciences, National Cheng Kung University, Tainan 701, Taiwan)

PT-028 Function of Arabidopsis E3 ligases REDs in sexual reproduction

Ning Wang, Yi-Min Li, Yu-Hsyan Yuan, Yi-Syue Ho, Yung-Chu Tsai, Chiu-Ping Cheng (Institute of Plant Biology National Taiwan University, Taipei 10617, Taiwan)

PT-029 The effect of OsCDPK1 on seed development in rice

Shin Lon Ho, Chun-Hsiang Kuo, Mao-Kei Chen (Department of Agronomy, National Chiayi University, Chiayi 60004, Taiwan)

PT-030 Functional Analysis of Two FOREVER YOUNG FLOWER Orthologues From Phalaenopsis Orchid in Regulating Flower Senescence and Abscission

Wei-Han Chen, Zhi-Yi Jiang, Chang-Hsien Yang (Institute of Biotechnology, National Chung Hsing University, Taichung 40227, Taiwan)

PT-031 Function study of a grass-specific *OsNACgs9* transcription factor in leaf and flower development

Yu-Han Lin[1], Chih-Yung Chi[1], Nobutaka Mitsuda[2], Ruey-Hua Lee[1] ([1]Institute of Tropical Plant Sciences and Microbiology, College of Bioscience and Biotechnology, National Chung Kung University, Tainan 701, Taiwan, [2]National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan)

PT-032 Coexpression analysis of curd development in cauliflower (*Brassica oleracea* L. var. *botrytis*)

Jheng-Yang Ou[1], Po-Xing Zheng[1], Ta-Yu Yang[1], Wang Lin[1], Tzu-Chiao Liao[1], Chen-Yu Lin[2], Yao-Cheng Lin[1] ([1]Biotechnology Center in Southern Taiwan, Agricultural Biotechnology Research Center, Academia Sinica, Taipei 11529, Taiwan, [2]Department of Vegetable Crops, Fengshan Tropical Horticultural Experiment Branch, Taiwan Agricultural Research Institute, Kaoshiung 830, Taiwan)

PT-033 Proper Mitochondrial Fission is Important for Pollen Development

Pei-Ying Chen[1], Chia-Chen Wu[1], Chun-Chi Lin[2], Wann-Neng Jane[3], Der-Fen Suen[1] ([1]Agricultural Biotechnology Research Center, Academia Sinica, Taipei 11529, Taiwan, [2]Department of Life Sciences and Institute of Genome Sciences, National Yang-Ming University, Taiwan, [3]Institute of Plant and Microbial Biology, Academia Sinica, Taipei, Taiwan)

PT-034 Characterization and functional analysis of SAUR32 gene from Arabidopsis thaliana

Pei-Fang Li, Yong-Xiang Zhan, Chang-Hsien Yang (Graduate Institute of Biotechnology, National Chung Hsing University, Taichung 402, Taiwan)

PT-035 Coexist of Homodimers and Heterodimers of Lily (Lilium longiflorum) B Functional MADS Proteins in Regulating Tepal and Stamen Formation

Wan-Ting Mao, Wan-Ting Mao, Jen-Ying Li, Wei-Han Hsu, Chang-Hsien Yang (Graduate Institute of Biotechnology, National Chung Hsing University, Taichung 402, Taiwan)

PT-036 Temporal transcriptomics analysis of developing soybean endosperm

Yue-Ie Caroline Hsing, Ming-der Shih, Jian-shin Lin (Academia Sinica, Taipei 11529, Taiwan)

PT-037 Characterization of lipid transfer protein (LTP) in green algae

Chin wei Wu, Ming-der Huang (Department of Biological Sciences, National Sun Yat-sen University, Kaoshiung 80424, Taiwan)

PT-038 The long pollen tube journey and in vitro pollen germination of *Phalaenopsis* orchids.

Jhun-Chen Chen[1,2], Su-Chiung Fang[1,2] ([1]Biotechnology Center in Southern Taiwan, Academia Sinica, Tainan 74145, Taiwan, [2]Agricultural Biotechnology Research Center, Academia Sinica, Taipei 11529, Taiwan)

PT-039 Analysis of transcriptomes during protocorm developmental stages and characterization of lipase genes from *Phalaenopsis aphrodite* subsp. *formosana*

Chieh-Kai Liang[1], Yu-Yun Hsiao[3], Hao-Jen Huang[1,2], Wen-Chieh Tsai[1,2,3] ([1]Department of Life Science, College of Bioscience and Biotechnology, National Cheng Kung University, Tainan City 701, Taiwan, [2]Institute of Tropical Plant Science, College of Bioscience and Biotechnology, National Cheng Kung University, Tainan City 701, Taiwan, [3]Orchid Research and Development Center, National Cheng Kung University, Tainan City 701, Taiwan)

■ Plant hormones/Signaling molecules

PT-040 Chemical interference of ETHYLENE INSENSITIVE3 dimerization by small-molecule compounds to modulate ethylene response in Arabidopsis thaliana

Jui-Cheng Yu[1], Kung-Ming Liu[1], Sian-Chi Li[1], Wan-Sheng Lo[2], Long-Chi Wang[1] ([1]Department of Life Sciences, National Chung Hsing University, Taichung 402, Taiwan, [2]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 115, Taiwan)

PT-041 A potential role of Arabidopsis ETHYLENE OVERPRODUCER1 in nucleus

Ching-Yu Hsu[1], Yi-Ying Lu[1], Hao-Ting Hsu[1], Wan-Sheng Lo[2], Long-Chi Wang[1] ([1]Department of Life Sciences, National Chung Hsing University, Taichung 402, Taiwan, [2]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 115, Taiwan)

PT-042 Functional Identification of key amino acids involved in enzymatic activity of rice OsGA2ox7

Yi-Ting Chen, Kun-Ting Hsieh, Ting-Jen Hu, Su-Hui Liu, Li-Wei Chen, Chih-Hung Hsieh, Liang-Jwu Chen (Institute of Molecular Biology College of Life Science, National Chung Hsing University, Taichung 40227, Taiwan)

PT-043 A Novel ABA-induced Protein Phosphatase Regulates Lateral Root Elongation and Diffusion Barriers Formation in Rice

Chun-Hsien Lu[1,2], Tuan-Hua David Ho[3], Su-May Yu[1,2] ([1]Institute of Molecular Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Genome and Systems Biology Degree Program, National Taiwan University and Academia Sinica, Taiwan, [3]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan)

PT-044 The roles of the NIN-Like Protein family in nitrate signaling

Yu-Hsuan Cheng[1,2], Fu-Chiun Hsu[3], Anne Krapp[4], Yi-Fang Tsay[1] ([1]Institute of molecular biology, Academia sinica, Taipei 11529, Taiwan, [2]Molecular and Cell Biology, Taiwan International Graduate Program, Academia Sinica & National Defense Medical Center, Taiwan, [3]Department of Horticulture and Landscape Architecture, National Taiwan University, Taipei 106, Taiwan, [4]Institut Jean-Pierre Bourgin, Institut National de la Recherche Agronomique (INRA), Versailles, France)

PT-045 Autophagy cargo receptor 1 plays an important role in brassinosteroid signal and yields in rice

Hui-Hsin Chen[1], Jin-Zhang Liang[1], Shuen-Fang Lo[2], Jun-Yi Yang[1] ([1]National Chung Hsing University, Taichung 402, Taiwan, [2]International Rice Functional Genomic Center.)

PT-046 Hydrogen peroxide mediates glutathione-promoted seed germination in rice

Chin-Yu Wu, Chwan-Yang Hong (Department of Agricultural Chemistry, National Taiwan University, Taipei 10617, Taiwan)

PT-047 Exploring the function of the miR390-*TAS3*-*ARF* pathway in *Marchantia polymorpha*

Yu-Ling Hung[1], Yuan-Chi Chien[2], Emi Hainiwa[3], Rui Sun[3], Shohei Yamaoka[3], Ryuichi Nishihama[3], Takayuki Kohchi[3], Chun-Neng Wang[4,5] ([1]Institute of Plant Biology, National Taiwan University, Taipei 106, Taiwan, [2]Department of Biochemical Science and Technology, National Taiwan University, Taipei 106, Taiwan, [3]Graduate School of Biostudies, Kyoto University, Kyoto 606-8501, Japan, [4]Institute of Ecology and Evolutionary Biology, National Taiwan University, Taipei 106, Taiwan, [5]Department of Life Science, National Taiwan University, Taipei 106, Taiwan)

PT-048 Phytosterols homeostasis, the missing piece, in brassinosteroids signaling mediated stomatal division orientation

Chih-Chung Yen[1], Ya-Wen Hsu[1], Kuan-Chieh Leu[1], Jei-Fu Shaw[2], Guang-Yuh Jauh ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Department of Biological Science & Technology, I-Shou University, Kaohsiung 840, Taiwan)

PT-049 Functional Analysis of CONSTANS-Like gene in Regulating Anther Dehiscence in Angiosperms

Hui-Ci Yang, Wen-Hsuan Ko, Pei-Wen Chung, Che-Jui Hsu, Wei-Han Hsu, Chang-Hsien Yang (Graduate Institute of Biotechnology, National Chung Hsing University, Taichung 402, Taiwan)

■ Photoreceptors/Photoresponses, Flowering/Clock

PT-050 Functional involvement of the *CONSTANS-like* family in modulating flowering time in octoploid cultivated strawberry

Althea Yi-Shan Li, Po-Husan Chou (Department of Life Sciences, Tzu Chi University, Hualien 97004, Taiwan)

PT-051 Integration of time-series, multi-dimension omic data into regulatory networks in photomorphogenic Arabidopsis

Sim Lin Lim, Meng-chun Lin, Yi-Hang Li, Shu-Hsing Wu (Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan)

PT-052 Processing bodies regulate the timely and selective translation for optimal development of Arabidopsis young seedlings

Geng-Jen Jang[1,2], Jun-Yi Yang[3], Hsu-Liang Hsieh[2], Shu-Hsing Wu[1] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 115, Taiwan, [2]Institute of Plant Biology, National Taiwan University, Taipei 106, Taiwan, [3]Institute of Biochemistry, National Chung Hsing University, Taichung 402, Taiwan)

PT-053 bZIP16 promotes flowering through directly repressing the expression of *FLC* in the autonomous pathway

Jing-Fen Wu[1], Huang-Lung Tsai[2], Yi-Hsuan Huang[1], Shu-Hsing Wu[1] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Institute of Molecular and Cellular Biology, National Taiwan University, Taipei 116, Taiwan)

PT-054 The elasticity of circadian clock to the ever-changing environmental light regimes

Tsen-Ying Lin[1,2], Shu-Hsing Wu[1] ([1]Institute of plant and microbial biology, Academia sinica, Taipei 11529, Taiwan, [2]Department of Life Sciences, National Central University, Taoyuan 32001, Taiwan)

PT-055 Floral transition of rice requires co-existence of Hd3a/RFT1 and OsMADS14/15

Shih-Min Lin, Kun-Ting Hsieh, Ying-Chin Chen, Chih-Hung Hsieh, Shun-Fang Lo, Liang-Jwu Chen (National Chung Hsing University, Taichung 402, Taiwan)

PT-056 Phytochromes regulate alternative splicing through hnRNP and U1 snRNP in *Physcomitrella patens*

Chueh-Ju Shih[1,2,3], Hsiang-Wen Chen[1], Hsin-Yu Hsieh[1], Yung-Hua Lai[1], Fang-Yi Chiu[1], Yu-Rong Chen[1], Shih-Long Tu[1,2,4] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Molecular and Biological Agricultural Sciences Program, Taiwan International Graduate Program, Chung-Hsing University and Academia Sinica, Taipei 11529, Taiwan, [3]Graduate Institute of Biotechnology, National Chung-Hsing University, Taichung 402, Taiwan, [4]Biotechnology Center, National Chung-Hsing University, Taichung 402, Taiwan)

PT-057 A WRKY transcriptional factor is post-translational modified by acetylation and regulates flowering in Arabidopsis

Yuan-Hsin Shih, Pei-Yu Lin, Keqiang Wu (Instution of Plant Science, National Taiwan University, Taipei 10617, Taiwan)

PT-058 Splicing variants constitute novel regulators of photomorphogenic development in Arabidopsis

Chun-Kai Huang, Wen-Dar Lin, Shu-Hsing Wu (Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan)

PT-059 Phytochrome regulates light-responsive alternative splicing through hnRNP-F1 and an exonic splicing silencer in *Physcomitrella patens*

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PT-060 Functional Characterization of a Non-vernalization Responsive Flowering Gene in Broccoli

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PT-061 Interplay of phytochrome B and FIN219/JAR1 in response to shade in Arabidopsis

Kai-Chun Peng, Hsu-Liang Hsieh (Institute of Plant Biology, National Taiwan University, Taipei 106, Taiwan)

PT-062 Target of rapamycin (TOR) and ribosome protein S6 (RPS6) transmit light signals to enhance protein translation in de-etiolating Arabidopsis seedlings

Guan-Hong Chen[1], Ming-Jung Liu[2], Yan Xiong[3], Sheen Jen[4], Shu-Hsing Wu[1] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Biotechnology Center in Southern Taiwan, Academia Sinica, Tainan, Taiwan; Agricultural Biotechnology Research Center, Academia Sinica, Taipei 11529, Taiwan, [3]Basic Forestry and Proteomics Research Center, Haixia

Institute of Science and Technology, Fujian Agricultural and Forestry University, People's Republic of China, [4]Department of Genetics, Harvard Medical School, Boston, MA, USA)

PT-063 *LIER* gene interacts with light- and JA- responsive genes under iron deficiency

Chiu-Ling Yang, I-Chun Pan (National Chung Hsing University, Taichung 402, Taiwan)

PT-064 NRT1.13-mediated Regulatory Mechanism of Flowering

Yun-Hsuan Lin, Yi-Fang Tsay (Institute of Molecular Biology, Academia Sinica, Taipei 11529, Taiwan)

PT-065 Suppression of phytoene synthase gene (Eg*crtB*) caused a defect in the normal eyespot formation and resulted in a loss of phototaxis of *Euglena gracilis*

Shota Kato[1,2], Kazunari Ozasa[3], Mizuo Maeda[3], Yuri Tanno[4], Mieko Higuchi-Takeuchi[5], Keiji Numata[5], Yutaka Kodama[6], Mayuko Sato[7], Kiminori Toyooka[7], Hong Gil Nam[2], Tomoko Shinomura[1,4] ([1]Department of Biosciences, School of Science and Engineering, Teikyo University, Japan, [2]Center for Plant Aging Research, Institute for Basic Science, Korea, [3]Bioengineering Laboratory, RIKEN, Japan, [4]Division of Integrated Science and Engineering, Graduate School of Science and Engineering, Teikyo University Graduate Schools, Japan, [5]Biomass Engineering Research Division, Center for Sustainable Resource Science, RIKEN, Japan, [6]Center for Bioscience Research and Education, Utsunomiya University, Japan, [7]Center for Sustainable Resource Science, RIKEN, Japan)

■ Environmental responses A, B

PT-066 Arabidopsis *IRON RESPONSIVE PROTEIN 6* is essential for shoot iron distribution

Girish Mokkapati[1,2,3], Wolfgang Schmidt[1,2,4] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Molecular and Biological Agricultural Sciences Program, Taiwan International Graduate Program, National Chung Hsing University and Academia Sinica, Taiwan, [3]Graduate Institute of Biotechnology, National Chung Hsing University, Taichung 40227, Taiwan, [4]Biotechnology Center, National Chung Hsing University, Taichung 40227, Taiwan)

PT-067 Transcriptome analyses of differentially expressed genes and enriched pathways in ice plant (Mesembryanthemum crystallinum) seedlings at early stage of salt stress

Kai-Fu Zhang[1], Chia-Che Lee[1], Hungchen Emilie Yen[1], Li-Ching Hsieh[2] ([1]Department of Life Sciences, National Chung Hsing University, Taichung 402, Taiwan, [2]Institute of Genomics and Bioinformatics, National Chung Hsing University, Taichung 402, Taiwan)

PT-068 Studying the Translational Control in Response to Wounding in Tomato

Ya-Ru Li, Ming-Jung Liu (Agricultural Biotechnology Research Center (ABRC), Academia Sinica, Taipei 11529, Taiwan)

PT-069 Function of rice *PRP1* in regulating root architecture and abiotic stress tolerance

Foong-Jing Goh, Li-Hong Liu, Su-May Yu (Institute of Molecular Biology, Academia Sinica, Taipei 11529, Taiwan)

PT-070 Identification of genes that regulate root development in rice under abiotic

Adnan Muzaffar[1,2], Yi-Shih Chen[1], Chun-Hsien Lu[1], Su-May Yu[1,2] ([1]Institute of Molecular Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Taiwan International Graduate Program-Molecular and Cell Biology, Academia Sinica and National Defense Medical Center, Taipei, Taiwan)

PT-071 To investigate the relationship between SnRK1 and TOR signaling in the upstream regulation of autophagy in plants under phosphate starvation

Yu-Hao Kuo, Liu-Tzi Yin (Institute of Bioinformatics and Structural Biology, National Tsing Hua university, Hsinchu 30013, Taiwan)

PT-072 Systemic Wounding-Regulated Novel MicroRNA tag6568 in Sweet Potato

Yu-Ling Lin, Yu-Chi Li, Shih-Tong Jeng (Institute of Plant Biology and Department of Life Science, National Taiwan University, Taipei 106, Taiwan)

PT-073 Exploring microRNAs in response to Hydrogen peroxide using bioinformatics analysis in Rice (*Oryza staiva* L. Japonica TNG67)

Chih-Hung Hsieh[1], Ming-Tsung Wu[2], Chun-Wei Huang[1], Bo-Shun Tseng[1], Yue-Ie Caroline Hsing[2], Shih-Tong Jeng[1] ([1]Institute of Plant Biology, Nation Taiwan University, Taipei 106, Taiwan, [2]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan)

PT-074 Dissecting the enigma of the manganese and iron antagonism in plants

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PT-075 Temporal transcriptional and post-transcriptional regulation of iron deficiency response

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PT-076 Metina: A Transcription factor involved in Iron Deficiency Tolerance in Arabidopsis thaliana

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PT-077 Unleashing the power of IRON MAN in rice

Chandan Kumar Gautam[1,2,3], Louis Grillet[1], Wolfgang Schmidt[1,2,4] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Molecular and Biological Agricultural Sciences Program, Taiwan International Graduate Program, National Chung Hsing University and Academia Sinica, Taiwan, [3]Graduate Institute of Biotechnology, National Chung Hsing University, Taichung 40227, Taiwan, [4]Biotechnology Center, National Chung Hsing University, Taichung 40227, Taiwan)

PT-078 Identification and characterization of the first plant Guanine deaminase (OsGDA1) in rice, its roles in drought tolerance and epigenetics

Dhananjay Narayanrao Gotarkar[1], Toshisangba Longkumer[2], Amrit Nanda[2], Kenneth M Olsen[3], Biswajit Gorai[4], Yue-Ie Caroline Hsing[1], Ajay Kohli[2] ([1]IPMB, Academia Sinica, Taipei 11529, Taiwan, [2]International Rice Research Institute, Philippines, [3]Washington University, St. Louis, USA, [4]Indian Institute of Science, Bengaluru, India)

PT-079 Rice repetitive proline-rich proteins integrate responses to drought and pathogen infection through regulations of metabolism

I-Chieh Tseng, Meng-Chun Lin, Ching-Lan Wang, Tuan-Hua David Ho (Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan)

PT-080 Nitrate use efficiency in different Oryza sativa subspecies

Hsin-Yuan Chien[1,2], Kuo-En Chen[1], Yi-Fang Tsay[1] ([1]Institute of Molecular Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Department of Life Sciences, National Tsing Hua University, Hsinchu 30013, Taiwan)

PT-081 Investigate the evolution on the rapid movement of *Mimosa* plants by transcriptome analyses.

Yan-Han Fang, Chao-Li Huang (Institute of Tropical Plant Sciences, National Cheng Kung University, Tainan 701, Taiwan)

PT-082 Phosphoinositide-binding protein 1 (PBP1) is a mediator linking phosphoinositide signaling and endoplasmic reticulum stress tolerance

Chao-Yuan Yu[1,2,3], Kazue Kanehara[1,4] ([1]IPMB, Academia Sinica, Taipei 11529, Taiwan, [2]TIGP-MBAS program, NCHU & Academia Sinica, Taiwan, [3]Graduate Institute of Biotechnology, National Chung Hsing University, Taichung 402, Taiwan, [4]Biotechnology Center, National Chung Hsing University, Taichung 402, Taiwan)

■ Environmental responses C

PT-083 MicroRNA160 represses AUXIN RESPONSE FACTOR10, 16, and 17 to mediate heat tolerance in Arabidopsis

Jeng-Shane Lin[1], Chia-Chia Kuo[2], Shih-Tong Jeng[2] ([1]National Chung Hsing University, Taichung 402, Taiwan, [2]National Taiwan University, Taipei 106, Taiwan)

PT-084 Effect of long-term low temperature treatment on sugar contents and antioxidative mechanisms in ice plant leaves

Yun-Cheng Tu[1], Wen-Ling Huang[1], Hungchen Emilie Yen[1], Jyisy Yang[2] ([1]Department of Life Sciences, National Chung Hsing University, Taichung 402, Taiwan, [2]Department of Chemistry, National Chung Hsing University, Taichung 402, Taiwan)

PT-085 Deciphering mechanism of thermotolerance in tomato reproductive tissues by comparative transcriptome analysis

Pin-Jie Lu[1], Hao-Lun Yang[2], Jheng-Yang Ou[2], Ta-Yu Yang[2], Roland Schafleitner[3], Yao-Cheng Lin[2], Ruey-Hua Lee[1] ([1]Institute of Tropical Plant Sciences and Microbiology, National Cheng Kung University, Tainan 701, Taiwan, [2]Biotechnology Center in Southern Taiwan, Agicultural Biotechnology Research Center, Academia Sinica, Taipei 11529, Taiwan, [3]World Vegetable Center, Tainan 74151, Taiwan)

PT-086 A heat stress-induced CCR4-association factor 1, OsCAF1H, participates in heat response in rice seedlings

Chung-An Lu, Wei-Lun Chou, Kai-Yin Liang (National Central University, Taoyuan City 32001, Taiwan)

PT-087 MiR164 modulated NAC transcription factors to mediate thermotolerances of Arabidopsis

Po-Han Sung[1], Wei-An Tsai[2], Hungchen Emilie Yen[1], Jeng-Shane Lin[1], Shih-Tong Jeng[3] ([1]Department of life sciences, National Chung Hsing University, Taichung 40227, Taiwan, [2]Department of Crop Environment, Hualien District Agricultural Research and Extension Station, Council of Agriculture, Hualien 97365, Taiwan, [3]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan)

PT-088 miR163 involved in heat tolerances in Arabidopsis thaliana

Pei-Ling Tsai[1], Bo-Shun Tseng[1,2], Jeng-Shane Lin[1] ([1]Department of life sciences, National Chung Hsing University, Taichung 402, Taiwan, [2]Institute of Plant Biology, National Taiwan University, Taipei 106, Taiwan)

PT-089 Determining cauliflower (Brassica oleracea var. botrytis) heat-tolerant mechanisms by genome and transcriptome analysis

Po-Xing Zheng[1], Ta-Yu Yang[1], Jheng-Yang Ou[1], Wang Lin[1], Te-Chang Hsu[1], Tzu-Chiao Liao[1], Chen-Yu Lin[2], Yao-Cheng Lin[1] ([1]Biotechnology Center in Southern Taiwan, Agricultural Biotechnology Research Center, Academia Sinica, Tainan 74145, Taiwan, [2]Department of Vegetable Crops, Fengshan Tropical Horticultural Experiment Branch, Taiwan Agricultural Research Institute, Kaohsiung 830, Taiwan)

PT-090 The SnRK1-eIFiso4G1 signaling relay regulates the translation of specific mRNAs in Arabidopsis under submergence

Hsing-Yi Cho[1,2,3], Mei-Yeh Jade Lu[4], Ming-Che Shih[1,2,5] ([1]Agricultural Biotechnology Research Center, Academia Sinica, Taipei 11529, Taiwan, [2]Molecular and Biological Agricultural Sciences Program, Taiwan International Graduate Program, National Chung-Hsing University and Academia Sinica, Taiwan, [3]Graduate Institute of Biotechnology, National Chung-Hsing University, Taichung 402, Taiwan, [4]Biodiversity Research Center, Academia Sinica, Taipei 115, Taiwan, [5]Biotechnology Center, National Chung-Hsing University, Taichung 402, Taiwan)

PT-091 Arabidopsis FATTY ACID DESATURASE 2 (FAD2) is important for the endoplasmic reticulum stress tolerance

Van Cam Nguyen[1,2,3], Yuki Nakamura[1,2,4], Kazue Kanehara[1,2,4] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Molecular and Biological Agricultural Sciences Program, Taiwan International Graduate Program, Academia Sinica, Taipei 11529, Taiwan, [3]Graduate Institute of Biotechnology, National Chung-Hsing University, Taichung 402, Taiwan, [4]Biotechnology Center, National Chung-Hsing University, Taichung 402, Taiwan)

PT-092 Mutation in the Arabidopsis protein farnesyl transferase gene HIT5/ERA1 affects the ability of plant to survive heat stress

Yu-Yi Lo, Tzu-Yun Wang, Jia-Rong Wu, Shaw-Jye Wu (Department of Life Science, National Central University, Taoyuan 320, Taiwan)

PT-093 Choline homeostasis is crucial for ER stress tolerance in Arabidopsis

Ying-Chen Lin[1,2,3], Kazue Kanehara[1,2,4], Yuki Nakamura[1,2,4] ([1]Molecular and Biological Agricultural Sciences Program, Taiwan International Graduate Program, National Chung Hsing University and Academia Sinica, Taipei 11529, Taiwan, [2]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [3]Graduate Institute of Biotechnology, National Chung Hsing University, Taichung 40227, Taiwan, [4]Biotechnology Center, National Chung Hsing University, Taichung 40227, Taiwan)

PT-094 Functional analysis of rice PK1 gene on root aerenchyma formation under hypoxia

Hsiang-Ting Lee, Su-May Yu (Institute of Molecular Biology, Academia Sinica, Taipei 11529, Taiwan)

PT-095 Functional characterization of HYPOXIA RESPONSIVE MEDIATOR 1 under low oxygen stress in Arabidopsis

Kuen-Jin Tsai, Ming-Che Shih (Agricultural Biotechnology Research Center, Academia Sinica, Taipei 115, Taiwan)

PT-096 The heterotrimeric G protein, AGB1 contributes to endoplasmic reticulum stress tolerance in Arabidopsis thaliana

Yueh Cho[1], Tatsuo Iwasa[1,2], Kazue Kanehara[1,2] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Muroran Institute of Technology, Muroran, Japan)

■ Plant-organism interaction

PT-097 Activation of Innate Immune Signaling Pathways by Microbial Volatiles in *Nicotiana benthamiana*

Ching-Han Chang[1], Pei-Shuan Lai[2], Jung Hsieh[2], Hao-Jen Huang[1,2] ([1]Department of Life Sciences, National Cheng Kung University, Tainan City 701, Taiwan, [2]Institute of Tropical Plant Sciences, National Cheng Kung University, Tainan City 701, Taiwan)

PT-098 Cultural degeneration reduces the activities of cell wall-degrading enzymes (CWDEs) and virulence of Fusarium oxysporum f. sp. niveum infecting watermelon

Tao-Ho Chang[1,2], Yu-Ling Wan[1], Pi-Fang Linda Chang[1,2], Ying-Hong Lin[3], Kan-Shu Chen[4], Jenn-Wen Huang[1,2] ([1]Department of Plant Pathology, National Chung Hsing University, Taichung City 40227, Taiwan, [2]Innovation and Development Center of Sustainable Agriculture (IDCSA), National Chung Hsing University, Taichung City 40227, Taiwan, [3]Department of Plant Medicine, National Pingtung University of Science and Technology, Pingtung 912, Taiwan, [4]Fengshan Tropical Horticultural Experiment Branch, Taiwan Agricultural Research Institute, Kaohsiung 830, Taiwan)

PT-099 Chemical genetics coupled with a network analysis for elucidating of the plant immune system

Keito Yasue, Masataka Nakano, Nobutaka Kitahata, Kazuyuki Kuchitsu, Kengo Morohashi (Department of Applied Biological Science, Faculty of Science and Technology, Tokyo University of Science, Noda, Chiba 278-8510, Japan)

PT-100 Discovery of Arabidopsis Protease for Maturation of PR-1 Derived Signaling Peptide to Activate SAR

Ying-Lan Chen, Yet-Ran Chen (Agricultural Biotechnology Research Center, Academia Sinica, Taipei 11529, Taiwan)

PT-101 The Secretory Pathway is Required for PR-1 Processing to a Mature Peptide AtCAPE9 for the Induction of SAR in Arabidopsis

Fan-Wei Lin, Ying-Lan Chen, Kai-Tan Cheng, Yet-Ran Chen (Agricultural Biotechnology Research Center, Academia Sinica, Taipei 11529, Taiwan)

PT-102 Plant Innate Immunity by the Eliciting Plant Response-Like 1 (Epl1) Elicitor of *Trichoderma Formosa*

Bing-Nan Shen[1], Chaur-Tsuen Lo[2], Shih-Shun Lin[1,3,4] ([1]Institute of Biotechnology, National Taiwan University, Taipei 106, Taiwan, [2]Department of Biotechnology, National Formosa University, Yulin 632, Taiwan, [3]Agricultural Biotechnology Research Center, Academia Sinica, Taipei 115, Taiwan, [4]Center of Biotechnology, National Taiwan University, Taipei 106, Taiwan)

PT-103 Pathogenic effects and mechanisms of CEVd-derived small RNAs on *Citrus exocortis viroid* infected tomato plants

Ru-Ying Fang[1], Shih Shun Lin[2], Tang-Long Shen[1] ([1]Department of Plant Pathology and Microbiology, National Taiwan University, Taipei 106, Taiwan, [2]Institute of Biotechnology, National Taiwan University, Taipei 106, Taiwan)

PT-104 Phytoplasma effector PHYL1 may affect formation of quaternary MADS transcription factor complexes on the DNA by acting as a competitive inhibitor

Wan-Ting Sun[1], Chan-Pin Lin[1], Shih-Shun Lin[2] ([1]Department of Plant Pathology and Microbiology, National Taiwan University, Taipei 106, Taiwan, [2]Institute of Biotechnology, National Taiwan University, Taipei, Taiwan)

PT-105 The MAPK cascade is involved in fungal volatiles-induced plant growth promotion

Pei-Yu Su[1], Ching-Han Chang[1], Tzu-Yun Tseng[2], Hao-Jen Huang[1,2] ([1]Department of Life Sciences, National Cheng Kung University, Tainan 701, Taiwan, [2]Institute of Tropical Plant Sciences, National Cheng Kung University, Tainan 701, Taiwan)

PT-106 Recognition of AvrPtoBB728a by SlPtoB triggers tomato resistance against Pseudomonas syringae pv. syringae B728a

I-Chih Yang, Ching-Fang Chien, Nai-Chun Lin (Department of Agricultural Chemistry, National Taiwan University, Taipei 106, Taiwan)

PT-107 Identification and characterization of endophytes with ability to enhance tomato tolerance to biotic and abiotic stresses

Chia-Han Chen[1], I-Chih Yang[2], Nai-Chun Lin[1,2] ([1]Master Program for Plant Medicine, National Taiwan University, Taipei 106, Taiwan, [2]Department of Agricultural Chemistry, National Taiwan University, Taipei 106, Taiwan)

PT-108 The involvement of autophagic genes in AGO1 degradation along with HC-Pro and study of interactive region of HEN1 with HC-Pro

Neda Sanobar, Pin-Chun Lin, Shih-Shun Lin (National Taiwan University, Taipei 106, Taiwan)

PT-109 Symbiosis-induced rice phosphate transporter PT13 mediates cellular phosphate efflux

Shu-Yi Yang[1,2,3], Yansheng Wu[4], Pieter de Waard[5], Henk van As[6], Yves Poirier[2], Zhonglin Shang[4], Enrico Martinoia[7], Uta Paszkowski[2] ([1]Institute of Plant Biology, National Taiwan University, Taipei 10617, Taiwan, [2]Department of Plant Sciences, University of Cambridge, Cambridge, CB2 3EA, UK, [3]Department of Plant Molecular Biology, University of Lausanne, 1015 Lausanne, Switzerland, [4]College of Life Science, Hebei Normal University, Shijiazhuang 050024, Hebei Province, China, [5]Wageningen NMR Center, Wageningen University, 6708 HA Wageningen, The Netherlands, [6]Department of Agrotechnology and Food Sciences, Wageningen University, 6708 HA Wageningen, The Netherlands, [7]Institute of Plant Biology, University of Zurich, 8008 Zurich, Switzerland)

PT-110 Screening of AtCAPE Perceptive Receptor Using Mutant Phenotypic Assays Under Salt Stress and Pathogen Infection

Kaitan Cheng, Ying-Lan Chen, Pei-Shan Chien, Yet-Ran Chen (ABRC of Academia Sinica, Taipei 11529, Taiwan)

PT-111 Study of phytoplasma PHYL1 effector induces anthocyanin accumulation

Han-Pin Cheng[1], Chan-Pin Lin[2], Shih-Shun Lin[1] ([1]Institute of Biotechnology, National Taiwan University, Taipei 106, Taiwan, [2]Department of Plant Pathology and Microbiology, National Taiwan University, Taipei 106, Taiwan)

PT-112 Screening of peptides for promoting plant defense against pathogens

Cheng-Wei Weng[1,2,3,4], Yi-Min Li[1], Ming-Chin Wu[2], Chien Chih Yang[3], Rita Pei-Yeh Chen[2,4], Chiu-Ping Cheng[1] ([1]Institute of Plant Biology National Taiwan University, Taipei 10617, Taiwan, [2]Institute of Biological Chemistry, Academia Sinica, Taipei 11529, Taiwan, [3]Department of Biochemical Science and Technology, National Taiwan University, Taipei 10617, Taiwan, [4]Institute of Biochemical Sciences, National Taiwan University, Taipei 10617, Taiwan)

PT-113 Functional study of *R. solanacearum* effector PopP3

Yi Fan Chen, Chien-Sheng Wu, Tai-Hsiang Chu, Hung-Wei Wu, Chiu-Ping Cheng (Institute of Plant Biology National Taiwan University, Taipei 10617, Taiwan)

PT-114 Functional characterization of tomato microtubule-associated RING E3 ligase

Yi-Min Li, Yung-Chu Tsai, Yi-Syue Ho, Chiu-Ping Cheng (Institute of Plant Biology National Taiwan University, Taipei 10617, Taiwan)

PT-115 Development and Application of Defense Peptide Elicitor CAPE1 on Enhancing the Pathogen Resistance of Tomato

Kuo-Hsin Wang, Kai-Ting Fan, Yet-Ran Chen (The Agricultural Biotechnology Research Center, Academia sinica, Taipei 11529, Taiwan)

PT-116 Host-induced gene silencing of calcineurin in Fusarium fujikuroi to enhance resistance against rice Bakanae disease

Yi-Hsuan Hou, Ying-Lien Chen (Department of Plant Pathology and Microbiology, National Taiwan University, Taipei 10617, Taiwan)

PT-117 Non-photosynthetic-Type Ferredoxin Regulated Plant Defense via ROS and SA Mediated Pathway in Transgenic Arabidopsis and Tomato

Se-Chein Chiu, Se-Chine Chiu, Jong-Hsuan Yao, Chih-Hsuan Huang, Yu-Wen Chang, Hung-Een Huang (National Taitung University, Taitung 950, Taiwan)

PT-118 *Arabidopsis* RAB8A, RAB8B, and RAB8D proteins participate in the *Agrobacterium tumefaciens* infection process

Pei-Ru Chien, Shin-Fei Chi, Yin-Tzu Liu, Hsin-Nung Chang, Yu Lu, Fan-Chen Huang, Hau-Hsuan Hwang (Department of Life Sciences, National Chung Hsing University, Taichung 402, Taiwan)

PT-119 A gene regulation study of the AtRTNLB functions in plant defense response

Fan-Chen Huang[2], Hau-Hsuan Hwang[1,2] ([1]Department of Life Sciences, National Chung Hsing University, Taichung 402, Taiwan, [2]Ph.D. Program in Microbial Genomics, National Chung Hsing University and Academia Sinica, Taiwan)

PT-120 Development of molecular markers for banana somaclonal variants resistant to Fusarium wilt using RNA-seq data

Po-Yen Su, Ho-Ming Chen, Bo-Han Hou, Ming-Hau Chiang (Agricultural Biotechnology Research Center, Academia Sinica, Taipei 11529, Taiwan)

PT-121 The nuclear carriers, importin α1 and α2, regulate anti-viral defense against Bamboo mosaic virus through RNA silencing pathway in *Nicotiana benthamiana*

Jiun-Da Wang, Na-Sheng Lin (Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan)

PT-122 Selecting the plant-protecting bacteria Bacillus amyloliquefaciens HS3 by mocular marker photosynthetic type ferredoxin

Yu-Cheng Chang, Kuo-An Lai, Chih-Hsuan Huang, Ya-Yun Zhang, Hsiang-En Huang (National Taitung University, Taitung 950, Taiwan)

PT-123 Analysis of genes involved in resistance to Cucumber mosaic virus in Arabidopsis by genome-wide association study

Elena Gamboa Chen[1,2], Jen-Chih Chen[1,2], Hsin-Hung Yeh[1,2] ([1]Agricultural Biotechnology Research Center, Academia Sinica, Taipei 11529, Taiwan, [2]Institute of biotechnology, National Taiwan University, Taipei 10617, Taiwan)

PT-124 Plant A20/AN1 protein play an important role in SA-mediated antiviral immunity

Li Chang[1], Ho-Hsiung Chang[1], Jui-Che Chang[1], Yi-Shu Chiu[1], Hsiang-Chia Lu[2], Duen-Wei Hsu[3], Yuh Tzean[1], Hsin-Hung Yeh[1,2] ([1]Agricultural Biotechnology Research Center, Academia Sinica, Taipei 11529, Taiwan, [2]Department of Plant Pathology and Microbiology, National Taiwan University, Taipei 10617, Taiwan, [3]Department of Biotechnology, National Kaohsiung Normal University, Kaohsiung 824, Taiwan)

PT-125 Application of soil fungi to induce plant resistance against virus

Yi-Shu Chiu[1], Tung Kuan[1,2], Po-Chuan Wang[1,2], Hsin-Hung Yeh[1] ([1]Agricultural Biotechnology Research Center, Academia Sinica, Taipei 11529, Taiwan, [2]Department of Plant Pathology and Microbiology, National Taiwan University, Taipei 10617, Taiwan)

PT-126 Revisiting the coding potential of begomovirus via transcriptional and translational analysis

Fu-Chen Hsu[1], Ching-Wen Chiu[1], Ya-Ru Li[1], Hsin-Hung Yeh[2], Ming-Jung Liu[1,2] ([1]Biotechnology Center in Southern Taiwan, Academia Sinica, Tainan 74145, Taiwan, [2]Agricultural Biotechnology Research Center, Academia Sinica, Taipei 11529, Taiwan)

PT-127 Investigation of mechanism of P1 protein of *Potyvirus* to enhance the HC-Pro-mediated miRNA pathway suppression

Hu-Sin Fen, Shih-Shun Lin (Laboratory of Plant Molecular Biology and Virology, Institute of Biotechnology, National Taiwan University, Taipei 106, Taiwan)

PT-128 A novel gene, AtG-LecRK-I.2, enhances bacterial pathogen resistance through regulation of stomatal immunity

Chih-Cheng Chien[1,2,3], Ming-Che Shih[1,2,3] ([1]Agricultural Biotechnology Research Center, Academia Sinica, Taipei 11529, Taiwan, [2]Molecular and Biological Agricultural Sciences Program, Taiwan International Graduate Program, National Chung Hsing University and Academia Sinica, Taiwan, [3]Graduate Institute of Biotechnology, National Chung Hsing University, Taichung 40227, Taiwan)

PT-129 Roles of OsCEP peptides in arbuscular mycorrhizal symbiosis

Yu-Heng Hsieh, Ting-Yu Kuo, Kai-Chieh Chang, Shu-Yi Yang (Institute of Plant Biology, National Taiwan University, Taipei 106, Taiwan)

PT-130 Cucumber mosaic virus RNAs induce Ca2+ signals to prime anti-virus activity in plants

Chuan-Hsin Chang, Hsin-Hung Yeh (Agricultural Biotechnology Research Center, Academia Sinica, Taipei 11529, Taiwan)

PT-131 Autophagy involves in HC-Pro-mediated suppression of plant microRNA regulation

Shih-Shun Lin (National Taiwan University, Taipei 106, Taiwan)

PT-132 Defensive responses of rice cultivars resistant to Cnaphalocrocis medinalis (Lepidoptera: Crambidae)

Wen-Po Chuang[1], Tzu-Wei Guo[1], Dai-Rong Wu[2], Chung-Ta Liao[3] ([1]National Taiwan University, Taipei 106, Taiwan, [2]Miaoli District Agricultural Research and Extension Station, COA, Taiwan, [3]Taichung District Agricultural Research and Extension Station, COA, Taiwan)

PT-133 Engineered Endophyte-Assisted Phytoremediation

Shih-Hsun Hung[1], Chieh-Chen Huang[2], Hsiou-Jun Chen[3], Eu-gene Huang[5], Yu-Hsi Lin[5], En-ni Chang[5], Yan-Lin Lai[3], Ru-How Liang[2], Tzu-Yu Hsu[4], Tsu-Wang Sun[3] ([1]Department of Horticulture, National Chung Hsing University, Taichung 402, Taiwan, [2]Department of Life Science, National Chung Hsing University, Taichung 402, Taiwan, [3]Department of Plant Pathology, National Chung Hsing University, Taichung 402, Taiwan, [4]Department of Physics, National Chung Hsing University, Taichung 402, Taiwan, [5]Bachelor Program of Biotechnology, National Chung Hsing University, Taichung 402, Taiwan)

PT-134 The influence of volatiles released by Piriformospora indica on plants

Pin Jie Huang[1,2], Min Tsair Chan[2] ([1]Department of Biotechnology and Bioindustry Sciences, National Cheng Kung University, Tainan 701, Taiwan, [2]Biotechnology Center in Southern Taiwan, Academia Sinica, Tainan 74145, Taiwan)

■ Epigenetic regulation, Transcriptional, post-transcriptional/Translational regulations/Protein modification & degradation

PT-135 HDA15 interacts with TCP transcription factors involved in abscisic acid responses in Arabidopsis

Yi-Tsung Tu, Keqiang Wu (Institute of Plant Biology, National Taiwan University, Taipei 106, Taiwan)

PT-136 Structure basis for the activity of Histone Deacetylase 15 negatively regulated by phosphorylation in Arabidopsis

Chia-Yang Chen, Yi-Tsung Tu, Yi-Sheng Cheng, Keqiang Wu (Institute of Plant Biology, National Taiwan University, Taipei 106, Taiwan)

PT-137 A forward genetic screening to identify mutants defective in translational repression imposed by upstream open reading frames in *Arabidopsis*

Ho-Wei Wu[1,2], Shu-Hsing Wu[1,2] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei, 11529, Taiwan, [2]Genome and Systems Biology Degree Program, National Taiwan University, Taipei 106, Taiwan)

PT-138 Autophagy Required for AGO1 Degradation in HC-Pro-Mediated Gene Silencing Suppression

Qianwen Shang, Shih-shun Lin (National Taiwan University, Taipei 106, Taiwan)

PT-139 Genome-wide analysis of RBP targets in plants

You-Liang Cheng, HsinYu Hsieh (Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan)

PT-140 Structural and functional analyses reveal Histone Deacetylase 15 regulated by oligomerization and phosphorylation in Arabidopsis

Yi-Sheng Cheng (National Taiwan University, Taipei 10617, Taiwan)

PT-141 A Residue Important for RPN2 Interacting with the Arabidopsis Ubiquitin Receptor RPN13 Is Critical In Vivo

Shih-Yun Lin, Usharani Raju, Ya-Ling Lin, Hong-Yong Fu (Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan)

PT-142 Characteristics of MpAGO1-bound small RNA and the alteration of miRNA biogenesis of CRISPR/Cas9-mediated MIRNA mutants in Marchantia polymorpha

Syuan-Fei Hong[1], Aino Komatsu[2], Ryuichi Nishihama[3], Takayuki Kohchi[3], Shih-Shun Lin[1] ([1]Institute of Biotechnology, National Taiwan University, Taipei 10617, Taiwan, [2]Graduate School of Life Science, Tohoku University, Japan, [3]Graduate School of Biostudies, Kyoto University, Japan)

PT-143 Light-mediated seedling development in *Arabidopsis thalaiana* regulated by AtJP1,a H3K4demethylase

Md Torikul Islam[1,2,3], I-Ju Chen[1], Long-Chi Wang[2,4], Wan-Sheng Lo[1,2] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 115, Taiwan, [2]Molecular and Biological Agricultural Sciences Program, Taiwan International Graduate Program, National

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PT-144 Transcriptome analysis reveals abundant RNA editing sites and differential editing status in the organelles of *Phalaenopsis aphrodite* subsp. *formosana*.

Ting-Chieh Chen, Chi-Hsuan Wu, Yu-Ya Su, Yu-Chang Liu, Ching-Chun Chang (Department of Biotechnology and Bioindustry Sciences, National Cheng Kung University, Tainan 701, Taiwan)

PT-145 The LDL1/2-HDA6 histone modification complex is involved in the regulation of long non-coding RNAs in Arabidopsis

Fu-Yu Hung, Keqiang Wu (Institute of Plant Biology, National Taiwan University, Taipei 106, Taiwan)

PT-146 Characterization of molecular mechanisms of phytohormone-induced organogenesis regulated by chromomethylase *CMT3-2* in *Nicotiana benthamiana*

Ya-Han Shen, Yung-Chu Yang, Shih-Feng Fu (Department of Biology, National Changhua University of Education, Changhua 500, Taiwan)

■ Systems biology, Others

PT-147 Chlorophyllide Enhances Cytotoxicity of Doxorubicin in Multidrug-Resistant Human Breast Cancer Cells

Jei-Fu Shaw[1], Yi-Ping Hsiang[2,4], Keng-Shiang Huang[3], Fu-Yu Fan[1], Chih-Hui Yang[1] ([1]Department of Biological Science & Technology, I-Shou University, Kaohsiung 82445, Taiwan, [2]Parmacy Department, E-DA Hospital, Kaohsiung 82445, Taiwan, [3]The School of Chinese Medicine for Post Baccalaureate, I-Shou University, Kaohsiung 82445, Taiwan, [4]Department of Chemical Engineering & Institute of Biotechnology and Chemical Engineering, I-Shou University, Kaohsiung 82445, Taiwan)

PT-148 Cryopreservation and metabolic analyses of major bioactive ingredients in suspension cells of snow lotus

Li-Fen Huang[1,2], Chia-Wei Lu[2], Mariama A Kujabi[1], Chi-Lung Ma, Yu-Kuo Liu[2] ([1]Graduate School of Biotechnology and Bioengineering, Yuan Ze University, Taoyuan 320, Taiwan, [2]Department of Chemical and Materials Engineering, Chang Gung University, Taoyuan 33302, Taiwan)

PT-149 Screening of chlorophyllide from different leaves as a complimentary medicine to cancer therapy by cytotoxicity assays

Chih-Hui Yang[1], Yi-Ting Wang[1], Keng-Shiang Huang[2], Ru-Han Sie[1], Jei-Fu Shaw[1] ([1]Department of Biological Science & Technology, I-Shou University, Kaoshiung 82445, Taiwan, [2]The School of Chinese Medicine for Post Baccalaureate, I-Shou University, Kaohsiung 82445, Taiwan)

PT-150 The expression of recombinant protein human Oct4 in rice protein expression system

Desyanti Saulina Sinaga[1], David Marpaung[1], Chia-Chun Tan[1], Yu-Hsiang Chi[2], Li-Fen Huang[1] ([1]Graduate School of Biotechnology and Bioengineering, Yuan Ze University, Taoyuan 320, Taiwan, [2]Department of Computer Science and Engineering, Yuan Ze University, Taoyuan 320, Taiwan)

PT-151 A plant stress-specific transcriptome database: Plant Stress RNA-seq Nexus

Yu-Ting Chen[1,2,3], Chun-Chi Liu[1,2,3], Jian-Rong Li[1,2,3], Chuan-Hu Sun[1] ([1]Institute of Genomics and Bioinformatics, National Chung Hsing University, Taichung 402, Taiwan, [2]Ph.D. Program in Medical Biotechnology, National Chung Hsing University, Taichung 402, Taiwan, [3]Advanced Plant Biotechnology Center, National Chung Hsing University, Taichung 402, Taiwan)

PT-152 The pLX series: Next-generation binary vectors for plant synthetic biology and virology studies

Fabio Pasin[1], Xuan-An Tseng[1], Leonor C. Bedoya[2], Juan Antonio García[2], Yet-Ran Chen[1] ([1]Agricultural Biotechnology Research Center, Academia Sinica, 11529 Taipei, Taiwan, [2]Centro Nacional de Biotecnología, CNB-CSIC, 28049 Madrid, Spain)

PT-153 A protoplast transient expression system to enable molecular, cellular, and functional studies in *Phalaenopsis* aphrodite

Hsiang-Yin Lin[1], Jhun-Chen Chen[1,2], Su-Chiung Fang[1,2] ([1]Biotechnology Center in Southern Taiwan, Academia Sinica, Tainan 74145, Taiwan, [2]Agricultural Biotechnology Research Center, Academia Sinica, Taipei 11529, Taiwan)

PT-154 High potential research realm of functional genomic study on gymnosperms revealed by exploring MYBs

Fu-Jin Wei[1], Saneyoshi Ueno[1], Tokuko Ujino-Ihara[1], Satoko Totsuka[2], Junji Iwai[2], Tetsuji Hakamata[3], Yoshinari Moriguchi[4] ([1]FFPRI, [2]Niigata Pref. Forest Res. Inst., Japan, [3]Shizuoka Pref. Res. Inst. Agr. & Forestry, Japan, [4]Niigata University, Japan)

PT-155 The Agrobacterium-mediated genetic transformation system of Titanotrichum oldhamii, an emerging model plant with features in floral meristem development

Yuan-Chi Chien[1], Yu-Ling Hung[2], Chwan-Yang Hong[3], Chun-Neng Wang[4] ([1]Department of Biochemical Science and Technology, National Taiwan University, Taipei 10617, Taiwan, [2]Institute of Plant Biology, National Taiwan University, Taipei 10617, Taiwan,

[3]Department of Agricultural Chemistry, National Taiwan University, Taipei 10617, Taiwan, [4]Institute of Ecology and Evolutionary Biology, Department of Life Science, National Taiwan University, Taipei 10617, Taiwan)

PT-156 Editing of tobacco chloroplast DNA by using transcription activator like effector nuclease

Chih-Hao Huang, Yu-Chang Liu, Jia-Yi Shen, Han Hsiao, Ching-Chun Chang (Department of Biotechnology and Bioindustry Sciences, National Cheng Kung University, Tainan 701, Taiwan)

PT-157 Effect of *Artocarpus heterophyllus* Leaf Extract on the Inhibition of Tyrosinate Activity

Fang Yuan, Xiu-Wen, Bai-Luh Wei, Chun-Lin Lee (National Taitung University, Taitung 950, Taiwan)

PT-158 Comparative genomic analysis of a novel strain of Taiwan hot-spring cyanobacterium Thermosynechococcus sp. CL-1

Yen-I Cheng[1], Yi-Fang Chiu[1], Wen-Dar Lin[1], Kung-Min Lin[1], Hsin-Ta Hsueh[2], Chih-Horng Kuo[1], Hsiu-An Chu[1] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Sustaintable Environment Research Laboratories, National Cheng Kung University, Tainan 701, Taiwan)

PT-159 Detection of membrane protein–protein interaction in planta based on dual—intein—coupled tripartite split—GFP association

Tzu-Yin Liu[1,2], Wen-Chun Chou[2], Wei-Yuan Chen[2], Ching-Yi Chu[2], Chen-Yi Dai[2], Pei-Yu Wu[2] ([1]Department of Life Science, National Tsing Hua University, Hsinchu 300, Taiwan, [2]Institute of Bioinformatics and Structural Biology, National Tsing Hua University, Hsinchu 300, Taiwan)

PT-160 Transit peptides that can deliver proteins into leucoplasts with high efficiency

Chiung-Chih Chu, Hsou-min Li (Institute of Molecular Biology, Academia Sinica, Taipei 11529, Taiwan)

PT-161 Swelling and Fertilizer Release Kinetics of the Environmentally Responsive Cellulose-based Hydrogel Blended with Potassium Sulfate

Yi-Chun Chen, Yi-Hua Chen (Department of Forestry, National Chung Hsing University, Taichung 402, Taiwan)

PT-162 Phenotypic and Genomic Evaluation of TN1 collected in Taiwan

Yi Li[1], Yung-Fen Huang[1], Chih-Wei Tung[1], Chung-Ta Liao[2], Wen-Po Chuang[1] ([1]Department of Agronomy, National Taiwan University, Taipei 10617, Taiwan, [2]Crop Environment Division, Taichung District Agricultural Research and Extension Station, COA, 370 Song Hwai Road, Dacun Township, Changhua County 51544, Taiwan)

PT-163 Enlarged and highly repetitive plastome of *Lagarostrobos* and plastid phylogenomics of Podocarpaceae

Edi Sudianto[1,2,3], Chung-Shien Wu[3], Lars Leonhard[4], William F. Martin[5], Shu-Miaw Chaw[1,3] ([1]Biodiversity Program, Taiwan International Graduate Program, Taipei 11529, Taiwan, [2]Department of Life Science, National Taiwan Normal University, Taipei 116, Taiwan, [3]Biodiversity Research Center, Academia Sinica, Taipei 11529, Taiwan, [4]Botanical Garden, Heinrich-Heine-University, Germany, [5]Institute of Molecular Evolution, Heinrich-Heine-University, Germany)

PT-164 PlantPAN 3.0: an updated resource for interpreting transcriptional regulatory networks from ChIP-seq experiments and integrating protein structure-based features of regulatory factors in plants

Chi-Nga Chow[1], Tzong-Yi Lee[2], Yu-Cheng Hung[3], Guan-Zhen Li[3], Kuan-Chieh Tseng[4], Ya-Hsin Liu[4], Po-Li Kuo[3], Han-Qin Zheng[3], Wen-Chi Chang[1,3,4] ([1]Graduate Program in Translational Agricultural Sciences, National Cheng Kung University and Academia Sinica, Taiwan, [2]School of Science and Engineering, The Chinese University of Hong Kong, Shenzhen, China, [3]Institute of Tropical Plant Sciences, College of Biosciences and Biotechnology, National Cheng Kung University, Tainan 70101, Taiwan, [4]Department of Life Sciences, College of Biosciences and Biotechnology, National Cheng Kung University, Tainan 70101, Taiwan)

PT-165 Two BAC libraries of orchid facilitate completion of NGS sequences in Phalaenopsis equestris

Tien-Chih Chen[1], Wen-Luan Wu[2] ([1]Department of Life Sciences, National Cheng Kung University, Tainan 701, Taiwan, [2]Department of Life Sciences, National Cheng Kung University, Tainan 701, Taiwan)

PT-166 Genotyping-by-sequencing identification of SNP markers linked to aesthetic traits in Phalaenopsis orchids

Li-Min Huang, Chia-Chi Hsu, Shang-Yi Chiu, Shu-Yun Cheng, Wen-Chieh Tsai, Wen-Huei Chen, Hong-Hwa Chen (Department of Life Sciences, National Cheng Kung University, Tainan 701, Taiwan)

PT-167 Interactions between pine-associated microbiomes and fire regime

Chao-Li Huang[1], Hsin-Ni Liu[1], Tsai-Wen Hsu[2] ([1]Institute of Tropical Plant Sciences, National Cheng Kung University, Tainan 701, Taiwan, [2]Endemic Species Research Institute, Nantou County 552, Taiwan)

PT-168 Comparative analysis of Formosan rice – with emphasis on evolutionary patterns

Cheng-Chieh Wu[1,2], Laurent Sagart[3], Lin-Tzu Huang[1], Yi-Tzu Tseng[1,2], Yue-ie Caroline Hsing[1] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 11529, Taiwan, [2]Institute of Plant Biology, National Taiwan University, Taipei 10617, Taiwan, [3]Centre de Recherches Linguistiques sur l'Asie Orientale/Centre National de la Recherche Scientifique, INaLCO, 2 rue de Lille, Paris, France)

PT-169 The genomic investigation of weedy Arabidopsis evolution

Cheng-Ruei Lee, Che-Wei Hsu, Cheng-Yu Lo (National Taiwan University, Taipei 106, Taiwan)

■ Primary metabolism, Secondary metabolism

PT-170 Marker-Assisted Selection for Improving Nitrogen Use Efficiency of Tainan 11 (TN 11) Rice Cultivar through Introgression of *NRT1.1B; DEP1* Genes and *TOND1* QTL

Hsue-Yu Chuang[1], Lung-Hsin Hsu[2], Rong-Kuen Chen[2], Yang-Ron Lin[1], Men-Chi Chang[1] ([1]Department of Agronomy, National Taiwan University, Taipei, Taiwan, ROC., [2]Tainan District Agricultural Research and Extension Station, Taiwan, ROC.)

■ Plant hormones/Signaling molecules

PT-171 Phosphoproteomics of Highly ABA-Induced1 identifies AT-Hook Like10 phosphorylation required for growth regulation during stress

Min May Wong[1,2,3], Govinal Badiger Bhaskara[1], Tuan-Nan Wen[1], Wen-Dar Lin[1], Thao Thi Nguyen[1], Geeng Loo Chong[1,2,3], Paul E. Verslues[1,2,4] ([1]Institute of Plant and Microbial Biology, Academia Sinica, Taipei 115, Taiwan, [2]Molecular and Biological Agricultural Sciences Program, Taiwan International Graduate Program, National Chung-Hsing University, Taichung 402, Taiwan and Academia Sinica, Taipei 115, Taiwan, [3]Graduate Institute of Biotechnology, Biotechnology Center, National Chung-Hsing University, Taichung 402, Taiwan, [4]Biotechnology Center, National Chung-Hsing University, Taichung 402, Taiwan)

■ Photosynthesis

PF-001 Effects of chlorophyll degradation by Stay-Green on senescence in Arabidopsis
Ying Chen, Ayumi Tanaka, Hisashi Ito (Inst Low Temp Sci, Hokkaido Univ)

PF-002 Ethylene production and leaf abscission through chlorophyll degradation in poplar
Hisashi Ito[1], Keita Arakawa[2], Ayumi Tanaka[1] ([1]Inst Low Temp Sci, Hokkaido Univ, [2]Res Fac Agr, Hokkaido Univ)

PF-003 Reconstitution of the catalytic component (NB-protein) of dark-operative protochlorophyllide oxidoreductase with individual subunit proteins, BchN and BchB
Yoshiki Morimoto, Haruki Yamamoto, Hisanori Yamakawa, Yuichi Fujita (Grad. Sch. Bioagricultural. Sci., Univ. Nagoya)

PF-004 Four distinct trimeric forms of light-harvesting complex II isolated from the green alga Chlamydomonas reinhardtii
Keisuke Kawakami[1], Ryutaro Tokutsu[2], Eunchul Kim[2], Jun Minagawa[2] ([1]Osaka City University, [2]Division of Environmental Photobiology, National Institute for Basic Biology)

PF-005 Imaging of Intracellular Rearrangement of Photosynthetic Proteins upon State Transition by Using High Resolution Cryogenic Microscope
Yuki Fujita, Xianjun Zhang, Yutaka Shibata (Organic Physical Chemistry Lab., Department of Chemistry, Grad. Sch. of Sci., Tohoku Univ.)

PF-006 Long-term light adaptation of the glaucophyte *Cyanophora paradoxa*, probed by time-resolved fluorescence spectroscopy
Yoshifumi Ueno, Seiji Akimoto (Grad. Sch. Sci., Kobe Univ.)

PF-007 Screening of Arabidopsis Mutants with Disturbed Regulation of Proton Concentration Gradient across the Thylakoid Membrane
Nayu Otsuki[1], Mari Takusagawa[1], Fumiyoshi Myouga[2], Toshiharu Shikanai[1] ([1]Grad. Sch. Sci., Kyoto Univ., [2]RIKEN CSRS)

PF-008 Selective photoinhibition of photosystem I induced by the detachment of leaves
Yuki Sato[1], Kintake Sonoike[2] ([1]Integrative Bioscience and Biomedical Engineering, [2]Faculty of Education and Integrated Arts and Sciences, Waseda University, Japan)

PF-009 Infrared microspectroscopic analysis of the water oxidation reaction in a single photosystem II microcrystal
Yuki Kato[1], Satoshi Haniu[1], Yoshiki Nakajima[2], Fusamichi Akita[2,3], Jian-Ren Shen[2], Takumi Noguchi[1] ([1]Grad. Sch. Sci., Nagoya Univ., [2]Res. Inst. Interdiscip. Sci., Okayama Univ., [3]JST-PRESTO)

PF-010 Effects of cryoprotectants on the efficiency of S-state transition in oxygen-evolving photosystem II
Yoshiki Nakajima[1], Fusamichi Akita[1,2], Jian-Ren Shen[1] ([1]Res. Inst. Interdiscip. Sci., Unv. Okayama, [2]JST, PRESTO)

PF-011 Factors to regulate the species-dependent equilibrium of the S_2-state isomers of the water-oxidizing Mn_4CaO_5 cluster in photosystem II
Shota Taguchi[1], Liangliang Shen[2], Guangye Han[2], Jian-Ren Shen[3], Takumi Noguchi[1], Hiroyuki Mino[1] ([1]Grad. Sch. Sci., Nagoya Univ., [2]Key Lab. Photobiol., Inst. Botany, Chinese Acad. Sci., China, [3]Res. Inst. Interdiscip. Sci., Okayama Univ.)

PF-012 Comparison of Photosystem II Complexes in *Anabaena* sp. PCC 7120 Isolated through Cell Disruption with Glass beads or Lysozyme Treatment
Sayaka Nakaji[1], Masahiro Aota[2], Mitsunori Katayama[3], Toshiyuki Shinoda[4], Kaichiro Endo[5], Asako Ishii[2], Tatsuya Tomo[4], Hajime Wada[5], Naoki Mizusawa[2,6] ([1]Graduate School of Science, Hosei University, [2]Faculty of Bioscience and Applied Chemistry, Hosei University, [3]College of Industrial Technology, Nihon University, [4]Graduate School of Science, Tokyo University of Science, [5]Graduate School of Arts and Sciences, The University of Tokyo, [6]Research Center for Micro-Nano Technology, Hosei University)

PF-013 Reassessment of state transitions for activating cyclic electron flow
Kenji Takizawa[1,2] ([1]National Institute for Basic Biology, [2]Astrobiology Center)

PF-014 The role of D1-R140 and D2-T231 interacting with a phosphatidylglycerol molecule (PG714) in the structure and functions of photosystem II
Yuji Fujita[1], Mayu Matsubara[2], Yuto Sugawara[3], Kaichiro Endo[4], Toshiyuki Shinoda[5], Tatsuya Tomo[5], Kenjin Shen[6], Asako Ishi[3], Koichi Kobayashi[4], Hajime Wada[2,4], Naoki Mizusawa[1,3,7] ([1]Graduate School of Science and Engineering, Hosei University, [2]Graduate School of Science, The University of Tokyo, [3]Faculty of Bioscience and Applied Chemistry, Hosei University, [4]Graduate School of Arts and Sciences, The University of Tokyo, [5]Faculty of Science, Tokyo University of Science, [6]Research Institute for Interdisciplinary Science, The University of Okayama, [7]Research Center for Micro-Nano Technology, Hosei University)

PF-015 Quantitative and functional variation of photosystems of Fe-deficient leaves among barley(*Hordeum vulgare*) cultivars
Yuna Wakabayashi, Yuta Majima, Rika Uehara, Akihiro Saito, Takuji Ohyama, Kyoko Higuchi (Agri. Chem., Tokyo Univ. Agri.)

PF-016 Differing isoforms of the cobalamin binding photoreceptor AerR oppositely regulate photosystem expression

Haruki Yamamoto, Mingxu Fang, Carl Bauer (Molecular and Cellular Biochemistry Department, Indiana University)

PF-017 The effect of environmental stress on the amino acid primary structure of the photosynthetic reaction center complex in photosynthetic bacteria

Yurika Morioka, Sakiko Nagashima, Setsuko Hirose, Satoshi Hanada (Department of Biol. Sci. Tokyo Met. Univ.)

■ Environmental Responses of Photosynthesis

PF-018 Functional analysis of heat-sensitive mutant identified by screening using tag-lines of genes encoding chloroplast membrane proteins

Fumiyoshi Myouga, Kazuo Shinozaki (RIKEN CSRS)

PF-019 Quantitative proteome analysis of *Synechocystis* sp. PCC 6803 under different spectral lights

Masakazu Toyoshima, Masumi Sakata, Yoshihiro Toya, Fumio Matsuda, Hiroshi Shimizu (Dept. of Bioinfo. Eng., Grad. Sch. IST, Osaka Univ.)

PF-020 Circadian rhythm of the balance between intracellular reducing power and ROS-level in *Synechococcus elongatus* PCC7942

Kenya Tanaka[1], Masahito Ishikawa[2,3], Souishiro Kato[3,4], Shuji Nakanishi[1,3] ([1]Grad. Sch. Eng. Sci., Osaka Univ., [2]Grad. Sch. Eng., Nagoya Univ., [3]RCSEC, Osaka Univ., [4]AIST)

PF-021 Effects of reduced unsaturation of membrane lipids on growth and productivity of the *Synechocystis* sp. PCC6803 mutant engineered for free fatty acid production

Sumie Keta[1], Honoka Saruhashi[1], Yuuya Senoo[2], Kazutaka Ikeda[3], Tatsuo Omata[4], Makiko Aichi[1] ([1]Biol. Chem., Chubu Univ., [2]Med., Nagoya Univ., [3]IMS, Riken, [4]Grad. Sch. Bioagri. Sci., Nagoya Univ.)

■ Primary metabolism

PF-022 Metabolic Flux Analysis of *Synechocystis* sp. PCC 6803 Grown Under Different Spectral Lights

Chiaki Yamamoto[1], Sayaka Kitamura[2], Masakazu Toyoshima[2], Yoshihiro Toya[2], Hiroshi Shimizu[2] ([1]Sch. Eng., Osaka Univ., [2]Dept. Bioinfo. Eng., Grad. Sch. IST, Osaka Univ.)

PF-023 Functional analysis of the glutamine binding domain repeat protein (CmACR) in the unicellular red alga *Cyanidioschyzon merolae*

Tokiaki Takemura, Sousuke Imamura, Kan Tanaka (CLS, Tokyo Tech)

PF-024 Diverse functions of starch decomposition products in developing fruit of tomato

Chiaki Matsukura[1], Xiaoran Yu[2], Yonggen Yin[3], Hiroshi Ezura[1] ([1]T-PIRC, Univ. Tsukuba, [2]Grad. Sch. Life Env. Sci., Univ. Tsukuba, [3]Nat. Inst. Quantum Radiological Sci. Tech.)

PF-025 Analysis of membrane trafficking regulation in plant C/N nutrient response

Yoko Hasegawa[1], Akari Fujimaki[1], Yongming Luo[1], Koki Mukuta[2], Tomohiro Uemura[3], Yohann Boutte[4], Akihiko Nakano[5], Takeo Sato[1], Junji Yamaguchi[1] ([1]Fac. Sci. and Grad. Sch. Life Sci., Hokkaido Univ., [2]Sch. Sci., Hokkaido Univ., [3]Graduate School of Humanities and Sciences, Ochanomizu Univ., [4]Laboratory of Membrane Biogenesis - CNRS/Bordeaux University - France, [5]Live Cell Super-Resolution Imaging Research Team, RIKEN Center for Advanced Photonics)

PF-026 Biochemical analysis of ubiquitin signals on a SNARE protein involved in plant C/N response

Akari Fujimaki[1], Yoko Hasegawa[1], Takeo Sato[1], Syouta Hozuki[1], Tomohiro Uemura[2], Akihiko Nakano[3], Junji Yamaguchi[1] ([1]Fac. Sci. and Grad. Sch. Life Sci., Hokkaido Univ., [2]Graduate School of Humanities and Sciences, Ochanomizu University, [3]Live Cell Super-Resolution Imaging Research Team, RIKEN Center for Advanced Photonics)

PF-027 Induction of chloroplast development in the detached root tissues is disturbed in the *Arabidopsis gles1* mutant that has a defect in chloroplast envelope-localized lipid transporter

Tomoki Obata[1], Ryosuke Tadakuma[1], Koichi Kobayashi[2], Koh Iba[1], Juntaro Negi[1] ([1]Department of Biology, Faculty of Sciences, Kyushu University, [2]Faculty of Arts and Sciences, Osaka Prefecture University)

PF-028 Engineering of Arabidopsis plants to produce high-value oils in leaves

Yuuki Ebiya[1], Hiroyuki Ohta[1,2], Mie Shimojima[1] ([1]School of Life Science and Technology, Tokyo Institute of Technology, [2]OPERA, JST)

PF-029 Do cyanobacteria synthesize triacylglycerols?

Natsumi Mori, Naoki Sato (Univ. of Tokyo, Grad. School Arts Sciences)

PF-030 Functional analysis of a proline-knot-like motif of LDSP in Nannochloropsis

Shohei Yasuda, Takashi Nobusawa, Masako Iwai, Mie Shimojima, Hiroyuki Ohta (Tkyo tech)

PF-031 Novel insights into mechanisms underlying growth defects associated with trinucleotide repeat expansion in Arabidopsis thaliana

Yimeng Li[1], Yuji Sawada[1], Kensuke Kawade[2], Hirokazu Tsukaya[3], Masami Yokota Hirai[1] ([1]RIKEN Center for Sustainable Resource Science (CSRS), [2]Okazaki Institute for Integrative Bioscience (OIIB), [3]Tokyo University)

PF-032 A search for novel transcription factors involved in flavin metabolism of plants

Junya Namba[1], Takanori Maruta[1], Takahiro Ishikawa[1], Kazuya Yoshimura[2], Shigeru Shigeoka[3], Takahisa Ogawa[1] ([1]Grad. Sch. Nat. Sci. Technol., Shimane Univ., [2]Dept. Food Nutr. Sci., Coll. Biosci. Biotech., Chubu Univ., [3]Dept. Adv. Biosci., Fac. Agr., Kindai Univ.)

PF-033 Genetic analysis of callose deposition during phosphate starvation response in *Arabidopsis thaliana*

Koei Yachi[1], Tan Anh Nhi Nguyen[1], Kentaro Okada[1], Kei Hiruma[1,2], Yusuke Saijo[1] ([1]Grad. Sch. Sci. Tech., NAIST, [2]JST, Presto)

■ Secondary metabolism

PF-034 *In vivo* functional analysis of terpene synthase genes from medicinal plant *Scoparia dulcis*.

Kazuya Ishita, Ryo Yamamoto, Yoshimi Yamamura, Fumiya Kurosaki, Jung-Bum Lee (Graduate School Med & Pharm. Sci., Univ. Toyama)

PF-035 Production of betalain-producing gentian plants by constitutive and petal specific promoters

Masahiro Nishihara, Atsumi Higuchi, Aiko Watanabe, Hideyuki Takahashi (Iwate Biotechnology Research Center)

PF-036 Molecular analysis of persulfide metabolism involved in hydrogen sulfide dependent signaling

Takayuki Shimizu[1], Tatsuru Masuda[1], Shinji Masuda[2] ([1]Grad. Sch. Arts and Sci., Univ. Tokyo, [2]Cent. Biol. Res. and Inform., Tokyo Inst. Technol.)

■ Biomembrane/Ion and solute transport

PF-037 The role of sphingolipids in the dynamics of plasma membrane in plants

Minoru Nagano[1], Yohann Boutte[2], Adiilah Mamode-Cassim[2], Laetitia Fouillen[2], Maki Kawai-Yamada[3], Sebastien Mongrand[2] ([1]Ritsumeikan Univ., [2]Bordeaux Univ., [3]Saitama Univ.)

PF-038 Identification and characterization of novel factors involved in the flavin transport in plants

Madoka Kikuchi[1], Takuto Sugimoto[1], Miho Harada[1], Takanori Maruta[1], Takahiro Ishikawa[1], Kazuya Yoshimura[2], Shigeru Shigeoka[3], Takahisa Ogawa[1] ([1]Dept. Life Sci. Biotechnol., Fac. Life Environ. Sci., Shimane Univ., [2]Dept. Food Nutr. Sci., Coll. Biosci. Biotech., Chubu Univ., [3]Dept. Adv. Biosci., Fac. Agr., Kindai Univ.)

PF-039 A Study for Taxane Compound Transporters from Yew

Hiroaki Kuasno[1], Hiroshi Minami[2], Yoshihiro Kato[2], Homare Tabata[2], Kazufumi Yazaki[1] ([1]Laboratory of Gene Expression, Research Institute for Sustainable Humanosphere, Kyoto University, [2]Lifescience Center, Hokkaido Mitsui Chemicals)

PF-040 Screening for Transporters Required for Shikonin Secretion Mechanism

Kanade Tatsumi, Takuji Ichino, Yuka Saida-Munakata, Kazufumi Yazaki (RISH, Kyoto Univ.)

PF-041 Glutathione, applied to leaves, activates zinc transport from roots to shoots in oilseed rape plants

Shin-ichi Nakamura[1], Arunee Wongkaew[2], Yuji Nakai[3], Hiroki Rai[4], Naoko Ohkama-Ohtsu[2] ([1]Tokyo University of Agriculture, [2]Tokyo University of Agriculture and Technology, [3]Hirosaki University, [4]Akita Prefectural University)

PF-042 Apoplastic bypass flow is involved in cadmium uptake in rice

Izumi Mori[1], Carlos Arias-Barreiro[1], Lia Ooi[1], Muhammad Sobahan[2], Yoshimasa Nakamura[2], Yoshihiko Hirai[2], Yoshiyuki Murata[2] ([1]IPSR, Okayama Univ., [2]Grad. Sch. Env. Life. Sci., Okayama Univ.)

PF-043 ATP Binding Cassette Proteins ABCG37 and ABCG33 function as cesium uptake carriers in Arabidopsis thaliana

Mohammad Arif Ashraf[1], Sayaka Kumagai[2], Ryohei Sugita[3], Keitaro Tanoi[3,4], Abidur Rahman[1,2] ([1]United Graduate School of Agricultural Sciences, Iwate University, Morioka, 020-8550, Japan, [2]Faculty of Agriculture, Iwate University, Morioka, 020-8550, Japan, [3]Graduate School of Agriculture and Life Sciences, The University of Tokyo, 1-1-1 Yayoi, Bunkyo-ku, Tokyo, 113-8654, Japan, [4]PRESTO, Japan Science and Technology Agency (JST), 4-1-8 Honcho, Kawaguchi, Saitama 332-0012, Japan)

■ Membrane trafficking

PF-044 Identification of RAB5 effectors containing PH domain REAP2 and REAP3 in Arabidopsis

Seung-won Choi[1], Kazuo Ebine[2,5], Naoya Kato[3], Takafumi Ishihara[3], Chie Suzuki[3], Yuki Sugiyama[3], Yumiko Tanaka[3], Takashi Ueda[2,5], Akihiko Nakano[4], Emi Ito[1] ([1]Dept. Natural Sciences, ICU, [2]Div. Cellular Dynamics, NIBB, [3]Grad. Sch. Science, Univ. Tokyo, [4]RIKEN, RAP, [5]Sch. Life Sci., SOKENDAI)

PF-045 Analysis of a new PH domain-containing effector of plant RAB5s

Emi Ito[1], Seung-won Choi[1], Kazuo Ebine[2,3], Takafumi Ishihara[4], Chie Suzuki[4], Yuki Sugiyama[4], Akihiko Nakano[5], Takashi Ueda[2,3] ([1]Dept. Natural Sciences, ICU, [2]Div. Cellular Dynamics, NIBB, [3]Sch. Life Sci., SOKENDAI, [4]Grad. Sch. Science, Univ. Tokyo, [5]RIKEN, RAP)

PF-046 Functional analysis on sequences responsible for sorting of vacuolar lumenal proteins to vacuole in *Arabidopsis thaliana*

Shuhei Kohata[1], Yuga Shinozaki[2], Kazuhiro Kuga[2], Hidehisa Shimizu[2], Mitsuo Jisaka[2], Kazushige Yokota[2], Tsuyoshi Nakagawa[1], Kohji Nishimura[1,2] ([1]Dept. Mol. Func. Gen., Int. Cent. Sci. Res., Shimane Univ., [2]Dept. Life Sci., Fac. Life Environ. Sci, Shimane Univ.)

PF-047 Sucrose-starvation induced degradation of TGN localized proteins

Yamato Oda[1], Satoru Asatsuma[2], Hiroaki Nakasone[1], Abiodun Moses O[2], Kiminori Toyooka[3], Ken Matsuoka[1,2,4] ([1]Graduate School of Bioresource and Bioenvironmental, Kyushu University, [2]Faculty of Agriculture, Kyushu University, [3]RIKEN CSRS, [4]Biotron Application center, Kyushu University)

■ Organelles/Cytoskeleton

PF-048 Characterization of Chloroplast Protein Import in Red Alga, *Cyanidioschyzon merolae*.

Sanghun Baek[1,2], Yukari Asakura[1], Gaku Fujii[3], Sousuke Imamura[3], Kan Tanaka[3], Masato Nakai[1] ([1]Inst. Prot. Res., Osaka Univ., [2]Grad. Sch. Sci., Osaka Univ., [3]Inst. Innov. Res., Tokyo Inst. Tech.)

PF-049 Physiological Consequences Of Autophagy Deficiency In The Moss Physcomitrella patens

Most. Mohoshena Aktar, Kyosuke Mukae, Tomoya Tano, Mai Sato, Junyu Bao, Ryo Funada, Toshihisa Kotake, Daisuke Takezawa, Yuko Inoue-Aono, Yuji Moriyasu (Graduate School of Science and Engineering, Saitama University)

PF-050 Characterization of a Non-Photosynthetic-Type Protein Translocation Machinery at the Inner Envelope Membrane of Plastid (Chloroplast) in *Arabidopsis thaliana*.

Xueyang Zhao[1,2], Takeshi Higa[1], Masato Nakai[1] ([1]Inst. Prot. Res., Osaka Univ., [2]Grad. Sch. Sci., Osaka Univ.)

PF-051 The Localization of Chlorophyllase in Arabidopsis thaliana

Jun-Wei Lin[1,2], Tin-Han Shih[1], Chih-Wen Sun[2], Chi-Ming Yang[1] ([1]Biodiversity Research Center, Academia Sinica, Taipei, Taiwan, [2]Department of Life Sciences, National Taiwan Normal University, Taipei, Taiwan)

PF-052 Effects of Sodium Chloride on Chloroplast division in the Moss Physcomitrella patens

Thi Huong Do[1], Prapapron Pongthai[1], Hiroyoshi Takano[2], Yasushi Yoshioka[3], Ooi-Kock Teh[1], Tomomichi Fujita[1] ([1]Grad. Sch. Life Sci., Univ. Hokkaido, [2]Grad. Sch. Sci, Univ. Kumamoto, [3]Grad. Sch. Sci, Univ. Nagoya)

PF-053 Functional study in GTPase activity of VIPP1 involved in chloroplast membrane integrity

Kenichi Shioya, Norikazu Ohnishi, Wataru Sakamoto (IPSR, Okayama Univ.)

PF-054 Identification and analysis of the suppressor genes of *crl* in *Arabidopsis thaliana*

Ryo Yoshimura[1], Ryohei Seta[1], Takamasa Suzuki[2], Yasushi Yoshioka[1] ([1]Div. Biol. Sci., Grad. Sch. Sci., Nagoya Univ., [2]Col. Biosci. Biotech., Chubu Univ.)

PF-055 Functional analysis of organelle exonuclease DPD1 in rice

Tsuneaki Takami[1], Hiroshi Yamatani[2], Makoto Kusaba[2], Wataru Sakamoto[1] ([1]IPSR., Okayama Univ., [2]Grad. Sch. Sci., Hiroshima Univ.)

PF-056 Complementation Analysis of *MurE* Knockout Lines Showing Defects for Chloroplast Division in Moss and for Chloroplast Development in *Arabidopsis*

Ichiro Kajisa[1], Xiaofei Lin[2], Yilan E[2], Hiromi Kudo[1], Susumu Takio[3,4], Katsuaki Takechi[3], Hiroyoshi Takano[3] ([1]Grad. Sch. Sci. & Tech., Univ. Kumamoto, [2]Col. of Life Sci., Univ. Inner Mongolia, [3]FAST, Univ. Kumamoto, [4]Cent. Water Cycle, Mar. Environ. Disast. Manage.)

PF-057 Analysis of mitochondrial RNA processing factors involved in lateral root development

Akihito Mamiya[1], Kurataka Otsuka[1], Kento Kobayashi[2], Yusuke Yagi[2], Takahiro Nakamura[2], Takashi Hirayama[3], Munetaka Sugiyama[1] ([1]Dept. Biol. Sci., Grad. Sch. Sci., Univ. Tokyo, [2]Dept. Biosci. & Biotech., Fac. Agr. Sci., Kyusyu Univ., [3]Inst. Plant Sci. & Res., Okayama Univ.)

PF-058 Defense gene expression upregulated by mitochondrial perturbation-induced Ca^{2+} signals

Takaki Murata, Koji Shimotani, Miho Kotani, Marina Onoue, Kanako Yamasaki, Satoshi Sano, Takashi Shiina (Grad. Sch. Life and Env. Sci., Kyoto Pref. Univ)

■ Cell wall

PF-059 Effects of Gajyumaru latex on cell growth and cell wall structure and properties in fission yeast S.japonicus

Momoko Terao, Yoh Sakuma, Masahiro Inouhe (Biology and Environmental Science, Graduate School of Science and Technology, Ehime University)

PF-060 Increase in Pectin Methylesterase Activity in Transgenic Poplar Trees with an Introduced Pectin Methylesterase Gene.

Koichi Kakegawa[1], Mitsuru Nishiguchi[2] ([1]Dept. Forest Resources Chemistry, Forestry and Forest Products Res. Inst., [2]Dept. Forest Molecular Genetics and Biotechnology, Forestry and Forest Products Res. Inst.)

PF-061 Analysis of cell wall and genes related to it in Napiergrass

Tomoko Niki[1], Shingo Sakamoto[1], Yasuyo Himuro[2], Yusuke Ueta[2], Madoka Yonekura[2], Satoshi Kondo[2], Kunio Matsui[2], Takehiko Shimada[2], Kaoru Suzuki[1], Nobutaka Mitsuda[1] ([1]Bioprod. Res. Inst., AIST, [2]Agriculture & Biotechnology Business Division, Toyota Motor Corporation)

PF-062 Development of selection system by gene expression in Napier grass

Yasuyo Himuro[1], Tomoko Niki[2], Shingo Sakamoto[2], Nobutaka Mitsuda[2], Yusuke Ueta[1], Madoka Yonekura[1], Satoshi Kondo[1], Kunio Matsui[1], Kaoru Suzuki[2], Takehiko Shimada[1] ([1]Agric. Biotechnol. Bus. Div., Toyota Motor Corp., [2]Bioprod. Res. Inst., AIST)

■ Cell cycle/Cell division

PF-063 Vacuole may be involved in asymmetric cell division of protonemal stem cells, which is directed by a GRAS family transcriptional factor in *Physcomitrella patens*

Renqi Wang[1], Ooi-Kock Teh[1], Alisa Vyacheslavova[1], Mitsuyasu Hasebe[3], Tomomichi Fujita[1,2] ([1]Dept. Biol. Sci, Hokkaido University, [2]Fac. Sci, Hokkaido University, [3]National Institute for Basic Biology)

PF-064 Involvement of RopGTPase signaling in the slime papillae development in *Marchantia polymorpha*

Takuma Hiwatashi, Hidehiro Fukaki, Tetsuro Mimura, Kimitsune Ishizaki (Graduate School of Science, Kobe University)

PF-065 Functional analysis of a novel GRAS-type transcription factor E1M required for proper cell cycle regulation in meristem.

Yuji Nomoto[1], Rieko Noda[1], Toshiya Suzuki[2], Takamasa Suzuki[3], Kenichiro Maeo[1], Masaki Ito[1] ([1]Grad. Sch. Bioagr. Sci., Nagoya Univ., [2]Plant Genet. Lab., Nat. Inst. Genet., [3]Coll. Biosci. Biotech., Chubu Univ.)

■ Vegetative growth

PF-066 Colony formation from mesophyll protoplast of *Perilla frutescens*

Mizuki Nakamura[1], Tomoko Murayama[2] ([1]Natl. Inst. tech., Sasebo Col. Department of Chemical and Biological Engineering, [2]Natl. Inst. tech., Sasebo Col. Department of Chemical and Biological Engineering)

PF-067 Growth of leaf and Usefulness as the experiment material of Ceylon-Benkei

Keiko Goto[1], Akira Nakamura[2] ([1]Pediatrist, [2]Emeritus professor, Univ. of Shizuoka)

PF-068 Genotypic comparative analysis of the early phase of adventitious root formation in *Eucalyptus*

Takato Kameyama[1], Hiroaki Machino[1], Kazuo Watanabe[2,3], Taichi Oguchi[2,3] ([1]College of Biological Sciences, School of Life & Environmental Sciences, University of Tsukuba, [2]Faculty of Life & Environmental Sciences, University of Tsukuba, [3]Tsukuba Plant Innovation Research Center (T-PIRC), University of Tsukuba)

PF-069 Regulation of cytokinin in lateral root growth by root pruning

Jiahang Miao[1], Dongyang Xu[2], Emi Yumoto[3], Takao Yokota[3], Masashi Asahina[3], Masaaki Watahiki[1,4] ([1]Grad. Sch. Life. Sci., Hokkaido Univ., Sapporo, [2]Sch. Biomed. Sci., Inst. Geno., Huaqiao Univ., Amoy, China, [3]Dep. Biosci., Teikyo Univ., Utsunomiya, [4]Div. Biol. Sci., Fac. Sci., Hokkaido Univ., Sapporo)

PF-070 A yeast one-hybrid screening to identify transcription factors that regulate auxin biosynthesis during haustorium initiation in parasitic plants

Takanori Wakatake[1], Satoko Yoshida[2], Ken Shirasu[1,3] ([1]CSRS, RIKEN, [2]Bioscience, NAIST, [3]Grad. Sch. Sci., Univ. Tokyo)

PF-071 ANGUSTIFOLIA Regulates Cell Elongation In Both Gametophyte And Sporophyte Phases In The Moss Physcomitrella patens.

Hiroaki Nagase[1], Yoshikazu Hashida[1], Katsuaki Takechi[2], Tomoyuki Yabe[1], Susumu Takio[2,3], Yoshikatsu Sato[4], Mitsuyasu Hasebe[5], Hirokazu Tsukaya[6], Hiroyoshi Takano[2] ([1]Grad. Sch. Sci. Tech., Univ. Kumamoto, [2]FAST., Univ. Kumamoto, [3]Center Water Cycle, Mar. Environ. Disast. Manage., Univ. Kumamoto, [4]NIBB-ITBM., Univ. Nagoya, [5]NIBB, SOKENDAI, [6]Grad. Sch. Sci., Univ. Tokyo)

PF-072 *PpTAW*s, encoding an ALOG transcription factors, are required for stem cell maintenance in *Physcomitrella patens*

Yuki Hata[1], Yuji Hiwatashi[2], Junko Kyozuka[1], Satoshi Naramoto[1] ([1]Graduate School of Lifescience, Tohoku University, [2]School of Food, Agricultural and Environmental Sciences, Miyagi University)

PF-073 Search for factors which are important for cell-to-cell communication or cell polarity regulation with chemical screening in the moss *Physcomitrella patens*

Chiyo Jinno[1], Naoya Kadofusa[2], Ayato Sato[2], Tomomichi Fujita[3] ([1]Sch. Sci., Univ. Hokkaido, [2]WPI-ITbM, Univ. Nagoya, [3]Grad. Fac. Sci., Univ. Hokkaido)

PF-074 Gene-Expression Profiling of Shoot Regeneration from the Epidermis in Cultured Stem Segments of *Torenia fournieri*.

Hatsune Morinaka[1], Akihito Mamiya[1], Hiroaki Tamaki[1], Takamasa Suzuki[2], Momoko Ikeuchi[3], Akira Iwase[3], Keiko Sugimoto[3], Tetsuya Higashiyama[4], Munetaka Sugiyama[1] ([1]Botanical Gardens, Grad. Sch. Sci., Univ. Tokyo, [2]Dept. Biol. Chem., Coll. Biosci. Biotech., Chubu Univ., [3]CSRS, Riken, [4]ITbM, Nagoya Univ.)

PF-075 The role of plant autophagy in callus formation

Yuki Utsugi[1], Akira Iwase[2], Kohki Yoshimoto[1] ([1]Meiji Univ., Sch. Agric. Dep. Life Sci., [2]RIKEN, CSRS)

PF-076 Novel meristematic organ on the cauline leaf of *Rorippa aquatica*

Shuka Ikematsu, Ami Sasaki, Rumi Amano, Tomoaki Sakamoto, Seisuke Kimura (Kyoto-sangyo Univ.)

PF-077 The relationships between phytohormones and vegetative propagation in *Rorippa aquatica*

Rumi Amano[1], Hokuto Nakayama[2], Risa Momoi[1], Shozuka Gunji[3], Yumiko Takebayashi[4], Tomoaki Sakamoto[1], Hiroyuki Kasahara[4,5], Hitoshi Sakakibara[4,6], Ali Ferjani[3,7], Seisuke Kimura[1] ([1]Facul. Life Sci., Kyoto Sangyo Univ., [2]Dept. of Plant Biology, University of California, Davis, [3]Unit. Grad. Sch. Edu., Univ. Tokyo Gakugei, [4]RIKEN, CSRS, [5]GIR, Tokyo Univ. Agri. Tech., [6]Nagoya Univ., [7]Dept. Biol., Tokyo Gakugei Univ.)

PF-078 ASHH2 Regulates Arabidopsis Callus Formation And Shoot Regeneration Through Photosynthesis/light And Glucose Metabolism Pathways

Ryosuke Makino[1], Kaoru Sugimoto[1], Yuki Katsuyama[1], Hiroya Ishihara[1], Satoshi Kadokura[1], Takamasa Suzuki[2], Takuya Sakamoto[1], Sachihiro Matsunaga[1] ([1]Dept. Applied Bio. Sci., Fac. Sci. Tech., Tokyo Univ. Sci., [2]Chubu Univ., Department of Bio. Sci. Tech., Kasugai)

PF-079 Analysis of novel *eda1* mutant of *Marchantia polymorpha* with ectopic meristem formation

Yuya Mori[1], Kento Otani[1], Shohei Yamaoka[2], Ryuichi Nishihama[2], Takayuki Kohchi[2], Taku Takahashi[1], Hiroyasu Motose[1] ([1]Grad. Sch. Nat. Sci. & Tech., Okayama Univ., [2]Grad. Sch. Biostudies, Kyoto Univ.)

PF-080 Gene expression analyses in the unique meristems of one-leaf plants, *Monophyllaea*

Ayaka Kinoshita[1], Hiroyuki Koga[1], Sujung Kim[2], Nobuyoshi Mochizuki[2], Akira Nagatani[2], Hirokazu Tsukaya[1,3] ([1]Grad. Sch. Sci., Univ. Tokyo, [2]Grad. Sch. Sci., Univ. Kyoto, [3]NINS, ExCELLS)

PF-081 Analysis of REPRESSOR OF SOMATIC EMBRYOGENESIS 1 (RSE1) transcription factor that controls cell totipotency in Arabidopsis

Jun Nakayama[1], Tsubasa Yamagata[2], Hironori Takasaki[2], Miho Ikeda[2], Masaru Ohme-Takagi[2] ([1]Sch. Sci., Univ. Saitama, [2]Grad. Sch. Sci. Eng., Univ. Saitama)

PF-082 Genome wide association mapping for phytic acid content in rice grain

Ishara Perera[1], Ayaka Fukushima[2], Tatsuki Akabane[2], Naoki Hirotsu[1,2] ([1]Grad. Sch. Life Sci. Toyo Univ., [2]Fac. Life Sci. Toyo Univ.)

PF-083 Natural variation of phytic acid contents in rice germplasm and characterization of low and high phytic acid rice

Ayaka Fukushima[1], Ishara Perera[2], Tatsuki Akabane[1], Fumiya Asano[1], Koki Hosoya[1], Naoki Hirotsu[1,2] ([1]Fac. Life Sci. Toyo Univ., [2]Grad. Sch. Life Sci. Toyo Univ.)

PF-084 The Mechanism of action of Arabidopsis thaliana IAP like proteins (AtlLPs) for germination

Masami Nakamura[1], Reona Takano[2], Rio Shimizu[2], Katsumi Higashi[1,2] ([1]Grad. Sci. & Eng. Bio, Teikyo Univ. Sci., [2]Dept. Life&Health Sci., Teikyo Univ. Sci.)

PF-085 Functional analysis of adaptin binding protein on endosperm development in Arabidopsis seeds morphological functions of adaptin binding protein in Arabidopsis

Keito Yamaguchi, Yuki Nakao, Reo Sugiyama, Naoto Kawakami (Department of Life Sciences, Univ. Meiji)

PF-086 Physiological role of a cell-wall protein SRPP in Arabidopsis seed maturation

Natsuki Tanaka-Takada, Hiroshi Uno, Masayoshi Maeshima (Grad. Sch. Bioagr. Sciences, Nagoya University)

PF-087 Natural variation in seed germination response to temperature and phenology in Arabidopsis

Hiroki Maruyama[1], Jun Shigeeda[1], Nanami Morijiri[1], Nozomi Nagatake[1], Misaki Tochinai[1], Ryo Shimizu[1], Masatomo Kobayashi[2], Sei Iuchi[2], Naoto Kawakami[1] ([1]Laboratory of Plant Molecular Physiology, Department of Life Sciences, School of Agriculture, Meiji University, [2]Experimental Plant Division, RIKEN BioResource Research Center)

PF-088 The Mechanism of Submergence-Induced Suppression of Stomatal Development in an Amphibious Aquatic Plant, *Callitriche palustris*.

Yuki Doll[1], Hiroyuki Koga[1], Hirokazu Tsukaya[1,2] ([1]Grad. Sch. Sci., Univ. Tokyo., [2]ExCELLS, NINS.)

PF-089 Senescence of the Arabidopsis leaf disk with the meta-caspase gene knockdown plant

Kensin Sakano, Takuma Suwa, Hiroshi Hayashi (Fac. Biosci. Biotec., Fukui Pref. Univ.)

■ Vegetative growth

PF-090 Phenotypic analysis of the parthenocarpy and bubbling fruit mutant in tomato

Yu Lu, Johan Hunziker, Ryoichi Yano, Hiroshi Ezura, Tohru Ariizumi (Fac. Life and Envir. Sci., Univ. Tsukuba)

PF-091 Gene networks underlying the diversity in persimmon fruit shapes

Haruka Maeda[1], Takashi Akagi[1,2], Noriyuki Onoue[3], Atsushi Kono[3], Ryutaro Tao[1] ([1]Grad. Sch. Agri., Kyoto Univ., [2]JST PRESTO, [3]Inst. of Fruit Tree and Tea Science, NARO)

PF-092 Crosstalk between auxin and cytokinin for the spatio-temporal regulation of floral meristem activities in Arabidopsis

Ze Hong Lee[1], Yoshitaka Tatsumi[1], Nobutoshi Yamaguchi[1,2], Toshiro Ito[1] ([1]NAIST, Biological Sciences, [2]Precursory Research for Embryonic Science and Technology (PRESTO), JST)

PF-093 The longevity of shoot apical meristems in *clavata3* mutants

Yukun Wang, Makoto Shirakawa, Toshiro Ito (Graduate School of Biological Science, Nara Institute of Science and Technology)

PF-094 Function of H3K4 methylation in Homeotic Development in Plants

Satoyo Oya[1,2], Soichi Inagaki[2], Tetsuji Kakutani[1,2] ([1]Grad. Sch. Sci., UTokyo, [2]National Institute of Genetics)

■ Plant hormones/Signaling molecules

PF-095 Selective role of YUCCA gene family in the root-pruning induced lateral root formation

Yu Chen[1], Masaaki Watahiki[1,2] ([1]Grad. Sch. Life. Sci., Hokkaido Univ., [2]Fac. Sci., Hokkaido Univ.)

PF-096 Growth control of lateral root through auxin biosynthesis and transport

Xiaoli Sun[1], Masaaki Watahiki[1,2] ([1]Grad. Sch. Life. Sci., Hokkaido Univ., [2]Fac. Sci., Hokkaido Univ.)

PF-097 Structure and action of auxin-responsive genetic switches

Keita Tanaka[1], Alejandra Freire-Rios[2], Victoria Mironova[3], Roeland Boer[4], Dolf Weijers[1] ([1]Laboratory of Biochemistry, Wageningen UR, [2]Laboratory of Cell Biology, Wageningen UR, [3]Novosibirsk State University, [4]IRB Barcelona, BIST)

PF-098 A mechanism for communication between epidermal and cortical tissues in *Lotus japonicus* root nodule symbiosis

Takashi Goto[1,2], Meng Liu[1,2], Takashi Soyano[1,2], Masayoshi Kawaguchi[1,2] ([1]National Institute for Basic Biology, [2]The Graduate University for Advanced Studies)

PF-099 Rooting activity of Phenyllactic acid is a consequence of Phenyl acetic acid production

Yuko Maki[1], Hiroshi Soejima[1], Takeo Sato[2], Masaaki Watahiki[2], Junji Yamaguchi[2] ([1]Snow Brand Seed Co., ltd, [2]Fuc. Sci., Hokkaido Univ.)

PF-100 Effects of calcium dynamics on the gene expressions involved in auxin polar transport and recycling of PIN protein

Riko Inoue[1], Naoya Hayashi[1], Mariko Oka[2] ([1]Grad. Sch. Agric., Tottori Univ., [2]Fac. Agric., Tottori Univ.)

PF-101 Auxinic herbicides dicamba, picloram and 2,4-dichlorophenoxyacetic acid control weed by deploymerizing cellular actin

Haruna Sakai[1], Abidur Rahman[2] ([1]Grad. Sch. Agro-Biosci., Univ. Iwate, [2]Dept. Agriculture Agro-Biosci., Univ. Iwate)

PF-102 Characterization of biosynthesis pathway and function of novel cytokinins produced by *Rhodococcus fascians*

Alicia Surjana[1], Mio Takahata[1], Nanae Ueda[2], Mikiko Kojima[2], Hitoshi Sakakibara[1] ([1]Grad. Sch. Bioagri. Sci., Nagoya Univ., [2]RIKEN CSRS)

PF-103 Biosynthesis pathway of ABA mediates the regeneration of root system in *Arabidopsis*

Kou Kyo[1], Masaaki Watahiki[1,2] ([1]Grad. Sch. Life. Sci., Hokkaido Univ., [2]Fac. Sci., Hokkaido Univ.)

PF-104 Downstream pathway of abscisic acid inducible Arabidopsis MAP3Ks, MAP3K17/18.

Daisuke Matsuoka[1], Masayuki Hazama[2], Takashi Nanmori[3], Katsuhiko Sakamoto[1,2] ([1]Biosigal Research Center, Kobe Univ., [2]Grad. Sch. Agric. Sci., Kobe Univ., [3]Faculty of Health and Nutrition, Otemae Univ.)

PF-105 Functional analysis of brassinosteroid in woodland strawberry

Hikari Ishii, Yukihisa Shimada, Ayako Nakamura (Yokohama City University, KIBR)

PF-106 Arabidopsis transcription factors in BRs signaling by Yeast-two hybrid method

Kenjiro Fujita[1,2], Reika Hasegawa[3], Ayumi Yamagami[1], Miho Ikeda[3], Nobutaka Mitsuda[4], Tetsuo Kushiro[2], Kazuo Shinozaki[1], Masaru Takagi[3,4], Tadao Asami[5], Takeshi Nakano[1] ([1]CSRS, RIKEN, [2]Dept. Agric. Chem., Meiji Univ., [3]Grad. Sch. Science. Technol. Saitama Univ., [4]AIST., [5]Dept. Appl. Bio. Chem., Univ. of Tokyo)

PF-107 Functional analysis of brassinosteroid signaling factor BSHs

Rina Su[1,2], Ayumi Yamagami[1], Tomoko Miyaqi[1], Masaaki Sakuta[2], Tadao Asami[3], Kazuo Shinozaki[1], Takeshi Nakano[1] ([1]RIKEN CSRS, [2]Ochanomizu Univ, [3]Dept. Appl. Biol. chem. Univ of Tokyo)

PF-108 CEP5 and CEPR1 contribute to zinc homeostasis in *Arabidopsis thaliana*

Hou Xiao[1], Yuji Yamaguchi[1], Mami Kobayashi[1], Izumi Mori[2], Hiroyuki Daimon[3], Yoshikatsu Matsubayashi[4], Kousuke Hanada[5], Yoichiro Fukao[1] ([1]Dept. Bioinfo., Ritsumeikan Univ., [2]IPSR, Okayama Univ., [3]Fac. Agri, Ryukoku Univ., [4]Div. Biol. Sci., Grad. Sch. Sci., Nagoya Univ., [5]Dept. Biosci. Bioinfo., Kyusyu Inst. Tech.)

PF-109 Characterization of defensin-like (DEFL) family proteins on Zinc deficient condition in *Arabidopsis thaliana* root

Tomoya Ohshita[1], Kotomi Yokoyama[1], Mami Kobayashi[1], Izumi Mori[2], Shigeo S. Sugano[3,4], Yoichiro Fukao[1] ([1]Grad. Sch, Life Sci., Ritsumeikan Univ., [2]IPSR, Okayama Univ., [3]R-GIRO, Ritsumeikan Univ., [4]JST, PRESTO.)

PF-110 Analysis Of Mutants Showing An Altered Response To TOLS2 Peptide That Negatively Regulates *Arabidopsis* Lateral Root Initiation

Riku Nishimaru[1], Yuka Aoki[1], Koichi Toyokura[1,2], Akinori Shinoda[1], Tatsuaki Goh[1,3], Kimitsune Ishizaki[1], Tetsuro Mimura[1], Hidehiro Fukaki[1] ([1]Grad. Sch. Sci., Univ. Kobe, [2]Grad. Sch. Sci., Univ. Osaka, [3]Graduate School of Science and Technology, Nara Institute of Science and Technology)

PF-111 Exhaustive analysis of small proteins and peptides in xylem sap under different nutrient conditions

Satoru Okamoto[1,2], Shungo Kobori[3], Kie Kumaishi[3], Yumiko Makino[4], Takamasa Suzuki[5], Yasunori Ichihashi[2,3] ([1]Niigata Univ., [2]JST PRESTO, [3]RIKEN BRC, [4]NIBB, [5]Chubu Univ.)

PF-112 Screening and analyses of the mode of action of novel putative plant defense activators that activate salicylic acid- or jasmonic acid- pathways

Nobutaka Kitahata[1,2], Yuho Saito[1], Takamitsu Kurusu[3], Masataka Nakano[1], Yasuhiro Ishiga[4], Tadao Asami[5], Kazuyuki Kuchitsu[1,2] ([1]Tokyo Univ. of Sci., [2]IFC, Tokyo Univ. of Sci., [3]Suwa Univ. of Sci, [4]Univ. of Tsukuba, [5]Univ. of Tokyo)

PF-113 Analysis of *urm15* mutant defective in jasmonate-induced trichome formation

Yuki Yoshida[1], Kiyotaka Okada[2], Shinichiro Sawa[1] ([1]Grad. Sch. Sci. Tech., Kumamoto Univ., [2]Dept. Agr., Ryukoku Univ.)

PF-114 Identification of the genes regulated by NtCBP60g and NtSARD1, tobacco CBP60-type transcription factors

Tuyet Nhung Nguyen Thi, Kumiko Takagi, Shinpei Katou (Fac. Agr., Shinshu Univ.)

PF-115 Investigation of the key mechanisms of 4-phenylbutanoic acid for increasing root hairs

Youichi Kondou, Takahiro Sato, Issei Takahashi, Kenta Nakatsuka, Hirokazu Iida (Kanto Gakuin Univ. College Sci. Eng.)

PF-116 Molecular mechanism of plant callus formation accelerated by promoter of plant growth (PPG)

Kotomi Maekawa[1,2], Shota Tanaka[1,2], Shun Takeno[1,2], Ayumi Yamagami[1], Yusuke Kakei[3], Yukihisa Shimada[3], Yoshimitu Kondou[1], Naoshi Douzen[1], Setsuko Shimada[1], Minami Matsui[1], Tetsuo Kushiro[2], Hiroyuki Osada[1], Tadao Asami[4], Kazuo Shinozaki[1], Takeshi Nakano[1] ([1]RIKEN CSRS, [2]Dept. Agri. Chem., Meiji. Univ., [3]Yokohama City Univ., [4]Dept. Appl. Biol. Chem., Univ. of Tokyo)

PF-117 Chemical screening for identifying RGF signaling pathway components

Daiki Tanaka[1], Yoko Hayashi[1], Ayato Sato[2], Yoshikatsu Matsubayashi[1], Hidefumi Shinohara[1] ([1]Grad. Sch. Sci., Nagoya Univ., [2]ITbM, Nagoya Univ.)

PF-118 Analysis of a mutant of Arabidopsis thaliana that shows low-sensitivity to an auxin/brassinosteroid signal transduction inhibitor NJ15

Naiyanate Tanaka-Jaroensanti[1], Sho Miyazaki[1], Kenji Tomita[1], Akito Hosoi[2], Keisuke Tanaka[3], Shinsaku Ito[2], Satoshi Iuchi[4], Takeshi Nakano[5], Masatomo Kobayashi[4], Masatoshi Nakajima[1], Tadao Asami[1] ([1]Dept. Appl. Biol. Chem., Univ. of Tokyo., [2]Dept. Bioscience, Tokyo Univ. Agric., [3]NODAI Genome Research Center, [4]RIKEN BRC, [5]RIKEN CSRS)

■ Photoreceptors/Photoresponses

PF-119 Influence of green-absorbing phytochrome on plant growth
Chise Otsuji, Masafumi Nomura, Hayato Tokumoto, Shizue Yoshihara (College Life, Env., Adv. Sci., Univ. Osaka Prefecture)

PF-120 Light-dependent induction of hypocotyl elongation by the N-terminal 26 peptides of Arabidopsis phyB
Masafumi Nomura, Chise Ootsuji, Hayato Tokumoto, Shizue Yoshihara (College Life, Env., Adv. Sci., Univ. Osaka Prefecture)

PF-121 The effects of lipid transporter flippase mutations on phototropin responses at low temperature.
Tomomi Suzuki[1,2], Masaya Iriguchi[1], Masahiro Nagao[1], Yusuke Aihara[3], Akira Nagatani[1] ([1]Grad. Sch. Sci., Univ. Kyoto, [2]JST PRESTO, [3]Grad. Sch. Sci., Univ. Nagoya)

PF-122 Analysis of cortical microtubule orientation regulated by blue light
Shotaro Hayashi[1], Juri Kikuchi[1], Takahiro Hamada[2], Hayato Tokumoto[1], Shizue Yoshihara[1] ([1]Col. Life Env. Adv. Sci., Osaka pref. univ., [2]Grad. Sch. Arts Sci., Univ. Tokyo)

PF-123 Light-dependent regulation of cortical microtubule dynamics speeds in plants
Juri Kikuchi[1], Shotaro Hayashi[1], Takahiro Hamada[2], Hayato Tokumoto[1], Shizue Yoshihara[1] ([1]Col. Life Env. Adv. Sci., Osaka pref. univ., [2]Grad. Sch. Arts Sci., Univ. Tokyo)

PF-124 Regulation of chloroplast dark positioning in adaxial/abaxial polarity mutants of *Arabidopsis thaliana*
Takahiro Kojima[1], Suguru Kai[1], Yasuhiro Isida[1], Etsuo Yokota[2], Shingo Takagi[1] ([1]Grad. Sch. Sci., Osaka Univ., [2]Grad. Sch. Life Sci., Univ. Hyogo)

PF-125 Analysis of *Arabidopsis* TF-GR line that accumulates anthocyanin by blue and far-red lights.
Takachika Munesada[1,2], Setsuko Shimada[1], Yoko Horii[1], Tomoko Kuriyama[1], Mika Kawashima[1], Taku Takahashi[3], Minami Matsui[1] ([1]RIKEN CSRS, [2]Yokohama City Univ., Graduate school of NanoBioscience, [3]Okayama Univ., Graduate School of Natural Science and Technology)

PF-126 Requirement Of Kinase Activity Of CDKA On The Novel Functions In The Moss, *Physcomitrella patens*
Eggie Febrianto Ginanjar[1], Masaki Ishikawa[2], Masami Sekine[3], Natsumi Inoue[1], Mitsuyasu Hasebe[2], Ooi-Kock Teh[4], Tomomichi Fujita[4] ([1]Grad. Sch. of Life Sci. Hokkaido Univ., [2]Natl. Inst. Basic. Biol., [3]Fac. of Bioresour. Environ. Sci., Ishikawa Pref. Univ., [4]Fac. of Sci. Hokkaido Univ.)

PF-127 Gene expression analysis of microbial rhodopsin without retinal-binding lysine from *Guillardia theta*
Yumeka Yamauchi[1], Masae Konno[1,2], Keiichi Inoue[1,3,4], Hideki Kandori[1,2] ([1]Life Sci. Appl. Chem., Grad. Sch. Eng., NIT, [2]OBTRC, NIT, [3]ISSP, Univ. Tokyo, [4]PRESTO, JST)

PF-128 Blue light dependent carotenoid biosynthesis and its effects on photo-acclimation in Euglena gracilis
Yuri Tanno[1], Shaka Kato[2], Senji Takahashi[1,3], Kintake Sonoike[4], Yutaka Kodama[5], Shinichi Takaichi[6], Tomoko Shinomura[1,3] ([1]Grad. Sch. Sci. Eng., Teikyo Univ., [2]Center Plant Aging Res., Inst. Basic Sci., [3]Dept. Biosci., Teikyo Univ, [4]Fac. Edu. & Int. Arts Sci., Waseda Univ., [5]Center Biosci. Res. & Edu., Utsunomiya Univ., [6]Dept. Mol. Microbiol., Tokyo Univ. Agric.)

■ Flowering/Clock

PF-129 Search for proteins involved in the degradation of KaiC and the effect on rhythm by KaiC turnover.
Keiko Imai[1], Yoko Kitayama[2], Masayuki Fujiwara[3], Kenyo Kaneko[4], Hiroshi Ito[4], Takao Kondo[2] ([1]Laboratory of Biology Kansai Med. Univ., [2]Div. Biol. Sci., Grad. Sch. Sci., Nagoya Univ., [3]Institute for Advanced Biosciences, Keio Univ., [4]Labolatory for Biological Rhythms, Kyushu University)

PF-130 Functional characterization of two LOV-containing histidine kinases, LHK1 and LHK2, in the green alga Chlamydomonas reinhardtii.
Wataru Tomida[1], Takuya Matsuo[2], Tetsuhiro Otsuka[1], Tomonori Suzuki[3], Setsuyuki Aoki[1] ([1]Graduate School of Informatics, Nagoya University, [2]Center for Gene Research, Nagoya University, [3]School of Informatics and Sciences)

PF-131 Analysis of synchronization patterns and its processes of circadian rhythms in a duckweed plant under partly-illuminated light conditions
Ayana Yoshinaga, Jun Yomo, Shogo Ito, Tokitaka Oyama (Dept. Bot., Grad. Sch. Sci., Kyoto Univ.)

PF-132 Development of genetic tools for overexpressing or disrupting genes in duckweeds, *Lemna minor* and *L. turionifera*
Shogo Ito, Tokitaka Oyama (Dept. Bot., Div. Biol. Sci., Grad. Sch. Sci., Kyoto Univ.)

PF-133 LNK, Transcriptional activator of circadian clock
Aya Matsumura[1], Saori Takao[2], Takamasa Suzuki[3], Toshinori Kinoshita[2], Norihito Nakamichi[2] ([1]Graduate School of Science, Nagoya University, [2]Institute of Transformative Bio-molecules, Nagoya University, [3]College of Biosci, Chubu University)

PF-134 Differential effects of light-to-dark transitions on phase setting in circadian expression among clock-controlled genes in Pharbitis nil

Ryosuke Hayama[1], Tsuyoshi Mizoguchi[1], George Coupland[2] ([1]International Christian University, [2]Max Planck Institute for Plant Breeding Research)

PF-135 Identification and analysis of FT family genes in Sugarcane

Sumire Fujiwara[1], Tomoko Niki[1], Akari Nakasone[2], Yoshimi Nakano[1], Nobutaka Mitsuda[1], Yasuyo Himuro[2], Madoka Yonekura[2], Satoshi Kondo[2], Kunio Matsui[2], Takehiko Shimada[2], Kaoru Suzuki[1] ([1]Bioprod. Res. Inst., AIST, [2]Agric. Biotechnol. Bus. Div., Toyota Motor Corp.)

■ Environmental responses A

PF-136 Analysis of a mutant showing strong positive phototaxis in the green alga *Chlamydomonas reinhardtii*

Yuichiro Hoga[1,4], Keisuke Okajima[2,6], Masako Nakajima[4], Noriko Ueki[3,4], Jiro Nomata[1,4], Katsushi Yamaguchi[5], Shuji Shigenobu[5], Jun Minagawa[2,6], Toru Hisabori[1,4], Ken-ichi Wakabayashi[1,4] ([1]Sch. Life Sci Biotech, Tokyo Tech, [2]NIBB, [3]CUNY, Brooklyn, [4]CLS, Tokyo Tech, [5]NIBB, [6]SOKENDAI)

PF-137 Regulatory mechanisms of the ROS-producing enzymes, Rbohs, by Ca^{2+} binding and phosphorylation and their evolution in plants.

Takafumi Hashimoto[1,2], Takeru Itabashi[1,2], Yoichi Funaki[1], Kenji Hashimoto[3], Kazuyuki Kuchitsu[1,2,3] ([1]Dept. Appl. Biol. Sci., Tokyo Univ. of Sci., [2]Agricultural Interdisciplinary Sci. & Tech. Course, Tokyo Univ. of Sci., [3]Imaging Frontier Center, Tokyo Univ. of Sci.)

PF-138 Comprehensive analysis of ROS-producing enzymes and Ca^{2+}-permeable channels involved in diverse stress-induced signaling in *Marchantia polymorpha*

Misaki Hasegawa[1], Hiroki Shindo[1], Hikaru Mizoe[1], Takeru Itabashi[1], Kenji Hashimoto[2], Kazuyuki Kuchitsu[1,2] ([1]Dept. of Appl. Biol. Sci., Tokyo Univ. of Sci., [2]Imaging Frontier Center, Tokyo Univ. of Sci.)

PF-139 Comprehensive reverse genetic analysis of monodehydroascorbate reductases in Arabidopsis

Mio Tanaka, Naoki Matsubara, Takahisa Ogawa, Takahiro Ishikawa, Takanori Maruta (Dept. Life Sci. Biotechnol., Fac. Life Environ. Sci., Shimane Univ.)

PF-140 Dehydroascorbate reduction systems in plants

Hiromi Ueno, Yusuke Terai, Takahisa Ogawa, Takahiro Ishikawa, Takanori Maruta (Dept. Life Sci. Biotechnol., Fac. Life Environ. Sci., Shimane Univ.)

PF-141 Physiological and morphological adjustments of the duckweed fronds shifting the life forms from water-surface float to water-bottom sink.

Hiroyuki Ono[1], Nozomi Arai[1], Yoh Sakuma[2], Masahiro Inouhe[2] ([1]Department of Biology, Faculty of Science, Ehime University, [2]Biology and Environmental Science, Graduate School of Science and Technology, Ehime University)

PF-142 The Analysis of High Gene Expression of Ascorbic Acid Biosynthesis Enzymes in Acerola

Marina Suekawa[1], Akari Inoue[1], Takayuki Kondo[1,2], Yukichi Fujikawa[1], Eriko Uchida[3], Takeshi Koizumi[3], Muneharu Esaka[1] ([1]Grad. Sch. Bio. Sci., Univ. Hiroshima, [2]Grad. Sch. Com. Sci. Sys. Eng., Univ. Kyutech., [3]Nichirei Foods Inc.)

PF-143 The bZIP protein VIP1 binds protein phosphatase 2A B" subunits

Hyuk Sung Yoon[1], Daisuke Tsugama[1,2], Kaien Fujino[1], Tetsuo Takano[2] ([1]Grad. Sch. Agri., Hokkaido Univ., [2]ANESC., Univ. Tokyo)

■ Environmental responses B

PF-144 Diversity of Biofilm formation under various environmental storesses in Synechocystis sp. PCC 6803.

Koichi Takahashi[1], Haruna Ishikawa[2], Ayako Itagaki[2], Junji Uchiyama[1,2,3], Hisataka Ohta[1,2,3] ([1]Grad. Sch. of Sci., Tokyo Univ. of Sci., [2]Grad. Sch. of Math & Sci. Edu., Tokyo Univ. of Sci., [3]Fac. of Sci., Tokyo Univ. of Sci.)

PF-145 Effect of Grafting on Drought Tolerance in *Solanum lycopersicum*

Maria Isabel Fuentes Merlos[1], Makoto Endo[2], Shusei Sato[1], Atsushi Higashitani[1] ([1]Grad. Sch. Life Sci., Tohoku Univ., [2]Takii & Co., LTD.)

PF-146 Characterization of root-specific drought-inducible MYB transcription factors for the enhancement of water use efficiency in Arabidopsis

Zarnab Ahmad[1,2], Khurram Bashir[1], Sultana Rasheed[1], Bushra Rashid[2], Tayyab Husnain[2], Motoaki Seki[1,3,4,5] ([1]Plant Genomic Network Research Team RIKEN CSRS, [2]CEMB, University of the Punjab, Lahore, Pakistan, [3]Kihara Institute for Biological Research, Yokohama City University, [4]CREST, JST, 4-1-8 Honcho, Kawaguchi, Saitama, 332-0012, Japan, [5]Plant Epigenome Regulation Laboratory, CPR, RIKEN)

PF-147 Role of endogenous abscisic acid in osmotic, cold and sugar responses in Marchantia polymorpha

Nobiza Khatun, Kei Saito, Akida Jahan, Daisuke Takezawa (Saitama University)

PF-148 Functional analysis of B3 MAPKKK in ABA and osmotic stress responses of *Arabidopsis thaliana*

Hyeokjin Bak[1], Goro Masuda[1], Shota Kobayashi[1], Shohei Katsuda[1], Masashi Saruhashi[1,2], Daisuke Takezawa[2], Izumi Yotsui[1], Teruaki Taji[1], Yoichi Sakata[1] ([1]Department of Bioscience, Tokyo University of Agriculture, Japan, [2]Graduate School of Science and Engineering Univ. Saitama)

PF-149 Functional analysis of chloroplast-localized NAD kinase in plant abiotic stress responses

Ryosuke Hashimoto[1], Atsuko Miyagi[2], Yuji Sawada[3], Muneo Sato[3], Kohji Yamada[1], Masami Yokota Hirai[3], Maki Kawai-Yamada[3], Keishi Osakabe[1], Yuriko Osakabe[1] ([1]Fac. Biosci. Bioindust., Tokushima Univ., [2]Grad. Sch. Sci. Eng., Saitama Univ., [3]RIKEN CSRS)

PF-150 A novel AP2/ERF transcription factor regulates cuticular wax formation under dehydration response

Kaoru Urano[1], Kyonoshin Maruyama[2], Yoshimi Oshima[3], Toshiki Ishikawa[4], Mayuko Sato[1], Maki Kawai-Yamada[4], Kiminori Toyooka[1], Kazuko Yamaguchi-Shinozaki[5], Kazuo Shinozaki[1] ([1]RIKEN Center for Sustainable Resource Science (CSRS), [2]Japan International Research Center for Agricultural Sciences (JIRCAS), [3]Bioproduction Research Institute, Bioproduction Research Institute, National Institute of Advanced Industrial Science and Technology, [4]Graduate School of Science and Engineering, Saitama University, [5]Graduate School of Agricultural and Life Sciences, The University of Tokyo)

PF-151 Anti-Ageing Activities of a Salt-Inducible Mycosporine-like Amino Acid Isolated from a Halotolerant Cyaobacterium

Tanutcha Patipong[1,2], Supamate Tarasuntisuk[2], Takashi Hibino[1,3], Rungaroon Waditee-Sirisattha[2], Hakuto Kageyama[1,3] ([1]Grad. Sch. Environ. Hum. Sci., Meijo Univ., [2]Fac. Sci., Chulalongkorn Univ., [3]Fac. Sci. Tech., Meijo Univ.)

PF-152 Chemical screening of compounds enhancing salinity stress tolerance

Kaori Sako[1,5], Chien Van Ha[2], Akihiro Matsui[1], Maho Tanaka[1], Ayato Sato[3], Motoaki Seki[1,4,5] ([1]CSRS, RIKEN, [2]Danforth Center, [3]ITbM, Nagoya Univ., [4]Kihara Inst., Yokohama City Univ., [5]CREST, JST)

PF-153 Initial Responses to Salt Stress in Barley Varieties Showing Different Salt Tolerance

Aya Ohnishi, Maki Katsuhara (Okayama University Institute of Plant Science and Resources)

PF-154 Growth and environmental adaptation of Mongolian plants *Chloris virgata* and *Arabidopsis mongolica*

Bolortuya Byambajav[1,2], Ayumi Yamagami[1], Davaapurev Bekh-Ochir[2], Udval Gombosuren[3], Jigjidsuren Sodnomdarjaa[3], Battogtokh Tugsjargal[3], Batkhuu Javzan[2], Tadao Asami[4], Kazuo Shinozaki[1], Takeshi Nakano[1,2] ([1]CSRS, RIKEN, [2]Joint Univ. of National Univ. of Mongolia and RIKEN, [3]Res. Ins. of Ani Husb, [4]Dept. Appl. Biol. Chem., Univ. of Tokyo)

PF-155 Characterization of polyamine biosynthetic enzymes involved in biofilm formation in *Synechocystis* sp. PCC 6803

Kota Kera[1], Tatsuya Nagayama[1], Kei Nanatani[1], Chika Saeki-Yamoto[1], Akira Tominaga[1], Satoshi Souma[1], Nozomi Miura[1], Kota Takeda[1,2], Syunsuke Kayamori[1], Eiji Ando[3], Kyohei Higashi[4], Masashi Kihana[1], Kazuei Igarashi[4], Nobuyuki Uozumi[1] ([1]Grad. Sch. Eng., Tohoku Univ., [2]Grad. Sch. Bio Sci., Tohoku Univ., [3]Clinical and Biotechnology B. U., Shimadzu Corporation, [4]Grad. Sch. Med, Chiba University.)

PF-156 A *Salicornia europaea* gene (*SeNN43*) encoding a short peptide improved plant salt tolerance and induced swelling of root cells.

Hikaru Sakamoto[1], Kenta Kainuma[1], Aoto Kitamura[1], Yoshiki Nakahara[2], Maki Katsuhara[2], Suguru Oguri[1] ([1]Fac. Bioindustry., Tokyo Univ. Agri., [2]IPSR, Okayama Univ.)

PF-157 Expression of soybean plant hemoglobin gene family under environmental stress

Masato Araragi[1], Airi Ikeura[2], Toshiki Uchiumi[1] ([1]Grad. Sch. Sci. Eng., Kagoshima Univ., [2]Fac. Sci., Kagoshima Univ)

PF-158 Natural variation of leaf ionome in Al-accumulater tea plants

Hiroto Yamashita[1,2], Hideyuki Katai[3], Akio Morita[2], Takashi Ikka[2] ([1]Uni. Agr., Gifu Univ., [2]Fac. Agr., Shizuoka Univ., [3]Tea Res. Cent., Shizuoka Pref.)

■ Environmental responses C

PF-159 Tendency of response to low-temperature for evergreen broad-leaves trees in the field

Ayano Sasaki[1], Matsuo Uemura[1,2], Yukio Kawamura[1,2] ([1]Grad. Sch. Sci., Univ. Iwate, [2]Fac. Agri., Univ. Iwate)

PF-160 Molecular analysis of the temperature response in *Saintpaulia* leaves.

Kana Motooka[1], Miwa Ohnishi[2], Kazuko Iida[3], Yoshihiro Suzuki[4], Kimitsune Ishizaki[1], Hidehiro Fukaki[1], Hidetoshi Iida[3], Tetsuro Mimura[1] ([1]Grad. Sch. Sci., Kobe Univ., [2]Eng. Boil. Res. C., Kobe Univ., [3]Dep. Biol. Tokyo Gakugei Univ., [4]Fac. Sci. Kanagawa Univ.)

PF-161 Enhancement of freezing tolerance by the purine metabolite allantoin and its mechanism in Arabidopsis

Yuhi Hashiguchi, Hiroshi Shimada, Atsushi Sakamoto (Grad. Sch. Sci., Hiroshima Univ.)

PF-162 Involvement of Xyloglucan Endotransglucosylase/Hydrolase in Plant Freezing Tolerance

Daisuke Takahashi[1], Arun Sampathkumar[1], Ryusuke Yokoyama[2], Takeshi Kuroha[2], Kazuhiko Nishitani[2], Ellen Zuther[1], Dirk K. Hincha[1] ([1]Max-Planck-Inst. Mol. Plant Physiol., [2]Grad. Sch. Life Sci. Tohoku Univ.)

PF-163 Analysis of low temperature insensitive mutants in Arabidopsis

Arisa Nakamura, Naoko Yamaguti, Narumi Okazaki, Syouhei Fuzimoto, Tsuyoshi Furumoto (Faculty of Agriculture, Ryukoku University)

PF-164 PIF4 is a negative regulator in cold signaling

Renhu Na[1], Hiroki Okuda[1], Rieko Nozawa[1], Tsuyoshi Furumoto[2], Kenji Miura[1] ([1]Grad. Sch. Life and envi. Sci., Univ. Tsukuba, [2]Fac. Agri., Univ. Ryukoku)

PF-165 Heat stress response in growth of domesticated and wild radish species

Yukiko Nakamura[1], Wang Qing-Wei[2], Riichi Oguchi[1], Shin-Ichi Morinaga[3], Kouki Hikosaka[1] ([1]Grad. Sch. Life Sci., Univ. Tohoku, [2]Forest Research and Management Organization, [3]Bio Sci., Univ. Nihon)

PF-166 Analysis of relationship between maintenance of heat stress memory and chromosome higher order structure

Yui Fujiwara[1], Takuya Sakamoto[1], Yuki Sakamoto[2], Nobutoshi Yamaguchi[3], Toshiro Ito[3], Sachihiro Matsunaga[1] ([1]Dept. Applied Bio. Sci., Fac. Sci. Tech., Tokyo Univ. Sci., [2]IFC, RIST, Tokyo univ. sci., [3]Grad. Sch. Bio. Sci., NAIST)

PF-167 *CoHT* is involved in variation of heat tolerance via regulation of pre-mRNA splicing among *A. thaliana* accessions

Kazuho Isono[1], Keisuke Tanaka[2], Takashi Tsuchimatsu[3], Kousuke Hanada[4], Izumi Yotsui[1], Yoichi Sakata[1], Teruaki Taji[1] ([1]Dept. of Bioscience, Tokyo Univ. of Agriculture, [2]NODAI Genome Research Center, [3]Dept. of Biology, Chiba Univ., [4]Dept. of Bioscience and Bioinformatics, Kyushu Institute of Technology)

PF-168 Functional analysis of rice OsHsfA1 transcription factor in the heat stress response

Moeko Noguchi[1], Naohiko Ohama[1], Daisuke Todaka[1], Satoshi Kidokoro[1], Kazuo Shinozaki[2], Kazuko Yamaguchi-Shinozaki[1] ([1]Grad. Sch. Agr. Life Sci., Univ. Tokyo, [2]Center for Sustainable Resource Science, RIKEN)

PF-169 Functional analysis of a major sigma factor binding protein in a cyanobacterium *Synechococcus elongates* PCC 7942

Hazuki Hasegawa[1], Tatsuhiro Tsurumaki[1], Ikki Kobayashi[2], Sousuke Imamura[1], Kan Tanaka[1] ([1]Tanaka-Imamura lab, Laboratory for Chemistry and Life Science, Tokyo Tech, [2]Graduate School of Engineering, Chiba Univ.)

PF-170 A single seed treatment with hydroxyl radical / reactive oxygen species: a potential solution against emerging threat of multiple abiotic stresses.

Md Mostafa Kamal[1], Carlos Erazo[2], Daisuke Takahashi[3], Karen Tanino[4], Yukio Kawamura[1], Matsuo Uemura[1] ([1]Unit. Grad. Sch. Agr. Sci., Iwate Univ. Japan, [2]Dept. Bio. Sci., Icesi Univ. Colombia, [3]Max Planck Inst. Mol Plant Phys. Germany, [4]Dept. Plant Sci., Univ. Sask. Canada)

PF-171 Biochemical analysis of the Arabidopsis polyphosphatase GppA/Ppx homolog for elucidating physiological function of polyphosphate in plants

Masataka Inazu[1], Doshun Ito[1], Shinji Masuda[2] ([1]Department of Life Science and Technology, Tokyo Institute of Technology, [2]Center for Biological Resources and Informatics, Tokyo Institute of Technology)

PF-172 Polyhydroxybutyrate accumulation in Synechocystis sp. PCC 6803 in starved nutrient-species dependent manners

Kazuho Hirai, Miki Nojo, Yosuke Sato, Mikio Tsuzuki, Norihiro Sato (Tokyo University of Pharmacy and Life Sciences)

PF-173 Is Hormonal Regulation Involved in Sulfur Dioxide-Induced Stomatal Closure?

Lia Ooi, Takakazu Matsuura, Izumi Mori (IPSR, Okayama Univ.)

PF-174 A search for plant hormones involved in a formation of barrier to radial oxygen loss along the adventitious roots in rice (*Oryza sativa*)

Kana Shimizu, Katsuhiro Shiono (Dept. Biosci. & Biotech., Fukui Pref. Univ.)

PF-175 Regulation of OsmiR396 family in developing rice leaves at elevated CO_2

Yonghyun Kim, Mitsue Miyao-Tokutomi (Grad. Sch. Agricul. Sci., Tohoku Univ.)

PF-176 Analysis and experimental verification of a mathematical model for root system architecture in response to nitrogen availability

Hironori Fujita[1,2], Mika Tsugane[1], Masayoshi Kawaguchi[1,2] ([1]Natl. Inst. Basic Biol., [2]SOKENDAI)

■ Plant-organism interaction A

PF-177 Studies on sugar-responsive modulation of pattern-triggered immunity in Arabidopsis plants

Xingwen Li[1], Kotaro Kusaka[2], Shigetaka Yasuda[3], Yusuke Saijo[3], Takeo Sato[1], Junji Yamaguchi[1] ([1]Fac. Sci. and Grad. Sch. Life Sci., Hokkaido Univ., [2]Sch. Sci., Hokkaido Univ., [3]Grad. Sch. Sci. Tech., NAIST)

PF-178 *BSR2* is Involved in Disease Resistance and Seed Size

Satoru Maeda[1], Youichi Kondou[2], Minami Matsui[2], Masaki Mori[1] ([1]NIAS, [2]RIKEN Yokohama)

PF-179 Involvement of *Nicotiana benthamiana* Exportins in Induction of Defense Responses Against *Phytophthora infestans*.

Yuri Mizuno[1], Sayaka Imano[1], Maurizio Camagna[1], Takamasa Suzuki[2], Aiko Tanaka[1], Ikuo Sato[1], Sotaro Chiba[1], Kazuhito Kawakita[1], Daigo Takemoto[1] ([1]Grad. Sch. Bioagr. Sci., Nagoya Univ., [2]Chubu Univ.)

PF-180 Secretory Peptides SAR8.2 are Required for Non-host Resistance of *Nicotiana benthamiana* to Taxonomically Distant *Phytophthora* Species.

Sayaka Imano[1], Yohei Kondou[1], Yusuke Shibata[1], Tatsuhiko Kondo[1], Aiko Tanaka[1], Ikuo Sato[1], Sotaro Chiba[1], Koji Kageyama[2], Kazuhito Kawakita[1], Daigo Takemoto[1] ([1]Grad. Sch. Bioagr. Sci., Nagoya Univ., [2]River Basin Research Center)

PF-181 Disruption of the MAMP-induced MEKK1-MKK1/MKK2-MPK4 Pathway Activates the TNL Immune Receptor SMN1/RPS6

Momoko Takagi[1,2], Kohei Hamano[2], Hiroki Takagi[3,4], Takayuki Morimoto[2], Kazuya Akimitsu[1,2], Ryohei Terauchi[3,5], Ken Shirasu[6], Kazuya Ichimura[1,2] ([1]Unit. Grad. Sch. Agri., Ehime Univ., [2]Facult. and Grad. Sch. Agri., Kagawa Univ., [3]Iwate Biotech. Res. Cent., [4]Dep. Biopro. Sci., Ishikawa Pref. Univ., [5]Sch. Agri. Sci., Kyoto Univ., [6]RIKEN CSRS)

PF-182 DEAD-box RNA helicase SMN2 is a component of RNA exosome and involved in proper expression of *SMN1/RPS6*

Momoko Takagi[1,2], Naoki Iwamoto[1], Yuta Kubo[1], Takayuki Morimoto[1], Hiroki Takagi[3,4], Keisuke Tanaka[5], Teruaki Taji[6], Kazuya Akimitsu[1,2], Ryohei Terauchi[4,7], Ken Shirasu[8], Kazuya Ichimura[1,2] ([1]Grad. Sch. Agri., Kagawa Univ., [2]Unit. Grad. Sch. Agri., Ehime Univ., [3]Facult. Biores. Env. Sci., Ishikawa Pref. Univ., [4]Iwate Biotech. Res. Cent, [5]Nodai Genome Res. Cent. Tokyo Univ. Agri., [6]Facult. Appli. Bio-Sci. Dep. Tokyo Univ. Agri., [7]Grad. Sch. Agri., Kyoto Univ., [8]RIKEN CSRS)

PF-183 Identification of *Arabidopsis* LysM-type receptors involved in immune response induced by polymeric chitin

Keigo Naito[1], Sumire Matukawa[2], Mai Yoshioka[1], Roxana Y. Parada[1], Mayumi Egusa[1], Shinsuke Ifuku[3], Hironori Kaminaka[1] ([1]Fac. Agr., Tottori Univ., [2]Grad Sch. Agr., Tottori Univ., [3]Grad Sch. Eng., Tottori Univ.)

PF-184 Dimerization and activation of Arabidopsis MAPKKKs

Kanako Fujio, Koji Yamaguchi, Misato Kamei, Shoko Yamaguchi, Masahiro Okazaki, Tsutomu Kawasaki (Grad. Sch. Agri., Kinki Univ)

PF-185 Xanthomonas TAL effectors are directly recognized by the NB-LRR immune receptor Xa1.

Maho Izumitani, Shunsuke Ando, Toshikazu Ouchi, Koji Yamaguchi, Satomi Yoshimura, Tsutomu Kawasaki (Dept. Adv. Biosci. Kindai Univ)

PF-186 Molecular mechanism of immune suppression in rice by *Xoo* effctor, XopZ

Gota Yamamoto[1], Mizuki Kimura[1], Satomi Yosimura[1], Koji Yamaguchi[1], Seiji Tsuge[2], Tsutomu Kawasaki[1] ([1]Dept. Adv. Biosci. Kindai Univ, [2]Grad. Sch Agric. Kyoto Pref. Univ)

PF-187 Proteome analysis of leaf epidermis of the Arabidopsis *ein3-1* mutant showing enhanced resistance against *Fusarium graminearum*

Daisuke Tamaoki[1], Daishi Ikeda[2], Ichirou Karahara[1], Takumi Nishiuchi[3] ([1]Grad. Sch. Sci. Eng., Univ. Toyama, [2]Dept. Biol., Fac. Sci., Univ. Toyama, [3]ASRC, Kanazawa Univ.)

PF-188 The role of jasmonates and ethylene in elicitation of secondary metabolism in rice

Kadis Mujiono[1,2], Tomonori Shinya[1], Ivan Galis[1] ([1]IPSR, Okayama Univ., [2]Fac. Agric., Mulawarman Univ., Indonesia)

PF-189 Two rice homologues of tobacco *MYB8* gene do not significantly affect phenolamide levels in herbivory-elicited rice leaves

Hiroki Takahashi[1], Joackin B. Andama[1,2], Yuko Hojo[1], Tomonori Shinya[1], Ivan Galis[1] ([1]IPSR, Okayama Univ., [2]Abi Zonal Agric. Res. Dev. Inst., NARO, Uganda)

PF-190 Development of robust method for measurement of internal leaf volatiles in rice

Tilisa Tohi[1], Kadis Mujiono[1,2], Tomonori Shinya[1], Ivan Galis[1] ([1]IPSR, Okayama Univ., [2]Fac. Agric., Mulawarman Univ., Indonesia)

PF-191 Pilot field experiments for identification of novel herbivory-related QTLs by the use of rice BIL population

Nhan Thanh Ho[1,2], Tomonori Shinya[1], Ivan Galis[1] ([1]IPSR, Okayama Univ., [2]CLRRI, Vietnam)

■ Plant-organism interaction B

PF-192 Symbiotic properties of *Mesorhizobium loti* transconjugant carrying a flavohemoglobin gene on its chromosome
Yusuke Maesako, Mitsutaka Fukudome, Toshiki Uchiumi (Graduate School of Science and Engineering, Kagoshima University, Kagoshima, Japan)

PF-193 The legume-rhizobial gene-for-gene interaction based on the *Lotus japonicus* and *Mesorhizobium loti* co-expression network
Tsuneo Hakoyama[1], Atsuko Hirota[1], Yoshikazu Shimoda[2], Makoto Hayashi[1] ([1]Riken, CSRS, [2]NARO, NIAS)

PF-194 What kind of responses is caused in leaves through shoot-mediated long-distance control of nodulation?
Nao Okuma[1,2], Takashi Soyano[1,2], Masayoshi Kawaguchi[1,2] ([1]National Institute for Basic Biology Division of Symbiotic Systems, [2]SOKENDAI (The Graduate University for Advanced Studies))

PF-195 Study on Improvement of Cadmium Tolerance of Lotus japonicus by Mycorrhizal Symbiosis
Toshio Sano, Koyuki Hamaoka (Hosei Univ.)

PF-196 Distinct Gene Regulatory Networks For Phosphate Acquisition And Carbon-phosphate Trade-offs In Mycorrhizal Plants
Hayato Maruyama[1], Yusaku Sugimura[1], Ayumi Tezuka[2], Atsushi J. Nagano[2], Tatsuhiro Ezawa[1] ([1]Grad. Sch. Agri., Hokkaido Univ., [2]Fac. Agri., Ryukoku Univ.)

PF-197 Evolutionary analysis of LysM receptor-like kinase in land plants
Ruman Hafijur, Yasuyuki Kawaharada (Iwate University)

PF-198 Interaction of cytoplasmic domains of LysM receptors is an important factor to determine the direction of downstream responses, defense or symbiosis.
Maruya Suzuki[1], Ryota Numazaki[1], Tomomi Nakagawa[2], Naoto Shibuya[1], Hanae Kaku[1] ([1]Dept. Life Sci., Meiji Univ, [2]Symbiotic Systems, NIBB)

PF-199 Effects of nutrient conditions on haustorium formation in parasitic plants
Xiang Zhang, Songkui Cui, Satoko Yoshida (NAIST)

PF-200 Involvement of the intracellular membrane trafficking in the interaction of parasitic plant with host plant
Reika Miyawaki, Koh Aoki (Grad. Sch. Life Environ. Sci., Osaka Pref. Univ.)

■ Epigenetic regulation

PF-201 DNA demethylation specific transposon regulation machanism
Masahiro Fukuda[1], Kosuke Nozawa[2], Atsushi Kato[3], Hidetaka Ito[3] ([1]Sch, Sci, Univ, Hokkaido, [2]Grad, Sch, Life Sci, Univ, Hokkaido, [3]Fac, Sch, Sci, Univ, Hokkaido)

PF-202 Elucidation of chromosome structure and epigenetic mechanism of gene regulation in primitive red alga *Cyanidioschyzon merolae*
Minami Nakayama[1], Takuya Sakamoto[1], Tomoko Matsunaga[1], Miyako Kitagawa[1], Kan Tanaka[2], Tokiaki Takemura[2], Takamasa Suzuki[3], Sachihiro Matsunaga[1] ([1]Dept. Applied Bio. Sci., Fac. Sci. Tech., Tokyo Univ. Sci., [2]Tokyo Tech, Sch of Life Sci & Tech., [3]Chubu Univ., Department of Bio. Chem., Bio. Sci. Tech., Kasugai)

PF-203 MAPK-mediated epigenetic regulation of AGO4 in plant immunity
Shinya Nakagawa[1], Koji Yamaguchi[1], Gota Yamamoto[1], Yuya Tanaka[1], Nobutoshi Yamaguchi[2], Kenichi Tsuda[3], Tsutomu Kawasaki[1] ([1]Grad. Sch. Agri., Univ. Kindai, [2]Grad. Sch. Biol. Sci., NAIST, [3]MPIPZ)

PF-204 Ecotype-specific response to environmental stress
Kosuke Nozawa[1], Atsushi Kato[2], Hidetaka Ito[2] ([1]Grad. Sch. Life Sci., Univ. Hokkaido, [2]Fac. Sci., Univ. Hokkaido)

■ Transcriptional, post-transcriptional/Translational regulations/Protein modification & degradation

PF-205 Functional analysis of TARP1/2 in *Arabidopsis* shoot regeneration
Takahito Takei[1], Misato Ohtani[2,3], Yuichiro Watanabe[1,4], Takahiro Hamada[4,5] ([1]Grad. Sch. Sci., Univ. Tokyo, [2]Grad. Sch. Biol. Sci., NAIST, [3]CSRS, Riken, [4]Grad. Sch. Art and Sci, Univ. Tokyo, [5]JST, PRESTO)

PF-206 Nucleolar stress promotes expression of Arabidopsis ANAC082, a nucleolar stress response mediator, by inducing alternative splicing that removes an inhibitory upstream open reading frame
Shun Sasaki[1], Rin Kudo[1], Daiki Sasahara[1], Hiro Takahashi[2], Shun Watanabe[3], Iwai Ohbayashi[4], Munetaka Sugiyama[5], Satoshi Naito[1,3], Hitoshi Onouchi[1] ([1]Grad. Sch. Agric., Hokkaido Univ., [2]Grad. Sch. Med. Sci., Kanazawa Univ., [3]Grad. Sch. Life Sci., Hokkaido Univ., [4]Haixia Inst. Sci. Tech., Fujian Agriculture and Forestry Univ., [5]Grad. Sch. Sci., Univ. Tokyo)

PF-207 Analysis of the activation mechanism of plant S6 kinase using yeast lacking Ypk3

Misaki Yaguchi[1], Akiko Kozaki[2] ([1]Graduate School of Science, [2]Shizuoka University Faculty of Biology)

PF-208 Transfer RNA wobble uridine modification affects the leaf cell development in plants.

Yumi Nakai[1], Gorou Horiguchi[2], Kosei Iwabuchi[3], Akiko Harada[4], Masato Nakai[5], Ikuko Hara-Nishimura[3], Takato Yano[1] ([1]Dept. of Biochem., Osaka Med. College, [2]Dept. of Life Sci., Rikkyo Univ., [3]Faculty of Sci. and Eng., Konan Univ., [4]Dept. of Biol., Osaka Med. College, [5]Inst. Protein Res., Osaka Univ.)

■ Systems biology

PF-209 Genome analysis for the liverwort Marchantia polymorpha and the diatom Nitzschia sp. NIES4239

Takako Mochizuki[1], Yasuhiro Tanizawa[1], Shohei Yamaoka[2], Ryuichi Nishihama[2], Takehiko Kanazawa[3], Sean A. Montgomery[4], Chang Liu[5], Bence Galik[6], Frederic Berger[4], Takashi Ueda[3], Katsuyuki T. Yamato[7], Takayuki Kohchi[2], Goro Tanifuji[8], Ryoma Kamikawa[9], Yasukazu Nakamura[1] ([1]Genome Informatics Lab., NIG, [2]Grad. Sch. of Biostudies, Kyoto Univ., [3]Div. of Cellular Dynamics, NIBB, [4]Gregor Mendel Institute, [5]ZMBP Tubingen, [6]Vienna Biocenter Bioinformatic Core facility, [7]B.O.S.T., Univ. Kindai, [8]Department of Zoology, National Museum of Nature and Science, [9]Faculty of Integrated Human Studies, Kyoto Univ.)

PF-210 Chronological Analysis of Chromatin Modification Using Barley Grown Under Field Conditions.

Yoko Ikeda[1], Asaka Kanatani[1], Komaki Inoue[2], Daisuke Saisho[1], Jun Ito[3], Hiroyuki Tsuji[3], Keiichi Mochida[1,2,3], Takashi Hirayama[1] ([1]IPSR, Okayama Univ., [2]CSRS, RIKEN, [3]KIBR, Yokohama City Univ.)

■ Others

PF-211 Generation of transgene-free genome-edited tobacco plants using an RNA virus vector

Hirotaka Ariga[1], Hidetaka Kaya[2], Seiichi Toki[2,3,4], Kazuhiro Ishibashi[1] ([1]Plant and Microbe Research Unit, Inst. of Agrobiol. Sci., NARO, [2]Plant Genome Engineering Research Unit, Inst. of Agrobiol. Sci., NARO, [3]Grad. Sch. Nanobio., Yokohama City Univ., [4]Kihara Inst. Biol. Res., Yokohama City Univ.)

PF-212 An efficient DNA- and selectable marker-free genome editing system in rice using zygotes and possible application to other crop species

Erika Toda[1,2], Narumi Koiso[1], Tety Maryenti[1], Arika Takebayashi[2], Masako Ichikawa[3], Takatoshi Kiba[2], Keishi Osakabe[4], Yuriko Osakabe[2,4], Hitoshi Sakakibara[2], Norio Kato[1,2,3], Takashi Okamoto[1,2] ([1]Dept. Biol. Sci., Tokyo Metropolitan Univ., [2]BZP, RIKEN, [3]Plant Innovation Center, Japan Tobacco Inc., [4]Fac. Biosci. Bioindust., Tokushima Univ.)

PF-213 Infrared laser-evoked site-specific DNA recombination in *Marchantia polymorpha*

Masahiro Moriya[1], Ryuichi Nishihama[2], Hiroko Urawa[1] ([1]Gifu Shotoku Gakuen Univ., [2]Grad. Sch. Biostudies, Kyoto Univ.)

PF-214 Development of *in planta*-regeneration system for genome editing in tomato

Nozomu Kira, Risa Ueta, Takahito Watanabe, Eiko Takayanagi, Hideki Sakamoto, Chihiro Abe, Ryosuke Hashimoto, Yuriko Osakabe, Keishi Osakabe (Fac. Biosci. Bioindust., Tokushima Univ.)

PF-215 Development of a genome editing system in spinach via agroinfiltration.

Choyo Tai[1], Shigeo S. Sugano[2,3], Yoichiro Fukao[1] ([1]Grad. Sch. Life Sci., Ritsumeikan Univ., [2]R-GIRO, Ritsumeikan Univ., [3]JST, PRESTO)

PF-216 Development of a precise genome editing with no artificial sequences based on rice gene targeting

Yusuke Matsui[1], Zenpei Shimatani[1,2], Rie Terada[1] ([1]Grad. Sch. Agr., Univ. Meijo, [2]Grad. Sch. Sci., Univ. Kobe)

PF-217 Designing heme protein based oxygen sensing indicators

Jiro Nomata, Toru Hisabori (Tokyo Tech, CLS)

PF-218 AgarTrap-mediated transformation of tobacco callus

Shoko Tsuboyama, Yutaka Kodama (C-bio., Utsunomiya Univ.)

PF-219 Development of a technique to glue organelles

Yuta Fujii[1], Keiji Numata[2], Yutaka Kodama[1,2] ([1]C-Bio, Utsunomiya Univ., [2]CSRS, RIKEN)

PF-220 Development of a Regulatory System of Membrane Potential in Plant Using Microbial Rhodopsin

Masae Konno[1,2], Hideki Kandori[1,2] ([1]Life Sci. Appl. Chem., Grad. Sch. Eng., NIT, [2]OBTRC, NIT)

PF-221 Identification and Expression Analysis of 5'-Upstream Region of *U6* Genes from Caster Bean

Masatake Kanai[1], Kyoko Nagata[1], Kazumi Hikino[1], Mikio Nishimura[2], Kenji Komazawa[3], Shoji Mano[1,4] ([1]Natl. Inst. Basic Biol., Dept. Cell Biol., [2]Konan Univ., Facul. Sci. Engineer., [3]Itoh Oil Chemicals Co., LTD, [4]SOKENDAI, Dept. Basic Biol.)

PF-222 Morphological and Molecular Characterisation of Domatia Development in Myrmecophytes

Emma Sarath[1], Hirokazu Tsukaya[1,2] ([1]Graduate School of Science, The University of Tokyo, [2]ExCELLS, National Institutes of Natural Sciences)

PF-223 Multiple effects of *OsbZIP1* on the growth and yields of rice

Mohammad Saiful Islam, Saki Yoshida, Nobuhiro Tanaka, Yoshihiro Ohmori, Takehiro Kamiya, Toru Fujiwara (Department of Applied Biological Chemistry, Graduate School of Agricultural and Life Sciences, The University of Tokyo)

PF-224 Possibility of chloroplast localization of *Arabidopsis thaliana* tRNA ligase (tRL) in response to strong light stress and subcellular localization of tRL in *Brassica* family

Naoki Okamoto[1], Markus Englert[2], Kazuhito Akama[1] ([1]Grad. Sch. Nat. Sci. and Tech., Univ. Shimane, [2]Dept. Mol. Biophys. and Biochem., Univ. Yale)

PF-225 Evaluation of pre-treatments and durability for metabolomics using GC/MS

Aya Anegawa, Hidetaka Anazawa, Kuniyo Sugitate, Sadao Nakamura (Agilent Technologies Japan, Ltd.)

■ Photosynthesis

PL-001 Interaction Analysis Between the Rieske/cyt*b* Complex and *C*-type Cytochromes in Green Sulfur Bacteria
Hiraku Kishimoto[1], Chihiro Azai[2], Risa Mutoh[3], Hideaki Tanaka[4], Yohei Miyanoiri[4], Genji Kurisu[4], Hirozo Oh-oka[1] ([1]Grad. Sch. Sci., Osaka Univ., [2]Col. Life Sci., Ritsumeikan Univ., [3]Fac. Sci., Fukuoka Univ., [4]Inst. Protein Res., Osaka Univ.)

PL-002 Metabolic engineering attempts to produce retinal via β-carotene in *Rhodobacter capsulatus*
Kaori Shimizu[1], Shinichi Takaichi[2], Kazuhiko Saeki[1] ([1]Department of Biological Sciences, Nara Women's University, [2]Department of Molecular Microbiology, Tokyo University of Agriculture)

PL-003 Loss of photosynthetic growth ability in the cyanobacterium *Leptolyngbya boryana* during long-term cultivation under heterotrophic conditions in the dark
Shintaro Hida[1], Haruki Yamamoto[1], Kazuma Uesaka[2], Chie Tomatsu[1], Kunio Ihara[2], Yuichi Fujita[1] ([1]Grad. Sch. Bioagricultural. Sci., Nagoya Univ., [2]Center for Gene Research, Nagoya Univ.)

PL-004 Biochemical characterization of the PSI core complexes from a cyanobacterium Anabaena sp. PCC 7120
Tian-Yi Jiang, Ryo Nagao, Jian-Ren Shen (RIIS, Okayama University)

■ Primary metabolism

PL-005 A search for superior alleles leading to better growth of plants in nitrogen deficient environments.
Zhana Chagan, Yasuhito Sakuraba, Shuichi Yanagisawa (Biotech. Res. Center, Univ. Tokyo)

PL-006 Studies on the molecular mechanisms of nitrogen-responsive flowering in Arabidopsis
Takeo Sato[1], Miho Sanagi[1], Shoki Aoyama[1], Shogo Ito[2], Mitsutomo Abe[3], Takato Imaizumi[4], Junji Yamaguchi[1] ([1]Fac. Sci. and Grad. Sch. Life Sci., Hokkaido Univ., [2]Grad. Sch. Sci., Kyoto Univ., [3]Grad. Sch. Sci., The Univ. Tokyo, [4]Dept. Biol., Univ. Washington)

PL-007 Grain amino acid composition in Tos17 insertion lines for asparagine synthetase
Fumi Imagawa, Soichi Kojima (Tohoku University)

PL-008 The role of sphingolipid catabolic pathways in Arabidopsis treated with Fumonisin B1
Daiki Yanagawa, Hiroyuki Imai (Biology Dept., Grad. Sch. Nat. Sci., Konan Univ.)

■ Secondary metabolism

PL-009 Diversity of Chlorophyll Degradation Pathways in Higher Plants
Minh-Khiem Nguyen[1,2], Szu-Hsien Lin[1], Tin-Han Shih[1], Chi-Ming Yang[1] ([1]Biodiversity Research Center, Academia Sinica, [2]Faculty of Applied Sciences, Ton Duc Thang University, Ho Chi Minh City, Vietnam)

■ Biomembrane/Ion and solute transport

PL-010 Characterization of phosphate uptake mechanism in marine diatoms
Kanako Maeda, Nanae Kimura, Yohei Fukuchi, Toshiki Sugiyama, Kensuke Nakajima, Yoshinori Tsuji, Yusuke Matsuda (Kwansei-Gakuin University Department of Bioscience)

PL-011 Electrophysiological Analysis of Rice OsHKT1;1 variants
Shahin Imran[1], Maki Katsuhara[1], Tomoaki Horie[2] ([1]Okayama University, IPSR, [2]Shinshu University, Department of Applied Biology)

PL-012 Identification and functional analysis of transporter genes involved in phosphorus redistribution in rice
Namiki Mitani-Ueno, Naoki Yamaji, Jian Feng Ma (IPSR, Okayama Univ.)

PL-013 ER-localized aquaporin SIP2;1 is involved in avoidance of ER stresses in *Arabidopsis thaliana*
Ryosuke Sato, Masayoshi Maeshima (Laboratory of Cell Dynamics Graduate School of Bioagricultural Sciences Nagoya University)

PL-014 Search for the genes encoding the free fatty acid exporter in *Synechocystis* sp. PCC 6803
Makiko Aichi[1], Tenma Suzuki[1], Kodai Tanaka[1], Tatsuki Mizutani[1], Takanori Hasegawa[1], Shiori Nagano[1], Sumie Keta[1], Tatsuo Omata[2] ([1]Department of Biological Chemistry, Chubu University, [2]Graduate School of Bioagricultural Sciences, Nagoya University)

■ Cell cycle/Cell division

PL-015 Transcriptome analysis reveals dynamic expression changes during tuberous root formation in *Arabidopsis thaliana*

Sakiko Nishioka[1], Takuya Sakamoto[1], Takamasa Suzuki[2], Sachihiro Matsunaga[1] ([1]Dept. Applied Bio. Sci., Fac. Sci. Tech., Tokyo Univ. Sci., [2]Chubu Univ., Department of Bio. Chem., Bio. Sci. Tech., Kasugai)

■ Vegetative growth

PL-016 Mitochondrial pyruvate dehydrogenase contributes to auxin-regulated organ development

Iwai Ohbayashi, Xiaomin Song, Song Sun, Masahiko Furutani (Fujian Agriculture and Forestry University (FAFU))

PL-017 Roles of nucleolar proteins in establishment of leaf polarity and gene body methylation mediated by zinc-finger-like protein AS2 in Arabidopsis thaliana.

Masataka Suzuki[1], Simon Vial-Pradel[1], Hiro Takahashi[2], Munehiro Sugiyama[3], Sumie Keta[1], Shoko Kojima[1], Yasunori Machida[4], Chiyoko Machida[1] ([1]Grad. Sch. Biosci. Biotech., Chubu. Univ, [2]Grad. Medical Science., Kanazawa. Univ, [3]Grad. Sci., Univ. Tokyo, [4]Grad. Sci., Nagoya. Univ)

PL-018 Genetic interaction between AS1, AS2 and MET1, HDA6 in establishment of leaf adaxial-abaxial polarity in Arabidopsis thaliana

Misato Yamakawa[1], Shoko Kamiya[1], Sayuri Ando[1], Yasunori Machida[2], Shoko Kojima[1], Chiyoko Machida[1] ([1]Grad. Sch. Biosci. Biotech, Chubu Univ., [2]Grad. Sch. Sci., Nagoya Univ.)

PL-019 Function of zinc-finger-like protein ASYMMETRIC LEAVES2 (AS2) for formation of AS2 bodies in leaf development of Arabidopsis thaliana

Shoko Kamiya[1], Sayuri Ando[1], Shoko Kojima[1], Yasunori Machida[2], Chiyoko Machida[1] ([1]Grad. Sch. Biotech., Univ. Chubu, [2]Grad. Sch. Sci., Univ. Nagoya)

PL-020 The Role of *Pressed flowerb* in The Morphogenesis of Flattened Leaf Blade

Xiaofeng Yin[1], Hirokazu Tsukaya[1,2] ([1]Grad. Sch. Sci., Univ. Tokyo, [2]NINS, ExCELLS)

PL-021 Regulatory mechanisms restricting *ATML1* activity to the outermost cells

Hiroyuki Iida[1], Ayaka Yoshida[1], Gerd Jürgens[2], Shinobu Takada[1] ([1]Grad. Sch., Osaka Univ, [2]ZMBP, Univ. Tüebingen)

■ Reproductive growth

PL-022 Analysis of ENDOSPERM3, which regulates fertilization-independent endosperm development

Yilin Zhang[1], Hironori Takasaki[2], Miho Ikeda[2], Daisuke Maruyama[3], Nobutaka Mitsuda[4], Tetsu Kinoshita[3], Masaru Ohme-Takagi[2] ([1]DEPT. BIOCHEM. MB., Univ. Saitama, [2]Grad. Sch. Sci. Eng., Univ Saitama, [3]Kihara Institute for Biological Research, Univ. Yokohama City, [4]Bioproduction Research Institute, AIST)

PL-023 Pollen Tube Attraction3 Is there more than one attractant in the upper pistil?

Koyo Iwata, Futo Kubo, Masao Ito (Nagoya-city Koyo High School)

■ Plant hormones/Signaling molecules

PL-024 Functional analysis of rice Gibberellin 3-oxidase 1 in reproductive organ

Kyosuke Kawai[1], Sayaka Takehara[1], Toru Kashio[1], Aya Ito[1], Hiroyasu Furuumi[2], Ken-ichi Nonomura[2], Makoto Matsuoka[1], Miyako Ueguchi-Tanaka[1] ([1]Bioscience and Biotechnology Center, Nagoya University, [2]Experimental Farm, National Institute of Genetics)

PL-025 The role of Gibberellin 3-oxidase 1 in anther development of rice

Minami Morii, Akihiko Sugihara, Kyosuke Kawai, Toru Kashio, Aya Ito, Sayaka Takehara, Makoto Matsuoka, Miyako Ueguchi-Tanaka (Bioscience and Biotechnology Center, Nagoya University)

PL-026 Is Ethylene Involved in the Twining of the Morning Glory? - Expression Analysis of ACC Synthase Genes in the Stem -

Tomoe Yofune, Tsuyoshi Kaneta (Grad. Sch. Sci & Eng., Ehime Univ.)

PL-027 Analysis of transcriptional regulation of *ACL5*, which encodes thermospermine synthase in *Arabidopsis thaliana*

Hirotoshi Matsuo, Takashi Okamoto, Hiroyasu Motose, Taku Takahashi (Grad. Sch. Nat. Sci. & Tech., Okayama Univ.)

PL-028 Screening of chemical compounds for activating SnRK2

Shoko Matsuoka[1], Riyo Imamura[2], Yoshiteru Noutoshi[3], Takayoshi Okabe[2], Taishi Umezawa[1] ([1]Grad. Sch. BASE, Tokyo. Univ. Agric. Tech., [2]Drug Discovery Initiative, Tokyo Univ., [3]Dep. Agric., Okayama Univ.)

PL-029 Highly sensitive and high throughput phytohormone quantification platform

Mikiko Kojima[1], Yumiko Takebayashi[1], Hitoshi Sakakibara[2] ([1]CSRS., RIKEN, [2]Grad. Sch. Bioagri Sci., Nagoya Univ)

PL-030 Identification of a two-component system with PAS-histidine kinases in the moss *Physcomitrella patens*

Kota Nakai[5], Kensuke Sato[4], Masashi Ryo[1], Takafumi Yamashino[2], Yuji Nomoto[2], Yuki Goto[1], Mizuho Ichinose[3], Mamoru Sugita[3], Setsuyuki Aoki[4] ([1]Graduate School of Information Science, Nagoya University, [2]Graduate School of Bioagricultural Sciences, Nagoya University, [3]Center for Gene Research, Nagoya University, [4]Graduate School of Informatics, Nagoya University, [5]School of Information and Sciences, Nagoya University)

■ Photoreceptors/Photoresponses

PL-031 The study of phyA-dependent suppression of shade avoidance response to deep shade

Ryota Otsuki, Nobuyoshi Mochizuki, Tomomi Suzuki, Akira Nagatani (Grad. Sch. Sci., Univ. Kyoto)

PL-032 A Possible Involvement of Phytochrome in Blue-Light-Induced Nuclear Photorelocation in *Marchantia polymorpha*

Chihoko Nomoto[1], Yuya Tosaka[1], Kosei Iwabuchi[2], Shingo Takagi[1] ([1]Grad. Sch. Sci., Univ. Osaka, [2]Faculty of Science and Engineering, Univ. Konan)

PL-033 Anatomical analysis of shoot apical meristem tissue at the growth of potato bud under different light and temperature conditions

Yuki Morishige[1], Naoya Mori[2], Hiroyuki Watanabe[1] ([1]Agri., Univ. Tamagawa, [2]Res. Inst., Univ. Tamagawa)

PL-034 Seed germination of transgenic *Arabidopsis* expressing *Adiantum* photoreceptor phytochrome3

Mina Horiuchi[1], Izumi Kimura[2], Yuki Kimura[2], Takeshi Kanegae[1,2] ([1]Dept. of Biol. Sci., Grad. Sch. of Sci., Tokyo Metropolitan Univ., [2]Dept. of Biol. Sci., Grad. Sch. of Sci. and Eng., Tokyo Metropolitan Univ.)

PL-035 Exploring Unidentified Physiological Function of Phytochrome3 in Fern *Adiantum capillus-veneris*

Izumi Kimura, Takeshi Kanegae (Dept. of Biol. Sci., Grad. Sch. of Sci. and Eng., Tokyo Metropolitan Univ.)

■ Flowering/Clock

PL-036 NanoLuc as a highly sensitive reporter in plant cell

Ken-ichiro Taoka[1], Zenpei Shimatani[2], Mana Ogawa[3], Hiromi Saitoh[3], Yoichi Ikeda[3], Hiroko Akashi[1], Koji Yamaguchi[4], Rie Terada[3], Tsutomu Kawasaki[4], Hiroyuki Tsuji[1] ([1]KIBR, Yokohama City Univ., [2]Grad. Sch. Sci., Tech. and Innov., Kobe Univ., [3]Grad. Sch. Agri., Meijo Univ., [4]Grad. Sch. Agri., Kindai Univ.)

PL-037 A dual-color bioluminescence reporter system to simultaneously monitor expression levels of two genes in plant cells

Emiri Watanabe, Shogo Ito, Tokitaka Oyama (Dept. Bot., Grad. Sch. Sci., Kyoto Univ.)

■ Environmental responses A

PL-038 Polar auxin transport is essential to maintain growth and development of etiolated pea seedlings on 1 *g* conditions: Relevance to the International Space Station experiment

Kensuke Miyamoto[1,2], Akinori Inui[2], Eiji Uheda[2], Mariko Oka[3], Motoshi Kamada[4], Chiaki Yamazaki[5], Toru Shimazu[5], Haruo Kasahara[6], Hiromi Sano[6], Tomomi Suzuki[7], Akira Higashibata[7] ([1]Fac. Liberal Arts & Sciences, Osaka Prefecture Univ., [2]Grad. School. Sci., Osaka Prefecture Univ., [3]Fac. Agriculture, Tottori Univ., [4]Advanced Engineering Services Co., Ltd., [5]Japan Space Forum, [6]Japan Manned Space System Corporation, [7]Japan Aerospace Exploration Agency)

PL-039 Screening of a mutant with defect in the light/dark response of the expression of VTC2 gene encoding a rate-limiting enzyme for ascorbate biosynthesis in plants

Kazuya Yoshimura[1], Riki Ishiguro[1], Takahiro Ishikawa[2] ([1]Dept. Food Nutr. Sci., Coll. Biosci. Biotech., Chubu Univ., [2]Dept. Life Sci. Biotechnol., Fac. Life Environ. Sci., Shimane Univ.)

PL-040 Molecular mechanism of oxidative damage to translation factor EF-G in the cyanobacterium *Synechococcus elongatus* PCC 7942

Kazushi Kuwano, Kensuke Takagi, Shin Koreeda, Yoshitaka Nishiyama (graduate school of science and engineering, saitama university)

PL-041 Characterization of mutants with altered root growth response to mechanical stress in *Arabidopsis thaliana*

Takashi Okamoto[1], Shogo Takatani[1], Hidetoshi Iida[2], Hiroyasu Motose[1], Taku Takahashi[1] ([1]Grad. Sch. Sci. Tech, Okayama Univ., [2]Dept. Biol., Tokyo Gakugei Univ.)

■ Environmental responses B

PL-042 Low Magnesium Tolerance 1 physically associates with ER-localized Mg transporters and plays an important role in extending Mg stress adaptation range in *Arabidopsis thaliana*

Zhihang Feng, Takehiro Kamiya, Toru Fujiwara (Department of Applied Biological Chemistry, the University of Tokyo)

PL-043 Genome-wide association study to identify genes regulating growth rate of rice seedlings under low nitrogen conditions

Bian Bian, Kenji Yano, Takehiro Kamiya, Toru Fujiwara (The University of Tokyo, Graduate School of Agricultural and Life Sciences)

PL-044 Golgi-localized OsFPN1 is required for cobalt and nickel homeostasis in rice

Manman Kan, Toru Fujiwara, Takehiro Kamiya (Graduate School of Agricultural and Life Sciences, The University of Tokyo)

PL-045 Transcriptional Biomarker to evaluate Al rhizotoxicity in soybean -An Approach for managing Pulse crop production in Acid Soil Region

Raj Kishan Agrahari[1], Yuriko Kobayashi[2], Hiroyuki Koyama[3] ([1]The United Graduate School of Agricultural Science, Gifu university, [2]Faculty of Applied Biological Sciences, [3]Faculty of Applied Biological Sciences)

■ Environmental responses C

PL-046 Light-regulation in Pediastrum duplex: Physiological outcomes and Gene expression analysis

Harshavardhini Sridharan[1], Shota Kato[2,3], Tasuku Simada[2], Tomohiro Suzuki[4], Tomoko Shinomura[2] ([1]Grad. Sch. Sci., Teikyo Univ, [2]BioSci., Sch. Sci. Eng., Teikyo Univ, [3]Center Plant Aging Res., Inst. Basic Sci., [4]C-Bio., Utsunomiya Univ)

PL-047 Role of Sll1558 in environmental stress tolerance in cyanobacterium Synechocystis sp. PCC6803.

Junji Uchiyama[1,2,3], Yuuta Ichikawa[2], Mamoru Sambe[2], Ayumi Matsuhashi[2], Yutaro Ito[4], Hisataka Ohta[1,2,3] ([1]Fac. of Sci., Tokyo univ. of Sci, [2]Dept. of Math. and Sci. Edu., Grad. Sch. of Math. and Sci. Edu., Tokyo univ. of Sci., [3]Dept. of Math. and Sci. Edu., Grad. Sch. of Sci., Tokyo univ. of Sci., [4]Dept. of Bio. Sci. and Tech., Grad. Sch. of Ind. Sci. and Tech., Tokyo univ. of Sci.)

PL-048 Connection between low sulfur response and repression of glucosinolate synthesis: Involvement of SLIM1 transcription factor in the induction of SDI1 expression under low sulfur condition.

Ryota Kawaguchi[1], Akiko Maruyama-Nakashita[2] ([1]Sch. Agr., Kyushu Univ., [2]Fac. Agr., Kyushu Univ.)

PL-049 Phosphate starvation affects the subcellular localization of phosphatidic acid phosphohydrolases in Arabidopsis

Sota Makimura[1], Yushi Yoshitake[1], Hiroyuki Ohta[1,2], Mie Shimojima[1] ([1]School of Life Science and Technology, Tokyo Institute of Technology, [2]OPERA, JST)

PL-050 Identification of a Transcription Factor, SPL7, Involved in the Enhanced Expression of *SULTR2;1* in *Arabidopsis* Roots

Tsukasa Ushiwatari[1], Nobutaka Mitsuda[2], Toshiharu Shikanai[3], Akiko Maruyama-Nakashita[1] ([1]Fac. Agr., Kyushu Univ., [2]BPRI, AIST, [3]Grad. Sch. Sci., Kyoto Univ.)

PL-051 Isolation of new chemical compounds as helpers for better phytoremediation and plant nutrition efficiency

Ju Yeon Moon, Takae Miyazaki, Eri Adams, Ryoung Shin (RIKEN CSRS Environmental Response Research Unit, 1-7-22 Suehirocho, Tsurumi-ku, Yokohama, Kanagawa, Japan)

PL-052 Mutation of Specific Paralogs of Arabidopsis Ribosomal Protein Alters Response to Nutrient Stresses

Hirofumi Fukuda[1], Naoyuki Sotta[1], Mayuki Tanaka[1], Seidai Takamatsu[2], Yukako Chiba[2,3], Kyoko Miwa[4], Satoshi Naito[2,5], Toru Fujiwara[1] ([1]Agri., Univ. Tokyo, [2]Grad. Sch. Life Sci., Hokkaido Univ., [3]Grad. Sch. Sci., Hokkaido Univ., [4]Grad. Sch. Envr. Sci, Hokkaido Univ., [5]Grad. Sch. Agri., Univ. Tokyo)

PL-053 Statistical modeling for functional data and its application to crop yield data

Hidetoshi Matsui[1,2], Keiichi Mochida[3,4,5,6] ([1]Shiga Univ., [2]JST PRESTO, [3]RIKEN, [4]Okayama Univ., [5]Yokohama City Univ., [6]JST CREST)

■ Plant-organism interaction A

PL-054 The Possibility Of Plant Immunity Induction By Applying Exogenous Polyols.

Ken Sakuma[1], Toshio Sano[2] ([1]Grad. Sch. Sci and Tech., Hosei univ., [2]Applied Plant Sci., Dept. Lifescience, Hosei univ.)

■ Plant-organism interaction B

PL-055 Genetic analysis of phosphate starvation responses (PSR) in *Arabidopsis thaliana*

Hong Ye[1], Kei Hiruma[1,2], Pathompitaknukul Kuldanai[1], Shion Yamaguchi[1], Yusuke Saijo[1] ([1]Grad. Sch. Biol. Sci., NAIST, [2]JST, Presto)

■ Epigenetic regulation

PL-056 Visualization Of Histone Modification Using Live-imaging Tool In Plant

Megumi Matsuoka[1], Takuya Sakamoto[1], Mio Shibuta[1], Noriyoshi Yagi[1], Hiroshi Kimura[2], Sachihiro Matsunaga[1] ([1]Dept. Applied Bio. Sci., Fac. Sci. Tech., Tokyo Univ. Sci., [2]Tokyo Tech, Institute of Innovative Research)

■ Others

PL-057 Development of powerful CRISPR/Cas9 and TALEN vectors using the translational enhancer dMac3

Hiroaki Shimada[1], Hiroaki Kusano[2], Mariko Ohnuma[1], Takahiro Asahi[1], Daichi Honma[1], Takaaki Horie[1], Hitomi Onodera[1], Kenji Asano[3], Takahiro Noda[3], Hiromi Mutsuro-Aoki[1], Hiroshi Teramura[1] ([1]Dept Biol Sci & Technol, Tokyo University of Science, [2]RISH, Kyoto Univ., [3]Hokkaido Agri Res Center, NARO)

PL-058 Non-destructive imaging of element dynamics in plant using radioisotope

Nobuo Suzui[1], Naoki Kawachi[1], Jun Furukawa[2], Keitaro Tanoi[3,4] ([1]TARRI, QST, [2]CRiED, Univ. Tsukuba, [3]Grad. Sch. Agri. Life Sci., Univ. Tokyo, [4]JST PRESTO)

PL-059 Cas9-RNP-induced genome editing in the industrial green alga *Coccomyxa* sp. strain KJ

Yuya Yoshimitsu[1], Jun Abe[2], Jumpei Hayakawa[2], Yoko Ide[1], Shigeaki Harayama[2] ([1]Advanced Research and Innovation Center, DENSO CORPORATION, [2]Research and Development Initiative, Chuo University)

PL-060 Analysis of sequence changes on genome edited hexaploid *Chrysanthemum morifolium* using high-throughput sequencing

Mitsuko Kishi-Kaboshi[1,2], Hisataka Numa[3], Ryutaro Aida[1], Katsutomo Sasaki[1] ([1]Institute of Vegetable and Floriculture Science, NARO, [2]JSPS research fellowship (RPD), [3]The Advanced Analysis Center, NARO)

PL-061 AI- and automation-assisted high-throughput yeast one-/two-hybrid screening system for transcription factor isolation

Nobutaka Mitsuda[1], Fumie Tobe[1], Miyuki Nakata[1], Masahiro Takahara[2], Yuko Takiguchi[1], Yoko Horii[3], Toru Ishizuka[1], Hiroaki Ichikawa[4], Minami Matsui[3], Masaru Ohme-Takagi[1,5] ([1]Bioproduction RI, AIST, [2]Acacia Horticulture, [3]CSRS, RIKEN, [4]Inst. Agrobiol. Sci., NARO, [5]Grad. School Sci. Eng., Saitama Univ.)

PL-062 Current status of the resources related to *Lotus japonicus*

Shusei Sato[1], Shogo Nitanda[1], Syohei Kusakabe[1], Stig Andersen[2], Vikas Gupta[2], Nadia Kamal[3], Klaus Mayer[3], Masatsugu Hashiguchi[4], Hidenori Tanaka[4], Ryo Akashi[4] ([1]Grad. Sch. Life Sci., Tohoku Univ., [2]Aarhus Univ., [3]Helmholtz Zentrum Munchen, [4]Fac. Agr., Univ. of Miyazaki)

PL-063 Collection and Maintenance of Plant Cell Lines at RIKEN BRC in 2019

Toshihiro Kobayashi, Satoshi Iuchi, Masatomo Kobayashi (RIKEN BRC)

PL-064 Collective search function of Arabidopsis thaliana bioresource database at RIKEN BRC

Satoshi Iuchi, Masatomo Kobayashi (RIKEN BRC Experimental Plant Division)

PL-065 Research ethics education by active learning in a postgraduate course: current situation and issues in the second year of implementation

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