

PROGRAM FOR US / JAPAN SEMINAR

-Aug. 15 – Aug. 19 (2006)-

August 15, Tuesday

19:30 **Welcome Dinner in the group**
(HANA no MAI; Ryogoku)

August 16, Wednesday

9:30 **Welcome Talk**

Coordinator

Shigeyuki Tajima

Kagawa University

- 1) **Bacterial genetic and genomic-proteomic approaches to understand the symbiosis.**
- 2) **Evolution and horizontal phylogenetic distribution of plant-microbe associations.**

10:00 L1-1 The complete genome sequences of two photosynthetic *Bradyrhizobium* strains.

Michael Sadowsky

University of Minnesota

10:30 L1-2 Whole-genome transcriptional analysis of desiccation induced stress in the symbiotic, nitrogen-fixing bacterium *Bradyrhizobium japonicum*.

Eddie J. Cytryn

University of Minnesota

11:00 **Coffee break**

11:20 L1-3 Genome variations of soybean bradyrhizobia and symbiotic nitrogen fixation.

Kiwamu Minamisawa

Tohoku University

11:50 L1-4 A novel symbiotic gene is required for the synthesis of anionic cyclic beta-glucans in *Mesorhizobium loti*.

Yasunori Kawaharada

Tohoku University

12:10 L1-5 Expression of 1-aminocyclopropane-1-carboxylic acid deaminase gene requires symbiotic nitrogen-fixing regulator gene *nifA2* in *Mesorhizobium loti*.

Noriyuki Nukui

Nihon University

12:30 **Lunch**

14:00 L1-6 Regulation of heme and iron metabolism in *Bradyrhizobium japonicum*.

Mark R. O'Brian

State University of New York at Buffalo

- 14:30 L1-7 The symbiotic roles of type III secretion system in *Mesorhizobium loti*.
Kazuhiko Saeki
Nara Women's University
- 15:00 L1-8 Varying *Rhizobium* lipopolysaccharide structure and symbiotic capability through interstrain hybrids.
Kenneth Dale Noel
Marquette University
- 15:30 L1-9 Phylogentic relatedness and symbiotic properties of *Bradyrhizobium* nodulating on the Asian *Vigna* species in Thailand
Tadashi Yokoyama
Tokyo Univ. A & T
- 16:00 **Coffee break**
- 16:20 L1-10 The role of cell-to-cell signaling in the *Sinorhizobium meliloti*-alfalfa symbiosis.
Juan E. Gonzalez
University of Texas at Dallas
- 16:50 L1-11 Global gene regulation by quorum sensing in *Sinorhizobium meliloti*.
Nataliya Gurich
University of Texas at Dallas
- 17:20 L1-12 Characterization and regulation of quorum sensing in *Sinorhizobium meliloti*.
Jennifer L. Morris
University of Texas at Dallas

18:30 **Dinner**
(Chinese Restaurant, "TOTENKO")

August 17, (Thursday)

- 9:30 L2-1 Effect of Cytokinin on the *Melilotus alba* Non-nodulating, Nod-mycorrhizal Mutant, *Masym3*.
Ann M. Hirsch
University of California
- 10:00 L2-2 The class 1 hemoglobin contributes to symbiotic nitrogen fixation by modulation of nitric oxide.
Toshiki Uchiumi
Kagoshima University
- 10:30 L2-3 Possible role of nitric oxide and nitric oxide synthase in the *Rhizobium*-legume symbiosis.
Mikiko Abe
Kagoshima University
- 10:50 **Coffee break**

- 11:10 L2-4 Role of symbiotic genes in biofilm formation by *Sinorhizobium meliloti*.
Nancy A. Fujishige
University of California
- 11:40 L2-5 Root nodule formation as a photomorphogenesis event.
Akihiro Suzuki
Saga University
- 12:10 L2-6 *Lotus japonicus* symbiotic genes required for nitrogen fixation.
Norio Suganuma
Aichi University of Education
- 12:40 **Lunch**
(Lunch box for Bus tour participant)
- 13:30 **Excursion** (Tokyo Bus tour in the group)
(Start from the meeting site)
- 17:00 **Free time** (Own choice for dinner and etc.)
(Possibly get off the bus on the way to the hotel)

August 18, Friday

P1-P22

- 9:30 Poster presentation, 2 minutes report for all posters.
10:20 Poster session

12:30 **Lunch**

3) Biochemistry and molecular interactions during symbiotic development.

4) Molecular genetics and genomics of two model legumes.

- 14:00 L3-1 Using genomics to understand legume evolution and advance the study of crop legumes.
Douglas R. Cook
University of California
- 14:30 L3-2 "Activator" and "Inhibitor" leading to generation and stabilization of symbiotic organ development.
Masayoshi Kawaguchi
The University of Tokyo
- 15:00 L3-3 Symbiotic signaling pathway leading to the intracellular invasion of root nodule bacteria and arbuscular mycorrhizal fungi.
Makoto Hayashi
University of Munich
- 15:30 **Coffee break**

- 15:50 L3-4 Analysis of host genes governing rhizobial and mycorrhizal symbioses.
Mari Banba
Natl. Inst. Agrobiol. Science
- 16:20 L3-5 Nuclear signaling components in root symbiosis.
Satoko Yoshida
RIKEN/University of Munich
- 16:50 L3-6 *Medicago truncatula* DMI1 required for bacterial and fungal symbiosis in legumes.
Brendan K. Riely
University of California-Davis
- 17:20 L3-7 A *sed5*-like SNARE is influenced to nodule development in *Lotus japonicus*.
Mika Nomura
Kagawa University

18:30 **Beer Party with light meal**
(Beer place near the campus)

August 19, Saturday

5) From model legumes to Soybean and other crop legumes.

- 9:30 L4-1 Functional genomics of root hair infection by *Bradyrhizobium japonicum*.
Gary Stacey
University of Missouri
- 10:00 L4-2 Genetic mapping and characterization of Fix^- mutants of *Lotus japonicus*.
Yosuke Umehara
Natl. Inst. Agrobiol. Sci.
- 10:30 L4-3 Structural and comparative genome analysis of *Lotus japonicus*.
Shusei Sato
Kazusa DNA Res. Inst.
- 11:00 **Coffee break**
- 11:20 L4-4 Identification of new symbiotic players in *Medicago truncatula* via protein interactions.
Jean-Michel Ané
University of Wisconsin
- 11:50 L4-5 Host regulation of plant-microbe mutualism.
Shingo Hata
Kyoto University
- 12:20 **Lunch**
- 14:00 L4-6 Multiple interacting genes regulate nodule number in *M. truncatula*.
Julia Frugoli
Clemson University

- 14:30 L4-7 Functional genomics of the soybean endosymbiont, *Bradyrhizobium japonicum*.
William L. Franck
University of Missouri
- 15:00 L4-8 Looking for symbiotic origins through the analysis of nodulating and non-nodulating legumes.
Michelle R. Lum
University of California LA
- 15:30 L4-9 A new technology of deep placement of N fertilizers to promote nitrogen fixation, growth and seed yield of soybean.
Tewari Kaushal
Niigata University
- 16:00 **Closing Remark**
Coordinator Dale K. Noel
Marquette University
- 18:00 **Farewell Dinner**
(Restaurant near the meeting site)

List of Poster presentation

- P-1 Investigation of novel nodulation gene inducer for *Mesorhizobium loti* secreting from *Lotus corniculatus*.
Katsunori Kojima
Tokyo Univ. A. & T.
- P-2 Systematic functional analysis of transcription factors whose expression is induced in the nodulation process of *Lotus japonicus*.
Erika Asamizu
Kazusa DNA Res. Inst.
- P-3 Proteome analysis during nodule development of soybean
Dao Van Tan
Kagawa University
- P-4 Shoot-applied MeJA suppresses root nodulation in *Lotus japonicus*.
Tomomi Nakagawa
Nat. Inst. Agrobiol. Sci.
- P-5 *klavier (klv)*, a novel hypernodulation mutant of *Lotus japonicus* affected in vascular tissue organization, floral induction and floral organ number.
Erika Kira-Oka
The University of Tokyo
- P-6 *LjNSP2*, a member of GRAS family genes, acts as a key regulator of nodule initiation in *Lotus japonicus*.
Yasuhiro Murakami
The University of Tokyo
- P-7 Characterization of *LjSym101* that is required for rhizobial infection and nodule organogenesis.
Satoshi Shibata
Nat. Inst. Agrobiol. Sci.
- P-8 A novel Fix^- symbiotic mutant of *Lotus japonicus*, *Ljsym105*, shows impaired development and premature deterioration of nodule infected cells and symbiosomes.
Md. Shakhawat Hossain
Nat. Inst. Agrobiol. Sci.
- P-9 A novel ankyrin-repeat protein IGN1 is required for functional nitrogen-fixation in root nodules of *Lotus japonicus*.
Hirotaka Kumagai
Nat. Inst. Agrobiol. Sci.
- P-10 Putative role for *Lotus japonicus* nicotianamine synthase, *LjNAS2*, gene for symbiotic nitrogen fixation.
Tsuneo Hakoyama
Nat. Inst. Agrobiol. Sci.
- P-11 Expression of hemoglobin gene and generation of nitric oxide as symbiotic and pathogenic responses of *Lotus japonicus*.
Maki Nagata
Kagoshima University

- P-12 Cloning and expression analysis of nitric oxide synthase (NOS) gene in *Lotus japonicus*.
Ken-ichi Kucho
Kagoshima University
- P-13 Function of a class 1 hemoglobin gene from *Alnus firma* in symbiotic and nonsymbiotic tissues
Fuyuko Sasakura
Kagoshima University
- P-14 A nucleoporin is essential for rhizobial and mycorrhizal symbiosis.
Norihiro Kanamori
Natl. Food Res. Inst.
- P-15 *Lotus japonicus* nucleoporin required for both mycorrhization and nodulation.
Masayoshi Kawaguti
The University of Tokyo
- P-16 Allocation of photosynthetic products in soybean during the early stages of nodule formation.
Sayuri Ito
Niigata University
- P-17 Construction of improved reporter genes for recombinant *in vivo* expression technology (RIVET).
Erina Mishima
Nara Women's University
- P-18 Genetic characterization of *bacA* homologue, *mlr7400*, in *Mesorhizobium loti* MAFF303099.
Junpei Maruya
Nara Women's University
- P-19 *in vitro* and *in planta* regulation of the two catalase genes in *Mesorhizobium loti*.
Masaki Hanyu
Nara Women's University
- P-20 RhizoBase - Rhizobial Genome Information Database.
Takakazu Kaneko
Kazusa DNA Res. Inst.
- P-21 A large scale analysis of protein-protein interactions in *Mesorhizobium loti*.
Yoshikazu Shimoda
Kazusa DNA Res. Inst.
- P-22 Symbiotic plasmid of *Rhizobium* plays at hide-and-see in *Agrobacterium*.
Hiroki Nakatsukasa
Kagoshima University