

Program of Oral (24 titles) and Special Presentations

Oral Presentation

1. Construction of an ordered cosmid library of *Mesorhizobium loti*

*K. SAEKI 1, Y. HATTORI 1, H. OMOR 1, T. KANEKO 2 and S. TABATA 2
(1 Dept. Biol., Grad. Sch. Sci., Osaka Univ., 2 Kazusa DNA Res. Inst.)
ksaeki@bio.sci.osaka-u.ac.jp

2. Global analysis of gene expression based on the whole genome sequence of *Mesorhizobium loti* MAFF303099

*T. UCHIUMI (Dept. Chem. & BioSci., Fac. Sci., Kagoshima Univ.)
uttan@sci.kagoshima-u.ac.jp

3. Role of rhizobial sigma factor RpoH

*H. MITSUI, N. ITO, T. SATO and K. MINAMISAWA (Institute of Genetic Ecology, Tohoku Univ.)
hmitsui@ige.tohoku.ac.jp

4. Phylogeny and Diversity of Malic Enzymes Among Local Rhizobia in Thailand

*S. SINSUWONGWAT1, A. NUNTAGIJ2, M. AGARIE3 and S. TAJIMA3
(1Dept. Biotech., Faculty of Agro-Industry, Chiangmai Univ., 2Rhizobium Res. Inst., Dept. Agriculture, Ministry of Agriculture and Co-operation, 3Dept. Life-Science, Faculty of Agriculture, Kagawa Univ.)
suphawat@stmail.ag.kagawa-u.ac.jp

5. Commercial production of legume inoculants in Japan, and the effort toward improvement

*T. MACHI1, T. KAJI1, K.SHIMIZU2, S. KUBOTA2 and T. OWADA2
(1Tokachi Federation of Agricultural Cooperatives, 2Dept. Bioresource science)
t_machi@nkrtwosv.nokyoren.or.jp

6. Genetic analyses of defense responses during nodulation for *Sesbania rostrata*

*T. SEKIMOTO, N. KANAMORI, S. SHIBATA, Y. MARU and H. OYAIZU
(Dept. Global Agricultural Sciences, The Univ. Tokyo)
aa16293@mail.ecc.u-tokyo.ac.jp

7. Construction and Application of cDNA Macro-Array System of *Lotus japonicus*

*H. KOUCHI1, S. TAJIMA2, A. SUZUKI3, S. HATA4, N. SUGANUMA5, E. ASAMIZU6 and S. TABATA6
(1NIAS, 2Kagawa Univ., 3Kagoshima Univ., 4Kyoto Univ., 5Aichi Univ. of Education, 6Kazusa DNA Inst.)
kouchih@nias.affrc.go.jp

8. Preference Mechanisms of *Rj* gene in Soybean for Nodulation by *Bradyrhizobium japonicum*: Tn5 mutation of strain Is-1 incompatible with *Rj* 2-soybean and their characteristics

*T. YAMAKAWA1, M. TANAKA2, M. SAKAI1 and M. IKADA1
(1Faculty of Agriculture, Kyushu Univ., 2Graduate school of Bioresource and Bioenvironmental Sciences, Kyushu Univ.)
amakawa@agr.kyushu-u.ac.jp

9. Role of Ca²⁺ influx for signal transduction induced by Nod factor in soybean suspension cultured cells

*T. YOKOYAMA, T. HAKOYAMA, Y. SHIBUYA, Y. SHIBATA and Y. ARIMA

(Tokyo Univ. of Agriculture and technology)

Tadashiy@cc.tuat.ac.jp

10. Phenotype analysis of sym79, the infection thread mutant

MYLA L. TANSENGCO, *M. HAYASHI, M. KAWAGUCHI2 and Y. MUROOKA

(1Dept. Biotech., Graduate School of Engineering, Osaka Univ.,

2Graduate School of Art & Science, Univ. of Tokyo)

hayashi@bio.eng.osaka-u.ac.

11. Legume root hair nuclei detect gravity, and rhizobia and Nod factors increase the speed of the response

N. HIRASAWA, T. SASAKI and *R. RIDGE (International Christian Univ.)

ridge@icu.ac.jp

12. Studies on molecular evolution of the soybean nodule-enhanced phosphoenolpyruvate carboxylase gene through promoter analysis

*T. NAKAGAWA1, K. ASHIDA2, K. TAKANE3, M. BANBA4, H. KOUCHI3, K. IZUI1,2,4 and S. HATA1,2,4

(1Graduate School of Agriculture, Kyoto Univ., 2Faculty of Agriculture, Kyoto Univ., 3National Inst. of Agrobiological Science, 4Graduate School of Biostudies, Kyoto Univ.)

shing@kais.kyoto-u.ac.jp

13. LjLb genes expression in Lotus japonicus symbiosis with Mesorhizobium loti

*Y. SHIMODA1, T. UCHIUMI2, A. SUZUKI2, K. SENOO3, M. ABE2 and S. HIGASHI2

(1Grad. Sc. Sci. & Eng., Kagoshima Univ., 2Dept. Chem. & BioSci. Kagoshima Univ., 3Fac. Biores., Mie Univ.)

uttan@sci.kagoshima-u.ac.jp

14. Regulation Mechanisms of Soybean Nodule-Specific Uricase II (nodulin-35) Gene Expression

A. HIROTA1, K. TAKANE2, T. NAKAGAWA3, S. HATA3, S. TAJIMA1 and H. KOUCHI2

(1Kagawa Univ., 2NIAS, 3kyoto Univ.,)

attu@affrc.go.jp

15. Involvement of photosynthetic supply in nitrate tolerance of nodulation of hypernodulating soybeans

H. FUJIKAKE1, T. SUGANUMA1, Y. TAMURA1, T. KAWACHI1, N. OHTAKE1, K. SUEYOSHI1,

*T. OHYAMA1, N. ISHIOKA2, S. WATANABE2, A. OSA2, M. KOIZUMI2, T. SEKINE2,

S. MATSUHASHI3, T. ITO3, C. MIZUNIWA3, T. KUME3, H. UCHIDA4 and A. TSUJI4

(1Faculty of Agriculture, Niigata Univ., 2Dept. of Radioisotopes, Japan Atomic Energy Res. Inst., 3Takasaki Radiation Chem. Res. Establishment, Japan Atomic Energy Res. Inst. 4Central Res. Labo., Hamamastu Photonics Co.)

ohyama@agr.niigata-u.ac.jp

16. Molecular genetic analysis of symbiotic mutant astray of Lotus japonicus

*R. NISHIMURA, M. OHMORI and M. KAWAGUCHI (Univ. of Tokyo)

cc87718@mail.ecc.u-tokyo.ac.jp

17. Nitrogen regulaton of gene expression in Lotus root hairs

*T. MAEKAWA, M. HAYASHI and Y. MUROOKA

(Dept. of Biotech., Graduate School of Engineering, Osaka Univ.)

takakim1@bio.eng.osaka-u.ac.jp

18. Positional cloning of a hypernodulating gene

R. NISHIMURA¹, M. HAYASHI², M. NAGASAWA², K. HARADA², G. WU³, H. KOUCHI³, Y. MURAKAMI³, H. IMAIZUMI-ANRAKU³, S. KAWASAKI³, S. AKAO³, M. OHMORI¹ and *M. KAWAGUCHI¹ (1Univ. of Tokyo, 2Chiba Univ., 3NAIR)
cmkaw@mail.ecc.u-tokyo.ac.jp

19. Nitrogen-fixing consortium in wild rice

*B. Ye, T. MIYAGI, K. NISHIOKA, T. SATO and K. MINAMISAWA
(Graduate School of Life Sciences, Tohoku Univ.)
yeye@ige.tohoku.ac.jp

20. Organic acid and sugar components of sugarcane stalk and their role as carbon source for endophytic diazotrophs

Asis Jr.C.A.¹, Khan M.K.², M. KUBOTA¹, H. OHTA¹, Y. ARIMA³, Y. NAKANISHI⁴, N. HAYASHI², K. TSUCHIYA² and *S. AKAO²
(1Ibaraki Univ., 2National Institute of Agrobiological Sciences, 3Tokyo Univ. of Agriculture and Tech., 4Tokyo Univ. of Agriculture)
akao@nias.affrc.go.jp

21. Endophytic colonization and *in-plana*- nitrogen fixation by diazotrophic bacteria isolated from rice plants

*T. ISAWA¹, A. ELBELTAGY², K. NISHIOKA², T. SATO², B. YE², N. HIRUMA¹, T. IMADA¹, M. NODA¹, Y. KURIHARA¹, M. KON¹, H. MITSUI² and K. MINAMISAWA²
(1Mayekawa Mfg. Co., Ltd., 2Graduate School of Life Sciences, Tohoku Univ.)
isawa@ige.tohoku.ac.jp

22. Comparative analysis of Korean and Japanese strains of *Pseudomonas syringae* pv. *actinidiae* causing bacterial canker of kiwifruit

*K. YOUNG-JIN
youngjin@sunchon.ac.kr

23. The growth promotion of cabbage reduced by seed-borne root endophytes

J. PARK, *H. OYAIZU (The Univ. of Tokyo)
a97164@mail.ecc.u-tokyo.ac.jp

24. Expression Analysis of Potato Strboh Gene and the Regulation of the Gene by Elicitor 38 KD from

*N. FURUICHI, K. YOKOKAWA, N. HATSUGAI, M. KATOU and A. HASSAN
(Graduate School of Science and Technology, Niigata Univ.)
nfuru@agr.niigata-u.ac.jp

Special Presentation

1. Super root and developmental biology of nodulation

Dr. Franz Hoffmann (University of California Irvine)

2. Diversity and universality of *E. coli* genome

-Whole genome comparison between O157 Sakai and K-12 strains-

Prof. Tetsuya Hayashi (Miyazaki Medical College)

Program of Poster Presentation (34 titles)

1. Genome analysis of *Mesorhizobium loti*

*T. KANEKO, Y. NAKAMURA, S. Sato and S. TABATA (Kazusa DNA Res. Inst.)

kaneko@kazusa.or.jp

2. Construction of an ordered cosmid library of *Mesorhizobium loti*: Practical Details and Applications

K. SAEKI¹, *Y. HATTORI¹, H. OMORI¹, T. KANEKO² and S. TABATA²

(¹Dept. of Biol., Graduate School of Science, Osaka Univ., ²Kazusa DNA Res. Inst.)

ksaeki@bio.sci.osaka-u.ac.jp

3. Phylogenetic analysis based on the nitrogenfixation gene (*nifH*) in alpha *Proteobacteria*

*H. KAWASAKI, Jose Jason L. CANTERA and T. SEKI

(International Center for Biotech., Osaka Univ.)

kawasaki@icb.osaka-u.ac.jp

4. Evolutionary relationships among nodule forming bacteria and related phototrophic bacteria based on farnesyl diphosphate synthase gene

H. KAWASAKI, *M. OHASHI, Jose Jason L. CANTERA and T. SEKI

(International Center for Biotech., Osaka Univ.)

masanori@icb.osaka-u.ac.jp

5. Comparative genomics and *nod* gene inducers of *Mesorhizobium loti*

*K. MINAMISAWA, K. SHIDA, M. ITAKURA, S. SAENGERKERSUB and H. MITSUI

(Graduate School of Life Sciences, Tohoku Univ.)

kiwamu@ige.tohoku.ac.jp

6. Analysis of *Azorhizobium caulinodans* ORS571 Tn5 insertion mutants

*Y. MARU, M. HIROKI, N. KANAMORI, S. SHIBATA, T. SEKIMOTO and H. OYAIZU

(Dept. of Global Agricultural Sciences, The Univ. of Tokyo)

aa16302@mail.ecc.u-tokyo.ac.jp

7. Analysis of *Sinorhizobium meliloti* having multiple deletions of the *mcp* genes

*Y. TSUNAMOTO¹, T. MORISHITA¹, S. HIRASE¹, A. TABUCHI¹, D. KARASAWA¹,

B. SCHARF², P. MUSCHLER² and R. SCHMITT²

(¹Dept. of Biosci. and Biotech., Shinshu Univ., ²Lehrstuhl fuer Genetik, Universitaet

Regensburg)

tabuchi@gipmc.shinshu-u.ac.jp

8. Expression and Structure Analysis of NAD-malic enzyme genes in *Rhizobia*

*A. KODERA, N. HIRAMITSU, S. SINSUWONGWAT, M. NOMURA and S. TAJIMA

(Dept. Life Science, Kagawa Univ.)

shuu@stmail.ag.kagawa-u.ac.jp

9. Construction of *Rhizobium leguminosarum* expressing high catalase activity and its ability of nitrogen fixation

*Y. ORIKASA¹, A. KUSANO¹, I. YUMOTO², N. MORITA², H. OKUYAMA³, N. ICHISE³ and T. OHWADA¹

(¹Dept. of Bioresource Sci., Obihiro Univ. of Agricul. & Veterinary Med., ²NIAIST,

³Grad. Sc. Environ. Earth. Sci., Hokkaido Univ.))

s08223@st.obihiro.ac.jp

10. Establishment of simple and rapid method for nodulation in vitro

*M. HASHIGUCHI¹, T. KAWANO¹, R. AKASHI¹ and F. HOFFMAN²

(¹Faculty of Agriculture, Miyazaki Univ., ²Developmental and Cell Biol., Univ. of California, Irvine)

rakashi@cc.miyazaki-u.ac.jp

11. Two approaches to elucidate the recognition mechanism between legume plants and rhizobia at the final stage of symbiosis

*M. BANBA¹, Y. OOKI², K. IZUI^{1,2} and S. HATA^{1,2}

(¹Graduate School of Biostudies, Kyoto Univ., ²Faculty of Agriculture, Kyoto Univ.)

shing@kais.kyoto-u.ac.jp

12. Structures of Nod factors produced by *M. loti* JRL501 and early responses of *Lotus japonicus* MG-20 to purified Nod factors

*S. A. CHECHETKA¹, M. ISHIZAKA² and H. KOUCHI¹ (¹NIAS, ²NIAES)

kouchih@nias.affrc.go.jp

13. White clover nodulin gene *TrEnodDR1* in Transgenic *Lotus japonicus*

*T. SHITAOOTA¹, A. SUZUKI², T. AOKI³, M. ABE², T. UCHIUMI² and S. HIGASHI²

(¹Grad. Sc. Sci. & Eng., Kagoshima Univ., ²Dept. Chem. & BioSci. Kagoshima Univ.,

³Dept. Appl. Biol. Sci., Nihon Univ.)

mikiabe@sci.kagoshima-u.ac.jp

14. Responses of *Lotus japonicus* by a non-nodulating *Rhizobium Azorhizobium caulinodans*

*N. KANAMORI, S. SHIBATA, T. SEKIMOTO, Y. MARU and H. OYAIZU

(Dept. of Global Agricultural Sciences, The Univ. of Tokyo)

aa07172@m.ecc.u-tokyo.ac.jp

15. Characteristics of *Lotus japonicus* mutants, *sym75* and *sym81*, that form ineffective nodules

*N. SUGANUMA¹, Y. NAKAMURA¹, F. IWAMATSU¹, M. YAMAMOTO¹, T. OHTA¹, S. AKAO² and M. KAWAGUCHI³

(¹Aichi Univ. of Education, ²National Institute of Agrobiological Resources, ³Graduate School of Arts and Sciences, Univ. of Tokyo)

nsuganum@aecc.aichi-edu.ac.jp

16. Specific occurrence of aromatic amine, β -phenethylamine, in legume root nodules

*S. FUJIHARA¹, J. TERAKADO¹, M. TAKENAKA² and T. YONEYAMA³

(¹Labo. of Plant Nutrition Diagnosis, National Agricultural Research Center,

²Soil Science Labo., National Agricultural Research Center for Hokkaido Region,

³Dept. of Applied Biological Chem., The Univ. of Tokyo)

fujihara@narc.affrc.go.jp

17. β -Phenethylamine is synthesized within the bacteroid tissues in root nodules

*J. TERAKADO, F. TANAKA and S. FUJIHARA

(Laboratory of Plant Nutrition Diagnosis, National Agricultural Research Center)

jtera@affrc.go.jp

18. EPF-type zinc-finger proteins in *Lotus japonicus* nodules: expression analysis and effects of ectopic expression by CaMV 35S promoter

*H. KUMAGAI and H. KOUCHI (NIAS)

hkuma@nias.affrc.go.jp

19. Characterization of Transgenic *Lotus japonicus* Carrying Sense- and Anti-sense Uricase Genes

*K. SHIMOMURA, K. TAKANE, M. NOMURA, H. KOUCHI and S. TAJIMA
(Dept. Life Science, Kagawa Univ., Inst. Agrobiological Science, Tsukuba)
s00g633@stmail.ag.kagawa-u.ac.jp

20. Expression analyses of two isoforms of phosphoenolpyruvate carboxylases (PEPCs) and a PEPC kinase of *Lotus japonicus*

T. NAKAGAWA¹, *T. IZUMI², M. BANBA², Y. UMEHARA³, H. KOUCHI³, K. IZUI^{1,2}, S. HATA^{1,2}
(¹Graduate School of Agriculture, Kyoto Univ., ²Graduate School of Biostudies, Kyoto Univ., ³National Institute of Agrobiological Science)
shing@kais.kyoto-u.ac.jp

21. Characterization of mitochondrial phosphate transporter from *Lotus japonicus*

*K. NAKAMORI¹, R. TAKABATAKE², K. IZUI^{1,2}, S. HATA^{1,2}
(¹Graduate School of Biostudies, Kyoto Univ., ²Graduate School of Agriculture, Kyoto Univ.)
shing@kais.kyoto-u.ac.jp

22. Morphological and biochemical characterization of Super Root in *Lotus corniculatus* L.

*T. KAWANO¹, R. AKASHI¹ and F. HOFFMANN²
(¹Faculty of Agriculture, Miyazaki Univ., ²Developmental and Cell Biology, Univ. of California, Irvine)
rakashi@cc.miyazaki-u.ac.jp

23. Chalcone isomerase isozymes in *Lotus japonicus*

*N. SHIMADA, T. AOKI and S. AYABE (Dept. Appl. Biol. Sci., Nihon Univ.)
98abs6069@brs.nihon-u.ac.jp

24. Construction of AFLP markers in *Lotus japonicus*

*M. YOSHIKAWA¹, M. TAKETA¹, M. HAYASHI², K. HARADA², S. KAWASAKI³, M. HAYASHI¹, Y. MUROOKA¹
(¹Grad. school of Engineering, Osaka Univ., ²Grad. school of science and Technology, Chiba Univ., ³National Institute of Agrobiological Resources)
makoto1@bio.eng.osaka-u.ac.jp

25. Morphological characteristics of Japanese germplasm collection of *Lotus japonicus* in the sowing year

*S.ISOBE, M. GAU and K.HIROI
(National Agricultural Research Center for Hokkaido Region)
sisobe@affrc.go.jp

26. Actinorhizal plant *Hemoglobin* genes in symbiotic between *Alnus firma* and *Frankia*

*F. SASAKURA¹, K. TAKENOUCHI¹, M. ABE², T. UCHIUMI², A. SUZUKI², S. HIGASHI²
(¹Grad. Sc. Sci. & Eng., Kagoshima Univ., ²Dept. Chem. & BioSci., Kagoshima Univ.)
mikiabe@sci.kagoshima-u.ac.jp

27. Salt tolerance of actinorhizal plants and symbiont *Frankia*

*C. TANI and H. SASAKAWA (Fac. of Agr., Okayama Univ.)
dns12506@cc.okayama-u.ac.jp, sasakawa@cc.okayama-u.ac.jp

28. *Sesbania rostrata* phosphoenolpyruvate carboxylase isoform that acts as both

a nodule-form and a root-form

*T. AONO1 and H. OYAIZU2 (1National Institute Livestock and Grassland Science,
2Grad. School of Agricultural and Life Sciences, The Univ. of Tokyo)

aonot@affrc.go.jp

29. Screening of nitrogen fixing bacteria in the rhizosphere of rice

*T. HASEGAWA and T. UOZUMI (Dept. of Life Sciences, Meiji Univ., School of Agriculture)

uozumi@isc.meiji.ac.jp

30. Colonization of inoculated endophytic diazotrophs on calli derived from apical meristem in sugarcane

* Y. Kutsuna¹, T. Gondo¹, R. Akashi¹ and S. Akao²

(¹Miyazaki Univ., ²National Institute of Agrobiological Sciences)

rakashi@cc.miyazaki-u.ac.jp

31. Non-symbiotic plants associated a nitrogen feed by polysaccharide bioflocculant

Y. TAKIGUCHI¹, *T. KOBAYASHI¹, K. NAKATA², K. SINOTUKA¹, M. OHSHIMA¹,
Y. YAZAWA¹, T. YAMAGUCHI¹ and R. KURANE³

(¹Chem. of Organic Resources Labo., Dept. of Industrial Chem., Faculty of Tech., Chiba Institute of Tech., ²Japan Bioindustry Association, ³Chiba Institute of Tech. and Biotech. Research Center, Kubota corporation.)

p06takig@pf.it-chiba.ac.jp

32. Effect of arbuscular-mycorrhizal fungi on colonization rate, phosphorus uptake and growth of hot pepper in medium containing rock phosphate

*B. SOHN, K. KIL-YONG and D. LEE

bksohn@sunchon.ac.kr

33. Genome sequence analysis of *Xanthomonas oryzae* pv. *oryzae*

*H. OCHIAI, Y. INOUE, M. TAKEYA and H. KAKKU

(National Institute of Agrobiological Sciences)

ochiaih@nias.affrc.go.jp

34. Sugar increase and fusarium wilt tolerance in water melon plants infected with AM fungus

*Y. MATSUBARA and H. FUKUI (Fac. of Agriculture, Gifu Univ.)

ymatsu@cc.gifu-u.ac.jp

35. Nodule bacteria symbiosis with *Acacia* growing Southeast Asia

*A. NGOM¹, M. ABE², T. UCHIUMI², A. SUZUKI², S. HIGASHI²

(¹Grad. Sc. Sci. & Eng., Kagoshima Univ., ²Dept. Chem. & BioSci., Kagoshima Univ.)

mikiabe@sci.kagoshima-u.ac.jp

Schedule of The 11th Annual Meeting for Plant-Microbe Interactions in Miyazaki

11, Oct.

- 1 2 : 3 0 Registration
- 1 3 : 3 0 Opening
- 1 3 : 4 5 Oral Presentation (O1-O 7)
- 1 5 : 3 0 Break
- 1 5 : 4 5 Oral Presentation (O 8 -O 1 4)
- 1 7 : 3 0 Break
- 1 8 : 3 0 Welcome Party in the Ocean Dome

12, Oct.

- 9 : 0 0 Oral Presentation (O1 5 -O21)
- 1 0 : 4 5 Break
- 1 1 : 0 0 Oral Presentation (O22-O24)
- 1 1 : 4 5 General Discussion 1 (for Oral Presentations)
- 1 2 : 1 5 Lunch
- 1 3 : 3 0 – 1 4 : 0 0 Brief Introduction of Each Posters (Even No.)
- 1 4 : 0 0 – 1 5 : 3 0 Poster Presentation (Even No.)
- 1 5 : 3 0 – 1 7 : 0 0 Special Lecture
- 1 7 : 0 0 – 1 7 : 3 0 General Meeting
- 1 8 : 0 0 Shokubiken Banquet

13, Oct.

- 9 : 0 0 – 9 : 3 0 Brief Introduction of Each Posters (Odd No.)
- 9 : 3 0 – 1 1 : 0 0 Poster Presentation (Odd No.)
- 1 1 : 0 0 – 1 1 : 3 0 General Discussion 2 (for Posters)

Departure
