Program of the 15th annual meeting

Special lecture

Prof. Sally E. Smith (University of Adelaide, Australia)
Getting to the physiological and molecular roots of beneficial mycorrhizal symbioses

Oral presentations

01. Whither is the use of Azolla in Japan
*Iwao Watanabe

02. Screening for *Azorhizobium caulinodans* mutants in the development of stem nodules
*Chi-te Liu, Kyung-bum Lee, Shino Suzuki, Tadahiro Suzuki, Seiji Wakao, Yasushi Date, Toshihiro Aono, Hiroshi Oyaizu (University of Tokyo, Biotechnology Research Center, Laboratory of Plant Biotechnology)

03. Global gene expression in *Bradyrhizobium japonicum* USDA 110 induced by PBS-solution isolated from peri-bacteroidal spaces in symbiosomes of soybean root nodules in terms of macroarray analysis
*Tadashi Yokoyama[1], Sachiko Ichida[1], Naoko Ohishi[1], Satoshi Nakatsubo[1],Kouhei Tejima[2],Yasuhiro Arima[1],Takuji Ohwada[3], Kiwamu Minamisawa[4], Hisayuki Mitsui[4], Manabu Itakura[4], Takakazu Kaneko[5], Satoshi Tabata[5], Kazuhiko Saeki[6], Hirofumi Omori[7], Shigeyuki Tajima[8], Toshiki Uchiumi[9], Mikiko Abe[9] ([1]Tokyo University of Agriculture and Technology, [2]National Institute of Agrobiological Sciences, [3]Obihiro University of Agriculture and Veterinary Medicine, [4]Tohoku University, [5]Kazusa DNA Research Institute, [6]Nara Women's University, [7]Osaka University, [8]Kagawa University, [9]Kagoshima University)

04. Soybean shoot regulates the arbuscule formation of arbuscular mycorrhiza
*Kazunori Sakamoto[1], Yoshihisa Nohara[2] ([1]Fac. Hort., Chiba Univ., [2]Grad. Sc. Sci. Technol., Chiba Univ.)

05. Isolation of organelles involved in polyphosphate accumulation and synthesis in arbuscular mycorrhizal fungi
*Tatsuhiro Ezawa[1], Akinobu Mori[2], Ryo Ohtomo[3], Mitsuru Osaki[1] ([1]Hokkaido Univ., [2]Nagoya Univ., [3]Nat. Inst. Live Stock Grassland Sci.)

06. Novel nucleoporin-like protein required for the entry of mycorrhizal fungi and *rhizobium* into host cells
*Katsuharu Saito[1,2], Makoto Yoshikawa[3], Yano Koji[3], Hiroki Miwa[4], Erika Awamizu[5], Shusei Sato[5], Satoshi Tabata[5], Haruko Imaizumi- Anraku[1,6], Yosuke Umehara[1,6], Hiroshi Kochi[1,6],

Yoshikatsu Murooka[3], Toshiyuki Nagata[2], Allan Downie[4], Martin Parniske[7], Makoto Hayashi[1,3], Masayoshi Kawaguchi[1,2] ([1]CREST, JST, [2]University of Tokyo, [3]Osaka University, [4]John Innes Centre, [5]Kazusa DNA Research Institute, [6]National Institute of Agrobiological Sciences, [7]University of Munich)

07. Identification of strigolactones as an inducer of hyphal branching in arbuscular mycorrhizal fungi

*Kohki Akiyama[1,2], Ken-ichi Matsuzaki[1], Hideo Hayashi[1] ([1]Osaka Prefecture Univ., [2]CREST)

08. Positional cloning of *Lotus japonicus Sen1* gene that controls expression of symbiotic nitrogen fixing activity

*Tsuneo Hakoyama[1], Kaori Niimi[1], Takeshi Yamamoto[1], Sawa Isobe[1], Shusei Sato[2], Yasukazu Nakamura[2], Satoshi Tabata[2], Hirotaka Kumagai[3], Yosuke Umehara[3], Mika Nomura[4], Shigeyuki Tajima[4], Niels Sandal[5], Jens Stougaard[5], Masayoshi Kawaguchi[6], Hiroshi Kouchi[3], Norio Suganuma[1] ([1]Aichi University of Education, [2]Kazusa DNA Research Institute, [3]National Institute of Agrobiological Sciences, [4]Kagawa University, [5]University of Aarhus, [6]University of Tokyo)

09. Characterization and positional cloning of the symbiotic mutant *Ljsym101*

*Satoshi Shibata[1], Wenli Chen[1], Shusei Sato[2],Takakazu Kaneko[2], Niels Sandal[3], Jens Stougaard[3], Satoshi Tabata[2], Yosuke Umehara[1], Hiroshi Kouchi[1] ([1]Laboratory of Nitrogen Fixation, National Institute of Agrobiological Sciences,[2]Kazusa DNA Research Institute,[3]Univ. Århus)

10. The identification and characterization of a GRAS family gene, TINod (Transcription initiator of Nodulation), required for the initiation of nodulation from *Lotus japonicus*

*Yasuhiro Murakami[1], Hiroki Miwa[2], Haruko Imaizumi-Anraku[1], Hiroshi Kouchi[1], Allan Downie[2], Masayoshi Kawaguchi[3], Shinji Kawasaki[1] ([1]National Institute of Agrobiological Sciences, [2]John Innes Centre, [3]Tokyo Univ.)

11. Root nodule formation in ABA-related mutants of *Lotus japonicus*

Satoru Maeda[1], Lalith Suriyagoda[2], Shohei Sawada[2], Shigetoshi Obuchi[2], Toshiki Uchiumi[1], Mikiko Abe[1], Shiro Higashi[1], Ken-ichi Kucyo[1], Masatsugu Hashiguchi[3], Ryo Akashi[3], Tatsuya Sakai[4], Sayaka Inada[4], Michiharu Nakano[4], Shusei Sato[5], Takakazu Kaneko[5], Satoshi Tabata[5], Susumu Arima[2], *Akihiro Suzuki[2] ([1]Kagoshima Univ., [2]Saga Univ., [3]Miyazaki Univ., [4]RIKEN, [5]Kazusa DNA Res. Inst.)

12. Phenotypic characteristics of newly isolated fix- mutants of *Lotus japonicus*

*Hiroshi Oyaizu, Kaori Ishikawa, Yongyi Li, Hiroki Miwa, Keisuke Yokota, Toshihiro Aono (Biotechnology Research Center, University of Tokyo)

13. Metabolic flow of carbon/nitrogen in transgenic antisense PEPC plant

*Fujii miho[1], Nomura mika[1], Hata Singo[2], Tajima sigeyuki[1] ([1]Kagawa University, Faculty of Agriculture., [2]Kyoto University, Graduate School of Biostudies)

14. Response of host plant to rhizobial lipopolysaccharide

*Maki Nagata[1], Yoshikazu Shimoda[2], Akihiro Suzuki[3], Mikiko Abe[4], Ken-ichi Kucho[4], Shiro Higashi[4], Toshiki Uchiumi[4] ([1]Grad. Sc. Sci & Eng., Kagoshima Univ., [2]Kazusa DNA Res. Inst., [3]Fac. Agr., Saga Univ., [4]Fac. Sci., Kagoshima Univ.)

15. Functions of plant hemoglobins on *rhizobium*-legume symbiosis

*Toshiki Uchiumi[1], Yoshikazu Shimoda[2], Fuyuko Sasakura[3], Maki Nagata[3], Akihiro Suzuki[4], Kenichi Kucho[1], Takuma Sano[1], Shiro Higashi[1], Mikiko Abe[1] ([1]Kagoshima Univ., [2]Kazusa DNA Res. Inst., [3]Grad. Schl. Sci. Eng. Kagoshima Univ., [4]Saga Univ.)

16. Interaction of hemoglobin and nitric oxide in *Alnus firma- Frankia* symbiosis
*Fuyuko Sasakura[1], Yoshikazu Shimoda[2], Toshiki Uchiumi[3], Akihiro Suzuki[4], Katsumi Takenouchi[1], Shiro Higashi[3], Mikiko Abe[3] ([1]Grad. Sc. Sci. & Eng., Kagoshima Univ., [2]Kazusa DNA Res.Inst., [3]Dept. Chem. & BioSci., Kagoshima Univ., [4]Fac. Agr. Saga Univ)

17. *Medicago truncatula - Mycosphaerella pinodes*, a new model pathosystem for molecular and genetic dissection of plant susceptibility to fungal pathogen: Ultrastructural feutures of *M. truncatula* leaves infected with pycnospores of *M. pinodes*
*Tomoko Suzuki, Aya Maeda, Masaya Hirose, Yuki Ichinose, Kazuhiro Toyoda, Tomonori Shiraishi (Graduate School of Natural Science and Technology, Okayama Univ.)

18. Germination of *Plasmodiophora brassicae* resting spore in the rhizosphere of non-host
*Rieko Niwa, Mitsuru Osaki, Tatsuhiro Ezawa (Hokkaido Univ.)

19. Ultrastructure of resistance expression in cultured cells of soybean and tobacco plants to certain plant-pathogenic bacteria
*Hisatoshi Kaku[1], Kouhei Tejima[1], Yuko Ohashi[1] ([1] National Institute of Agrobiological Sciences)

20. Inhibition of NADPH oxyase by the binding between a fungal suppressor and CDPK from potato cells
*Naotaka Furuichi[1], Masatoshi Oota[1],Tsuneyoshi Horigome[1], Koji Ohnishi[1], Kazutoshi Yokokawa[2] ([1]Center for Transdisciplinary Res. Niigata Univ., [2]Grad. Sch. Life and Food Sci. Niigata Univ.)

21. Control of *hrp* expression of *Ralstonia solanacearum*
*Takeshi Yoshimochi[1], Kouhei Ohnishi[1], Akinori Kiba[1], Yasufumi Hikichi[1] ([1]Kochi Univ.)

22. Characterisation of NopM an effector protein secreted by *Rhizobium* species NGR234
*Kumiko Kambara, Morag MacLean, William J. Broughton, William J. Deakin (LBMPS Université de Genève, Switzerland)

23. A large scale analysis of protein-protein interactions in *Mesorhizobium loti*
*Yoshikazu Shimoda[1], Shusei Sato[1], Yasukazu Nakamura[1], Satoshi Tabata[1] ([1] Kazusa DNA Res. Inst.)

24. *Mesorhizobium loti* and *Bradyrhizobium japonicum* genome scanning by virtual image restriction landmark genome scanning (Vi-RLGS)
*Hiroyuki Ichida[1], Takato Koba[1], Tomoko Abe[2] and Tomoki Matsuyama[2] ([1]Graduate school of science and technology, Chiba university, [2]Application and development group, RIKEN)

25. Genome plasticity of symbiotic and non-symbiotic members of *Bradyrhizobiaceae* based on DNA macroarry of *Bradyrhizobium japonicum*
*Manabu Itakura[1], Kazuhiko Saeki[2], Hirofumi Oomori[2], Tadashi Yokoyama[3], Takakazu Kaneko[4], Satoshi Tabata[4], Takuji Oowada[5], Shigeyuki Tajima[6], Toshiki Uchiumi[7], Reiko Sameshima[8], Hisayuki Mitsui[1], and Kiwamu Minamisawa[1] ([1]Graduate School of Life Sciences, Tohoku University, [2]Department of Biology Graduate School of Science, Osaka University, [3]Tokyo University of Agriculture and Technology, [4]Kazusa DNA Research Institute, [5]Department of

Agricultural and Life Sciences, Obihiro University of Agriculture and Veterinary Medicine, [6]Department of Life Science, Kagawa University, [7]Department of Chemistry and BioScience, Faculty of Science, Kagoshima University, [8]Department of Agriculture, Shizuoka University)

26. An increase of nitrogen-fixing by *Klebsiella pneumoniae* immobilized in alginate beads

*Daisuke Asakawa[1], Takayoshi Kobayashi[1], Yuki Yazawa[1], Yasuyuki Takiguchi[1], TatuakiYamaguchi[1] ([1]Graduate School of Life and Environmental Sciences, University of Chiba institute of technology)

Poster presentations

P01. Expression Analysis of *Bradyrhizobium japonicum* USDA 110 Induced with Soybean Seed Extract

*Wei Min[1], Takuji Ohwada[1], Tadashi Yokoyama[2], Kiwamu Minamisawa[3], Hisayuki Mitsui[3], Manabu Itakura[3], Takakazu Kanebo[4], Satoshi Tabata[4], Kazuhiko Saeki[5], Hirofumi Oomori[6], Shigeyuki Tajima[7], Toshiki Uchiumi[8], Mikiko Abe[8] ([1]Obihiro University of Agriculture and Veterinary Medicine, [2]Tokyo University of Agriculture and Technology, [3]Graduate School of Life Science, Tohoku University, [4]Kazusa DNA Research Institute, [5]Department of Biology Science, Nara Women's University, [6]Department of Biology, Graduate school of Science Osaka University, [7]Department of Life Science, Kagawa University, [8]Department of Chemistry and Bioscience, Kagoshima University)

P02. Analysis of the border of Rhizobial symbiotic plasmid integrated into *Agrobacterium* chromosome

*Hiroki Nakatsukasa[1], Takuhiro Fukumori[1], Toshiki Uchiumi[2], Akihiro Suzuki[3], Shiro Higashi[2], Mikiko Abe[2] ([1]Grad. Sc. Sci. & Eng., Kagoshima Univ., [2]Dept. Chem. BioSci., Fuc. Sci., Kagoshima Univ., [3]Fac. Agr., Saga Univ.)

P03. Role of glutamine as a precursor of rhizobitoxine

*Masayuki Sugawara[1], Hisayuki Mitsui[1], Hirosi Ezura[2], Kiwamu Minamisawa[1] ([1]Tohoku Univ., [2]Tsukuba Univ.)

P04. Purine biosynthesis and nodulation in *Mesorhizobium loti*

*Shin Okazaki and Kazuhiko Saeki (Dept. Biol. Sci., Fac. Sci., Nara Women's Univ.)

P05. Symbiotic regulation of 1-aminocyclopropane-1-carboxylic acid deaminase gene (*acdS*) expression in *Mesorhizobium loti*

*Noriyuki Nukui[1], Kiwamu Minamisawa[2], Shin-ichi Ayabe[1], Toshio Aoki[1] ([1]Department of applied biological sciences, Nihon Univ., [2]Graduate school of Life Sciences, Tohoku Univ.)

P06. Symbiotic incompatibility between *Rj2*-genotype soybeans and *Bradyrhizobium japonicum* USDA122

*Takahiro Tsukui, Masayuki Sugawara, Yasuyuki Kawaharada, Michi Suzuki, Kiwamu Minamisawa (Graduate school of Life sciences, Tohoku Univ.)

P07. Expression of *nif* genes in mcp deleted mutants of *Sinorhizobium melitoti*

Nobuyuki Kato[1], Yui Kitayama[1], *Akira Tabuchi[1], Birgit Scharf[2], Ruediger Schmitt[2] ([1]Shinshu Univ., [2]Regensburg Univ.)

P08. Functional analysis of nodule bacteroids specific proteins of *Bradyrhizobium japonicum*
*Rie Hamaguchi[1], Le Thi Phuong Hoa[1], Akihiko Matsumoto[1], Mika Nomura[1], Kiwamu Minamisawa[2], Manabu Itakura[2], Shigeyuki Tajima[1] ([1]Kagawa univ., Fac. of Agriculture, [2]Tohoku Univ., Life Sci.)

P09. Functional analysis of *nodD1*/*nodD2* paralogs of *Sinorhizobium fredii* USDA191
*Masaki Kinehara[1], Rie Mukai[2], Maya Ikeuchi[1], Emi Kurimoto [1], Hitoshi Ashida[2], Ken-ichi Yoshida[2] ([1]Grad. Sch. Sci. Tech., Kobe Univ., [2]Fac. Agri., Kobe Univ.)

P10. Purification of *Sinorhizobium fredii* USDA191 NodD1 produced in *Escherichia coli*
*Maya Ikeuchi[1], Masaki Kinehara[1], Emi Kurimoto[1], Hitoshi Ashida[2], Ken-ichi Yoshida[2] ([1]Grad. Sch. Sci. Tech., Kobe Univ., [2]Fac. Agri., Kobe Univ.)

P11. A phosphate transpoter of *Mesorhizobium loti*
* Yasuyuki Kawaharada, Hisayuki Mitsui, Kiwamu Minamisawa (Grad Schl Life Sci, Tohoku Univ.)

P12. Expression of the sigma factors of RNA polymerase in rhizobia
*Hisayuki Mitsui, Kiwamu Minamisawa (Grad Schl Life Sci, Tohoku Univ.)

P13. Diversity of indigenous *Bradyrhizobium japonicum* in heavy soil field
*Takashi Sato, Noritoshi Furuta, Sayuri Yoshimoto, Yoshihiro Kaneta, Atsushi Sato (Dept. Biol. Sci., Akita Pref. Univ.)

P14. Expression of *nifH* genes in sweetpotato
Junko Terakado[1,2], Yoshinari Ohwaki[1], Hiromoto Yamakawa[1], Fukuyo Tanaka[1], Tadakatsu Yoneyama[3], Shinsuke Fujihara[1] ([1]NARC, [2]JSPS, [3]Univ. Tokyo)

P15. Bacteria flora associating with Yam bean (*Pachyrhizus erosus* (L.) Urban)
*Megumi Ogata[1], Ken-ichi Kucho[2], Toshiki Uchiumi[2], Akihiro Suzuki[3], Mikiko Abe[2] ([1]Grad. Sc. Sci. & Eng., Kagoshima Univ., [2]Fac. Sci., Kagoshima Univ., [3]Fac. Agr., Saga Univ.)

P16. Contamination of *nifH*-like DNA into PCR reagents
Masahiro Goto[1], *Yusuke Hachisuka[1], Shotaro Ando[2], Tadakatsu Yoneyama[1] ([1]The University of Tokyo, [2]National Institute of Livestock and Grassland Science)

P17. Investigate the mechanism of plant grows promoting efforts of *Klebsiella oxytoca*
*Sudo Makiko[1], Osaka Tsuyoshi[1], Kuroiwa Hirosi[1], Okuyama Hidetoshi[2], Yumoto Isao[3], Morita Naoki[3], Ohwada Takuji[1] ([1]Obihiro University of Agriculture and Veterinary Medicine, [2]Hokkaido University, [3]AIST Hokkaido)

P18. Investigation of endophytic diazotrophs from rice
*Takamitsu Kishimoto, Haruhiko Masaki, Makoto Hidaka (Department of Biotechnology, Graduate School of Agricultural and Life Sciences, The University of Tokyo)

P19. Light-induced expression of *nifH* gene in *Herbaspirillum* endophytes
*Tomohiro Nishiguchi, Mu You, Asami Saito, Tsuyoshi Isawa, Hisayuki Mitsui, Kiwamu Minamisawa (Graduate School of Life Science, Tohoku University)

P20. Search for bacterial endophyte which gives Lepidoptera resistance to legumes
*Tsuyoshi Isawa, Naoya Hiruma, Takahiro Imada, Rei Ikeuchi, Shinji Kouno, Satoshi Shinozaki (Mayekawa MFG. CO., LTD.)

P21. Growth pH range of *Frankia* strains isolated from the root nodules of actinorhizal plants and pH change of the culture medium
*Yuki Nagashima[1], Atsuo Mizuno[1], Chiharu Tani[2], and Hideo Sasakawa[1] ([1]Grad. Sch. of Natur. Sci. & Tech., Okayama Univ., [2]Grad. Sch. of Agr., Hokkaido Univ.)

P22. Application of improved nitrogen-fixing bacteria to the rice cultivation
Rie Kugimiya, Haruhiko Masaki, *Makoto Hidaka (The Univ. of Tokyo)

P23. Diversity of rhizosphere microorganisms on cluster roots formed in lupin grown under poor nutrient conditions *Junya Sakaguchi[1], Jun Wasaki[2], Takuya Yamamura[3], Takuro Shinano[2], Ellen Kandeler[4], Mitsuru Osaki[1] ([1]Fac. Agriculture, Hokkaido Univ., [2]CRIS, Hokkaido Univ., [3]Fac. Engineering, Hokkaido Univ., [4]Univ. Hohenheim)

P24. Metagenomic approach for the analysis of white lupin's rhizosphere effect on soil microorganisms
*Yusuke Unno[1], Jun Wasaki[2], Takuro Shinano[2], Mitsuru Osaki[1] ([1]Grad. Agric. Hokkaido Univ., [2]CRIS Hokkaido Univ.)

P25. Research of secretion proteins from *Ralstonia solanacearum*
*Masanori Adachi[1], Shintaro Tsujimoto[1], Kouhei Ohnishi[2], Akinori Kiba[1], Yasuhumi Hikichi [1] ([1]Kochi univ., [2]Kochi univ Res Inst of Molecular Genetics.)

P26. Macroarray analysis of *Xanthomonas oryzae* pv. *oryzae* genes that are regulated by *hrpX* or *hrpG* gene expression
*Kouhei Tejima[1], Masaru Takeya[1], Shin-ichi Numata[1], Takeshi Nakayama[2], Seiji Tsuge[3], Hisatoshi Kaku[1], Hirokazu Ochiai[1] ([1]NIAS, [2]Ibaraki Univ., [3]Kyoto Prefectural Univ.)

P27. Analysis of novel virulence-related genes in *Xanthomonas oryzae* pv. *oryzae*
*Shin-ichi Numata[1], Kouhei Tejima[1], Takeshi Nakayama[2], Seiji Tsuge[3], Hisatoshi Kaku[1], Hirokazu Ochiai[1] ([1]NIAS, [2]Ibaraki Univ., [3]Kyoto Prefectural Univ.)

P28. Functional analysis of two-component system in *Xanthomonas oryzae* pv. *oryzae*
*Hirokazu Ochiai[1], Shin-ichi Numata[1], Kouhei Tejima[1], Takashi Nakayama[2], Seiji Tsuge[3], Ayako Furutani[3], Hisatoshi Kaku[1] ([1]NIAS, [2]Ibaraki Univ., [3]Kyoto Prefectural Univ.)

P29. The hypersensitive reaction(HR) regulating CDPK-1,and -2 of potato; Purification of RiCDPK1-, RiCDPK2-His fusions and the characterization
Naotaka Furuichi[1], *Tomohiko Nagaoka[2], Amjad Hassan[2], Koji Ohnishi[1], Yasuhiro Hirano[3], Tsuneyoshi Horigome[1], Masatoshi Oota[1] ([1]Center for Transdisciplinary Res., Niigata Univ., [2]Grad. Sch. Life and Food Sci., Niigata Univ., [3]Grad. Sch. Fundamental Sci., Niigata Univ.)

P30. Detection and partial purification of a signaling molecule, Myc factor, from arbuscular mycorrhizal fungi
Kohki Akiyama[1,2], *Atushi Hatta[1], Asami Iwashita[1], Hideo Hayashi[1] ([1]Osaka Prefecture Univ.,

[2]CREST)

P31. Induction of hyphal branching in arbuscular mycorrhizal fungi by root exudates of the non-host plant rapeseed (*Brassica napus*)

Kohki Akiyama[1,2], *Takanori Kashihara[1], Hideo Hayashi[1] ([1]Osaka Prefecture Univ., [2]CREST)

P32. An attempt to isolate mycorrhizal-specific mutants of *Lotus japonicus*

Katsuharu Saito[1,2], *Chie Yoshida[1], Natsuki Mawatari[1], Izumi Fukuhara[1,2], Toshiyuki Nagata[1], Norio Suganuma[3], Masayoshi Kawaguchi[1,2] ([1]Department of Biological Sciences, Graduate School of Sciences, University of Tokyo, [2]Core Research for Evolutional Science and Technology / Japan Science and Technology Agency,)

P33. SEM observation of infection competition between *Fusarium oxysporum* f. sp. *fragariae* and arbuscular mycorrhizal fungus in strawberry plants

*Yoichi Matsubara[1], Ryoko Kitagata[1], Mayumi Kubota[1], Mitsuro Hyakumachi[1], Kaneyuki Koshikawa[2] ([1]Fac. Appl. Biol. Sci., [2]Gifu Pref. Res. Inst. Agr. Sci.)

P34. Does mycorrhizal colonization enhance Cd uptake by the host plant?

*Ryo Ohtomo (National Institute of Livestock and Grassland Science)

P35. Characterization of three symbiotic mutants from an EMS treated line N49 of *Lotus japonicus*

*Md. Shakhawat Hossain[1,5], Yosuke Umehara[1,5], Ryo Ohtomo[2,5], Tomoko Kojima[2,5], Makoto Hayashi[3,5], Masayoshi Kawaguchi[4,5] and Hiroshi Kouchi[1,5] ([1]National Institute of Agrobiological Sciences, [2]NILGS, [3]Osaka Univ., [4]Univ. of Tokyo, [5]CREST/JST)

P36. Hypernodulation of a novel *Lotus japonicus* mutant, *klavier*, is determined by the shoot genotype

*Erika Oka-Kira[1], Izumi Fukuhara[1,2], Hikota Miyazawa[1], Toshiyuki Nagata[1], Masayoshi Kawaguchi[1,2] ([1]Graduate School of Science, The Univ. of Tokyo, [2] CREST/JST)

P37. Role of Plant Nucleoporin

*Norihito Kanamori[1,2], Lene H. Madsen[2], Shusei Sato[3], Satoshi Tabata[3], Yosuke Umehara[4], Hiroshi Kouchi[4], Euan James[5], Niels sandal[2], Jens Stougaard[2] ([1]NFRI, [2]Univ. Aarhus, [3]Kazusa DNA Res. Inst. [4]NIAS, [5]Univ. Dundee)

P38. Functional Analysis of *Sed5*-like genes in *Lotus japonicus*

*Mai, H. T.[1], Nomura, M.[1], Isomoto, M.[1], Okamoto, E.[1], Asamizu, E.[2], Sato, T.[2], Kato, T.[2], Tabata, S.[2], Takegawa, K.[1], Tajima, S.[1] ([1]Kagawa Univ., [2]KDRI)

P39. Expression analysis of *Lotus japonicus* PDR-type ABC protein genes regulated by nodulation

*Akifumi Sugiyama[1], Nobukazu Shitan[1], Shusei Sato[2], Satoshi Tabata[2], Kazufumi Yazaki[1] ([1]Kyoto University, [2]Kazusa DNA Res. Inst.)

P40. Symbiotic autoregulation relating genes of *Lotus japonicus* analyzed by split root technique

*Hisatoshi Hara[1], Kenichi Osuki[1], Toshiki Uchiumi[1], Mikiko Abe[1], Shiro Higashi[1], Akihiro Suzuki[2] ([1]Kagoshima Univ., [2]Saga Univ.)

P41. Gene structure of the legume-specific flavonoid pathway in *Lotus japonicus*

*Norimoto Shimada[1], Toshio Aoki[1], Shusei Sato[2], Takakazu Kaneko[2], Yasukazu Nakamura[2], Satoshi Tabata[2], Shin-ichi Ayabe[1] ([1]Dept. Appl. Biol. Sci., Nihon Univ., [2]Kazusa DNA Res. Inst.)

P42. Identification of a new oxidosqualene cyclase in *Lotus japonicus*

Satoru Sawai[1], Shusei Sato[2], Takakazu Kaneko[2], Satoshi Tabata[2], Shin-ichi Ayabe[1], *Toshio Aoki[1] ([1]Dept. Appl. Biol. Sci., Nihon Univ., [2]Kazusa DNA Res. Inst.)

P43. Characterization of the third and fourth *Lotus japonicus* genes encoding phosphoenolpyruvate carboxylases (PEPCs)

*Shingo Hata, Yasuhiro Okusako (Grad. School Biostudies, Kyoto Univ.)

P44. In vitro characterization of lignin monomer O-methyltransferase-related genes from *Lotus japonicus*

*Ayaka Hijikata, Svetlana A. Chechetka, Yuichi Deguchi, Shingo Hata (Grad. School Biostudies, Kyoto Univ.)

P45. Genes expressed in TrEnodDR1 transformed *Lotus japonicus*

*Kenji Yamashita[1], Mitsumi nakatukasa[1], Toshiki Uchiumi[1], Mikiko Abe[1], Siro Higashi[1], Akihiro Suzuki[2] ([1]Kagoshima Univ., [2]Saga Univ.)

P46. Suppression of nodule formation of *Lotus japonicus* by D-Psicose and LED light (RED,BLUE)

*Toshie Miyoshi, Yuko Takeoka, Deeder Sultana, Mika Nomura, Ken Izumori, Tomohiro Yanagi, Shigeyuki Tajima (Kagawa univ., Fac of Agriculture)

P47. Transcript and metabolite analyses in elicitor-treated *Lotus japonicus* suspension-cultured cells

*Hiroshi Nishida[12], Nozomu Sakurai[2], Hideyuki Suzuki[2], Daisuke Shibata[2] ([1]Research Association for Biotechnology, [2]The NEDO Team of Applied Plant Genomics, Kazusa DNA Res. Inst.)

P48. Morphology of the symbiotic process between tropical leguminous tree and its root nodule bacteria

*Shiro Wakabayashi[1], Toshiki Uchiumi[2], Shiro Higashi[2], Akihiro Suzuki[3], Mikiko Abe[2] ([1]Graduate School of Science and Engineering, Kagoshima University, [2]Department of Chemistry and BioScience, Faculty of Science, Kagoshima University, [3]Faculty of Agriculture, Saga University)

P49. Translocation and distribution of photosynthetic product in soybean during nodule formation

*Sayuri Ito[1], Norikuni Ohtake[2], Kuni Sueyoshi[2], Takuji Ohyama[2] ([1]Graduate School of Science and Technology,Niigata Univ., [2]Faculty of Agriculture, Niigata Univ.)