The 21th Annual Meeting for Plant-Microbe Interactions Program

September 20 (Tuesday)

Oral Presentation PM 1:30 ∽ PM 2:45

1 Chemoenzymatic synthesis of Myc-LCOs and their symbiosis-related gene-inducing activity in *Lotus japonicus*
*Kohki Akiyama, Chiharu Kawahara, Hideo Hayashi
Osaka Prefecture Univ.

2 Comparative analysis of the Nod Factor signaling and chitin signaling
*Tomomi Nakagawa[1], Hanae Kaku[1], Yoshikazu Shimoda[2], Hiroshi Kouchi[2], Naoto Shibuya[1]
[1]Meiji Univ., [2]NIAS

3 Suppression of *VsNTPase1* encoding a cowpea cell wall-associated ATPase/apyrase attenuates the peroxidase-catalyzed superoxide generation and allows to be susceptible against infection by a non-pathogenic fungus *Mycosphaerella pinodes*
*Kaori Tanaka[1], Kazuhiro Toyoda[1], Noriko Yamagishi[2], Nobuyuki Yoshikawa[2], Yoshishige Inagaki[1], Yuki Ichinose[1], Tomonori Shiraishi[1]
[1]Graduate School of Natural Science and Technology, Okayama University, Japan, [2]Faculty of Agriculture, Iwate University, Japan

4 Cytokinin signaling in nodule development of *Lotus japonicus*
*Atsuko Hirota, Makoto Hayashi
NIAS

5 Establishment of a *Lotus japonicus* gene tagging population using an endogenous retrotransposon *LORE1*
*Eigo Fukai[1,2], Takashi Soyano[1], Yosuke Umehara[1], Shinobu Nakayama[2], Yoshie Kishida[2], Hideki Hirakawa[2], Satoshi Tabata[2], Shusei Sato[2], Makoto Hayashi[1]
[1]NIAS, [2]Kazusa DNA Res. Inst.

Coffee Break PM 2:45 ∽ PM 3:00

Oral Presentation PM 3:00 ∽ PM 4:00

6 Comparative phylogenetic characterization of some Sinorhizobium strains recovered from Tunisian and Japanese soils
*Salem Djedidi[1], Tadashi Yokoyama[2], Norihiko Tomooka[3], Naoko Ohkama-Ohtsu[2], Hitoshi Sekimoto[4]
[1]Faculty of Agriculture, Tokyo Univ. of Agri. and Tech., [2]Institute of Agriculture, Tokyo Univ. of Agri. and Tech., [3]National Institute of Agrobiological Sciences, [4]Faculty of Agriculture, Utsunomiya University

7 Analyses of root exudates and rhizoshpere microbiota of Arabidopsis ABC transporter mutants
Akifumi Sugiyama[1,2], Dayakar V. Badri[1], Enrico Martinoia[1,3], Kazufumi Yazaki[2], Daniel K. Manter[4], Jorge M. Vivanco[1]
[1]CRB, Colorado State Univ., [1]RISH, Kyoto Univ., [3]Inst. Plant Biology, The Univ. of Zurich, [4]USDA-ARS

8 Structural analysis of polysaccharide produced by a aluminum-tolerant bacterium, *Pullulanibacillus* sp. CA42

*Junki Sato, Tomoko Aizawa, Makoto Urai, Michio Sunairi
College of Bioresource Sciences, Nihon Univ.

9 Characterization of two ammonium transporters of the highly aluminum-tolerant bacterium *Acidocella aluminiidurans*, isolated from plant grown at actual acid sulfate soil.
*Tomoko Aizawa[1], Yusuke ota[1], Jyunpei Sato[1], Michio Sunairi[1], Hiroshi Mitsuzawa[2]
[1]College of Bioresource Sciences, Nihon Univ., [2]Nihon Univ. Junior College.

Coffee Break PM 4:00 ～ PM 4:10

Discussion 1 PM 4:10 ～ PM 4:50

Coffee Break PM 4:50 ～ PM 5:00

Keynote Lecture PM 5:00 ～ PM 6:00

Professor Jian Feng Ma Institute of Plant Science and Resources, Okayama University

Welcome Reception PM 6: 30 ～

September 21 (Wednesday)

Oral Presentation AM 9:15 ～ AM 10:30

10 A MATE-type transporter is involved in Fe translocation in nodules of *Lotus japonicus*
*Kojiro Takanashi[1], Hirokazu Takahashi[2], Kengo Yokosho[3], Akifumi Sugiyama[1], Shusei Sato[4], Satoshi Tabata[4], Jian Feng MA[3], Mikio Nakazono[1], Kazufumi Yazaki[1]
[1]Kyoto Univ., [2]Nagoya Univ., [3]Okayama Univ., [4]Kazusa DNA Res. Inst.

11 Mechanism of neutral lipid synthesis in arbuscular mycorrhizal fungi
*Yoshihiro Kobae, Shingo Hata
Grad. Sch. Bioagricult. Sci. Nagoya Univ.

12 Involvement of autoregulation system in the interaction between rhizobial nodulation and arbuscular mycorrhizal colonization in soybean root
*Kazunori Sakamoto, Natsuko Ogiwara, Tomomitsu Kaji
Grad. Sch. Hort., Chiba Univ.

13 Diagnosis of problems for decreasing seed production of black soybean cv Tanbakuro induced by continuous cropping. Endophytic occupations of non-symbiotic bacteria to root nodules of black soybean cv Tanbakuro are accelerated by continuous cropping of the black soybean at high frequencies.
*Tadashi Yokoyama[1], Masanori Sasada[2], Naoko Ohkama-Ohtsu[1], Masami Yoshikawa[3], Yukiaki Shizukawa[3], Ai Ono[3], Yoshinari Ohwaki[4], Junko Tazawa[4]
[1]Institute of Agriculture, Tokyo Univ. of Agri. and Tech., [2]Faculty of Agriculture,Tokyo Univ. of Agri. and Tech., [3]Biotechnology Research Departmrnt, Kyoto Prefectural Agriculture, Forestry and Fishery Technology center, [4]National Agriculture Research Center, NARO

14 Mechanism in tolerance to anthracnose with Actinomycetes (A12) endophytic in cucumber
*Katsuyuki Maeda, Machiko Yoshida, Yasuo Yamagiwa, Yoshishige Inagaki, Yuki Ichinose, Kazuhiro Toyoda, Tomonori Shiraishi
Graduate School of Natural Science and Technology, Okayama Univ.

Coffee Break　AM 10:30 ∽ AM 10:45

Poster 90sec Oral Presentation　AM 10:45 ∽ PM 12:00

Lunch

Oral Presentation　PM 2:15 ∽ PM 3:30

15　Involvement of siderophore productivity of *Pseudomonas cichorii* in its virulence on eggplant but not lettuce
Md.Ullah Wali, Masayuki Tanaka, Hiroyuki Mizumoto, Kouhei Ohnishi, Akinori Kiba, *Yasufumi Hikichi
Kochi Univ.

16　Proteomic analysis of proteins regulated by chloroplast radical in plant immunity.
*Hironari Nomura[1], Masayuki Fujiwara[2], Yoichiro Fukao[2], Takashi Shiina[3], Hirofumi Yoshioka[1]
[1]Gra. Sch. Bioagri. Sci., Nagoya Univ., [2]Gra. Sch.Biol. Sci., NAIST, [3]Gra. Sch. Life Environ. Sci., Kyoto Pref. Univ.

17　Phosphorylation of the WRKY transcription factor by MAPK functions in the defense response
*Nobuaki Ishihama[1], Reiko Yamada[1], Miki Yoshioka[1], Shinpei Katou[2], Hirofumi Yoshioka[1]
[1]Nagoya Univ., [2]Shinshu Univ.

18　Involvement of phosphatidic acid phosphatase in defense responses of Nicotiana plants
*Masahito Nakano[1,2], Masahiro Nishihara[3], Kouhei Ohnishi[4], Yasufumi Hikichi[2], Akinori Kiba[2]
[1]UGAS Ehime Univ., [2]Kochi Univ., [3]IBRC., [4]RIMG Kochi Univ.

19　Mutant analysis suggests root-knot nematode requires part of the symbiotic pathway for parasitic infection
Shuhei Hayashi[1], Tatsuhiro Ezawa[1], Mitsuru Osaki[1], Erika Asamizu[2], Masayoshi Kawaguchi[3], Derek Goto[1]
[1]Hokkaido University; [2]University of Tsukuba; [3]Nat. Inst. Basic Biology

Coffee Break　PM 3:30 ∽ PM 3:45

Discussion 2　PM 3:45 ∽ PM 4:30

Coffee Break　PM 4:30 ∽ PM 4:45

Poster Presentation (odd number)　PM 4:45 ∽ PM 5:45

Poster Presentation (even number)　PM 5:45 ∽ PM 6:45

Poster Presentation and free discussion　PM 6:45 ∽ PM 8:00

September 22 (Thursday)

Discussion 3 (for posters)　AM 9:15 ∽ AM 10:00

Coffee Break　AM 10:00 ∽ AM 10:15

Oral Presentation　AM 10:15 ～ AM 11:15

20　Functional genetic and genomic approaches to study nonhost resistance of *Medicago truncatula* against Asian soybean rust pathogen, *Phakopsora pachyrhizi*
*Yasuhiro Ishiga[1], Srinivasa Rao Uppalapati[1], Shipra Mittal[1], Vanthana Doraiswamy[1], Mohamed Bedair[1], David Huhman[1], Jin Nakashima[1], Holger Schultheiss[2], Kirankumar S Mysore[1]
[1]The Samuel Roberts Noble Foundation，[2]BASF Plant Sci

21　Phosphoproteomics-based screening identified novel components in plant immune signaling network
*H. Matsui, Y. Nomura, F. Kato, K. Shirasu and H. Nakagami
Plant Science Center, RIKEN Yokohama Institute

22　The linkage mapping and the phenotypic characterization of symbiotic mutants of *Lotus japonicus* specific for arbuscular mycorrhiza (II)
*Tomoko Kojima[1], Katsuharu Saito[2], Hirosuke Oba[3], Suganuma Norio[4], Masayoshi Kawaguchi[5], Ryo Ohtomo[6]
[1]NIRGS, [2]Shinshu Univ., [3]The Univ. of Tokyo, [4]Aichi Univ. of Education, [5]NIBB, [6]NARCH

23　Activation of the host nodulation signaling by Rhizobial type III secretion system
Shin Okazaki[1], Takakazu Kaneko[2], Shusei Sato[3], Kazuhiko Saeki[1]
[1]Dep. Biological Sci., Nara Women's U., [2]Kyoto Sangyo U., [3]Kazusa DNA Res. Inst.

Discussion 4　AM 11:15 ～ AM 11:45

Coffee Break　AM 11:45 ～ PM 12:00

General Meeting　PM 12:00 ～ PM 12:45

Poster Number

P1 Infection phenotype of root knot nematodes on EMS-mutagenized Micro-Tom, a dwarf model cultivar of tomato
Yoshihiro Okabe[1], Hiroshi Ezura[1], Derek Goto[2], *Erika Asamizu[1]
[1]Univ. Tsukuba, [2]Hokkaido Univ.

P2 SGT1 and chloroplast-generated ROS: The new players in coronatine-induced chlorosis and *Pseudomonas syringae* pv. *tomato* disease associated cell death
*Takako Ishiga, Yasuhiro Ishiga, Kirankmar S Mysore, Srinivasa Rao Uppalapati
The Samuel Roberts Noble Foundation

P3 The roles of MAPK cascade and ethylene in AAL-toxin-induced cell death
*Keisuke Mase[1], Takahito Mizuno[1], Hitoshi Mori[1], Motoichiro Kodama[2], Hirofumi Yoshioka[1]
[1]Graduate School of Bioagricultural Sciences, Nagoya University, [2]Faculty of Agriculture, Tottori University

P4 Chemical biology toward understanding molecular mechanism of hypersensitive cell death in *Arabidopsis thaliana*
*Yoshiteru Noutoshi[1], Masateru Okazaki[1], Etsuko Yokota[1], Ken Shirasu[2]
[1]RCIS, Okayama Univ., [2]RIKEN PSC

P5 Mechanism of predomination of Methylobacterium species in phyllosphere
*Yuki Nakamura[1], Izumi Mori[1], Nobuhiro Suzuki[1], Kazuhide kimbara[2], Akio Tani[1]
[1]Institute of Plant Science and Resources, Okayama Univ., [2]Faculty of Engineering, Shizuoka Univ.

P6 Molecular analysis of viral elicitor recognition by temperature stable disease resistance protein L^{1a}
*Hiroyuki Mizumoto[1], Ikumi Nakamura[1], Reiko Tomita[2], Akinori Kiba[1], Masamichi Nishiguchi[3], Kappei Kobayashi[3], Yasufumi Hikichi[1]
[1]Kochi Univ., [2]IBRC, [3]Ehime Univ.

P7 Fungal signal molecules regulate the effluxes of Na^+ and K^+ ions from pea and cowpea
*Masashi Amano[1], KazuhiroToyoda[2], Akinori Kiba[3], Yoshishige Inagaki[2], Yuki Ichinose[2], Tomonori Shiraishi[2]
[1]Saitama Gensyu Ikuseikai Co,.Ltd., [2]Okayama Univ., [3]Kochi Univ.

P8 Jasmonate signaling in *Medicago truncatula* and its role in conditioning plant susceptibility to the hemibiotrophic fungus *Mycosphaerella pinodes*
Satoki Yamamoto, Yuriko Kawamoto, Yuriko Kawanishi, Mayumi Morizane, Chiaki Kurihara, Yoshishige Inagaki, Yuki Ichinose, Kazuhiro Toyoda, Tomonori Shiraishi
Graduate School of Natural Science and Technology, Okayama Univ.

P9 Transcriptome analysis of the parasitic species in Orobanchaceae
Satoko Yoshida[1], Juliane K. Ishida[1,2], Eric Wafula[3], Claude dePamphilis[3], Ken Shirasu[1]
[1]RIKEN・PSC, [2]Univ. Tokyo, [3]Penn State Univ.

P10 Genome analysis of the symbiotic nitrogen-fixing bacterium *Frankia* with high-throughput sequencer
*Ken-ichi Kucho[1], Hideo Sasakawa[2], Shiro Higashi[1], Mikiko Abe[1], Toshiki Uchiumi[1]
[1]Kagoshima Univ., [2]Okayama Univ.

P11 Transformation of *Frankia* using plasmids.
*Yu-ma Matsui[1], Kentaro Kakoi[1], Peter Pujic[2], Shiro Higasi[3], Mikiko Abe[3], Philippe Normando[2],

Toshiki Uchiumi[1], Kenichi Kucho[1]
[1]Graduate school of Science and Engineering, Kagoshima Univ., [2]Lyon Univ., [3]Faculy of Science, Kagoshima Univ.

P12 *OsCCaMK* genotype determines bacterial communities in rice roots under paddy and upland field conditions
*Kiwamu Minamisawa[1], Seishi Ikeda[2], Takashi Okubo[1], Naoya Takeda[3], Mari Banba[3], Haruko Imaizumi-Anraku[3], Yoshimichi Fukuta[4], Shinsuke Fujihara[2], Yoshinari Ohwaki[2], Kazuhiro Sasaki[1], Tadashi Sato[1], Zhihua Bao[1]
[1]Tohoku Univ., Life Sci., [2]National Agricultural Research Center, [3]National Institute of Agrobiological Sciences (NIAS), [4]Japan International Research Center for Agricultural Sciences (JIRCAS)

P13 Free-living nitrogen fixation by endophytic bacteria isolated from sweet potato
*Junko Terakado-Tonooka[1,2], Shinsuke Fujihara[1], Yoshinari Ohwaki[1]
[1]NARC, [2]JSPS

P14 Phenotypic analysis of symbiotic mutant ME966 in *Lotus japonicus*
Junya Terasawa[1], Tomoko Kojima[2], Masayoshi Kawaguchi[3], Ryo Ohtomo[4], *Katsuharu Saito[1]
[1]Shinshu Univ., [2]NILGS, [3]NIBB, [4]NARCH

P15 Relationship between location of polyphosphate and acid phosphatase activity in arbuscules of mycorrhiza.
Yasuyuki Osada, *Kosuke Nakiri, Katsuharu Saito
Shinshu Univ.

P16 The expression analysis of Mycorrhiza-inducible chitinase of rice
*Takai Shoko, Kobae Yoshihiro, Hata Shingo
Grad. Sch. Bioagricult. Sci. Nagoya Univ.

P17 Functional analysis of Mycorrhiza-inducible H^+-ATPase of rice
*Kato Nanae, Kobae Yoshihiro, Hata Shingo
Grad. Sch. Bioagricult. Sci. Nagoya Univ.

P18 Expression analysis of a mycorrhiza-inducible *Flotillin* gene
*Kazuko Hamachi, Yoshihiro Kobae, Shingo Hata
Grad. Sch. Bioagricult. Sci. Nagoya Univ.

P19 Characterization of rhizobial isolates from the original habitat of Lotus japonicus accession MG-20, Miyakojima
Yoshimi Tani, Kazuhiko Saeki
Nara Women's Univ

P20 Complete Genome Sequence of A Soybean Symbiont *Bradyrhizobium japonicum* USDA6^T
Takakazu Kaneko[1], Hiroko Maita[2], Nobukazu Uchiike[1], Akiko Watanabe[2], Manabu Yamada[2], Hideki Hirakawa[2], Kiwamu Minamisawa[3], Shusei Sato[2]
[1]Kyoto Sangyo U., [2]Kazusa DNA Res.Inst., [3]Tohoku U.

P21 Analysis of *Bradyrhizobium japonicum* genomic loci induced by genistein in the initial stage of symbiosis
Keisuke Takeshima[1], Min Wei[2], Tadashi Yokoyama[3], Kiwamu Minamisawa[4], Hisayuki Mitsui[4], Manabu Itakura[4], Takakazu Kaneko[5], Satoshi Tabata[6], Kazuhiko Saeki[7], Hirofumi Oomori[8], Shigeyuki Tajima[9], Toshiki Uchiumi[10], Mikiko Abe[10], Takuji Ohwada[1]
[1]Department of Food Sciense, Obihiro Univ. of Agriculture and Veterinary Medicine, [2]School of

Life Science, Lanzhou Univ., [3]Tokyo Univ. of Agriculture and Technology, [4]Graduate School of Life Science, Tohoku Univ., [5]Faculty of Engineering, Kyoto Sangyo Univ., [6]Kazusa DNA Res.Inst., [7]Department of Biological Science, Faculty of Science, Nara Women's Univ., [8]Department of Biology, Graduate School of Science, Osaka Univ., [9]Departmemt of Life Science, Kagawa Univ., [10]Graduate School of Science and Engineering, Kagoshima Univ.

P22 Biochemical Characterization of Two Distinct Catalases in *Mesorhizobium loti* MAFF303099 to Elucidate Their Functional Difference
Rie Shirai, Shin Okazaki, Kazuhiko Saeki
Department of Biological Sciences, Nara Women's University

P23 *myo*-inositol-1-phosphate synthase of *Sinorhizobium meliloti*
*Yoshihiro Ashida, Ayako Terakawa, Ken-ichi Yoshida
Dept. Agrobiosci., Kobe Univ.

P24 *nif* gene expression of nodule formed by *mcp* deletion mutant of *Sinorhizobium meliloti*
*Yuu Yamamoto, Atsushi, Takasaki, Takayoshi Suwa, Shinji Iida, Fumio Ikenishi, Osamu Yoshimura, Katsuharu Saito, Akira Tabuchi
Shinshu Uni. Agricul.

P25 The effect of γ -sterilization of biofertilizer's carrier on bacterial inoculants survival
*Kouhei Tejima[1], Tadashi Yokoyama[2], Katsuya Satoh[1], Kiyoko Takeda[1,3], Issay Narumi[1]
[1]Quantum Beam Science Directorate, Japan Atomic Energy Agency, [2]Institute of Agriculture, Tokyo Univ. of Agriculture and Technology, [3]United Graduate school of Agricultural Science, Tokyo Univ. of Agriculture and Technology

P26 Characterization of nodulation mutants that exhibit pleiotropic phenotypes
*Koji Yano[1], Norio Suganuma[2], Shusei Sato[3], Satoshi Tabata[3], Hiroshi Kouchi[4], Yosuke Umehara[4], Masayoshi Kawaguchi[1]
[1]NIBB, [2]Aichi Univ. of Education, [3]Kazusa DNA Res. Inst., [4]NIAS

P27 Pollen tube growth of *nup85* mutant in *Lotus japonicus*
Hisanori Kamahara, *Yusaku Sugimura, Katsuharu Saito
Shinshu Univ.

P28 Root nodule formation is controlled by sensing the R/FR ratio through JA signaling in *Lotus japonicus*
*Tamaki Shigeyama[1], Lalith Suriyagoda[1], Akiyoshi Tominaga[1], Masayo Sasaki[1], Yoshimi Hiratsuka[1], Aya Yoshinaga[1], Susumu Arima[1], Sakae Agarie[2], Tatsuya Sakai[3], Sayaka Inada[4], Yusuke Jikumaru[4], Yuji Kamiya[4], Toshiki Uchiumi[5], Mikiko Abe[5], Masatsugu Hashiguchi[6], Ryo Akashi[6], Shusei Sato[7], Takakazu Kaneko[7], Satoshi Tabata[7], Ann M. Hirsch[8], Akihiro Suzuki[1]
[1]Agriculture, Saga Univ., [2]Agriculture, Kagawa Univ., [3]Grad. sch. Science and Technology, Niigata Univ., [4]PSC, RIKEN, [5]Science, Kagoshima Univ., [6]FSRC, Univ. of Miyazaki, [7]Plant Research, Kazusa DNA Res. Inst., [8]UCLA

P29 Survey of efflux transporters for flavonoid glycosides in soybean root.
*Kazuaki Ymamashita, Akifumi Sugiyama, Kazufimi Yazaki
Kyoto Univ.

P30 Functional analysis of LjALMT1 inducible during nodulation in *Lotus japonicus*
*Tomohiro Kan[1], Takayuki Sasaki[2], Kojiro Takanashi[1], Akifumi Sugiyama[1], Kazufumi Yazaki[1]
[1]Research Institute for Sustainable Humanosphere, Kyoto Univ., [2]Institute of Plant Science and Resources, Okayama Univ.

P31 Functional analysis of *Lotus japonicus CLV2*-like gene
Naoto Sato[1], Izumi Fukuhara[1], *Satoru Okamoto[2], Tomomi Nakagawa[3], Shusei Sato[4], Satoshi Tabata[4], Jillian Perry[5], Trevor Wang[5], Masayoshi Kawaguchi[2]
[1]Grad. Sch. Sci., Tokyo Univ., [2]NIBB, [3]Meiji Univ., [4]Kazusa DNA Res. Inst., [5]John Innes Centre

P32 Expression of pathogenesis-related β-1,3-glucanase gene in autoregulation of nodulation
*Osuki, K.[1], Suzuki, A.[2], Hara, H.[1], Yamashita, K.[1], Kobayashi, Y.[3], Takahara, A.[1], Araragi, M.[1], Asami, T.[4], Kucho, K.[1], Higashi, S.[1], Abe, M.[1], Uchiumi, T.[1]
[1]Graduate School of Science and Engineering,Kagoshima Univ., [2]Department of Environmental Science,Saga Univ., [3]Department of Chemistry and Bioscience, Kagoshima Univ., [4]Graduate School of Agriculture and Life Science, Tokyo Univ.

P33 Characterization of , *LjGlu1*, β-1,3-glucanase gene of *Lotus japonicus*
Shun Hashimoto[1], Akihito Takahara[1], Akihiro Suzuki[2], Ken-ichi Kucho[1], Mikiko Abe[1], Shiro Higashi[1], Toshiki Uchiumi[1]
[1]Graduate School of Science and Engineering, Kagoshima Univ., [2]Department of Environmental Science, Saga Univ.

P34 Direct targets of a nodulation-specific transcription factor, NIN, regulate infection thread development and cortical cell division
*Takashi Soyano, Hayashi Makoto
NIAS

P35 Screening of proteins interacting with symbiosis related SNARE protein by yeast two hybrid system.
*Takahiro Miyoshi[1], Hiroki Yamasaki[1], Syou Okumura[1], Syusei Sato[2], Yoshikazu Shimoda[3], Makoto Hayashi[3], Keisuke Yokota[3], Shigeyuki Tajima[1], Mika Nomura[1]
[1]Kagawa Univ., [2]Kazusa DNA Res. Inst., [3]NIAS.

P36 Physiological function of Plant class 1 Hemoglobin in legume-microbe symbiosis.
*Tomohiro Kado, Yo-ichiro Tanimura, Ken-ichi Kucho, Mikiko Abe, Siro Higashi, Toshiki Uchiumi
Grad.Sc. Sci. & Eng., Kadoshima Univ.

P37 The effect of nitrate, temperature, and light/dark conditions on nodule growth of soybean
*Shiori Watanabe[1], Sayuri Tanabata[2], Takanari Tanabata[3], Seiya Tajima[1], Noritake Ohtake[4], Kuni Sueyoshi[4], Takuji Ohyama[4]
[1]Grad.Sci.Niigata Univ, [2]Ibaraki Pref. Agr. center for Exp. Extension and Education, [3]Natl. Inst. of Agrobiological Resources, [4]Niigata Univ

P38 Quantitative trait locus analysis of symbiotic nitrogen fixation activity in the model legume *Lotus japonicus*
*Akiyoshi Tominaga[1,3], Takahiro Gondo[2], Ryo Akashi[2], Shao-hui Zheng[3], Susumu Arima[1,3], Akihiro Suzuki[1,3]
[1]Kagoshima Univ., [2]Miyazaki Univ., [3]Saga Univ.

P39 A *Lotus japonicus* symbiotic mutant defective of SNARE protein LjSYP71
Tsuneo Hakoyama[1,2], Ryo Oi[2], Kazuya Hazuma[1], Eri Suga[2], Yuka Adachi[2], Mayumi Kobayashi[2], Shusei Sato[3], Eigo Fukai[3], Satoshi Tabata[3], Satoshi Shibata[1], Guo-Jiang Wu[1], Yoshihiro Hase[4], Atsushi Tanaka[4], Masayoshi Kawaguchi[5], Hiroshi Kouchi[1], Yosuke Umehara[1], *Norio Suganuma[2]
[1]Natl. Inst. Agrobiol. Sci., [2]Aichi Univ. Educ., [3]Kazusa DNA Res. Inst., [4]Japan Atomic Energy Agency, [5]Natl. Inst. Basic Biol.

P40 Characterization of a novel symbiotic mutant of *Lotus japonicus*, *Ljsym104*, that shows a Fix$^-$

phenotype in *M. loti* strain-dependent manner.
*Hiroko Yamaya[1], Tsuneo Hakoyama[1], Shusei Sato[2], Md. Shakhawat Hossain[1], Satoshi Shibata[1], Yoshihiro Hase[3], Atsushi Tanaka[3], Masayoshi Kawaguchi[4], Satoshi Tabata[4], Makoto Hayashi[1], Hiroshi Kouchi[1], Yosuke Umehara[1]
[1]NIAS, [2]Kazusa DNA Res. Inst., [3]Japan Atomic Energy Agency, [4]NIBB

P41 Expression analysis of a putative sugar transporter in nodules of *Lotus japonicus*.
Yuka Saida, Akifumi Sugiyama, Kojiro Takanashi, Kazufumi Yazaki
RISH Kyoto Univ.

P42 Expression analysis of two MATE-type transporters LjMATE2 and LjMATE3 in Lotus japonicus.
*Yoshihiro Ota, Kojiro Takanashi, Akifumi Sugiyama, Kazufumi Yazaki
Kyoto Univ.

P43 Analysis of amino acid metabolism for a symbiotic nitrogen fixation in *M. loti.*
*Hiroyuki Matsuura[1], Enoki Ayao[1], Nantipak Thapanapongworakul[1], Shuusei Satou[2], Yoshikazu Simoda[3], Mika Nomura[1], Sigeyuki Tajima[1]
[1]Kagawa Univ, [2]Kazusa DNA Res. Inst, [3]NIAS

P44 Genetic diversity, symbiotic evolution and proposed infection process of *Bradyrhizobium* strains isolated from root nodules of *Aeschynomene americana* in Thailand.
*Kamonluck Teamtisong[1], Rujirek Noisa-ngiam[1], Kiwamu Minamisawa[2], Panlada Tittaburt[1], Nantakorn Boonkerd[1], Mikiko Abe[3], Neung teaumroong[1], Uchiumi Toshiki[3]
[1]Suranaree Univ. Technol., [2]Tohoku Univ., [3]Kagoshima Univ.