

1. Root Nodule Formation as a Photomorphogenesis Event.

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2. Map-based cloning of *Lotus japonicus Fen1* gene that controls nitrogenase activity.

○ Tsuneo Hakoyama<sup>1</sup>, Kaori Niimi<sup>1</sup>, Hirokazu Watanabe<sup>1</sup>, Ryohei Tabata<sup>1</sup>, Junichi Matsubara<sup>1</sup>, Shusei Sato<sup>2</sup>, Yasukazu Nakamura<sup>2</sup>, Satoshi Tabata<sup>2</sup>, Haruko Imaizumi-Anraku<sup>3</sup>, Masayoshi Kawaguchi<sup>4</sup>, Hiroshi Kouchi<sup>3</sup> and Norio Suganuma<sup>1</sup>

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3. Screening of novel symbiotic mutants of *Lotus japonicus* mutagenized by ion-beam.

○ <sup>1</sup>Satoshi Shibata, <sup>2</sup>Kuniko Higashi, <sup>2</sup>Saori Tomizawa, <sup>3</sup>Tomoko Kojima, <sup>3</sup>Ryo Ohtomo, <sup>2</sup>Masayoshi Kawaguchi, <sup>1</sup>Yosuke Umehara, <sup>1</sup>Hiroshi Kouchi <sup>1</sup>National Institute of Agrobiological Sciences, <sup>2</sup>Department of Biological Sci, Grad School of Sci, The Univ of Tokyo, <sup>3</sup>National Institute of Livestock and Grassland Science

4. A sed5-like SNARE is influenced to nodule development in *Lotus japonicus*.

○ Mika Nomura<sup>1</sup>, Ha Thu Mai<sup>1</sup>, Kaoru Takegawa<sup>1</sup>, Erika Asamizu<sup>2</sup>, Syusei Sato<sup>2</sup>, Tomohiko Kato<sup>2</sup>, Satoshi Tabata<sup>2</sup>, and Shigeyuki Tajima<sup>1</sup>

<sup>1</sup> Kagawa Uni. <sup>2</sup> Kazusa DNA Res.Inst

5. Analysis of host genes involved in microsymbionts infection in *Lotus japonicus* and *Oryza sativa*.

○ Mari Banba, Hiroshi Kouchi, Haruko Imaizumi-Anraku  
NIAS

6. Comparison of the initial shoot growth of hypernodulation soybean mutant NOD lines and the parent cv. Williams.

○ Sayuri Ito<sup>1</sup>, Norikuni Ohtake<sup>2</sup>, Kuni Sueyoshi<sup>2</sup>, Takuji Ohyama<sup>2</sup>

<sup>1</sup>Graduate School of Science and Technology, Niigata Univ., <sup>2</sup> Faculty of Agriculture, Niigata Univ.

7. Expression of a class 1 hemoglobin gene and nitric oxide generation as symbiotic and pathogenic responses on *Lotus japonicus*.

○ Maki Nagata<sup>1</sup>, Yukiko Ishizaka<sup>1</sup>, Yoshikazu Shimoda<sup>2</sup>, Akihiro Suzuki<sup>3</sup>, Mikiko Abe<sup>4</sup>, Ken-ichi kucho<sup>4</sup>, Shiro Higashi<sup>4</sup>, Toshiki Uchiumi<sup>4</sup>

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8. Compatible and incompatible interactions between *Lotus japonicus* and *Pseudomonas syringae*: Are there the crosstalk between defensive mechanism and symbiotic signaling?

○ Tomomi Nakagawa<sup>1</sup>, Kasumi Takeuchi<sup>1</sup>, Masayoshi Kawaguchi<sup>2,3</sup>, Hiroshi Kouchi<sup>1</sup>

<sup>1</sup> NIAS, <sup>2</sup> Tokyo Univ., <sup>3</sup> CREST

9. Involvement of type II secretion system in virulence of *Ralstonia solanacearum*.

Shin-taro Tsujimoto<sup>1</sup>, Kazuhiro Nakaho<sup>2</sup>, Akinori Kiba<sup>1</sup>, Kouhei Ohnishi<sup>1</sup>, Yasufumi Hikichi<sup>1</sup>

<sup>1</sup>Kochi Univ., <sup>2</sup>NARC

10. CDPK signal specifies: The right place at the plasma membrane of *potato*.

Tomohiko Nagaoka<sup>1</sup>, Kazutoshi Yokokawa<sup>1</sup>, Tomo Okuta<sup>1</sup>, Hiromasa Yagi<sup>2</sup>, Hideo Akutsu<sup>2</sup>, Naoyaka Furuichi<sup>2</sup>.

<sup>1</sup>Niigata Univ. grad., <sup>2</sup>Osaka Univ. Pro. Res. Inst., <sup>3</sup>Niigata Univ. Trans. Res.

11. Molecular cloning of *Avr-Pia*, the avirulence gene in *Magnaporthe grisea* toward the rice blast resistance gene *Pi-a*.

Teruo Sone<sup>1</sup>, Shinsuke Miki<sup>1</sup>, Kotaro Matsui<sup>1</sup>, Taketo Ashizawa<sup>2</sup>, Hideki Kito<sup>3</sup>, Kazuyuki Hirayae<sup>2</sup>, Toshihiko Nakajima<sup>4</sup> and Fusao Tomita<sup>5</sup>

<sup>1</sup>Hokkaido Univ., <sup>2</sup>NARC, <sup>3</sup>NIAS, <sup>4</sup>NARCT, <sup>5</sup>Univ. of Air

12. The symbiotic roles of type III secretion system in *Mesorhizobium loti*.

Saori Okabe<sup>1</sup>, Shin Okazaki<sup>2</sup>, Michael Göttfert<sup>2</sup>, Kazuhiko Saeki<sup>1</sup>

<sup>1</sup>Nara Women's Univ., <sup>2</sup>Dresden University of Technology

13. Alleviation of salt stress to *Lotus japonicus* by *Mesorhizobium loti* ACC deaminase.

Noriyuki NUKUI<sup>1</sup>, Shin-ichi AYABE<sup>1</sup>, Toshio AOKI<sup>1</sup>

<sup>1</sup>Department of Biological Sciences, Nihon University.

14. Establishment of efficient mutation induction and detection systems for *Rhizobium* species.

Hiroyuki Ichida<sup>1,2</sup>, Tomoki Matsuyama<sup>3</sup>, Hiromichi Ryuto<sup>2</sup>, Nobuhisa Fukunishi<sup>2</sup>, Tomoko Abe<sup>2</sup>, Takato Koba<sup>1</sup>

<sup>1</sup>Graduate School of Science and Technology, Chiba University, <sup>2</sup>Nishina Center for Accelerator-Based Science, RIKEN, <sup>3</sup>Discovery Research Institute, RIKEN

15. A novel symbiotic gene is required for the synthesis of anionic cyclic beta-glucans in *Mesorhizobium loti*.

Yasuyuki Kawaharada, Shima Eda, Hisayuki Mitsui, Kiwamu Mimamisawa

Graduate School of Life Sciences, Tohoku University

16. Activation of *Sinorhizobium fredii* USDA191 NodD1 in the presence of specific flavonoids.

Maya Ikeuchi<sup>1</sup>, Masaki Kinehara<sup>1</sup>, Emi Kurimoto<sup>1</sup>, Yohei Takada<sup>1</sup>, Won-Seok Kim<sup>2</sup>, Hari B Krishnan<sup>2</sup>, Hitoshi Ashida<sup>1</sup>, Ken-ichi Yoshida<sup>1</sup>

<sup>1</sup>Grad. Sch. Sci. and Tech., Kobe Univ., <sup>2</sup>Plant Genet. Res. Unit, Univ. of Missouri.

17. Structural requirements of strigolactones for hyphal branching in arbuscular mycorrhizal fungi.

Kohki Akiyama<sup>1,2</sup>, Shin Ogasawara<sup>1</sup>, Hideo Hayashi<sup>1</sup>

<sup>1</sup>Osaka Prefecture Univ., <sup>2</sup>CREST

18. Cellular ultrastructure and polyphosphate localization in arbuscular mycorrhizal fungus.

Katsuharu Saito<sup>1</sup>, Yukari Kuga<sup>1</sup>, Yasuaki Naito<sup>2</sup>, Ryo Ohtomo<sup>3</sup>, Hiroo Hamaguchi<sup>2</sup>, Masanori Saito<sup>4</sup>

<sup>1</sup>Shinshu Univ., <sup>2</sup>Univ. Tokyo, <sup>3</sup>NILGS, <sup>4</sup>NIAES

19. Dispersed and aggregated forms of polyphosphate are observed in freeze-substituted intraradical hyphae and germ tubes of *Gigaspora margarita*.

Yukari Kuga, ○Keiichirou Nayuki, Katsuharu Saito, R. Larry Peterson,

<sup>1</sup>Shinshu Univ., <sup>2</sup>U of Guelph, <sup>3</sup>NIAES

20. Comprehensive analysis of microbial communities in phyllosphere with PCR-DGGE.

○Wataru Suda<sup>1</sup>, Michiei Oto<sup>2</sup>, Hirofumi Shinoyama<sup>1</sup>

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21. Application of the CAMP to broadleaf trees and herbs.

○Kenji Sakakibara<sup>1</sup>, Wataru Suda<sup>1</sup>, Seigo Amachi<sup>1</sup>, Takaaki Fujii<sup>1</sup>, Hirofumi Shinoyama<sup>1</sup>

<sup>1</sup>Grad. S. of Sci. and Tech., Chiba Univ.

22. Plant growth promotion mechanism of *Burkholderia* sp. Flap1 analysed by using gnotobiotic water culture system.

○Yusuke Unno<sup>1,2</sup>, Takuro Shinano<sup>3</sup>, Nozomu Sakurai<sup>4</sup>, Daisuke Shibata<sup>4</sup>, Mitsuru Osaki<sup>1</sup>

<sup>1</sup>Hokkaido Univ., <sup>2</sup>JSPS, <sup>3</sup>CRIS, <sup>4</sup>Kazusa DNA Res. Inst.

1. Sequencing of the genomes of rice endophytic bacteria.  
○Takakazu Kaneko<sup>1</sup>, Yasukazu Nakamura<sup>1</sup>, Akiko Watanabe<sup>1</sup>, Kiwamu Minamisawa<sup>2</sup>, Satoshi Tabata<sup>1</sup>  
<sup>1</sup> Kazusa DNA Res.Inst.,<sup>2</sup>Tohoku Univ.
2. Isolation of nodulin genes from legume tree *Paraserianthes falcataria*.  
○ Norihito Kanamori<sup>1</sup>, Shiro Wakabayashi<sup>2</sup>, Toshiki Uchiumi<sup>2</sup>, Shiro Higashi<sup>2</sup>, Junichi Sugiyama<sup>1</sup>, Mikiko Abe<sup>2</sup>  
<sup>1</sup> NFRI, <sup>2</sup> Kagoshima Univ.
3. Disease resistance in Arabidopsis induced by bacterial endophytes.  
Michiko Yasuda<sup>1,2</sup>, Tsuyoshi Isawa<sup>1</sup>, Shinji Kouno<sup>1</sup>, Toshiaki Kudo<sup>2</sup>, Satoshi Shinozaki<sup>1</sup>, ○Hideo Nakashita<sup>2</sup>  
<sup>1</sup>Mayekawa MFG. Co., Ltd., <sup>2</sup>RIKEN, DRI, Environmental Molecular Biology Laboratory
4. Transport mechanism of flavonoid secretion from soybean roots.  
○Akifumi Sugiyama<sup>1</sup>, Nobukazu Shitan<sup>1</sup>, Kazufumi Yazaki<sup>1</sup>  
<sup>1</sup> RISH, Kyoto University
5. Differential structure of rhizosphere microbial community among plant species.  
○Atsushi Okubo<sup>1</sup>, Akio Tonouchi<sup>1</sup>, Shuichi Sugiyama<sup>1</sup>  
<sup>1</sup>Hirosaki Univ.
6. Microbial and functional diversity of the rhizosphere of white lupin grown under phosphorus deficient conditions.  
○Jun Wasaki<sup>1</sup>, Junya Sakaguchi<sup>2</sup>, Takuya Yamamura<sup>2</sup>, Takuro Shinano<sup>1</sup>, Ellen Kandeler<sup>3</sup>, Mitsuru Osaki<sup>2</sup>  
<sup>1</sup>CRIS. Hokkaido Univ., <sup>2</sup>Gard. School of Agr. Hokkaido Univ., <sup>3</sup>Univ. Hohenheim
7. Characteristics of culturable nitrogen-fixing bacterial communities from rhizosphere soil of several plants.  
○Hiroshi Akasaka<sup>1</sup>, Jun Wasaki<sup>1</sup>, Yoshimi Tanaka<sup>1</sup>, Jun Watanabe<sup>1</sup>, Mitsuru Osaki<sup>2</sup>, Susumu Ito<sup>1</sup>  
<sup>1</sup>CRIS. Hokkaido Univ., <sup>2</sup>Gard. School of Agr. Hokkaido Univ.
8. Symbiotic feature in ABA-related mutants of leguminous plant.  
Youichiro Imazato<sup>1</sup>, Shohei Sawada<sup>1</sup>, Satoru Maeda<sup>2</sup>, Toshiki Uchiumi<sup>2</sup>, Mikiko Abe<sup>2</sup>, Ken-ichi Kucho<sup>2</sup>, Shiro Higashi<sup>2</sup>, Masatsugu Hashiguchi<sup>3</sup>, Ryo Akashi<sup>3</sup>, Toyoaki Anai<sup>1</sup>, Susumu Arima<sup>1</sup>, ○ Akihiro Suzuki<sup>1</sup>  
<sup>1</sup>Saga Univ., <sup>2</sup>Kagoshima Univ., <sup>3</sup>Miyazaki Univ.
9. A novel pathosystem of Lotus japonicus.  
○ Kasumi Takeuchi, Keisuke Tomioka, Hiroshi Kouchi, Tomomi Nakagawa, Hisatoshi Kaku  
Natl. Inst. Agrobiol. Sci.

1 0. Phenotypic analysis of ethylene insensitive mutants in *Lotus japonicus*.

○Yoshinobu Jin, Tomomi Nakagawa, Norio Suganuma, Masayoshi Kawaguchi

<sup>1</sup>Department of Biological Sciences, Graduate School of Science, <sup>2</sup>National Institute of Agrobiological Sciences, <sup>3</sup>Department of Life Science, Aichi University of Education, <sup>4</sup>CREST/JST

1 1. Inhibitory mechanism of ethylene on T-DNA transfer in plant mediated by *Agrobacterium tumefaciens*.

○Satoko Nonaka<sup>1</sup>, Kenichi Yuhashi<sup>1</sup>, Tkanaori Shoji<sup>1</sup>, Masayuki Sugawara<sup>2</sup>, Kiwamu Minamisawa<sup>2</sup>, Hiroshi Ezura<sup>1</sup>

<sup>1</sup>Grad. Sch. of Life and Environ. Sci., Univ. of Tsukuba, Tsukuba, <sup>2</sup> Grad. Sch. of Life Sci., Tohoku Univ., Sendai

1 2. Mitochondrial proteome differentiation between *Lotus japonicus* and soybean.

○Hatthaya Arunothayanan, Ayaka Noda, Le thi Phoung Hoa, Mika Nomura, Shigeyuki Tajima  
Department of Life Science, Faculty of Agriculture, Kagawa University

1 3. CDPK recognizes elicitor and suppressor signals of *Phytophthora infestans*.

○Naotaka Furuichi<sup>1</sup>, Masataka Kinjo<sup>3</sup>, Tomohiko Nagaoka<sup>2</sup>, Tomo-o Okuta<sup>2</sup>, Masahiro Yagi<sup>4</sup>, Hideo Akutsu<sup>4</sup>

<sup>1</sup>CTR Inst., <sup>2</sup>Grad.School, Niigata Univ, <sup>3</sup>Hokkaido Univ., <sup>4</sup>Protein Insti.

1 4. Functional analysis of a *CLV3*-like gene in *Lotus japonicus*.

○Satoru Okamoto<sup>1</sup>, Tomomi Nakagawa<sup>1</sup>, Syusei Sato<sup>2</sup>, Naoto Sato<sup>1</sup>, Izumi Fukuhara<sup>1,3</sup>, Satoshi Tabata<sup>2</sup>, Masayoshi Kawaguchi<sup>1,3</sup>

<sup>1</sup>Tokyo Univ., <sup>2</sup>Kazusa DNA Res.Inst., <sup>3</sup> JST/CREST

1 5. Expression and functional characterization of two catalase genes in *Mesorhizobium loti* MAFF303099.

○Masaki Hanyu<sup>1,2</sup>, Hanae Fujimoto<sup>1</sup>, Kouhei Tejima<sup>1</sup>, Kazuhiko Saeki<sup>1</sup>

<sup>1</sup> Nara Women's Univ., <sup>2</sup> Osaka Univ.

1 6. Nodule vascular bundle differentiation during nodule development, morphogenetic observation and molecular analysis.

○Yuko Honbu<sup>1</sup>, Shigemasa Sakata<sup>1</sup>, Norihito Kanamori<sup>2</sup>, Akihiro Suzuki<sup>3</sup>, Toshiki Uchiumi<sup>4</sup>, Shiro Higashi<sup>4</sup>, Mikiko Abe<sup>4</sup>

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1 7. Systematic analysis of His-Asp phosphorelay signal transduction in *Mesorhizobium loti*.

○Daisuke Hagiwara<sup>1</sup>, Yoko Sakuragi<sup>1</sup>, Yoshikazu Shimoda<sup>2</sup>, Shusei Sato<sup>2</sup>, Satoshi Tabata<sup>2</sup>, Takeshi Mizuno<sup>1</sup>

<sup>1</sup>Nagoya Univ. <sup>2</sup>Kazusa DNA Res.Inst.

1 8. Analysis of nitric oxide synthesis related gene in *Lotus japonicus*.

○Ei-ichi Murakami<sup>1</sup>, Yoshikazu Shimoda<sup>2</sup>, Kucho Ken-ichi<sup>3</sup>, Takuma Sano<sup>3</sup>, Mikiko Abe<sup>3</sup>, Akihiro

Suzuki<sup>4</sup>, Shiro Higashi<sup>3</sup>, Toshiki Uchiumi<sup>3</sup>

<sup>1</sup>Grad. Sc. Sci Eng., Kagoshima Univ., <sup>2</sup>Kazusa DNA Res. Inst., <sup>3</sup>Fac. Sci., Kagoshima Univ., <sup>4</sup>Fac. Agr., Saga Univ.

1 9. Symbiotic plasmid of *Rhizobium* plays at hide-and-peek in *Agrobacterium*.

○Hiroki Nakatsukasa<sup>1</sup>, Toshiki Uchiumi<sup>2</sup>, Kenichi Kucyou<sup>2</sup>, Akihiro Suzuki<sup>3</sup>, Takuhiro Fukumori<sup>1</sup>, Shiro Higashi<sup>2</sup>, and Mikiko Abe<sup>2</sup>

<sup>1</sup>Graduate School of Science and Engineering and <sup>2</sup>Faculty of Science, Kagoshima University, <sup>3</sup>Faculty of Agriculture, Saga University

2 0. The hypernodulating mutant of *Lotus japonicus* that shows almost same morphological and growth characteristics as wild type.

○Kaori Ishikawa<sup>1</sup>, Yongyi Li<sup>1</sup>, Wang Yan Xu<sup>1</sup>, Keiske Yokota<sup>1</sup>, Toshihiro Aono<sup>1</sup>, Norio Suganuma<sup>2</sup>, Masayosi Kawaguchi<sup>3</sup>, Hiroshi Oyaizu<sup>1</sup>

<sup>1</sup>Univ.of Tokyo Bio.Res.Cent. <sup>2</sup>Aichi University of Education <sup>3</sup>Univ.of Tokyo

2 1. Characterization of *Frankia* strains based on RFLP analysis of the *nifD*-K IGS region.

○Yuki Nagashima, Yuka Takahashi and Hideo Sasakawa  
Grad. Sch. of Natur. Sci. & Tech., Okayama Univ.

2 2. The nodule number of a novel *Lotus japonicus* hypernodulation mutant is determined by the root genotype.

○Erika Oka-Kira<sup>1</sup>, Satoshi Shibata<sup>2</sup>, Shimpei Magori<sup>1</sup>, Naoto Sato<sup>1</sup>, Yosuke Umehara<sup>2</sup>, Hiroshi Kouchi<sup>2</sup>, Masayoshi Kawaguchi<sup>1,3</sup>

<sup>1</sup> Grad School of Sci, The Univ of Tokyo, <sup>2</sup>NIAS, <sup>3</sup>CREST/JST

2 3. Isolation of *Frankia* from the root nodules of *Alnus* sp. growing in acid soil and acid tolerance of the isolates.

○Hiroyuki Masuda, Yuki Nagashima, Atuo Mizuno and Hideo Sasakawa  
Grad. Sch. of Natur. Sci. & Tech., Okayama Univ.

2 4. Phenotypic characterization of a hypernodulation mutant, *klavier*, in *Lotus japonicus*.

○Hikota Miyazawa<sup>1</sup>, Erika Oka-Kira<sup>1</sup>, Naoto Sato<sup>1</sup>, Guo-Jiang Wu<sup>2</sup>, Shusei Sato<sup>3</sup>, Satoshi Tabata<sup>3</sup>, Masaki Hayashi<sup>4</sup>, Kyuya Harada<sup>4</sup>, Masayoshi Kawaguchi<sup>1</sup>

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2 5. Expression analysis of *nifA* and *nifH* in *mcp* deleted mutants of *Sinorhizobium meliloti*.

○Nobuyuki Kato<sup>1</sup>, Kaori Katsumata<sup>1</sup>, Yukiko Mori<sup>1</sup>, Nami Tanahashi<sup>1</sup>, Tomomi Sugiura<sup>1</sup>, Yuuta Yufu<sup>1</sup>, Maiko Kanbayashi<sup>1</sup>, Akira Tabuchi<sup>1</sup>, Birgit Scharf<sup>2</sup>, Ruediger Schmitt<sup>2</sup> <sup>1</sup>Shinshu Univ., <sup>2</sup>Regensburg Univ.

2 6. Characterization and map based cloning of the symbiotic mutant *Ljsym67*.

○Keisuke Yokota<sup>1</sup>, Eigo Fukai<sup>1</sup>, Shusei Sato<sup>2</sup>, Satoshi Tabata<sup>2</sup>, Niels Sandal<sup>1</sup>, Jens Stougaard<sup>1</sup>  
<sup>1</sup>Aarhus Univ., <sup>2</sup>Kazusa DNA Res.Inst.

2 7. Complete genome sequence of the nitrogen-fixing bacterium *Azorhizobium caulinodans*.

○Kyung-bum Lee<sup>1</sup>, Toshihiro Aono<sup>1</sup>, Chi-Te Liu<sup>1</sup>, Shino Suzuki<sup>1</sup>, Tadahiro Suzuki<sup>1</sup>, Takakazu Kaneko<sup>2</sup>, Manabu Yamada<sup>2</sup>, Satoshi Tabata<sup>2</sup>, and Hiroshi Oyaizu<sup>1</sup>

<sup>1</sup>Biotech.Res.Cent.,Univ.Tokyo,<sup>2</sup> Kazusa DNA Res.Inst.

2 8. Phenotype of transgenic *Lotus japonicus* that overexpresses class1 hemoglobin gene.

○Ushiwo Higashibaba<sup>1</sup>, Yoshikazu Shimoda<sup>2</sup>, Fuyuko Sasakura<sup>3</sup>, Ken-ichi Kucho<sup>4</sup>, Mikiko Abe<sup>4</sup>, Shiro Higashi<sup>4</sup>, Toshiki Uchiumi<sup>4</sup>

<sup>1</sup>Grad. Sc. Sci.&Eng., Kagoshima Univ., <sup>2</sup>Kazusa DNA Res.Inst., <sup>3</sup>Fronteir Science Research Center,

<sup>4</sup>Fac.Sci., Kagoshima Univ.

2 9. Construction of novel switching genetic marker for recombinant *in-vivo* expression technology (RIVET).

○Elina Mishima<sup>1,2,3</sup>, Eriko Ishida<sup>1</sup>, Kazuhiko Saeki<sup>1</sup>

<sup>1</sup>Nara Women's Univ.,<sup>2</sup> Osaka Univ.,<sup>3</sup>JSPS

3 0. Systematic functional analysis of transcription factors whose expression is induced in the nodulation process of *Lotus japonicus*.

○Erika Asamizu<sup>1</sup>, Hiroshi Kouchi<sup>2</sup>, Jillian Perry<sup>3</sup>, Trevor Wang<sup>4</sup>, Martin Parniske<sup>5</sup>, Satoshi Tabata<sup>1</sup>, Shusei Sato<sup>1</sup>

<sup>1</sup> Kazusa DNA Res.Inst., <sup>2</sup>Natl. Inst. Agrobiol. Sci., <sup>3</sup>Sainsbury Lab., <sup>4</sup>John Innes Centre, <sup>5</sup>Univ. Munich

3 1. A method for markerless gene disruption in Rhizobia : application to *bacA* homologue and other genes in *Mesorhizobium loti* MAFF303099.

○Jumpei Maruya<sup>1,2</sup>, Saori Okabe<sup>1</sup>, Kazuhiko Saeki<sup>1</sup>

<sup>1</sup> Department of Biological Science, Nara Women's Univ.,<sup>2</sup> Department of Biological Sciences, Graduated school of Science, Osaka Univ.

3 2. Functional analysis of *LjNSP2* on nodule formation in *Lotus japonicus*.

○Saori Tomisawa<sup>1</sup>, Yasuhiro Murakami<sup>1</sup>, Naoto Satou<sup>1</sup>, Masayoshi Kawaguchi<sup>1,2</sup>

<sup>1</sup>Grad. Sc. Sci., Univ. Tokyo, <sup>2</sup>JST/CREST

3 3. Search for *Rj2-gsn* Gene of *Bradyrhizobium japonicum* Is-1 by Tn5 Mutation.

○Yousuke Ohtsuka<sup>1</sup>, Hirohito Tsurumaru<sup>1</sup>, Msao Sakai<sup>2</sup>, Takeo Yamakawa<sup>2</sup><sup>1</sup>Division of Bioresource and Bioenvironmental Sciences, Kyushu University, <sup>2</sup>Faculty of Agriculture, Kyushu University

3 4. Subcellular localization of IGN1 protein and suppressor mutant lines from *ign1* mutant.

○Hirotaka Kumagai<sup>1</sup>, Tsuneo Hakoyama<sup>1</sup>, Norio Suganuma<sup>2</sup>, Yosuke Umehara<sup>1</sup>, Hiroshi Kouchi<sup>1</sup>

<sup>1</sup>National Institute of Agrobiological Sciences, <sup>2</sup>Aichi University of Education

3 5. Comparative expression profiling of *Bradyrhizobium japonicum* response to soybean seed extract and genistein.

○Min Wei<sup>1</sup>, Takuji Ohwada<sup>1</sup>, Tadasi Yokoyama<sup>2</sup>, Kiwamu Minamisawa<sup>3</sup>, Hisayuki Mitsui<sup>3</sup>,

Manabu Itakura<sup>3</sup>, Takakazu Kaneko<sup>4</sup>, Satoshi Tabata<sup>4</sup>, Kazuhiko Saeki<sup>5</sup>, Hirofumi Omori<sup>6</sup>,

Shigeyuki Tajima<sup>7</sup>, Toshiki Uchiumi<sup>8</sup>, Mikiko Abe<sup>8</sup>.

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3 6. Functions of plant hemoglobins on nitrogen-fixing symbiosis.

○Fuyuko Sasakura<sup>1</sup>, Yoshikazu Shimoda<sup>2</sup>, Maki Nagata<sup>3</sup>, Ken-ichi Kucho<sup>4</sup>, Akihiro Suzuki<sup>5</sup>, Shiro Higashi<sup>4</sup>, Mikiko Abe<sup>4</sup>, Toshiki Uchiumi<sup>4</sup>

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3 7. Global gene expression of *Bradyrhizobium japonicum* fed with vanillin, vanillate, 4-hydroxybenzoate and protocatechuate.

○Naofumi Ito<sup>1</sup>, Manabu Itakura, <sup>11</sup>Shima Eda<sup>1</sup>, Kazuhiko Saeki<sup>2</sup>, Hirofumi Oomori<sup>3</sup>, Tadashi Yokoyama<sup>4</sup>, Takakazu Kaneko<sup>5</sup>, Satoshi Tabata<sup>5</sup>, Takuji Oowada<sup>6</sup>, Shigeyuki Tajima<sup>7</sup>, Toshiki Uchiumi<sup>8</sup>, Hisayuki Mitsui<sup>1</sup>, Eiji Masai<sup>9</sup>, Masataka Tsuda<sup>1</sup>, Kiwamu Minamisawa<sup>1</sup>

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3 8. Establishment of the AM screening system with major modifications and Attempt to isolate AM specific mutants in *Lotus japonicus*.

○Chie Yoshida<sup>1</sup>, Katsuharu Saito<sup>2</sup>, Masayoshi Kawaguchi<sup>1,3</sup>

<sup>1</sup> Department of Biolo. Sci., Grad. School of Sci., Univ. of Tokyo, <sup>2</sup>Shinshu Univ., <sup>3</sup>JST • CREST

3 9. Correlation analysis between variable genomic regions and symbiotic nitrogen fixation in different strains of *Bradyrhizobium japonicum*.

Mnabu Itakura<sup>1</sup>, kazuhiko Saeki<sup>2</sup>, Hirofumi Oomori<sup>3</sup>, Tadashi Yokoyama<sup>4</sup>, Takakazu Kaneko<sup>5</sup>, Satoshi Tabata<sup>5</sup>, Takuji Oowada<sup>6</sup>, Shigeyuki Tabata<sup>7</sup>, Toshiki Uchiumi<sup>8</sup>, Kounosuke Fujita<sup>9</sup>, Kana Honnma<sup>9</sup>, Shima Eda<sup>1</sup>, Hisayuki Mitsui<sup>1</sup>, ○Kiwamu Minamisawa<sup>1</sup>

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4 0. Production of strigolactones in the roots of non-host plants for arbuscular mycorrhizal fungi.

Kohki Akiyama<sup>1,2</sup>, ○Takanori Kashihara<sup>1</sup>, Kaori Yoneyama<sup>3,4</sup>, Dai Kusumoto<sup>5</sup>, Hitoshi Sekimoto<sup>4</sup>, Kouichi Yoneyama<sup>5</sup>, Hideo Hayashi<sup>1</sup>



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4 1. Species differentiation of Thai *Vigna* plants from section *Ceratotropis* to section *Angulares* made a change of symbiotic partner from *B.japonicum* related microorganisms to *B.elkanii* related microorganisms.

○Tadashi Yokoyama<sup>1</sup>, Norihiko Tomooka<sup>2</sup>, Yasuhiro Arima<sup>1</sup>

<sup>1</sup>Tokyo University of Agriculture and Technology, <sup>2</sup>National Institute of Agro-biological Sciences

4 2. Temperature stress tolerance and increase in antioxidative enzyme activities in mycorrhizal strawberry plants.

○Yuki Miyawaki<sup>1</sup>, Chieko Miyawaki<sup>1</sup>, Youhong Li<sup>1</sup>, Yoichi Matsubara<sup>1</sup>, Kaneyuki Koshikawa<sup>2</sup>,

<sup>1</sup>Faculty of Applied Biological Sciences, Gifu University, <sup>2</sup>Gifu Pref. Res. Inst. Agric. Sci.

4 3. Symbiotic nodule bacteria of tree legume *Fordia splendidissima* relating with rehabilitation of tropical rain forest, East Kalimantan, Indonesia.

○Atsushi Iida<sup>1</sup>, Aiko Okamoto<sup>2</sup>, Achirul Nditasari<sup>3</sup>, Titik K. Prana<sup>4</sup>, Desy Ekawati<sup>5</sup>, Natsuki Watanabe<sup>6</sup>, Eiji Suzuki<sup>7</sup>, Kenichi Kucho<sup>8</sup>, Toshiki Uchiumi<sup>9</sup>, Shiro Higashi<sup>10</sup>, Mikiko Abe<sup>11</sup>

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Univ., <sup>10</sup>Dept.Chem&Biosci.Sci., Kagoshima Univ., <sup>11</sup>Dept.Chem&Biosci.Sci., Kagoshima Univ.

4 4. In situ and simultaneous detection of alkaline phosphatase activity and polyphosphate in arbuscules within arbuscular mycorrhizal roots .

○Rintaro Funamoto<sup>1</sup>, Hiroshi Oyaizu<sup>1</sup>, Toshihiro Aono<sup>1</sup>,

<sup>1</sup> Tokyo Univ.Bio.Res.Cen.

4 5. Construction of rhizobitoxine-producing *Agrobacterium* and the effect on *Agrobacterium*-mediated transformation.

○Masayuki Sugawara<sup>1</sup>, Ryota Haramaki<sup>1</sup>, Satoko Nonaka<sup>2</sup>, Hiroshi Ezura<sup>2</sup>, Shima Eda<sup>1</sup>, Hisayuki Mitsui<sup>1</sup>, Kiwamu Minamisawa<sup>1</sup>

<sup>1</sup> Life Sci., Tohoku Univ., <sup>2</sup> Gene Reserch Center, Tsukuba Univ.

4 6. Diversification of arbuscular mycorrhizal fungi and growth of pioneer plants in early primary succession in extremely acidic soil.

Sachie Miyakawa, An Gi-Hong, Mitsuru Osaki, Tatsuhiro Ezawa  
Graduate school of agriculture, Hokkaido University

4 7. Effect of inoculation of *Rhizobium leguminosarum* bv. *viciae* Y629 on hairy vetch growth.

○Takashi Sato, Sayuri Yoshimoto, Shunichi Watanabe, Yoshihiro, Atsushi Sato  
Akita Pref. Univ.

